Is ecosystem service a useful concept?

Critical remarks

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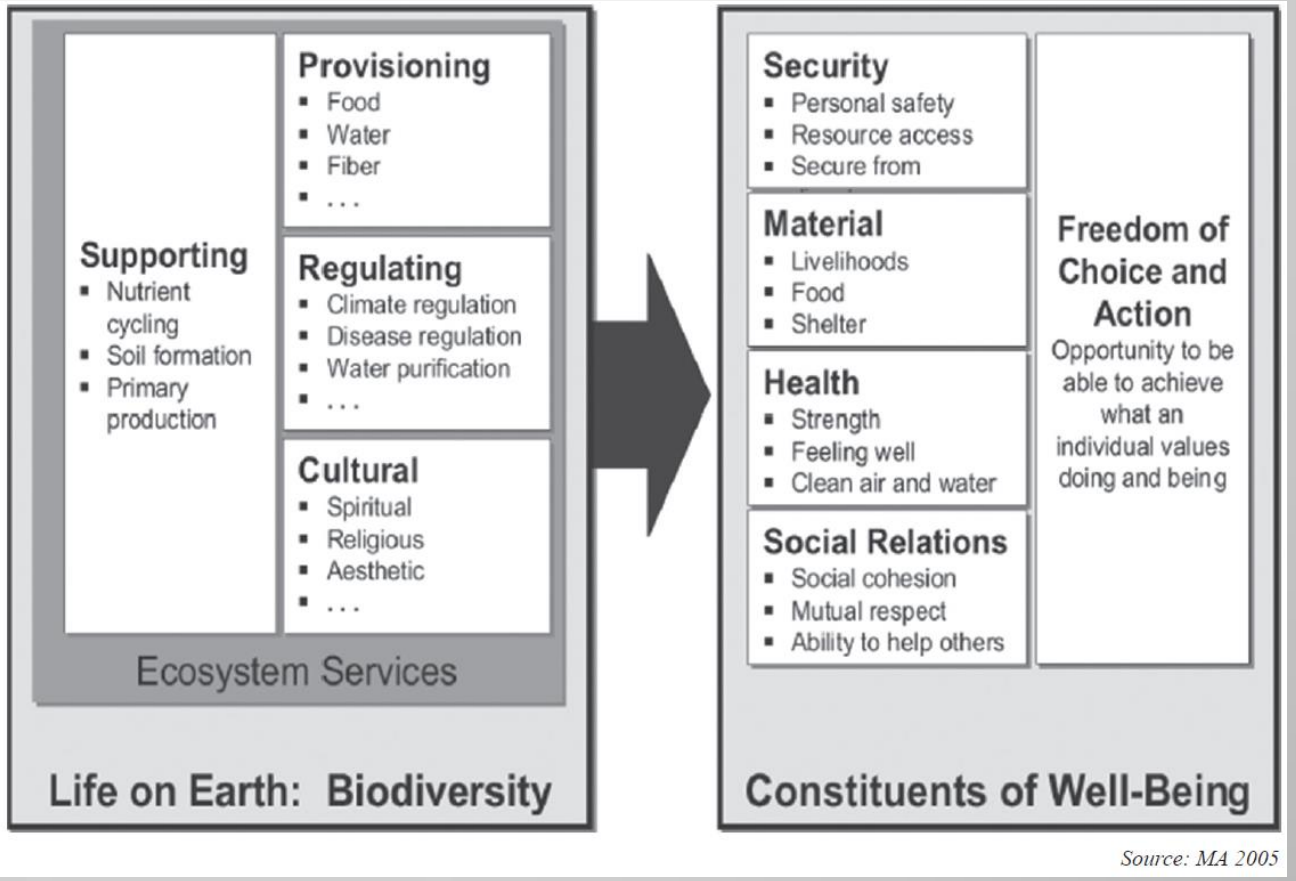
Ecosystem services (ES)

are defined as benefits that we gain from the natural environment and from correct (?) functioning ecosystems.

