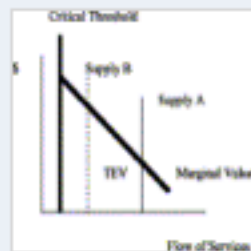


Show thumbnails in outline

2.2. Economic value



3. Ecosystem valuation difficulties

3.1. Marginality

3.2. Double counting

3.3. Typological issues

3.4. Spatial and temporal data transfer

3.5. Distribution of benefits and costs

4. Case studies

4.1. Typology

	SYSTEM TYPES	
	WETLANDS	WETLANDS
WETLANDS	TYPE 1 • Single • Single • Single • Single	TYPE 2 • Single • Single • Single • Single
WETLANDS	TYPE 1 • Single • Single • Single • Single	TYPE 2 • Single • Single • Single • Single

4.2. Temperate forests and rangelands—type 1 examples

[Table 2](#)
[Table 3](#)

4.3. Tropical forests—type 2

Abstract

This paper critically reviews the literature on environmental valuation of ecosystem services across the range of global biomes. The main objective of this review is to assess the policy relevance of the information encompassed by the wide range of valuation studies that have been undertaken so far. Published and other studies now cover most ecosystems, with aquatic and marine contexts attracting the least attention. There is also a predominance of single function valuation studies. Studies valuing multiple functions and uses, and studies which seek to capture the 'before and after' states as environmental changes take place, are rare. By and large it is the latter types of analyses that are most important as aids to more rational decision taking in ecosystem conservation versus development situations involving different stakeholders (local, national and global). Aggregate (global scale) estimates of ecosystems value are problematic, given the fact that only 'marginal' values are consistent with conventional decision-aiding tools such as economic cost–benefit analysis. In general, valuation data provide prima facie support for the hypothesis that net ecosystem service value diminishes with biodiversity and ecosystem loss [Balmford et al. (2002), *Science* 297, p. 950]. Future research effort should include complementary research on multiple ecosystem services that seeks to capture the temporal disturbance profile and its causal factors. The explicit recognition of multiple, interdependent ecosystem services and values, poses both conceptual and empirical research challenges. It would serve to transform the practice of research in this sub-field via the a priori assumption of multiple (and inter-dependent) use, instead of independent single use. This line of reasoning can then be extended to the institutional arrangements that determine which values are captured. New institutional processes and arrangements are probably required in order to best realise benefit streams from multiple ecosystem use and non-use provision, across a range of different stakeholders.

Keywords

Environmental values; Ecosystem services; Cost–benefit analysis

Figures and tables from this article: