



Cultural ecosystem services as revealed through short stories from residents of the Swabian Alb (Germany)



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ABSTRACT

Nonmaterial benefits related to ecosystems, termed cultural ecosystem services (CES), are the least understood element of the now widely applied ecosystem services framework. Providing an inductive view on CES, this paper presents a hermeneutical in-depth analysis of 14 short stories in which local residents articulate their thoughts on life in the Swabian Alb biosphere reserve (Germany).

The stories reveal rich evidence regarding connections to identity, heritage values, inspiration, esthetic values and recreation. They underline, most importantly, that nonmaterial benefits are actively created by people. This engagement with place involves a broad range of practices and sense experiences. Simultaneously, the study highlights that CES are explicitly connected to specific biophysical features. Therefore, as an outcome of human perception and valuation attached to attributes of the material world, CES equally depend on human and biophysical variables. These findings have several implications for possible reconceptualization, investigation and management of CES in cultural landscapes.

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1. Introduction

The manifold interrelationships between humans and nature are a key topic for several scientific communities (e.g., human ecology, rural sociology, land change science) and have, consequently, been addressed via a multitude of concepts and methods. However, in the past few years, with the Millennium Ecosystem Assessment (MA, 2005) the concept of ecosystem services has become the most dominant paradigm in this general research field. According to this most basic framework that served as a starting point for numerous further developments and refinements, ecosystem services are defined as “the benefits people obtain from ecosystems” (MA, 2003: 3) and are grouped into three types of direct benefits (MA, 2003: 57):

- provisioning services: products obtained from ecosystems, e.g. food and fiber;
- regulating services: benefits obtained from regulation of ecosystem processes, e.g. climate regulation and water purification; and
- cultural services: nonmaterial benefits obtained from ecosystems, e.g. recreation and esthetic values.

At the heart of the ecosystem services approach is the aim of fostering systematic valorization of nature as a means towards conservation and human well-being. This concept is now being extensively taken up in policy and management, with one among many examples being the European Union's biodiversity strategy for the period up to 2020, which requires all member states to map and assess the full range of their ecosystem services at national scale (European Commission, 2011).

However, implementation of this approach is a great challenge and involves a variety of open questions. Aside from ethical considerations (e.g. the danger of focusing attention towards economically accountable values; see Kosoy and Corbera, 2010), several conceptual and methodological problems are at stake, which result in many attempts at advancing and operationalizing the framework, e.g. in the course of the CICES project (EEA, 2013). The challenges are particularly evident regarding cultural ecosystem services (CES) and may stem from the ecosystem services concept having been developed within natural sciences-based disciplines, whereas exploring CES requires a firm knowledge in fields such as sociology, anthropology or psychology (Daniel et al., 2012; Tengberg et al., 2012).

In terms of conceptual issues, there have for instance been calls for removing CES entirely from the ecosystem services framework, as they can be seen as evolving from the other types of services and not as direct ecosystem benefits (Fisher et al., 2009), and a debate around the clear definition (and delineation) of such services, benefits and values is underway (see e.g. Chan et al., 2011, 2012). Furthermore,

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social scientists inspired by constructivism have proposed that humans create meaning and values, rather than describing these as fixed properties or services of ecosystems (cf. Glaser, 2006; Ernstson, 2013). Not less challenging than these issues is the question of how to empirically assess CES, particularly in their specific linkage to biophysical features. Many studies on ecosystem services simply neglect nonmaterial benefits, as documented by a literature review and bibliometric analysis (Schaich et al., 2010). A recent systematic review reveals that indicators for CES have up until now been unsatisfactorily developed (Hernández-Morcillo et al., 2013). Nonetheless, more and more empirical studies, especially from the scientific community established around the concept of cultural landscapes, are being published and providing profound insights on the character and significance of CES (e.g. Gee and Burkhard, 2010; Kerr and Swaffield, 2012; Norton et al., 2012; Tengberg et al., 2012). Such studies have applied various and often innovative approaches, ranging from participatory mapping (Plieninger et al., 2013) through interview techniques which have been combined with walking exercises (The Research Box et al., 2009) to phenomenological approaches (Bieling and Plieninger, 2013).

