



System of
Environmental
Economic
Accounting

Key requirements of ecosystem service classification for ecosystem accounting

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Developing ecosystem service classification(s) for ecosystem accounting -
taking stock & moving forward

Wageningen, 17-18 June 2016

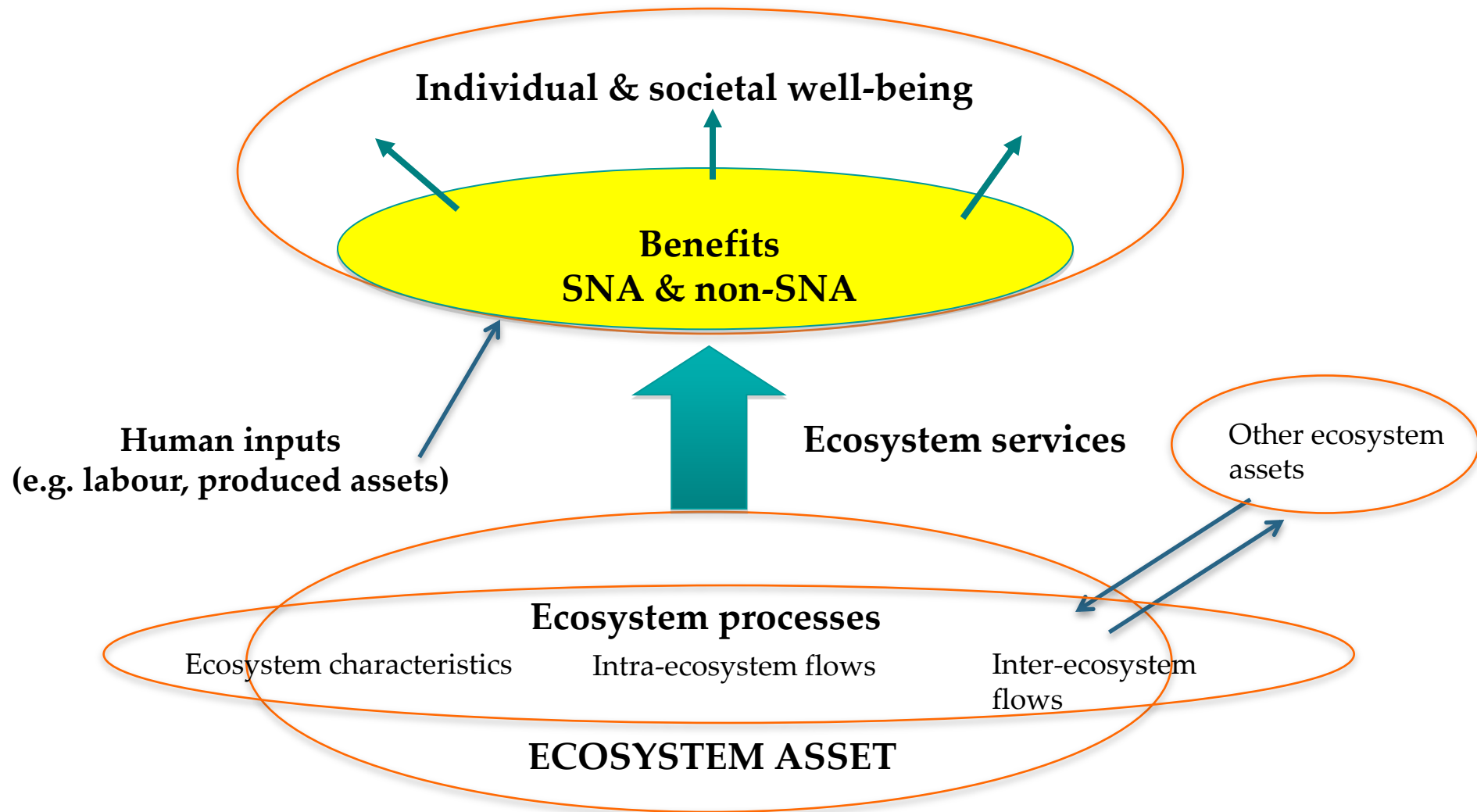


United Nations

