

**Joint EEA Scientific Committee – EEA Seminar**  
***Ecosystems and their services: building the knowledge base for European assessments***  
**European Environment Agency, Copenhagen, 01 October 2014**

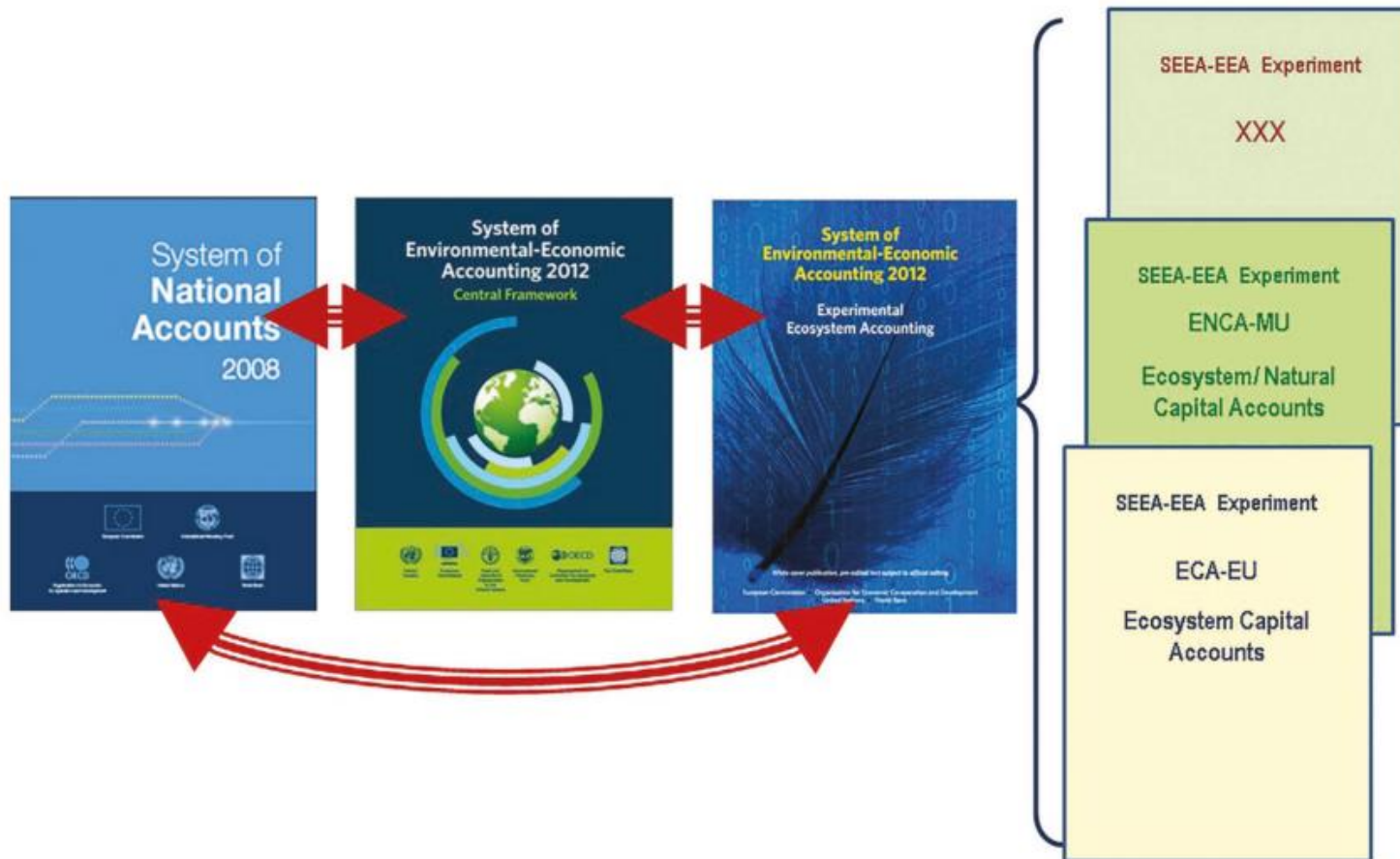
# Ecosystem natural capital accounting

Jean-Louis Weber

*EEA Scientific Committee*  
*Former EEA Special Adviser on economic-environmental accounting*  
*Honorary Professor, University of Nottingham*  
*Consultant to the Secretariat of the Convention on Biological Diversity*  
[jlweber45@gmail.com](mailto:jlweber45@gmail.com)

## The background of the CBD ENCA-QSP initiative

Figure 01: SNA, SEEA Central Framework, SEEA Experimental Ecosystem Accounting and Experiments

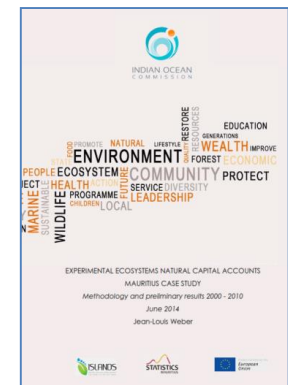




# 77

## ECOSYSTEM NATURAL CAPITAL ACCOUNTS:

### A Quick Start Package



ENCA: legacy  
from the SEEA  
and other  
accounting  
applications



# 77

## ECOSYSTEM NATURAL CAPITAL ACCOUNTS:

### A Quick Start Package



The **ENCA Quick Start Package** focuses on **core accounts in physical units** and calculation of ecological degradation/ enhancement.

*Learning by doing, urgency, CBD Aichi Target 2, 2020 objective*

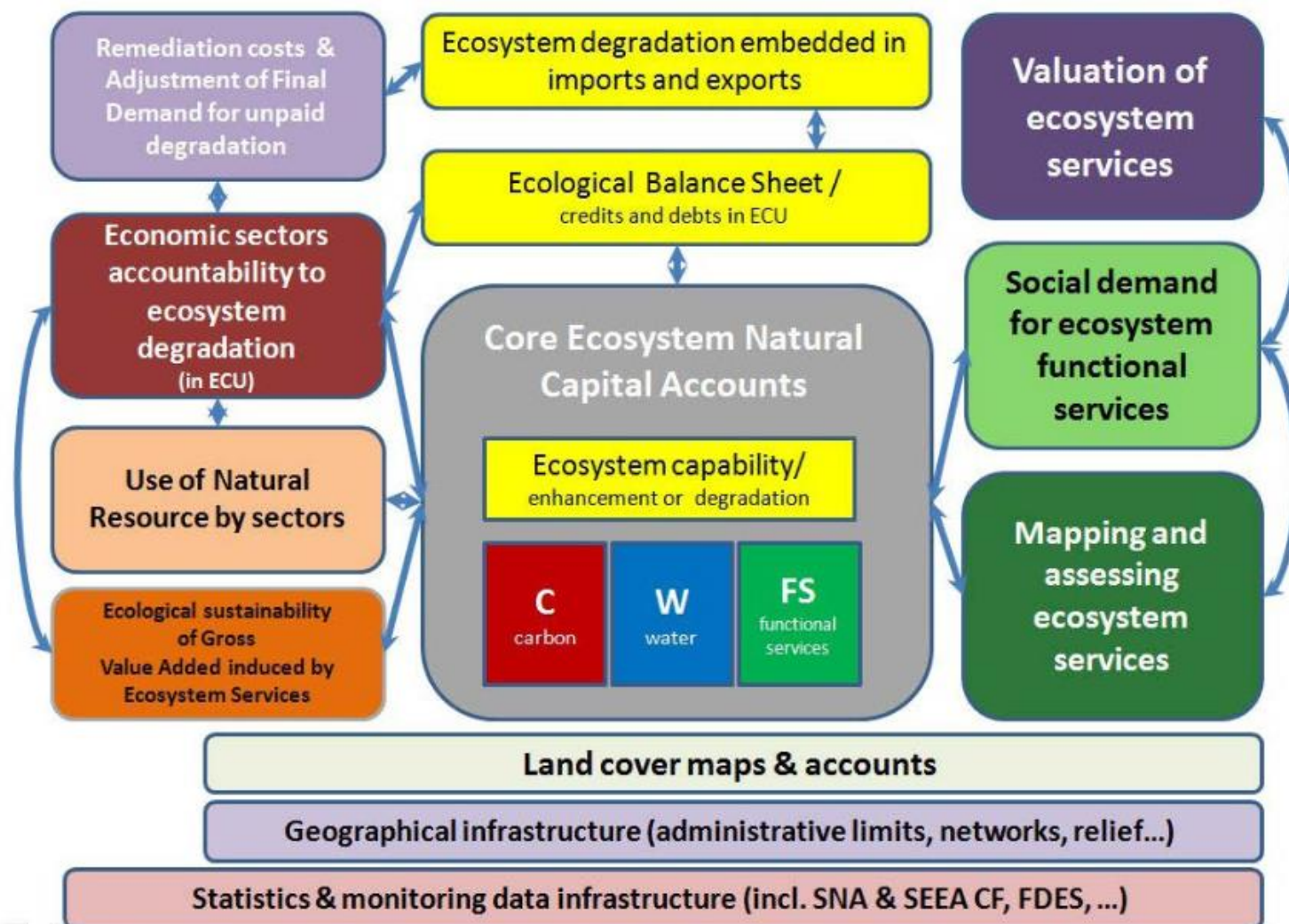
*The last chapter opens to functional accounts:*

