



Analysis

Ecosystem services and ethics



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ABSTRACT

A major strength of the ecosystem services (ESS) concept is that it allows a succinct description of how human well-being depends on nature, showing that the neglect of such dependencies has negative consequences on human well-being and the economy. As ESS refer to human needs and interests, values are to be considered when dealing with the concept in practice. As a result we argue that in using the concept there is a need to be clear about what different dimensions of value are involved, and be aware of ethical issues that might be associated with the concept. A systematic analysis of the ethical implications associated to the ESS concept is still lacking. We address this deficiency by scrutinising value dimensions associated with the concept, and use this to explore the associated ethical implications. We then highlight how improved transparency in the use of the ESS concept can contribute to using its strengths without succumbing to possible drawbacks arising from ethical problems. These problems concern the dangers that some uses of the concept have in obscuring certain types of value, and in masking unevenness in the distribution of costs and benefits that can arise in the management of ESS.

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1. Introduction

The ecosystem service concept is increasingly being used in the fields of biodiversity conservation, natural resource management, development policies, environmental accounting and business (e.g. Cowling et al., 2008; Gómez-Baggethun et al., 2010). In May 2011 the European

Commission adopted the “Biodiversity strategy to 2020” (European Commission, 2011) in which the protection of biodiversity is intimately linked to the protection and restoration of ecosystem services, and in April 2012, the United Nations established an Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). Likewise, following the Millennium Ecosystem Assessment (MA, 2005), several countries have established national ecosystem assessments based on the ecosystem services concept (e.g. EME, 2011; UK NEA, 2011), or are planning to do so.

Although various definitions have been proposed, the core idea of the ecosystem services concept is that ecosystems contribute to human well-being. In some definitions (e.g. UK NEA, 2011) the biophysical components and processes leading to human wellbeing are called “ecosystem services”, in others (e.g. Millennium Ecosystem Assessment, 2005) the term is used for the benefits derived from the ecosystems (black arrows in Fig. 2). In any case, ecosystem processes and/or components only become or lead to ecosystem services if somebody requires, demands or uses them, either actively or passively (white arrows in Fig. 2; Boyd and Banzhaf, 2007; de Groot, 1992; Hein et al., 2006; Jax, 2010). By exploring the interface between ecosystems and human needs, interests, and the demands on these systems, the concept inevitably involves judgements about human actions with respect to nature, and about what we value in nature (Potschin and Haines-Young, 2006). “Ecosystem services” is thus a value-laden (i.e., normative) concept. As a result it is prone to controversies about the specific values it highlights or obscures (Peterson et al., 2010), and about the arguments and policy proposals we make on the basis of those values (Martínez-Alier, 2002). The use of the ecosystem services concept therefore raises a number of questions of fundamental ethical significance.

For example, some argue that the utilitarian perspective implicit in the concept may compromise those ethical positions in nature conservation that promote the protection of biodiversity regardless of its instrumental value to humans (Child, 2009; McCauley, 2006; Ridder, 2008; Vira and Adams, 2009). Furthermore, the growing use of the ecosystem service concept in connection with economic accounting and market-based mechanisms, like Payments for Ecosystem Services (PES), has raised concerns about the commodification of nature (Kosoy and Corbera, 2010; Peterson et al., 2010; Robertson, 2004). Commodification in the context of ecosystem services means the transformation of ecosystem components or processes into products or services that can be privately appropriated, assigned exchange values and traded in markets (Gómez-Baggethun and Ruiz-Pérez, 2011). Some have criticised commodification of ecosystems on the grounds that ecosystem components ought not to be for sale (McCauley, 2006), while others have noted that commodification raises equity issues related to unequal access to the benefits and burdens from ecosystem services protection (Corbera et al., 2007).