The ‚Millenium Ecosystem Report (2005) Distinguishes:

- *provisioning services*
- *regulating services*
- *cultural services*
- *supporting services*



The concept of ecosystem services (ES) has taken the environmental science and policy literature by storm and has become almost THE approach to thinking about and assessing the nature-society relationship. Lele et al. (2013)

The Concept is not new at all.

It first appeared as '**environmental services'** in a publication by Wilson & Metthews (1970) and was renamed **'ecosystem services'** by Ehrlich & Mooney (1983).

The application of economic concepts to ecosystem values was explored already in a paper by Randall (1987).

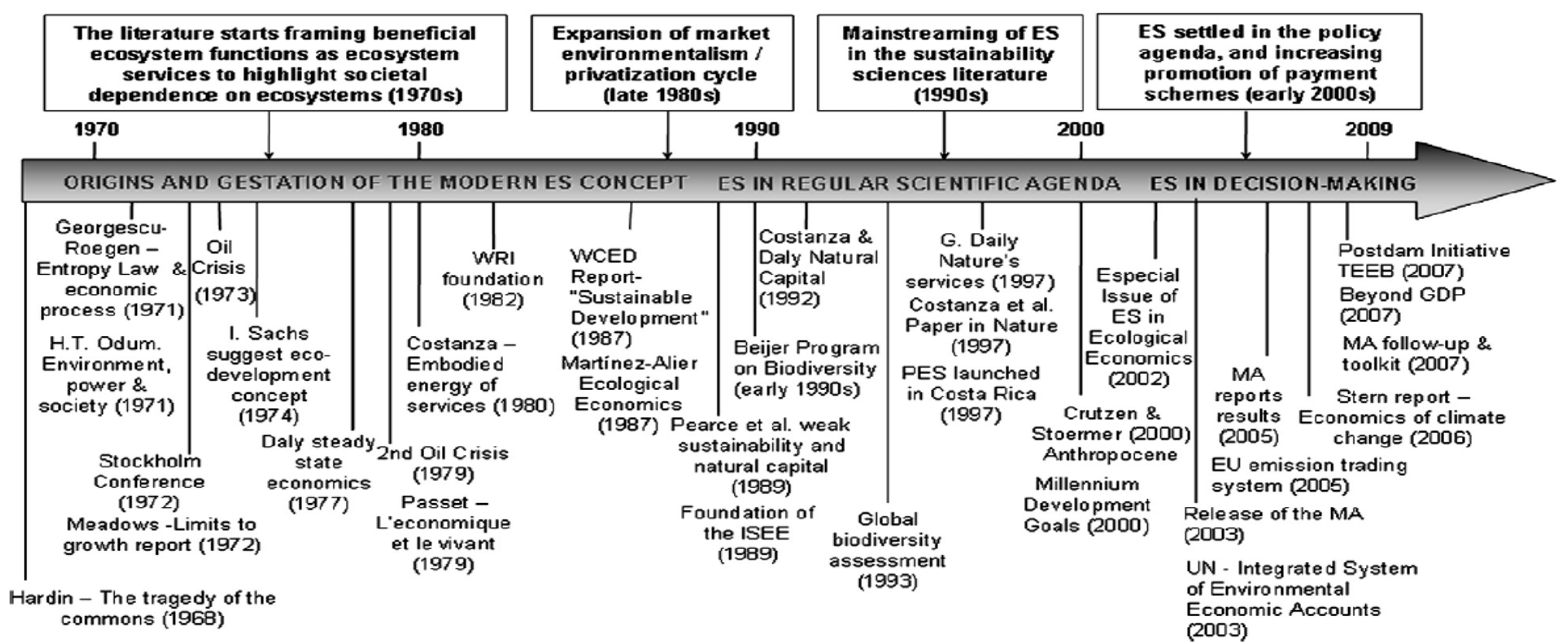


Fig. 2. Stages in the modern history of ecosystem services.

Gómez-Baggethun et al. (2009)

ALTERNATIVE APPROACH (mainly modified from Lele et al., 2013)

The central question is whether and to what extent the ES concept is useful for research into the society-nature relationship.

