Routledge
Taylor & Francis Group

Journal of Environmental Planning and Management

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/cjep20

A conceptual framework and research method for understanding protected area governance: varying approaches and epistemic worldviews about human-nature relations

Jingyu Li, Arie Stoffelen & Frank Vanclay

To cite this article: Jingyu Li, Arie Stoffelen & Frank Vanclay (2022): A conceptual framework and research method for understanding protected area governance: varying approaches and epistemic worldviews about human-nature relations, Journal of Environmental Planning and Management, DOI: 10.1080/09640568.2022.2034605

To link to this article: https://doi.org/10.1080/09640568.2022.2034605

Published online: 07 Mar 2022.

Journal of Environmental Planning and Management, 2022
https://doi.org/10.1080/09640568.2022.2034605

Routledge
Taylor & Francis Group

A conceptual framework and research method for understanding protected area governance: varying approaches and epistemic worldviews about human-nature relations

Jingyu Li[a,b], Arie Stoffelen[b] and Frank Vanclay*[a]

[a]*Faculty of Spatial Sciences, Department of Cultural Geography, University of Groningen, Groningen, The Netherlands;* [b]*Department of Earth and Environmental Sciences, KU Leuven, Belgium*

(*Received 9 July 2021; revised 3 December 2021; final version received 17 January 2022*)

Research about the relations between protected areas and local communities ranges from nature-centred to human-centred approaches. Differing epistemic worldviews and fragmentation characterize this literature. We analyzed the rationale underpinning approaches to protected area governance. We classified them according to their perspective on human-nature relations. Using the components of stakeholder mapping, and adding the concepts of human-nature interaction, landscape values, and land-use preferences, we designed a conceptual framework and research method to improve understanding of the governance of specific protected areas. The method comprises 6 steps: (1) identify all stakeholders; (2) identify those stakeholders in power positions and determine their view of nature; (3) establish the landscape values and preferences of other stakeholder groups; (4) study the institutional context and power relations; (5) consider the agency and capacity of each group and their engagement with the protected area; and (6) determine what recommendations might be made to improve protected area governance.

Keywords: protected area management; socio-ecological systems; stakeholder analysis; community engagement; fortress conservation

1. Introduction

Protected Areas (PAs) are an important policy instrument for conserving biodiversity, wildlife, iconic landscapes, cultural heritage, ecosystem services, and for promoting appreciation of nature (Mulongoy and Chape 2004; Dudley 2008; Miller, Minteer, and Malan 2011; Watson *et al.* 2014). West, Igoe, and Brockington (2006, 255–256) asserted that "protected areas are the material and discursive means by which conservation and development discourses, practices, and institutions remake the world". Some 15% of terrestrial and 7% of marine areas around the world are covered by PAs (Belle *et al.* 2018). However, PAs are not only about nature. Various groups of people live in or around PAs, and many people visit PAs. In line with academic debates about the interrelations between nature and culture (Demeritt 2002; Castree 2005; Parra and Moulaert

*Corresponding author. Email: frank.vanclay@rug.nl

2016) and about the concept of landscape (Antrop 2001; Tress and Tress 2001; Antrop and Van Eetvelde 2004), it could be argued that all landscapes are at least partially constructed by humans due to people's social construction of these places and the impacts of human activity on the environment. This means that PAs (and the concept itself) must address the human-nature relationship and how 'nature' is to be interpreted.

This context makes PA governance a domain that not only requires including all stakeholder groups in decision-making, but also one that considers how different actors and stakeholders conceptualize nature. However, not all researchers and practitioners regard 'human' as being a component of PAs, and not all stakeholder groups have equal influence in PA governance (Castree 2005; Vanclay 2017). For example, Indigenous peoples living in or around PAs have not always been recognized as legitimate stakeholders (Adams and Hutton 2007; Hanna and Vanclay 2013). Indigenous peoples have often been driven out of their land to create enclosed national parks that are often purported to represent 'pristine nature' and be symbols of nationhood (Ross-Bryant 2005; Wang 2019). Starting from the mid 19th century, a single-purpose model of nature conservation has developed, becoming dominant worldwide (Kalamandeen and Gillson 2007), and often critiqued for being 'fortress conservation' (Büscher 2016; Vanclay 2017).

In the last decade or so, society in general and academia especially have become more aware of the human dimensions of PAs (Cocks 2006; West, Igoe, and Brockington 2006). Furthermore, the concept of governance is being used to stress the need to manage collective action and cooperation among different actors (Armitage, De Loë, and Plummer 2012; Mehnen, Mose, and Strijker 2013; Omoding *et al.* 2020). This suggests that the management of PAs should not only revolve around biodiversity and ecology, but should also address the varying perceptions and interests of all the different stakeholder groups and the differing and potentially conflicting land uses that may arise in relation to a PA. The International Union for the Conservation of Nature (IUCN) has established a categorization of PAs (Dudley 2008), which is largely based on the extent to which PAs include or exclude human activities. Despite the increasing recognition of the role of humans in PAs (Mulongoy and Chape 2004), the IUCN classification embeds a nature–culture dualism (Lee 2016), especially in that the act of classifying a PA in terms of a gradation of human activity implies that humans are a threat to conservation (Borrini-Feyerabend, Kothari, and Oviedo 2004).

In contrast to the IUCN nature–culture dualism, some of the literature on how PAs should be governed does recognize the intrinsic relations between humans and the environment (Lockwood 2010; Worboys *et al.* 2015). However, overall, the PA literature is still rather fragmented and incoherent, especially in relation to its understanding of human–nature relations (Armitage, De Loë, and Plummer 2012; Premauer and Berkes 2015; Parra and Moulaert 2016). In the PA governance literature, numerous approaches exist, differing primarily in terms of their assumptions about the human-nature relationship. Consequently, around the world, the various PA management guidelines at national and local levels tend to be inconsistent in that they are based on differing views about the role and position of people in PAs (Locke and Dearden 2005; Antrop 2006; Bridgewater and Rotherham 2019; Stoffelen 2020).

The purpose of this paper, therefore, is to develop a conceptual framework to categorize the fragmented academic literature that discusses the interactions between PA governance and local communities, and to provide a step-by-step research method for researchers interested in PA governance. The intention of the suggested research method is for researchers to be able to: (1) understand the key processes that influence

how PA governance happens in real life; (2) to determine which and whose values come to dominate PA governance; and (3) to make recommendations about PA governance that ensure there is an appropriate balance between meeting community needs and nature conservation.

In this paper, first, we categorize the approaches used in research on PA governance into three types according to their view of the human-nature relationship. We consider that each researcher's view of the human-nature relationship is largely shaped by their underlying epistemic worldview, specifically, positivism (dualism between humans and nature), pragmatism (a systems view of humans and nature), or constructivism (oneness of humans and nature). We identified and labeled the PA governance approaches as: the 'conservationist'; the 'socially conscious'; and the 'middle ground'. We also provide a table that describes the PA governance approaches by discussing and comparing their strengths, limitations, value added to PA governance, epistemic worldview, interpretation of nature, landscape values, the balance between conservation and land use, and the institutional context of each approach. Finally, we introduce stakeholder analysis to develop a set of steps that help identify which PA governance approach is being used by stakeholders in a specific PA. We conclude with some implications of our step-by-step research method for future research on PA governance.

2. Approaches to protected area governance

2.1. Description of the main discourses in the PA governance literature

The literature on the governance of PAs has mostly been constructed along disciplinary lines. Various approaches (discourses, paradigms and philosophies) can be observed, especially regarding how local communities are included in PA governance. Natural scientists, such as biologists, ecologists, geologists and zoologists, tend to emphasize the performance of PA in terms of enhancing biodiversity, preserving geological landscapes, and protecting endangered species (Gaston *et al.* 2008; Watson *et al.* 2014; Lee 2016; Ward, Holmes, and Stringer 2018). Conversely, social scientists tend to consider the human dimensions, for example to gain a better understanding of the socio-political processes at play, which might enable conservation practices to become more effective (Bennett *et al.* 2017). This theoretical diversity, and a lack of awareness of it, hinders interaction between scholars and practitioners from the different disciplinary backgrounds. However, we believe that when these different approaches to PA governance are combined, they can be complementary.

A fundamental issue that especially complicates interdisciplinary discussions, including of PA governance, is that scholars and practitioners tend to hold competing, contradictory and sometimes incompatible epistemic worldviews, for example, positivism, pragmatism, and constructivism (Creswell and Creswell 2017; Hakkarainen *et al.* 2020; Stoffelen 2020). Therefore, scholars and practitioners from different fields regard the interaction between humans and the environment (and the issue of the role of communities in PA governance) in markedly different ways, which profoundly influences the values emphasized in the vision statements and the objectives of individual PAs (Bennett and McGinnis 2008; Hakkarainen *et al.* 2020; Potts 2020). In interdisciplinary discussions about PAs, these different epistemic worldviews make it hard to come to common understandings and agreement (Castree 2005; Creswell and Creswell 2017; Hakkarainen *et al.* 2020). Furthermore, the various management guidelines that have

been developed around the world differ markedly, varying according to the approach on which they were based.

We argue that there are three prominent approaches in the PA governance literature, which we label as: conservationist; socially conscious; and middle ground. We note that the socially conscious approach comprises two main strands, community-based natural resource management (CBNRM), and political ecology. Below, we reflect on the strengths and limitations of each approach and compare the approaches on the basis of key attributes such as the epistemic worldview, strengths, limitations, and value added to PA governance from the approach. For comparative purposes, we included a class for 'neoliberal utilitarian approaches to nature'. One utilitarian approach is arguably ecosystem services, which focuses on an ecosystem's integrity and capacity to provide physical and economic services to humans, but not necessarily on nature for its own sake. It has a rather naïve understanding of social issues (Paetzold, Warren, and Maltby 2010; Burkhard *et al.* 2012).

2.2. The conservationist approach to PA governance

Professionals adhering to what we label as the 'conservationist approach' tend to see nature as an objective phenomenon. As such, they tend to prioritize the natural or physical landscape characteristics when determining PA management guidelines (Roman, Dearden, and Rollins 2007). A pertinent example of a conservationist approach is the United States Wilderness Act of 1964, which prohibited land uses in US national parks that were deemed incompatible with the wilderness idyl (McCloskey 1966). Even today, various categories of PAs are being designated in many countries, often completely ignoring that those places were previously inhabited by Indigenous or other peoples (Ross-Bryant 2013). Research done from a conservationist approach tends to reject human activities, or to only consider them as external drivers of unwanted environmental change (Lee 2016).

An example of nature-centred thinking is the idea of 'deep ecology', which was coined by Arne Naess (1973) in the discourse of environmental philosophy. The deep ecology notion advocated that all species and ecosystems have intrinsic value (Devall 1991). In this conservationist reasoning, society and nature are seen as two distinct analytical categories. Nature-centred or natural science-based studies favor quantitative research into the conservation of the non-human (biotic and abiotic) environment to increase the effectiveness of conservation actions (Verma, van der Wal, and Fischer 2016). For example, animal tracking can provide evidence to be used in establishing the territorial boundaries for a new or expanded PA (Benson 2016). Despite their value for making evidence-based decisions, the conservationist approach has been criticized because studies using such an approach tend to argue for the need to preserve ecosystems by strictly regulating human activities, and they fail to consider relevant social, cultural, and political issues (Andrade and Rhodes 2012; Anaya and Espírito-Santo 2018). However, even though a conservationist approach tends to prevail in PA governance, awareness that social issues should be included has grown over time (Brown, Reed, and Raymond 2020). Some scholars have argued that the inclusion of subjective values in PA governance is crucial to gain support from all the different stakeholder groups and to achieve the outcomes desired by strong conservationists (Williams and Patterson 1996; Bennett and Dearden 2014).

2.3. The socially conscious approach to PA governance

In response to the criticisms of the conservationist approach to PA governance, other studies have emphasized societal issues in the designating and governing of PAs, including human rights, social equity, politics, and the impacts of conservation and PA management actions on local communities (West, Igoe, and Brockington 2006; Mathew and Sreejesh 2017; Vanclay 2017). Studies adopting a socially-conscious approach come from a diverse array of backgrounds and include many different concepts (Berkes 2004; Blaikie 2006; Zimmerer 2006; Adams and Hutton 2007; Robbins 2012; Stoffelen and Vanneste 2015; Bennett *et al.* 2017; Cumming and Allen 2017; Castro-Arce, Parra, and Vanclay 2019; Stoffelen *et al.* 2019).

In our analysis below, we consider two indicative high-profile discourses that refer to the role of communities in PA decision-making: CBNRM and political ecology. Although there are other discourses we potentially could have considered, for illustrative purposes we decided to have one somewhat practical discourse (CBNRM) and one somewhat academic discourse (political ecology).

2.3.1. *Community-based natural resource management*

CBNRM gained popularity in the 1980s as an alternative to the conservationist approach, which tended to ignore the role of communities in nature conservation (Gibson and Marks 1995; Nabane and Matzke 1997; Prager and Vanclay 2010; Milupi, Somers, and Ferguson 2017). CBNRM started from the idea that the participation of communities in decision-making contributes to effectively managing natural resources, and provides benefits to local people, especially in terms of social justice and improved wellbeing (Armitage 2005; Dressler *et al.* 2010; Vanclay 2015). CBNRM is receptive to including traditional, non-expert and alternative forms of knowledge regarding nature conservation (Shokirov and Backhaus 2020). A similar concept, community-based conservation (CBC), refers to those practices that emphasize the role of local residents in conservation actions (Berkes 2004). CBNRM and CBC are people-centred, grassroots concepts that consider communities to be the focal unit for natural resource management (Dressler *et al.* 2010).

Instead of regarding society and nature as distinct categories, discussion about human-nature interaction in CBNRM generally applies a social-ecological systems (SES) perspective, which addresses the linkages between social systems and ecological systems (Berkes, Colding, and Folke 2008; Berkes 2021). SES researchers hold a worldview that sees reality as being complex and constantly changing. A fundamental element of the SES approach is resilience, which refers to the capacity to adapt to change (Akamani 2020; Imperiale and Vanclay 2021). SES researchers apply adaptive and non-linear planning processes. SES thinking has emphasized the importance of resilience in PA governance (Folke *et al.* 2005; Castro-Arce and Vanclay 2020a).

In order to create linkages between stakeholders operating at various levels, PA governance should be multi-level and participatory (Fabricius and Collins 2007). This understanding has led to the emergence of various forms of PA governance that are alternatives to existing top-down management models (Walker *et al.* 2007; Lemos and Agrawal 2006). However, conflicts can still arise due to the varying connections of the different actors to specific environments (Cosgrove 1985; Vanclay 2008), and the fact that people are more motivated to protect those places that are personally meaningful (Brown and Raymond 2007; Lane *et al.* 2007). Thus, scholars have studied the

diversity of stakeholders' landscape values, including through empirical research. Brown and Raymond (2007), for example, mapped the special places of local people to show how people's sense of place should be an important consideration in conservation practice. From a CBNRM perspective, PAs should be managed from the bottom-up, instead of by the top-down imposition of those landscape values embodied in national requirements and in PA managers (Brown 2004).

Agrawal and Gibson (1999) argued that CBNRM should focus on institutions rather than just on the community. Institutional support at multiple levels is vital for balancing between diverse views and interests (Fabricius and Collins 2007; Ekroos *et al.* 2017). This is reflected in IUCN's governance typology for PAs, which distinguishes between governance by government, shared governance (or co-management), private governance, and community-based governance (Mulongoy and Chape 2004; Borrini-Feyerabend *et al.* 2013).

Despite its advantages, there are criticisms about CBNRM (Dressler *et al.* 2010). For example, there is some doubt as to whether an increased role for the community will deliver the natural resource management outcomes desired by all the different stakeholders (Blaikie 2006; Brown, Reed, and Raymond 2020; Milupi, Somers, and Ferguson 2017). Although some studies have argued that the inclusion of traditional ecological knowledge could help balance socio-economic and environmental goals (Kellert *et al.* 2000), others have raised questions about whether it is always consistent with biodiversity conservation goals (Berkes and Turner 2006). CBNRM studies have also tended to focus on management issues at local scales, assuming that local populations have a greater interest in the sustainable use of common-pool resources than government actors of the private sector (Prager and Vanclay 2010; Sijtsma *et al.* 2019).

2.3.2. Political ecology

Political ecology is an interdisciplinary approach that revolves around the idea that everything about nature and the environment is inherently political (Zimmerer 2006; Escobar 1999). Political ecologists consider the power of different social actors in control over natural resources (Bryant and Bailey 1997). Drawing on constructs from post-structuralism and Marxist political economy, political ecology focuses on deconstructing the socio-ecological relations, conflict and inequality that arise from the commodification of natural resources (Robbins 2012; Douglas 2014; Mosedale 2015; Busscher, Parra, and Vanclay 2018).

Political ecology addresses how asymmetric social and political power between stakeholders shapes human-environment relationships and leads to inappropriate conservation management practices (Adams and Hutton 2007; Robbins 2012). Political ecologists tend to understand power as "the ability of an actor to control their own interaction with the environment and the interaction of other actors with the environment" (Bryant and Bailey 1997, 37). Power is overtly manifested in the decision-making of formal authorities (Grigsby 2012). However, power (or agency) can also be latent in the form of covert actions (Hanna *et al.* 2016). Therefore, in addition to the institutions that control the environment, we also need to pay attention to the various protest actions and CBNRM activities of local people (Castro Arce and Vanclay 2020b). Political ecologists who have been inspired by Foucault use a micro perspective of power, in which power is understood as a constitutive dimension of social life in everyday situations (Ahlborg and Nightingale 2018).

From a political ecology viewpoint, governing PAs is more than just managing natural resources on behalf of an institution or set of institutions. It is also about the power relationships among states, domain-specific experts, private corporations, communities, NGOs, and governments (Cortes-Vazquez 2014; Mosedale 2015). A political ecology perspective is mindful that within communities there can be many vulnerable groups and individuals (Ahlborg and Nightingale 2018). This context has led political ecologists to investigate conflict, displacement, and the differential impacts caused by conservation projects (Adams and Hutton 2007; Agrawal and Redford 2009; Piermattei 2013; Vanclay 2017). Although political ecology has been applied to PA governance-related research, Walker *et al.* (2007) debated whether political ecology was sufficiently 'political' or 'ecological'.

2.4. The middle ground approach to PA governance

Our analysis of the conservationist and socially conscious approaches showed that research dealing with PA governance has addressed different topics and is based on different precepts and worldviews. Some effort has been made to bridge the gaps between the two approaches. A typical way in which the interaction between humans and the physical environment can be holistically studied is the concept of 'landscape'. Antrop (2006, 188) implied a middle ground by defining landscape as "a synthetic and integrating concept that refers both to a material-physical reality, originating from a continuous dynamic interaction between natural processes and human activity, and to the immaterial existential values and symbols of which the landscape is the signifier". Middle ground visions on human-nature interaction have a long history, including within the field of human geography. Notable examples include Carl Sauer's work on landscape morphology in the 1920s, and the humanistic turn in geography in the 1970s, which was concerned with the co-constitutive relations between people and their spatial surroundings, and about people's subjective existential values (Tuan 1975). These examples point to the idea that landscapes are projections of people's views and place meanings rather than being objective phenomena (Cosgrove 1985; Greider and Garkovich 2010). Castree (2005) overcame the dualistic interpretation of nature as either objective or subjective by using the concept of 'network'. Viewing a spatial location (e.g. a PA) as a network implies that nothing exists in isolation and that society and nature are intrinsically interconnected (Castree 2005).

In order to conserve PAs, many scholars have used the concept of landscape and a holistic viewpoint to incorporate the plural values held by people. Using examples from Scandinavia, Sande (2015) illustrated how landscapes with high cultural and natural values can benefit from recognition of the interrelatedness of these values. Scholte, van Teeffelen, and Verburg (2015) pointed out that landscape values can reflect both the material and immaterial qualities of the places that stakeholders perceive to be important. In his landscape values typology, Brown, Reed, and Raymond (2020) outlined the key values people ascribe to landscapes: aesthetic/scenic, economic, recreation, life sustaining, learning/scientific, biological, spiritual, intrinsic, historic, future, subsistence, therapeutic, cultural, wilderness, social, and special places.

The subjective and plural character of landscape values has become widely acknowledged internationally. For example, UNESCO's World Heritage Committee has recognized 'cultural landscapes' as a specific category of world heritage. UNESCO. (2009, slightly modified) defined three sub-categories of cultural landscape,

Table 1. Comparison of different PA governance approaches.

Approach		Indicative references	Strengths	Weaknesses	Epistemic worldview	Interpretation of nature	How landscape is valued	Conservation-landuse balance	Role of institutions	Value added to PA governance
Conservationist		Devall 1991; Benson 2016; Verma, van der Wal, and Fischer 2016	Uses scientific techniques to identify, conserve and monitor the biotic and abiotic environment.	Prioritizing natural science-based conservation tends to ignore social and political processes in conservation practices	positivism	Nature is seen as an objective phenomenon	All living things and abiotic elements have intrinsic value	Conservation first, human activities (e.g. tourism) are a burden to the environment	To facilitate conservation	Provides evidence-based conservation priorities using data gathered with advanced technologies
Socially conscious	Community-based natural resource management	Berkes 2004; Folke *et al.* 2005; Lemos and Agrawal 2006; Walker *et al.* 2007; Dressler *et al.* 2010; Castro-Arce and Vanclay 2020a	Addresses the role of communities in decision-making, which contributes to managing environmental integrity and benefits local people. Pays attention to the role of institutions in conservation practices.	Traditional practices of local communities are not by default sustainable. Tends to focus on local-level management processes, thereby assuming that local populations have a greater interest than governmental or private actors in the sustainable use of natural resources.	pragmatism	Nature is seen as a social ecological system	Communities have place-based values that lead them to work together to protect habitats	There must be a balance between conservation and the interests of multiple stakeholders, including economic,		
			environmental, political, social and cultural dimensions	Advocates bottom-up and polycentric institutional forms of PA governance as an alternative to state or market dominated governance, thus	To facilitate community NRM activities					

(*Continued*)

Table 1. (*Continued*).

Approach	Indicative references	Strengths	Weaknesses	Epistemic worldview	Interpretation of nature	How landscape is valued	Conservation-landuse balance	Role of institutions	Value added to PA governance
			democratizing PA governance. Examines the values and interests of local people to use PA governance for improving their livelihoods.						
Political Ecology	Adams and Hutton 2007; Robbins 2012; Vaccaro, Beltran, and Paquet 2013	Understands nature (conservation) through a political lens. Includes power relations of actors into the analysis of environmental change.	Not always sufficiently political nor ecological. Tends to ignore other factors that cause the environmental change.	pragmatism	Nature is seen as being	intrinsically political	Each local group has their own landscape values that should be acknowledged	Land use is determined by power relations	Links PA governance to improving social equity and human rights of local people.	To ensure social justice
Middle ground	Castree 2005; Antrop 2006; Heslinga, Groote, and Vanclay 2019; Brown, Reed, and Raymond 2020	Challenges the fundamental dualisms of nature vs humans by seeing nature as essentially contested. Stakeholder landscape values provide a holistic picture of what to conserve.	Often lacks a clear methodology to analyze the concurrence of the other two approaches in an area.	constructivism	Nature is seen holistically		Both human views and nature need to be considered	There must be an inclusive approach in managing different land uses	To balance between community inclusion and efficient conservation	Offers various umbrella concepts to consider potentially contrasting landscape values of different stakeholders to inform PA governance practice. Mapping place values can inform landuse policy.

(*Continued*)

Table 1. (*Continued*).

Approach	Indicative references	Strengths	Weaknesses	Epistemic worldview	Interpretation of nature	How landscape is valued	Conservation-landuse balance	Role of institutions	Value added to PA governance
Utilitarian (neoliberalism)	Paetzold, Warren, and Maltby 2010; Burkhard *et al*. 2012	Provides a clear idea of how humans can maximize returns from nature for economic benefits.	Prioritizing human needs can lead to ignoring the intrinsic value of nature. Overuse of natural resources to pursue profit can hamper sustainable development.	positivism	Nature is seen as a resource for humans to utilize	The value of landscape is determined by the activities that can be undertaken	Land to be used for human interests first	To facilitate fair and efficient transactions	Gives an opportunity for PA governance to cooperate within the market.

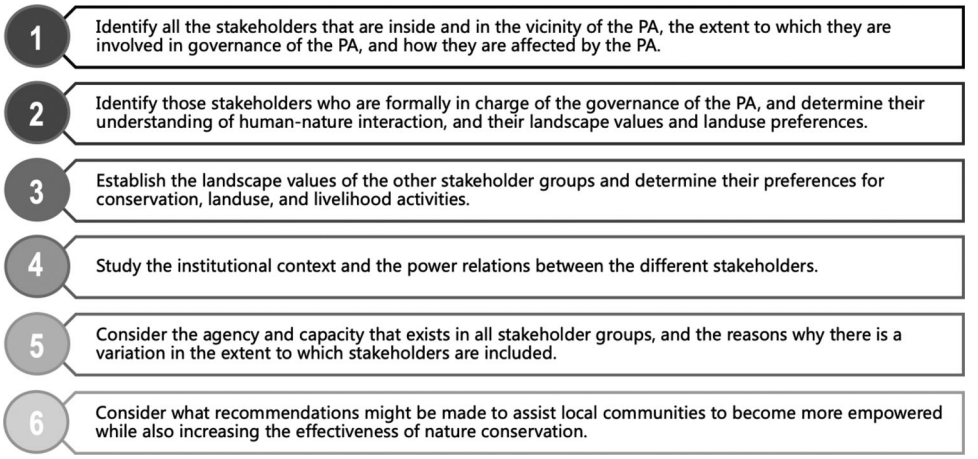

Figure 1. The six steps to understand the governance of a Protected Area.

namely: (1) landscapes designed and created intentionally by humans; (2) organically evolved landscapes, with two sub-categories: a relict (or fossil) landscape and a continuing landscape; and (3) associative cultural landscapes that refer to places with strong religious, artistic or cultural links to the natural environment. In creating its classification of cultural landscapes, UNESCO hoped to draw attention to the heritage value of the built environment, human modified landscapes, and to the spiritual values of local people (Taylor and Lennon 2011). Neverthless, heritage conservation still concentrates on the 'outstanding universal value' as determined by experts, not by local communities (Taylor and Lennon 2011; Mehnen, Mose, and Strijker 2013). Consequently, PA governance remains challenging because of insufficient transdisciplinary cooperation and a lack of bottom-up input.

2.5. Comparing the characteristics of the approaches

Above, we identified that there were three approaches to human-nature interaction in the literature on PA governance. A person's understanding of human-nature interaction influences their preferences about how a landscape should be valued and how a PA should be governed. Below, we compare the three approaches regarding their strengths, weaknesses, epistemic worldview, interpretation of nature, how landscape is valued, the balance between conservation and land use, the role of institutions, and the value added to PA governance. Table 1 summarizes the PA governance approaches by comparing them on these characteristics. By referring to Table 1, researchers should be able to recognize the governance approach of a specific PA.

3. Making sense of the governance of a protected area

The descriptions of the three approaches in Table 1 provide a way by which a researcher can identify which PA governance approach is indicative of a specific PA. It is vital to understand the key processes that influence how PA governance happens in real life, and which and whose values come to influence decisions made about the PA. Drawing on stakeholder mapping, in this section we provide a set of steps that

will assist researchers to better understand PA governance. In contrast to stakeholder mapping, not only do we look at which stakeholders have power, we also consider the epistemic worldview of stakeholders, which influence the objectives that are set in PA governance. Our step-by-step research method (see Figure 1) will help researchers identify the reasons why some stakeholders and their values are not included in PA governance. We also make recommendations to assist local communities in becoming more empowered, while also increasing the effectiveness of nature conservation.

Step 1: Identify all the stakeholders that are inside or in the vicinity of the PA, the extent to which they are involved in governance of the PA, and how they are affected by the PA.

PA governance affects various stakeholder groups, such as government at all levels, private actors, NGOs, and communities. The extent to which stakeholders are involved in PA governance will vary across situations. It is likely that some stakeholders' views will not be considered in PA governance because it is generally the values and worldviews of the powerful players that determine the main direction of PA governance in a specific PA. Researchers should identify all the stakeholders who are affected by the PA regardless of the extent to which they are involved in the governance of the PA. Stakeholders can be affected by the PA in various ways. PAs and their support policies provide benefits as well as costs to local people living in and around these places. Therefore, researchers should examine the consequences of the current PA governance system for all stakeholders.

Step 2: Identify those stakeholders who are formally in charge of the governance of the PA, and determine their understanding of human-nature interaction, and their landscape values and land-use preferences.

Stakeholders have different values. This fundamentally hinders communication between the various stakeholders. Powerful actors in the PA governance network largely determine the direction of and logic behind PA governance, including practical decisions regarding who gets access to the land and which land uses to support or block. Therefore, an important question researchers need to ask in order to understand the governance of a PA is: who makes decisions in relation to this PA? It is vital to identify those stakeholders in positions of power and their values. The task is then to understand whose and which values are dominant within the prevailing institutional context. Clarifying the understanding of landscape values and land-use preferences of people and organizations in power positions is important to make sense of PA governance. Key questions to consider are: Do they actually see a role for humans in the landscape? How willing are they to involve other potentially relevant stakeholders?

Step 3: Establish the landscape values of all other stakeholder groups and determine their preferences for conservation, land use, and livelihood activities.

Our analysis of the PA governance field indicated that effective and equitable PA governance requires deliberate effort to ensure the inclusion of vulnerable and/or traditionally under-represented groups, whose landscape values and preferences will likely differ to those of the powerful stakeholders. In this step, researchers should study those stakeholders who are only peripherally involved in PA governance to establish their landscape values and land-use preferences. By determining the preferences for conservation actions, land-use preferences, livelihood activities, and the extent of desire to participate in PA governance of all other stakeholders, researchers will get an overview of the desired level of public involvement in the governance of the PA (Brown 2004). This will assist researchers in obtaining an overview of people's support for

conservation measures and will enable inclusion of the interests of all diverse stakeholders in PA governance (Alexander, Andrachuk, and Armitage 2016).