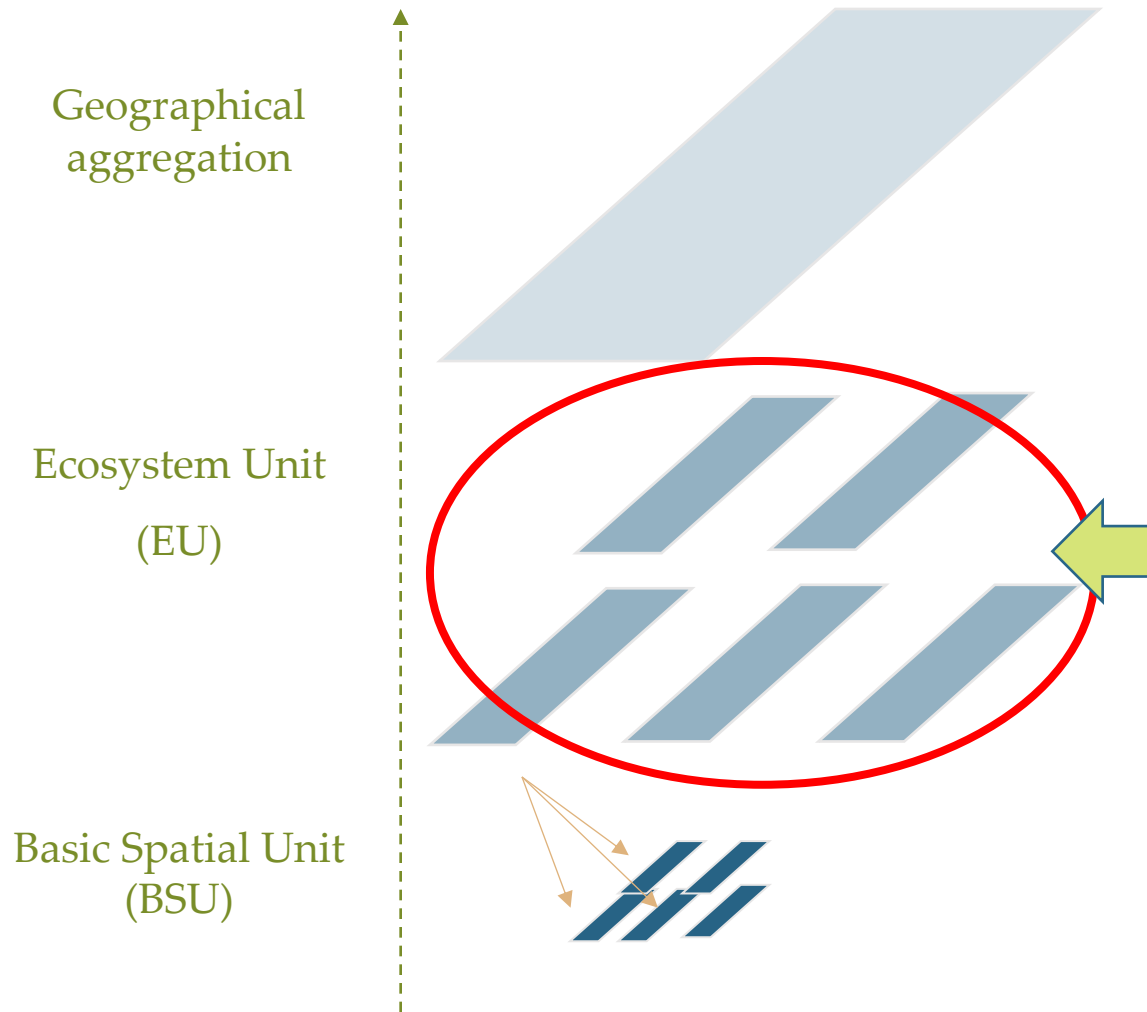
Outline

- Overview of the SEEA Experimental Ecosystem Accounting
- Key requirements of ecosystem services (ES) classification to be used for the compilation of the various accounts in the SEEA-EE
- Summary of key outcomes of the expert group meeting on ES classification in June 2016
- Linking the outcome of this meeting with the work programme of the UNCEEA