A privileging of biotic nature and a tactical use of economic valuation in response to a neo-liberal policy has attracted ecologists.

The framework lacks multiple dimensions:

1) the pragmatic use of a utilitarian ethic does not fit well with a deeper allegiance to biocentrism
2) a keenness to make a positive case for biotic nature results in a series of omissions and oversimplifications
3) an economic valuation framework results in highly reductionist analysis about changes in societal well-being

An alternative approach involves several steps:

1. greater self-reflection in handling questions of values in applied environmental research is required

2. ecosystem service analysts must move away from thinking of ES assessment as a decision-making tool and treat it more as a framework for understanding and analysing the nature-society relationship.

   The task of the analyst is to ‘analyse’, not to aggregate and give *THE* answer

3. when carrying out such investigation, more reflection is needed about what is included or excluded although completely objective models are impossible

ES practitioners need to be '*cautious about the power and applicability of economic metaphors'*

'*diverse ecosystems that produce economic returns will be well preserved, and those that do not will be converted or transformed to increase returns*' (Adams and Redford 2010)

Are ecosystem services discourse and policy 'neoliberal'?

Capitalization of biological processes are referred to as '*the neoliberalization of nature*'

Nature is now found frequently represented as credits, information, or services, purportedly unbound from material essences and free to move through global circuits of credit and finance commodities.

Scientists from different disciplines draw attention to this *financialization of nature*.

There is a pressing need to study the emergence of financialized nature.

Extracted and modified from Fisher et al. (2009) and Dempsey & Robertson (2012)

Critique	Arguments	Counter-arguments	Way forward
Environmental ethics	ES excludes intrinsic value of nature - basis of conservation	ES bundles valid anthropocentric arguments	Anthropocentric framing for broad argumentation
Human–nature relationship	ES could promote exploitative relationship rather than holistic	ES re-connect society to nature Nonmaterial values covered	ES a "platform" for bringing people and different views and interests together
Conflicts with biodiversity	ES replaces biodiversity protection as a conservation goal Win-win bw. Biodiversity and ES ?	evidence that biodiversity underpins the ecosystems functions that give shape to ES	Indirect inclusion of bio-diversity in ES: potential "win–win" scenarios.
ES valuation	ES comprises economic framing. ES assessments involve economic valuation	Monetary valuation provides additional information in decision-making processes	Develop both biophysical and sociocultural value indicators of ES
Commodification and PES	ES based on the assumption that payment for ES ensures provision	Assessing ES in monetary terms does not necessarily equate to using market instruments	Focus on ES approaches that include nonmarket instruments
Vagueness	ES has become a "catch-all" phrase because of its many vague definitions	ES facilitates multiple societal actors to interact and can foster transdisciplinary research	ES builds bridges between science and practice, enabling transdisciplinary approaches
Optimistic assumptions *Modif. Table from Schröter et al. (2014)*	The ES concept is too optimistic. Ecosystems outputs may not always be beneficial to humans	Positive terminology – optimistic intentions – normative concept - value freedom is impossible	Scientists should be explicit and transparent about whether research aims and provided information are normative

Definition of ‘SERVICE’ (Cambridge Dictionary)

A service is a public need for a particular type of activity or for *providing a particular thing that people need*. A service can also be any act of *dealing with a customer*

ES seen from a more radical viewpoint

Nature does not provide anything to us

We can obtain benefits directly or indirectly from ecosystems and their functions which we may utilize for our needs (Constanza et al., 1997; MA, 2005).

Viewing ecosystem functions as services is totally anthropocentric particularly when ‘monetary units’, ‘markets’ and ‘payment’ are concerned.