Step 4: Study the institutional context and the power relations between the different stakeholders.

The governance arrangements and procedures establish general directions, priorities, and decisions for PAs. Power is exerted within decision-making networks in the governance arrangements, and largely determines who is included in the decision-making process. Therefore, after understanding the preferences of stakeholders, researchers need to turn attention to the institutional context and the power relations between stakeholders. Considering that institutions apply formal conservation policies, as well as informal rules and social norms (Bennett *et al.* 2017), researchers should investigate not only the formal memberships and decision-making structures, the information flows, and the strong and weak ties within the decision-making networks, but also the informal institutional arrangements including habitualized behavior, and the rules and norms that influence PA governance outcomes. Key questions to ask are: Are the institutional structures sufficiently flexible and adaptive? Do they allow for the inclusion of local communities in PA governance? What systems are in place to ensure that all affected actors are actually involved in decision-making? Regarding the role of local communities, the relationship between state, community, and market should also be investigated.

Step 5: Consider the agency and capacity that exists in all stakeholder groups, and the reasons why there is variation in the extent to which stakeholders are included.

Researchers should consider what skills, capacities and potential agency exist in each stakeholder group. Reflecting on the power relations that exist between stakeholder groups, and with knowledge of each group's capacities to learn, cooperate, and participate in PA governance, researchers can establish why some stakeholders and their landscape values are not included in PA governance. Identifying these reasons will help researchers discover the potential for improvement in PA governance, especially in relation to including the landscape values of all stakeholders.

Step 6: Consider what recommendations might be made to assist local communities to become more empowered while also increasing the effectiveness of nature conservation.

Drawing on the results from the previous steps, researchers can consider what recommendations can be made to enable community inclusion and effective conservation in PA governance in diverse contexts. Researchers can examine whether or not all stakeholders are included in the governance, priority and direction setting, and decision making of PAs. They should also consider the consequences of the current PA governance system in relation to all stakeholders. Researchers should synthesize the results of the previous steps to see whether some groups and their values are excluded, and to consider the extent to which each group is impacted by the PA governance. Through this whole process, the effectiveness of the PA governance can be assessed. Based on this analysis, recommendations for improvement can be made.

4. Conclusion

Governance is the key driver of effective conservation. However, protected area governance is complex and involves many actors. It is a domain that intrinsically requires including multiple stakeholder groups with different and possibly conflicting interests and values. Fragmentation and lack of interdisciplinary discussion has hampered the

development of the research and practice of PA governance. As we have shown, no single research approach covers all socio-political, spatial, and temporal processes that influence how the balance between society and nature is mediated in PA governance practices.

The purpose of this paper was to analyze the fragmented literature dealing with interactions between PA governance and local communities and develop a categorization to be used for developing a research method that is sensitive to the role of communities in PA governance in diverse contexts. We analyzed the differences and complementarities between the three approaches we identified, which we called the conservationist, socially-conscious, and middle ground.

Our step-by-step research method will help researchers with their investigations into the different PA governance approaches. It provides a systematic way of studying PA governance. It can help researchers make sense of what PA governance looks like for a particular PA, which issues are likely to appear, and who benefits and loses from the PA governance system. With the aid of this approach, once the PA governance system is understood, it should be possible for policy makers, communities and other players to better organize PA governance in practice.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Jingyu Li http://orcid.org/0000-0002-7037-3764
Arie Stoffelen http://orcid.org/0000-0003-2000-5493
Frank Vanclay http://orcid.org/0000-0002-9945-6432

References

Adams, William, and Jon Hutton. 2007. “People, Parks and Poverty: Political Ecology and Biodiversity Conservation.” *Conservation and Society* 5 (2): 147–183.

Agrawal, Arun, and Clark Gibson. 1999. “Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation.” *World Development* 27 (4): 629–649. doi: 10.1016/S0305-750X(98)00161-2.

Agrawal, Arun, and Kent Redford. 2009. “Conservation and Displacement: An Overview.” *Conservation and Society* 7 (1): 1–10. doi:10.4103/0972-4923.54790.

Ahlborg, Helene, and Andrea Nightingale. 2018. “Theorizing Power in Political Ecology: The Where of Power in Resource Governance Projects.” *Journal of Political Ecology* 25 (1): 381–401. doi:10.2458/v25i1.22804.

Akamani, Kofi. 2020. “Integrating Deep Ecology and Adaptive Governance for Sustainable Development: Implications for Protected Areas Management.” *Sustainability* 12 (14): 5757. doi:10.3390/su12145757.

Alexander, Steven, Mark Andrachuk, and Derek Armitage. 2016. “Navigating Governance Networks for Community-Based Conservation.” *Frontiers in Ecology and the Environment* 14 (3): 155–164. doi:10.1002/fee.1251.

Anaya, Felisa, and Mário Espírito-Santo. 2018. “Protected Areas and Territorial Exclusion of Traditional Communities: Analyzing the Social Impacts of Environmental Compensation Strategies in Brazil.” *Ecology and Society* 23 (1): 8. doi:10.5751/ES-09850-230108.

Andrade, Gustavo, and Jonathan Rhodes. 2012. “Protected Areas and Local Communities: An Inevitable Partnership toward Successful Conservation Strategies?” *Ecology and Society* 17 (4): 14. doi:10.5751/ES-05216-170414.

Antrop, Marc. 2001. "The Language of Landscape Ecologists and Planners. A Comparative Content Analysis of Concepts Used in Landscape Ecology." *Landscape and Urban Planning* 55 (3): 163–173. doi:10.1016/S0169-2046(01)00151-7.

Antrop, Marc. 2006. "Sustainable Landscapes: Contradiction, Fiction or Utopia?" *Landscape and Urban Planning* 75 (3–4): 187–197. doi:10.1016/j.landurbplan.2005.02.014.

Antrop, Marc, and Veerle Van Eetvelde. 2004. *Landscape Perspectives the Holistic Nature of Landscape*. Dordrecht: Springer.

Armitage, Derek. 2005. "Adaptive Capacity and Community-Based Natural Resource Management." *Environmental Management* 35 (6): 703–715. doi:10.1007/s00267-004-0076-z.

Armitage, Derek, Rob De Loë, and Ryan Plummer. 2012. "Environmental Governance and Its Implications for Conservation Practice." *Conservation Letters* 5 (4): 245–255. doi:10.1111/j.1755-263X.2012.00238.x.

Belle, Elise, Naomi, Kingston, Neil Burgess, Trevor Sandwith, Natasha Ali, and Kathy MacKinnon. 2018. *Protected Planet Report 2018: Tracking Progress towards Global Targets for Protected Areas.* United Nations Environment Program. https://livereport.protectedplanet.net/pdf/Protected_Planet_Report_2018.pdf

Bennett, Nathan, and Philip Dearden. 2014. "Why Local People Do Not Support Conservation: Community Perceptions of Marine Protected Area Livelihood Impacts, Governance and Management in Thailand." *Marine Policy* 44: 107–116. doi:10.1016/j.marpol.2013.08.017.

Bennett, David, and David McGinnis. 2008. "Coupled and Complex: Human-Environment Interaction in the Greater Yellowstone Ecosystem, USA." *Geoforum* 39 (2): 833–845. doi:10.1016/j.geoforum.2007.05.009.

Bennett, Nathan, Robin Roth, Sarah Klain, Kai Chan, Patrick Christie, Douglas Clark, Georgina Cullman., *et al.* 2017. "Conservation Social Science: Understanding and Integrating Human Dimensions to Improve Conservation." *Biological Conservation* 205: 93–108. doi:10.1016/j.biocon.2016.10.006.

Benson, Etienne S. 2016. "Trackable Life: Data, Sequence, and Organism in Movement Ecology." *Studies in History and Philosophy of Biological and Biomedical Sciences* 57: 137–147. doi:10.1016/j.shpsc.2016.02.005.

Berkes, Fikret. 2004. "Rethinking Community-Based Conservation." *Conservation Biology* 18 (3): 621–630. doi:10.1111/j.1523-1739.2004.00077.x.

Berkes, Fikret. 2021. *Advanced Introduction to Community-Based Conservation*. Cheltenham: Edward Elgar.

Berkes, Fikret, Johan Colding, and Carl Folke. 2008. *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. Cambridge: Cambridge University Press.

Berkes, Fikret, and Nancy J. Turner. 2006. "Knowledge, Learning and the Evolution of Conservation Practice for Social-Ecological System Resilience." *Human Ecology* 34 (4): 479–94. doi:10.1007/s10745-006-9008-2.

Blaikie, Piers. 2006. "Is Small Really Beautiful? Community-Based Natural Resource Management in Malawi and Botswana." *World Development* 34 (11): 1942–1957. doi:10.1016/j.worlddev.2005.11.023.

Borrini-Feyerabend, Grazia, Ashish Kothari, and Gonzalo Oviedo. 2004. *Indigenous and Local Communities and Protected Areas: Towards Equity and Enhanced Conservation.* Gland: IUCN. https://portals.iucn.org/library/efiles/documents/PAG-011.pdf

Borrini-Feyerabend, Grazia, Nigel Dudley, Tilman Jaeger, Barbara Lassen, Neema Pathak Broome, Adrian Phillips, and Trevor Sandwith. 2013. *Governance of Protected Areas: From Understanding to Action*. IUCN. https://portals.iucn.org/library/sites/library/files/documents/PAG-020.pdf

Bridgewater, Peter, and Ian Rotherham. 2019. "A Critical Perspective on the Concept of Biocultural Diversity and Its Emerging Role in Nature and Heritage Conservation." *People and Nature* 1 (3): 291–304. doi:10.1002/pan3.10040.

Brown, Greg, Pat Reed, and Christopher M. Raymond. 2020. "Mapping Place Values: 10 Lessons from Two Decades of Public Participation GIS Empirical Research." *Applied Geography* 116 102156. doi:10.1016/j.apgeog.2020.

Brown, Gregory, and Christopher Raymond. 2007. "The Relationship between Place Attachment and Landscape Values: Toward Mapping Place Attachment." *Applied Geography* 27 (2): 89–111. doi:10.1016/j.apgeog.2006.11.002.

Brown, Gregory. 2004. “Mapping Spatial Attributes in Survey Research for Natural Resource Management: Methods and Applications.” *Society & Natural Resources* 18 (1): 17–39. doi: 10.1080/08941920590881853.
Bryant, Raymond, and Sinéad Bailey. 1997. *Third World Political Ecology: An Introduction*. London: Routledge.
Burkhard, Benjamin, Franziska Kroll, Stoyan Nedkov, and Felix Müller. 2012. “Mapping Ecosystem Service Supply, Demand and Budgets.” *Ecological Indicators* 21: 17–29. doi:10.1016/j.ecolind.2011.06.019.
Büscher, Bram. 2016. “Reassessing Fortress Conservation? New Media and the Politics of Distinction in Kruger National Park.” *Annals of the American Association of Geographers* 106 (1): 114–129. doi:10.1080/00045608.2015.1095061.
Busscher, Nienke, Constanza Parra, and Frank Vanclay. 2018. “Land Grabbing within a Protected Area: The Experience of Local Communities with Conservation and Forestry Activities in Los Esteros Del Iberá, Argentina.” *Land Use Policy* 78: 572–582. doi:10.1016/j.landusepol.2018.07.024.
Castree, Noel. 2005. *Nature*. London: Routledge.
Castro-Arce, Karina, and Frank Vanclay. 2020a. “Transformative Social Innovation for Sustainable Rural Development: An Analytical Framework to Assist Community-Based Initiatives.” *Journal of Rural Studies* 74: 45–54. doi:10.1016/j.jrurstud.2019.11.010.
Castro-Arce, Karina, and Frank Vanclay. 2020b. “Community-Led Green Land Acquisition: Social Innovative Initiatives for Forest Protection and Regional Development.” *Land* 9 (4): 109. doi:10.3390/land9040109.
Castro-Arce, Karina, Constanza Parra, and Frank Vanclay. 2019. “Social Innovation, Sustainability and the Governance of Protected Areas: Revealing Theory as It Plays Out in Practice in Costa Rica.” *Journal of Environmental Planning and Management* 62 (13): 2255–2272. doi:10.1080/09640568.2018.1537976.
Cocks, Michelle. 2006. “Biocultural Diversity: Moving beyond the Realm of ‘Indigenous’ and ‘Local’ People.” *Human Ecology* 34 (2): 185–200. doi:10.1007/s10745-006-9013-5.
Cortes-Vazquez, Jose A. 2014. “A Natural Life: Neo-Rurals and the Power of Everyday Practices in Protected Areas.” *Journal of Political Ecology* 21 (1): 493–515. doi:10.2458/v21i1.21148.
Cosgrove, Denis. 1985. “Prospect, Perspective and the Evolution of the Landscape Idea.” *Transactions of the Institute of British Geographers* 10 (1): 45–62. doi:10.2307/622249.
Creswell, J. W., and J. D. Creswell. 2017. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Los Angeles, CA: Sage.
Cumming, Graeme, and Craig Allen. 2017. “Protected Areas as Social-Ecological Systems: Perspectives from Resilience and Social-Ecological Systems Theory.” *Ecological Applications : A Publication of the Ecological Society of America* 27 (6): 1709–1717. doi: 10.1002/eap.1584.
Demeritt, David. 2002. “What is the ‘Social Construction of Nature’? A Typology and Sympathetic Critique.” *Progress in Human Geography* 26 (6): 767–790. doi:10.1191/0309132502ph402oa.
Devall, Bill. 1991. “Deep Ecology and Radical Environmentalism.” *Society & Natural Resources* 4 (3): 247–258. doi:10.1080/08941929109380758.
Douglas, Jason. 2014. “What’s Political Ecology Got to Do with Tourism?” *Tourism Geographies* 16 (1): 8–13. doi:10.1080/14616688.2013.864324.
Dressler, Wolfram, Bram Büscher, Michael Schoon, Dan Brockington, Tanya Hayes, Christian Kull, James McCarthy, and Krishna Shrestha. 2010. “From Hope to Crisis and Back Again? A Critical History of the Global CBNRM Narrative.” *Environmental Conservation* 37 (1): 5–15. doi:10.1017/S0376892910000044.
Dudley, N., ed. 2008. *Guidelines for Applying Protected Area Management Categories*. Gland, Switzerland: IUCN. https://portals.iucn.org/library/sites/library/files/documents/pag-021.pdf
Ekroos, Johan, Julia Leventon, Joern Fischer, Jens Newig, and Henrik Smith. 2017. “Embedding Evidence on Conservation Interventions within a Context of Multilevel Governance.” *Conservation Letters* 10 (1): 139–145. doi:10.1111/conl.12225.
Escobar, Arturo. 1999. “Steps to an Antiessentialist Political Ecology.” *Current Anthropology* 40 (1): 1–30. doi:10.1086/515799.

Fabricius, Christo, and S. Collins. 2007. "Community-Based Natural Resource Management: Governing the Commons." *Water Policy* 9 (S2): 83–97. doi:10.2166/wp.2007.132.

Folke, Carl, Thomas Hahn, Per Olsson, and Jon Norberg. 2005. "Adaptive Governance of Social-Ecological Systems." *Annual Review of Environment and Resources* 30 (1): 441–473. doi:10.1146/annurev.energy.30.050504.144511.

Gaston, Kevin, Sarah Jackson, Lisette Cantú-Salazar, and Gabriela Cruz-Piñón. 2008. "The Ecological Performance of Protected Areas." *Annual Review of Ecology, Evolution, and Systematics* 39 (1): 93–113. doi:10.1146/annurev.ecolsys.39.110707.173529.

Gibson, Clark C., and Stuart A. Marks. 1995. "Transforming Rural Hunters into Conservationists: An Assessment of Community-Based Wildlife Management Programs in Africa." *World Development* 23 (6): 941–957. doi:10.1016/0305-750X(95)00025-8.

Greider, Thomas, and Lorraine Garkovich. 2010. "Landscapes: The Social Construction of Nature and the Environment." *Rural Sociology* 59 (1): 1–24. doi:10.1111/j.1549-0831.1994.tb00519.x.

Grigsby, Ellen. 2012. *Analyzing Politics: An Introduction to Political Science*. 5th ed. Belmont, CA: Wadsworth.

Hakkarainen, Viola, Christopher B. Anderson, Max Eriksson, Carena J. van Riper, Andra Horcea-Milcu, and Christopher M. Raymond. 2020. "Grounding IPBES Experts' Views on the Multiple Values of Nature in Epistemology, Knowledge and Collaborative Science." *Environmental Science & Policy* 105: 11–18. doi:10.1016/j.envsci.2019.12.003.

Hanna, Philippe, and Frank Vanclay. 2013. "Human Rights, Indigenous Peoples and the Concept of Free, Prior and Informed Consent." *Impact Assessment and Project Appraisal* 31 (2): 146–157. doi:10.1080/14615517.2013.780373.

Hanna, Philippe, Frank Vanclay, Esther Jean Langdon, and Jos Arts. 2016. "Conceptualizing Social Protest and the Significance of Protest Actions to Large Projects." *The Extractive Industries and Society* 3 (1): 217–239. doi:10.1016/j.exis.2015.10.006.

Heslinga, Jasper, Peter Groote, and Frank Vanclay. 2019. "Strengthening Governance Processes to Improve Benefit Sharing from Tourism in Protected Areas by Using Stakeholder Analysis." *Journal of Sustainable Tourism* 27 (6): 773–787. doi:10.1080/09669582.2017.1408635.

Imperiale, Angelo, and Frank Vanclay. 2021. "Conceptualizing Community Resilience and the Social Dimensions of Risk to Overcome Barriers to Disaster Risk Reduction and Sustainable Development." *Sustainable Development* 29 (5): 891–905. doi:10.1002/sd.2182.

Kalamandeen, Michelle, and Lindsey Gillson. 2007. "Demything 'Wilderness': Implications for Protected Area Designation and Management." *Biodiversity and Conservation* 16 (1): 165–182. doi:10.1007/s10531-006-9122-x.

Kellert, S.R., J.N. Mehta, S.A. Ebbin, and L.L. Lichtenfeld. 2000. "Community Natural Resource Management: Promise, Rhetoric, and Reality." *Society and Natural Resources* 13 (8): 705–715. doi:10.1080/089419200750035575.

Lane, Ruth, Frank Vanclay, Jo Wills, and Damian Lucas. 2007. "Museum Outreach Programs to Promote Community Engagement in Local Environmental Issues." *Australian Journal of Public Administration* 66 (2): 159–174. doi:10.1111/j.1467-8500.2007.00525.x.

Lee, Emma. 2016. "Protected Areas, Country and Value: The Nature-Culture Tyranny of the IUCN's Protected Area Guidelines for Indigenous Australians." *Antipode* 48 (2): 355–374. doi:10.1111/anti.12180.

Lemos, Maria Carmen, and Arun Agrawal. 2006. "Environmental Governance." *Annual Review of Environment and Resources* 31 (1): 297–325. doi:10.1146/annurev.energy.31.042605.135621.

Locke, Harvey, and Philip Dearden. 2005. "Rethinking Protected Area Categories and the New Paradigm." *Environmental Conservation* 32 (1): 1–10. doi:10.1017/S0376892905001852.

Lockwood, Michael. 2010. "Good Governance for Terrestrial Protected Areas: A Framework, Principles and Performance Outcomes." *Journal of Environmental Management* 91 (3): 754–766. doi:10.1016/j.jenvman.2009.10.005.

Mathew, Paul, and S. Sreejesh. 2017. "Impact of Responsible Tourism on Destination Sustainability and Quality of Life of Community in Tourism Destinations." *Journal of Hospitality and Tourism Management* 31: 83–89. doi:10.1016/j.jhtm.2016.10.001.

McCloskey, Michael. 1966. "Wilderness Act of 1964: Its Background and Meaning." *The Oregon Law Review* 45 (4): 288–321.

Mehnen, Nora, Ingo Mose, and Dirk Strijker. 2013. "Governance and Sense of Place: Half a Century of a German Nature Park." *Environmental Policy and Governance* 23 (1): 46–62. doi:10.1002/eet.1592.

Miller, Thaddeus, Ben Minteer, and Leon Malan. 2011. "The New Conservation Debate: The View from Practical Ethics." *Biological Conservation* 144 (3): 948–957. doi:10.1016/j.biocon.2010.04.001.

Milupi, I.D., M.J. Somers, and W. Ferguson. 2017. "A Review of Community-Based Natural Resource Management." *Applied Ecology and Environmental Research* 15 (4): 1121–1143. doi:10.15666/aeer/1504_11211143.

Mosedale, Jan. 2015. "Critical Engagements with Nature: Tourism, Political Economy of Nature and Political Ecology." *Tourism Geographies* 17 (4): 505–510. doi:10.1080/14616688.2015.1074270.

Mulongoy, K. J., and S. Chape, eds. 2004. *Protected Areas and Biodiversity: An Overview of Key Issues*. United Nations Environment Program. https://portals.iucn.org/library/sites/library/files/documents/2004-011.pdf

Nabane, Nontokozo, and Gordon Matzke. 1997. "A Gender-Sensitive Analysis of a Community-Based Wildlife Utilization Initiative in Zimbabwe's Zambezi Valley." *Society & Natural Resources* 10 (6): 519–535. doi:10.1080/08941929709381050.

Naess, Arne. 1973. "The Shallow and the Deep, Long-Range Ecology Movement. A Summary." *Inquiry* 16 (1–4): 95–100. doi:10.1080/00201747308601682.

Omoding, James, Gretchen Walters, Edward Andama, Salete Carvalho, Julien Colomer, Marina Cracco, Gerald Eilu., *et al.* 2020. "Analysing and Applying Stakeholder Perceptions to Improve Protected Area Governance in Ugandan Conservation Landscapes." *Land* 9 (6): 207. doi:10.3390/land9060207.

Paetzold, Achim, Philip Warren, and Lorraine Maltby. 2010. "A Framework for Assessing Ecological Quality Based on Ecosystem Services." *Ecological Complexity* 7 (3): 273–281. doi:10.1016/j.ecocom.2009.11.003.

Parra, Constanza, and Frank Moulaert. 2016. "The Governance of the Nature-Culture Nexus: Lessons Learned from the San Pedro de Atacama Case Study." *Nature and Culture* 11 (3): 239–258. doi:10.3167/nc.2016.110302.

Piermattei, Sandro. 2013. "Local Farmers vs. Environmental Universalism: Conflicts over Nature Conservation in the Parco Nazionale Dei Monti Sibillini, Italy." *Journal of Political Ecology* 20 (1): 306–317. doi:10.2458/v20i1.21769.