Ecosystem Accounting model



Statistical units

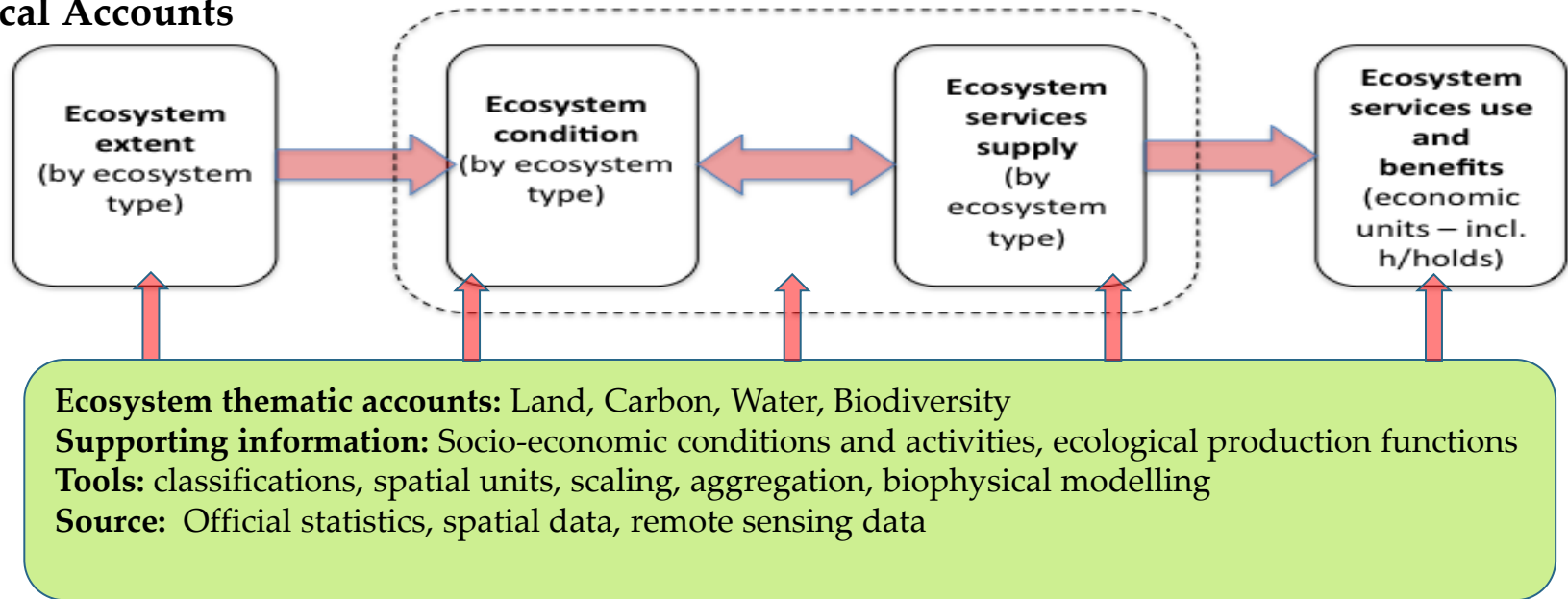


Ecosystem units

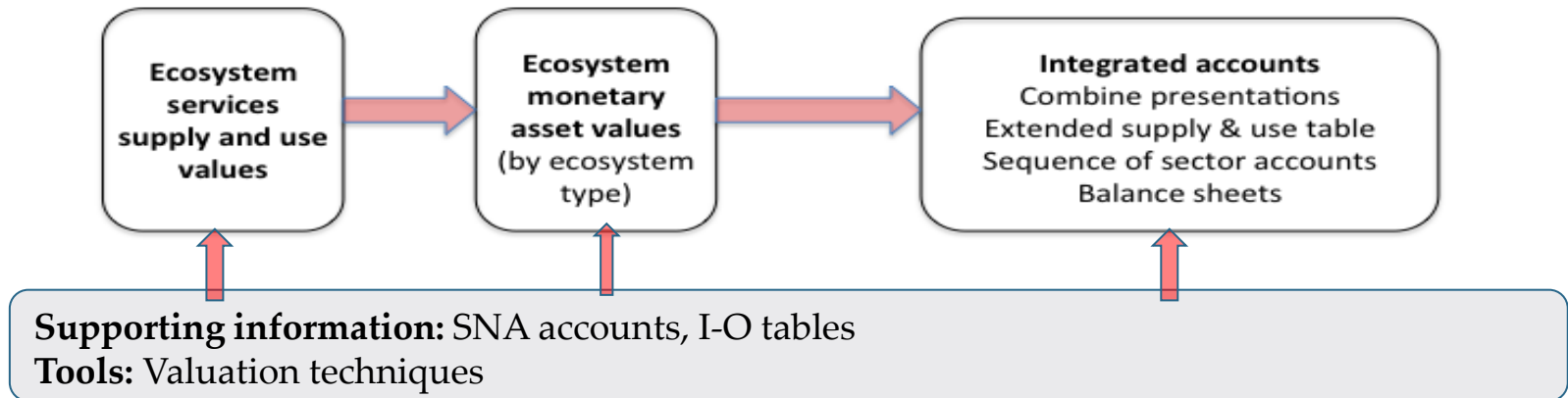
- Spatial areas that form the conceptual base for accounting and the integration of relevant statistics.
- Delineation is based on ecological characteristics
- Where various ecological data are not available, a land cover based delineation can be used as a starting point