Despite these ethical issues, many consider the ecosystem services concept to have the capacity of highlighting the critical role ecosystems and biodiversity play in sustaining life, human well-being and long-term economic sustainability (Costanza and Daly, 1992; TEEB, 2010). Others see it as a conceptual tool with the capacity to make environmental externalities explicit, and as the basis for the design of policy mechanisms intended to internalise the value of such externalities in market transactions and decision making processes (Daily, 1997; de Groot et al., 2002). Finally, Potschin and Haines-Young (2011), along with others, have argued that the position of ecosystem services at the science–society interface provides it with the capacity to promote dialogue between academic disciplines and to improve communication between interest groups, as different as conservationists, farmers, economists, policy-makers and entrepreneurs. Menzel and Teng (2010) go so far as calling it a “stakeholder-driven concept”.

While some ethical aspects of the ecosystem service concept have already been addressed in the literature (e.g. Child, 2009; Luck et al., 2012; McCauley, 2006; Spash, 2000), a comprehensive and systematic analysis of the ethical implications associated with the ecosystem services concept is lacking. In this paper, we therefore chart the value

dimensions of the ecosystem service concept and the associated ethical issues. By clarifying and structuring the key questions arising from these value dimensions we develop guidance on how to deal with ethical issues in the context of the ecosystem services concept. The paper proceeds as follows. The next section describes how ethical concerns have expanded to consider not only human–human but also human–nature relations. It then goes on to discuss key controversies in the valuation of non-human nature beyond the traditional intrinsic vs. instrumental value dichotomy. Section three draws together fundamental ethical questions arising from the use of the ecosystem services concept. Building on this, section four highlights the role that improved transparency in the use of the concept can play in addressing the ethical questions that have been identified. Finally, some conclusions are drawn.

2. Ethics and the Values of Non-human Nature

Ethics is the theory of morality, morality being the set of accepted norms, values and informal rules within a social group that guide individual and collective behaviour. By analysing and critically reflecting existing moral rules, ethics aims at justifying right and (morally) good actions. To allow for responsible action we need specific criteria that can be justified by rational arguments.

2.1. Broadening the Scope of Ethics from Human to Human–Nature Relationships

Discussion of the ethical issues surrounding the way people deal in different and controversial manners with non-human nature is quite old, especially with respect to animals (e.g. Bentham, 1789). However, the idea of a distinctive ethical basis for respecting nature is a recent one, developing mainly in the mid-20th century (Holland, 1995, p. 812). Thus, while traditional ethics has mainly dealt with relations between human beings, the field of environmental ethics has extended concern to the relation between humans and non-human nature (e.g. Callicott, 1989; Rolston, 1988).

Traditionally, ethics encompasses *axiology* (the discipline of value and valuation) and *deontology* (the discipline of duties and obligations), both of which are crucial in environmental ethics. Deontology refers to any moral obligation that a moral agent (i.e. a being that can act in a morally responsible way) might have, either *towards* other beings and/or *regarding* something. In the first case, we are faced with a *direct* moral obligation towards a being, which can be morally harmed or wronged (Holland, 1995). In the second case the obligation is an *indirect* one, with a moral being impacted by our treatment or interaction with a thing on which it depends or which it values. A typical example is when we have a moral obligation towards our neighbour, say, *regarding* her or his garden: we may not have any obligation towards the garden directly, but only insofar as it is valuable to the neighbour, important to her well-being and the like. From this point of view, nature conservation can be framed in terms of obligations *towards* other human beings (also as members of future generations) *regarding*, for example, ecosystems. To put this classification in axiological terms, beings towards which we have a direct moral obligation are said to hold *inherent* moral value (Taylor, 1986), whereas other beings are considered to hold non-intrinsic (O'Neill, 2003) or so-called *instrumental* value. Whether values are considered as existing independently from human valuation (as Rolston, 1994 holds) or are the result of human attribution, is still an open controversy in environmental ethics. Nevertheless, to say that humans attribute value to non-human nature does not necessarily imply that they merely value it instrumentally.

The discussion of direct and indirect values leads to one central question within the environmental ethics debate: the so-called demarcation problem. It concerns the issue of which non-human natural beings can legitimately (by means of convincing rational arguments) be considered as holding inherent value and therefore deserving direct

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