Potts, Ruth. 2020. "Disconnected Dots?: A Systematic Review of Governance Challenges for Natural Resource Management." *Journal of Environmental Planning and Management* 63 (8): 1356–1374. doi:10.1080/09640568.2019.1663723.

Prager, Katrin, and Frank Vanclay. 2010. "Landcare in Australia and Germany: Comparing Structures and Policies for Community Engagement in Natural Resource Management." *Ecological Management & Restoration* 11 (3): 187–193. doi:10.1111/j.1442-8903.2010.00548.x.

Premauer, Julia Margareta, and Fikret Berkes. 2015. "A Pluralistic Approach to Protected Area Governance: Indigenous Peoples and Makuira National Park, Colombia." *Ethnobiology and Conservation* 4: 1–16. doi:10.15451/ec2015-5-4.4-1-16.

Robbins, Paul. 2012. *Political Ecology*. 2nd ed. Oxford: Wiley.

Roman, George, Philip Dearden, and Rick Rollins. 2007. "Application of Zoning and 'Limits of Acceptable Change' to Manage Snorkelling Tourism." *Environmental Management* 39 (6): 819–830. doi:10.1007/s00267-006-0145-6.

Ross-Bryant, Lynn. 2005. "Sacred Sites: Nature and Nation in the US National Parks." *Religion and American Culture: A Journal of Interpretation* 15 (1): 31–62. doi:10.1525/rac.2005.15.1.31.

Ross-Bryant, Lynn. 2013. *Pilgrimage to the National Parks. Religion and Nature in the United States*. New York: Routledge.

Sande, Allan. 2015. "Mixed World Heritage in Scandinavian Countries." *International Journal of Heritage Studies* 21 (8): 791–804. doi:10.1080/13527258.2015.1023332.

Scholte, Samantha, Astrid van Teeffelen, and Peter Verburg. 2015. "Integrating Socio-Cultural Perspectives into Ecosystem Service Valuation: A Review of Concepts and Methods." *Ecological Economics* 114: 67–78. doi:10.1016/j.ecolecon.2015.03.007.

Shokirov, Qobiljon, and Norman Backhaus. 2020. "Integrating Hunter Knowledge with Community-Based Conservation in the Pamir Region of Tajikistan." *Ecology and Society* 25 (1): 1. doi:10.5751/ES-11253-250101.

Sijtsma, Frans, Nora Mehnen, Per Angelstam, and José Muñoz-Rojas. 2019. "Multi-Scale Mapping of Cultural Ecosystem Services in a Socio-Ecological Landscape: A Case Study of the International Wadden Sea Region." *Landscape Ecology* 34 (7): 1751–1768. doi:10.1007/s10980-019-00841-8.

Stoffelen, Arie, and Dominique Vanneste. 2015. "An Integrative Geotourism Approach: Bridging Conflicts in Tourism Landscape Research." *Tourism Geographies* 17 (4): 544–560. doi:10.1080/14616688.2015.1053973.

Stoffelen, Arie, Peter Groote, Erik Meijles, and Gerd Weitkamp. 2019. "Geoparks and Territorial Identity: A Study of the Spatial Affinity of Inhabitants with UNESCO Geopark De Hondsrug, The Netherlands." *Applied Geography* 106: 1–10. doi:10.1016/j.apgeog.2019.03.004.

Stoffelen, Arie. 2020. "Where is the Community in Geoparks? A Systematic Literature Review and Call for Attention to the Societal Embedding of Geoparks." *Area* 52 (1): 97–104. doi:10.1111/area.12549.

Taylor, K., and J. Lennon. 2011. "Cultural Landscapes: A Bridge between Culture and Nature?" *International Journal of Heritage Studies* 17 (6): 537–554. doi:10.1080/13527258.2011.618246.

Tress, Bärbel, and Gunther Tress. 2001. "Capitalising on Multiplicity: A Transdisciplinary Systems Approach to Landscape Research." *Landscape and Urban Planning* 57 (3–4): 143–157. doi:10.1016/S0169-2046(01)00200-6.

Tuan, Yi-Fu. 1975. "Place: An Experiential Perspective." *Geographical Review* 65 (2): 151–165. doi:10.2307/213970.

UNESCO. 2009. "World Heritage Cultural Landscapes: A Handbook for Conservation and Management." World Heritage Papers No. 26. https://whc.unesco.org/documents/publi_wh_papers_26_en.pdf.

Vaccaro, Ismael, Oriol Beltran, and Pierre Paquet. 2013. "Political Ecology and Conservation Policies: Some Theoretical Genealogies." *Journal of Political Ecology* 20 (1): 255–272. doi:10.2458/v20i1.21748.

Vanclay, Frank. 2008. "Place Matters." In *Making Sense of Place*, edited by Frank Vanclay, Matthew Higgins, and Adam Blackshaw, 2–11. Canberra: National Museum of Australia Press.

Vanclay, Frank. 2015. "The Potential Application of Qualitative Evaluation Methods in European Regional Development: Reflections on the Use of Performance Story Reporting in Australian Natural Resource Management." *Regional Studies* 49 (8): 1326–1339. doi:10.1080/00343404.2013.837998.

Vanclay, Frank. 2017. "Principles to Gain a Social Licence to Operate for Green Initiatives and Biodiversity Projects." *Current Opinion in Environmental Sustainability* 29: 48–56. doi:10.1016/j.cosust.2017.11.003.

Verma, Audrey, René van der Wal, and Anke Fischer. 2016. "Imagining Wildlife: New Technologies and Animal Censuses, Maps and Museums." *Geoforum* 75: 75–86. doi:10.1016/j.geoforum.2016.07.002.

Walker, David, John Paul Jones, Susan Roberts, and Oliver Fröhling. 2007. "When Participation Meets Empowerment: The WWF and the Politics of Invitation in the Chimalapas, Mexico." *Annals of the Association of American Geographers* 97 (2): 423–444. doi:10.1111/j.1467-8306.2007.00546.x.

Walker, Peter. 2007. "Political Ecology: Where is the Policy?" *Progress in Human Geography* 31 (3): 363–369. doi:10.1177/0309132507077086.

Wang, Ju-Han Zoe. 2019. "National Parks in China: Parks for People or for the Nation?" *Land Use Policy* 81: 825–833. doi:10.1016/j.landusepol.2018.10.034.

Ward, Caroline, George Holmes, and Lindsay Stringer. 2018. "Perceived Barriers to and Drivers of Community Participation in Protected-Area Governance." *Conservation Biology : The Journal of the Society for Conservation Biology* 32 (2): 437–446. doi:10.1111/cobi.13000.

Watson, James, Nigel Dudley, Daniel Segan, and Marc Hockings. 2014. "The Performance and Potential of Protected Areas." *Nature* 515 (7525): 67–73. doi:10.1038/nature13947.

West, Paige, James Igoe, and Dan Brockington. 2006. "Parks and Peoples: The Social Impact of Protected Areas." *Annual Review of Anthropology* 35 (1): 251–277. doi:10.1146/annurev.anthro.35.081705.123308.

Williams, Daniel, and Michael Patterson. 1996. "Environmental Meaning and Ecosystem Management: Perspectives from Environmental Psychology and Human Geography." *Society & Natural Resources* 9 (5): 507–521. doi:10.1080/08941929609380990.

Worboys, Graeme, Michael Lockwood, Ashish Kothari, Sue Feary, and Ian Pulsford, eds. 2015. *Protected Area Governance and Management*. Canberra: Canberra ANU Press.

Zimmerer, Karl. 2006. "Cultural Ecology: At the Interface with Political Ecology: The New Geographies of Environmental Conservation and Globalization." *Progress in Human Geography* 30 (1): 63–78. doi:10.1191/0309132506ph591pr.