Broad steps in ecosystem accounting

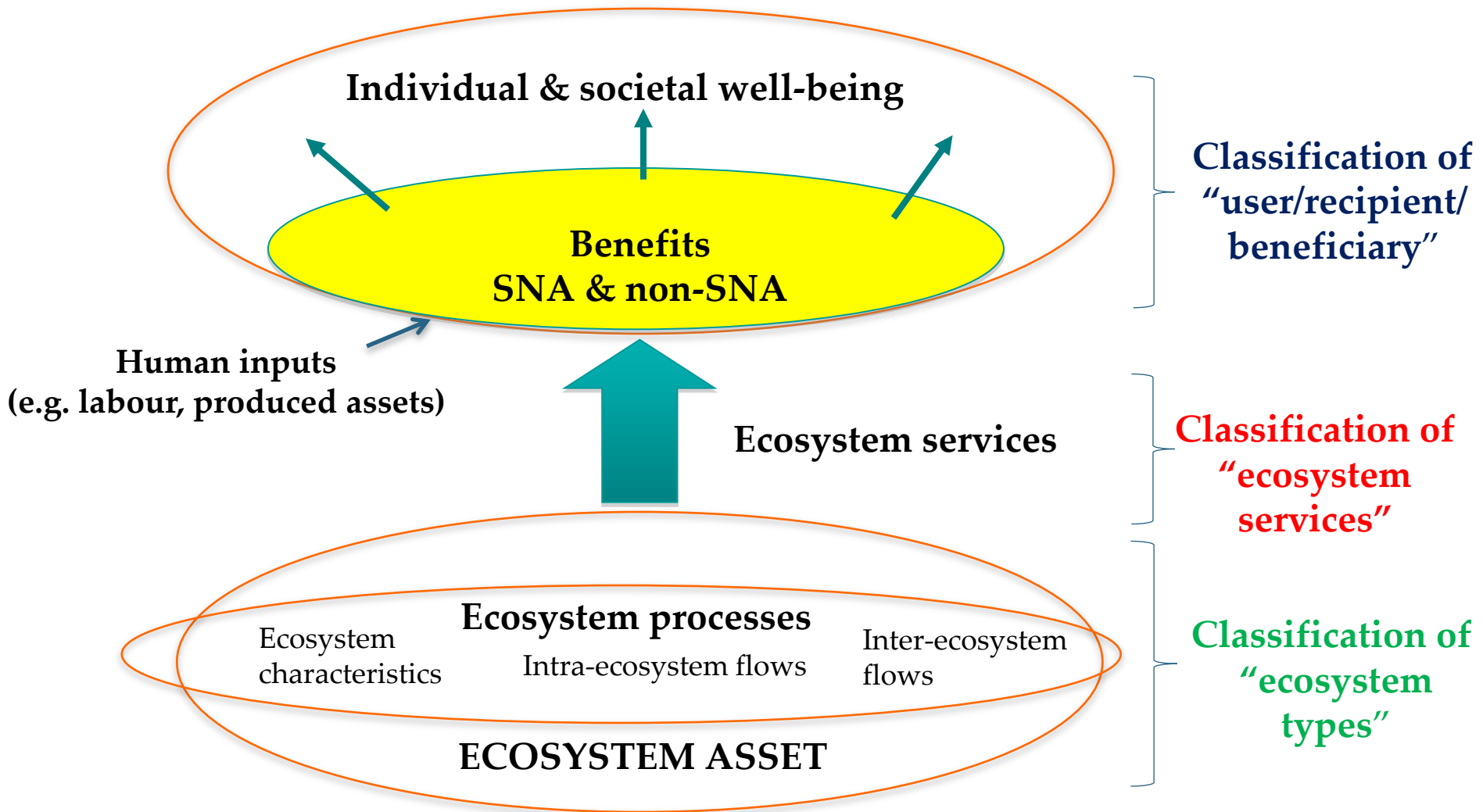
a. Physical Accounts



b. Monetary Accounts



Three distinct classifications for ecosystem accounting



Classification of “ecosystem types

	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
Opening extent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Additions to extent Managed expansion Natural expansion Upward reappraisals Reductions in extent Managed regression Natural regression Downward reappraisals Net change in extent																
Closing extent																

Ecosystem condition account

(End of accounting period)

Classification of ecosystem types

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		A							B															
Provisioning services																								
Regulating services																								
Cultural services																								
Products		C							D															

A: No data are recorded in this quadrant as in concept economic units cannot supply ecosystem services.