This paper aims to contribute to such current efforts towards understanding and identifying nonmaterial benefits connected to ecosystems. It does so by taking what might seem a step 'backwards', that is, looking behind the conceptual understanding of CES, and by offering an inductive view on the topic at the case of a human-shaped cultural landscape. Taking into account that research is not possible without any paradigmatic premises, however, the basic ecosystem services idea depicted in the Millennium Ecosystem Assessment has been used to frame the following research questions and structure the subsequent empirical investigation:

- What nonmaterial benefits do people attach to ecosystems, landscapes, and rural environments, and how do they describe these benefits in their own words?
- Where do nonmaterial benefits originate from, particularly regarding connections to biophysical features?
- What are the implications of these insights for the conceptualization, investigation and management of CES?

Taking a qualitative social-empirical approach, these questions are investigated here via the case of 42 short stories written by residents of a biosphere reserve in south-western Germany. With its focus on the ways in which people perceive, understand and mentally structure their biophysical surroundings, the paper is rooted in landscape studies, particularly in an approach that stresses a cognitive dimension (cf. Jones, 2003).

2. Material and methods

2.1. The Swabian Alb biosphere reserve in south-western Germany

This study focuses geographically on the Swabian Alb region, a low mountain range of Jurassic origin. Differences in geological formations and topography have created a north-south sequence of differing biogeographical regions. Many prominent and highly valued landscape features, including juniper heathlands and orchard meadows, have been shaped by traditional land-use forms. However, intensive and more ubiquitous land-use practices, such as the cultivation of energy-production crops or creation of urban sprawl, are also a common feature of the region. With the sparsely populated Alb plateau and the densely populated area of the prosperous foreland in the metropolitan region of Stuttgart, the Swabian Alb exhibits a strong rural-urban divide. The more rural parts of the region are an important destination, especially

for short-term local visitors, but also for tourists who travel longer distances for activities such as hiking or visiting the numerous castles and caves.

An area of 85,000 ha within the Swabian Alb region was declared a UNESCO biosphere reserve in 2009, built upon a multitude of green development initiatives that had already been carried out, especially for the land-use and tourism sectors. The process of establishing the biosphere reserve was organized in a highly participatory way, including the involvement of the local population in the development of a management plan.

2.2. Short stories and their analysis

In the context of this participatory approach to the development of management goals for the area, in winter 2010–2011 the biosphere reserve management team initiated a short-story contest geared towards Swabian Alb residents. In the course of a campaign communicated to the general public, which sought to identify values and wishes concerning the region and obtain concrete ideas for the development of lighthouse projects (MLR, 2012), people were asked to submit short stories taking up the following questions:

- What is special about the Swabian Alb (yesterday, today and tomorrow)?
- Which places within the region are special?
- What are the people of the Swabian Alb like?
- How will life be in the Swabian Alb region in the year 2020?

In response, 42 short stories were submitted and published for several months on the biosphere reserve web site. For the present study, they were used as material to investigate values attached to the region.

First, using a relatively rough quantitative approach, all short stories submitted were analyzed in terms of the types of benefits mentioned therein. This was done by reading through each story and listing all ecosystem services dealt with, no matter whether they were referred to in a cursory or in-depth manner. The ecosystem services categories used followed those of the Millennium Ecosystem Assessment (MA, 2005) as the most basic outline and were interpreted in a very inclusive way. Created for all stories, these lists resulted in an overview of the various types of benefits mentioned by their authors.

In the investigation's key step, 14 stories were analyzed more profoundly regarding the nonmaterial benefits mentioned. To be selected for this in-depth analysis, a story had to comply with each of the following criteria:

- have at least five sentences of text (exclusion e.g. of short poems or drawings combined with some text);
- address at least one type of CES;
- involve a connection to biophysical features of the Swabian Alb (exclusion of stories e.g. exclusively dealing with social practices, like local customs);
- refer to the current situation or a future vision thereof (exclusion of stories exclusively dealing with historical issues); and
- be a narrative about human beings (exclusion e.g. of animal fables).

To simplify the processes of data organization and analysis, all stories selected for detailed analysis were transferred into the qualitative data analysis program MAXQDA 10 (VERBI, 2010). Text analysis was carried out according to an integrative hermeneutical approach (Kruse, 2014) mainly built upon Grounded Theory (Bryant and Charmaz, 2007; Strauss, 1987). Central to this was a partly open and partly structured coding process. Open coding

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