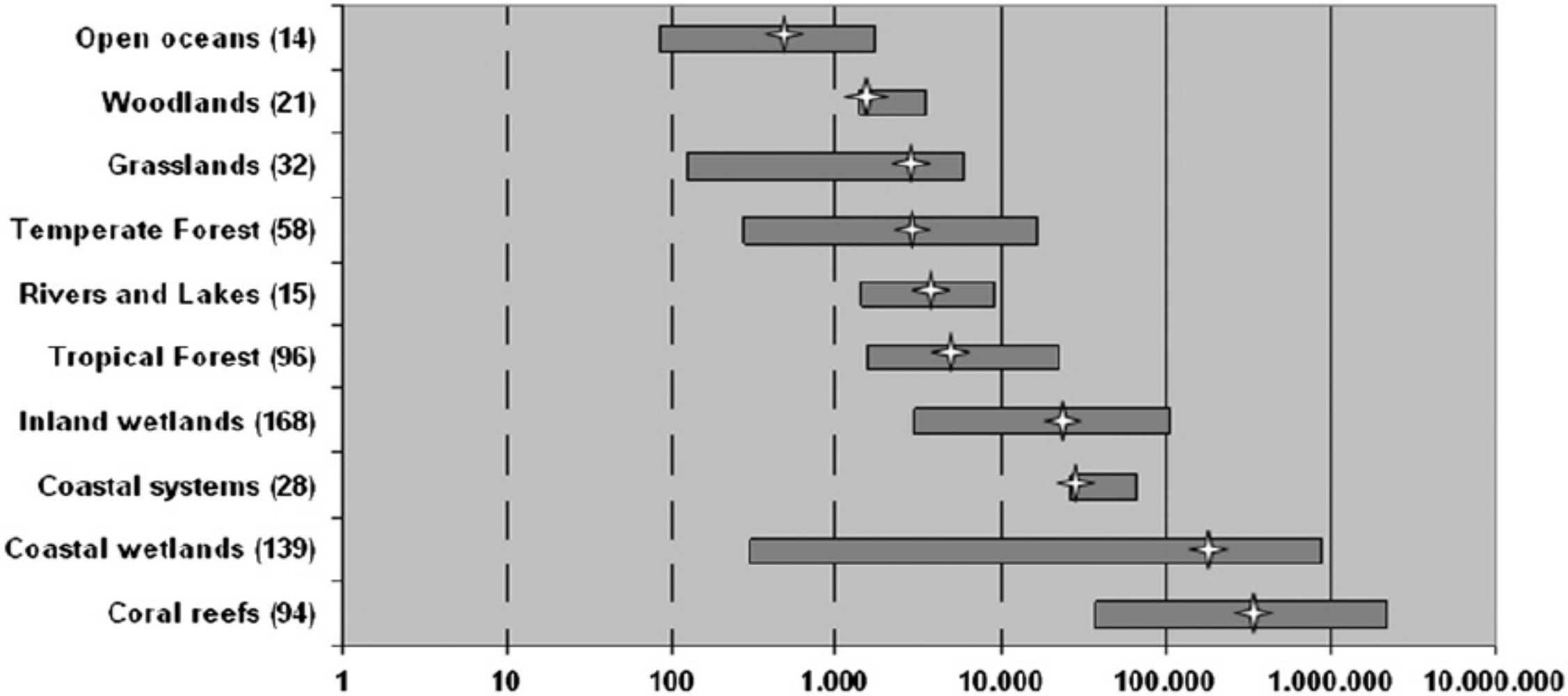
Putting monetary values to these services is an aberrancy of our present commercial society. Cost-benefit analysis may help humanity but not nature because it argues exclusively with the benefits WE might obtain but not what might be best for the nature.

Natural environments are self-regulating systems which do not need us.

The final logic would be ‘trading’ and ‘selling’ of specific ES which finally might end up in stock market speculations with ES.

Is THIS what we want?

R. de Groot et al. / Ecosystem Services 1 (2012) 50–61



Range and average of total monetary value of bundle ofe cosystem services per biome (in Int.$/ha.yr 2007).

The total number of values per biome is given between brackets; the average of the value-range is shown

Think about and read:

Deleuze, G., Guattari, F. (transl. B. Massumi) 1987. A Thousand Plateaus - Capitalism and Schizophrenia. 11th ed. 2005, University of Minnesota Press, Minneapolis, https://libcom.org/files/A%20Thousand%20Plateaus.pdf

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Thank you for listen to me

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