B: In this quadrant the supply of ecosystem services by type of EU is recorded.

C: This quadrant is the equivalent of the standard physical supply and use table showing the supply of products by different economic units. This reflects the production of benefits to which the ecosystem services contribute. The scope of products is all goods and services produced in an economy.

D: No data are recorded here as, in concept, EUs cannot supply products.

Ecosystem services supply and use table

E: Here the use of ecosystem services by types of economic units is recorded. This includes both the use of ecosystem services as input to further production and the use of ecosystem services as final consumption.

F: At this stage, it is not anticipated that data would be recorded here as it represents the use of ecosystem services by other EUs – i.e. intermediate ecosystem services.

G: This quadrant is the equivalent of the standard physical supply and use table showing the use of products by different economic units.

H: No data are recorded here as, in concept, EUs cannot use products.

	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	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15
Ecosystem services		E						F																
Provisioning services																								
Regulating services																								
Cultural services		G						H																
Products		G						H																

Classification of ecosystem types

Ecosystem services

- Provisioning services
- Regulating services
- Cultural services

		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	1	2	3	4	5	6	7	8	9		10	11
Classification of system services	Ecosystem services	Provisioning services Regulating services Cultural services	A	B																	
	Products			C	D																

Classification of ecosystem types

Classification of ecosystem services

Key requirements of ES Classification for SEEA EEA

- The measurement scope and definition of ecosystem services in the SEEA EEA is defined in the context of the SNA production boundary.
- Distinction between ecosystem services and the benefits to which they contribute.
- Focus on final ecosystem services as contributions to the production of benefits.
- For each (final) ecosystem service there must be an associated (and distinct) benefit and a corresponding beneficiary.
- Individual services are mutually exclusive and can be aggregated.
- The three distinct classifications that are relevant for ecosystem accounting can be linked
 - > Ecosystem types (presently missing/not well developed)
 - > Ecosystem services
 - > User/recipient/beneficiary (presently missing/not well developed)

Summary of key outcomes of the expert group meeting on ES classification in June 2016

- Scope of the classification of ecosystem services will be limited to “final” ecosystem services.
- A classification of ecosystem services is necessarily a classification of potential final services such that every element capable of considered as final in some extent will be included in the classification
- That context matters in relation to identifying final ecosystem services
- “Intermediate/supporting” services as a concept needs clarification
- Ecosystem services should be linked with ecosystem types and beneficiaries when developing a classification of ecosystem services
- Classifications modular (separate classifications for ES, assets, users)

Summary of key outcomes

- Separate classification for abiotic (e.g., subsoil)
- The final ecosystem services for agricultural ecosystem services to be the “ecosystem’s contribution to the cultivated crops”, and not the cultivated crops themselves., recognizing the practical difficulties in detangling the contribution of each individual service from nature.
- Individual services in the classification should be mutually exclusive
- A hierarchical structure that allows aggregation will serve the needs of ecosystem accounting.
- A clear definition of key concepts, such as the distinction between ecosystem function and final services, and between services, goods and benefits in the classification system should be consistently applied in the classification system and uses?

Linking the outcome of this working group with the work programme of the UNCEEA

- Supporting the SEEA-EEA implementation in countries;
- Feeding into the provision of updating the SEEA EEA Technical Recommendation (Guidance document) by end 2016
- Feeding into the process of the revision the SEEA EEA handbook (Methodological framework) and to elevate it into best practice by 2020;
- Advancing the research agenda of the SEEA EEA (http://unstats.un.org/unsd/envaccounting/ceea/meetings/eleventh_meeting/BK-11-3b-1.pdf).

Short-term issued to be resolved for the Technical Recommendation

- Context
 - > At the time of drafting the SEEA EEA the ecosystem service classification known to the drafters was the CICES
 - > Immediately following its public release, the existence of another classification system developed by the US EPA, i.e. FEGS and NESCS became known to the SEEA project.
- These three approaches to ecosystem services classification are distinct but there is an ongoing discussion on the potential overlaps, differences and complementarities.
- Short-term issued to be resolved
 - > It would be very opportune to be able to provide some clear advice to compilers and users about the options in this space in the EEA TR.
 - > Implication for international comparison



THANK YOU

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<http://unstats.un.org/unsd/envaccounting>