- *liability of economic sectors and ecological balance sheet of credits and debts*
- *accounts of restoration costs by sectors*
- *assessment of ecosystem services (ref. to MAES...)*
- *ES valuation seen on a case by case basis*



# The ENCA framework

Figure 2.02: Structure of ecosystem natural capital accounts



## About valueS

**Ecological value:** “non-monetary assessment of ecosystem integrity, health, or resilience, all of which are important indicators to determine critical thresholds and minimum requirements for ecosystem service provision” [TEEB]. *See Economic valuation; Chapters 2, 9.*

**Economic valuation:** “the process of expressing a value for a particular good or service in a certain context (e.g. of decision-making) in monetary terms” [TEEB]. *See Ecological value; Chapters 2, 9.*

Without accounting for ecological values (and other social values) tradeoffs are between market and market like values; decision making is a problem of economic optimum...

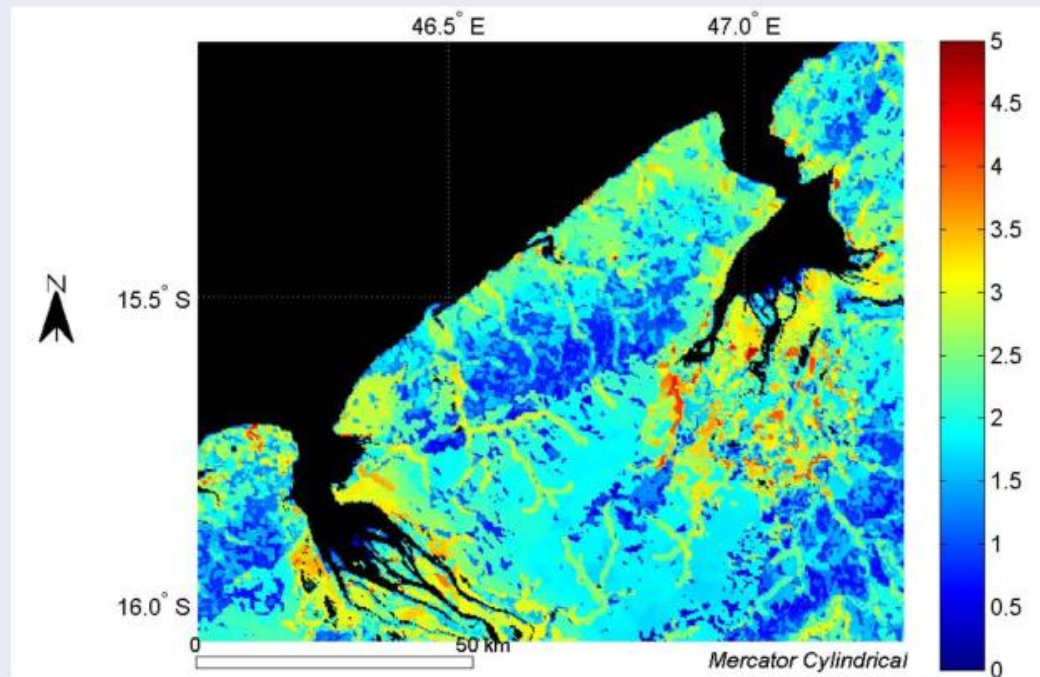
ENCA proposes a measurement of ecological values for integrated ecosystem accounting.

# An example of calculation of ecological values

## Box 2.01 Calculation of ecological values with the LEFT tool

LEFT is the Local Ecological Footprinting Tool developed by the Oxford University Biodiversity Institute. Its purpose is “assessing ecological value of landscapes beyond protected areas” to give an early warning to land planners regarding areas of high ecological value areas.

“The method uses existing globally available web-based databases and models to provide an ecological score based on five key ecological features (biodiversity, fragmentation, threat, connectivity, and resilience) for every 300 m pixel within any given region in the world” <http://www.biodiversity.ox.ac.uk/researchthemes/biodiversity-technologies/assessing-ecological-value-of-landscapes-beyond-protected-areas-left/>.



This map presents the summary ecological value of a LEFT study site in Mahamavo, Madagascar (2012). Red areas indicate high relative ecological value; blue areas indicate a lower relative ecological value.

Source: [http://www.biodiversity.ox.ac.uk/wp-content/uploads/2012/09/Mahamavo\\_GBIF.pdf](http://www.biodiversity.ox.ac.uk/wp-content/uploads/2012/09/Mahamavo_GBIF.pdf) (accessed 18 August 2014)



Figure 2.01: Calculation of ecological value of ecosystem capital in ECU

