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Navigating power in conservation

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Abstract

Conservation research and practice are increasingly engaging with people and drawing on social sciences to improve environmental governance. In doing so, conservation engages with power in many ways, often implicitly. Conservation scientists and practitioners exercise power when dealing with species, people and the environment, and increasingly they are trying to address power relations to ensure effective conservation outcomes (guiding decision-making, understanding conflict, ensuring just policy and management outcomes). However, engagement with power in conservation is often limited or misguided. To address challenges associated with power in conservation, we introduce the four dominant approaches to analyzing power to conservation scientists and practitioners who are less familiar with social theories of power. These include actor-centered, institutional, structural, and, discursive/governmental power. To complement these more common framings of power, we also discuss further approaches, notably non-human and Indigenous perspectives. We illustrate how power operates at different scales and in different contexts, and provide six guiding principles for better consideration of power in conservation

research and practice. These include: (1) considering scales and spaces in decision-making, (2) clarifying underlying values and assumptions of actions, (3) recognizing conflicts as manifestations of power dynamics, (4) analyzing who wins and loses in conservation, (5) accounting for power relations in participatory schemes, and, (6) assessing the right to intervene and the consequences of interventions. We hope that a deeper engagement with social theories of power can make conservation and environmental management more effective and just while also improving transdisciplinary research and practice.

KEYWORDS

conflict, conservation social science, environmental governance and management, participation, power, social-ecological systems, Stakeholders, theory

1 | INTRODUCTION

"_All conservation actions are an exercise of power._" (Carpenter, 2020).

Conservation has traditionally been and still is dominated by the natural sciences (Bennett et al., 2017). However, with the rise of inter/transdisciplinarity and more people-centered conservation research and interventions (Armitage et al., 2009; Mace, 2014; Sandbrook, 2015) acknowledgement is growing that conservation and environmental governance also needs to embrace the social sciences (Bennett et al., 2017; Moon & Blackman, 2014; Shackleton et al., 2019; Teel et al., 2018). This is needed to give due consideration to social dimensions of conservation and thereby making interventions more effective, equitable and just. Increasingly, research should also have tangible impacts on policy and proactively benefit humans and the environment (Reed & Rudman, 2022). These calls have led to a growing emphasis on social accountability and safeguards, engagement, equity and empowerment in conservation research and practice (Reed et al., 2010; Wali et al., 2017). While many concepts like values and perceptions, participation, governance, co-management, and social learning are now being engaged with regularly in conservation (Armitage et al., 2012; Bennett, 2016; Morrison et al., 2019; Reed et al., 2010), other social science concepts like power (Bennett & Roth, 2019) remain elusive, or when addressed they often remain misguided and misunderstood.

Given that all conservation actions are bound up with the excercise of power, power is a core and fundamental concept with which conservation research and practice must engage. Every person intuitively understands power in its different manifestations, such as muscle, military, economic, and political power (Gray, 2011). These obvious, vernacular ideas about power are also present in conservation, however, research from the social sciences and humanities shows that power operates in ways that are not always obvious. Choices such as which species to research or conserve, where to conserve them, how it will be done, and by whom are all imbued with power which can have not only scientific and ecological but also political implications (Biermann & Anderson, 2017; Carpenter, 2020; Fritz & Meinherz, 2020a). Identifying and understanding the stakes, interactions and relationships of different actors and ideas in conservation (e.g., scientists, practitioners, individuals and communities, local authorities, traditional authorities, government officials, NGOs, tourists, entrepreneurs, knowledges, scientific traditions and disciplines, narratives, and discourses) can help to reveal entrenched power relations, why and how conservation conflicts and conservation failures emerge, how certain discourses dominate the field and what it would take to address some of these issues. A better understanding of power in conservation and environmental governance can improve outcomes and help to build more equitable and sustainable pathways in the long-term. Such an understanding should draw on different social science perspectives and the long history of social science research in this area (Dean, 2013; Pansardi & Bindi, 2021; Svarstad et al., 2018).

To increase engagement with and consideration of power in conservation, theories and concepts relating to power should be made more accessible to those working in conservation. Drawing on a synthesis of the power literature, this paper aims to: (1) introduce the concept of power to conservation practitioners and researchers who are not familiar with it; (2) make power relations in conservation more visible by illustrating how power is exercised in conservation at different scales and in different social-ecological settings, and, (3) offer concrete recommendations on how to better engage with and think about power, thus helping to improve conservation

research and practice and transdisciplinary collaboration. These objectives were addressed in a two-day workshop in September 2020, involving a diverse transdisciplinary team of social scientists, biologists and conservation practitioners who are all authors on the paper.

2 | WHAT IS POWER AND HOW IS IT CONCEPTUALIZED IN SOCIAL SCIENCE RESEARCH?

Power can be studied formally or substantively (Dean, 2012). *Formalist approaches* assume that society has granted legitimacy to powerful entities or accepted their authority, and study whether power is exercised as it should be by paying attention to formal rules and regulations. In contrast, *substantive approaches* to assessing power analyze how power is exercised by institutions and actors regardless of whether they are formally endowed with authority or not. This enables a more comprehensive, deeper and critical understanding of power relations in society.

Below, we introduce four common, different, but overlapping substantive approaches to conceptualizing power including; (1) *actor-centered power*, (2) *institutional power (institutions and policies)*, (3) *structural power (political-economic structures in society)*, and (4) *discursive power (knowledge and discourses)* (Figure 1; Table 1). We show how they emerge in conservation by providing practical examples from different socio-ecological settings and across spatial scales (Table 2; Appendix S1). We also
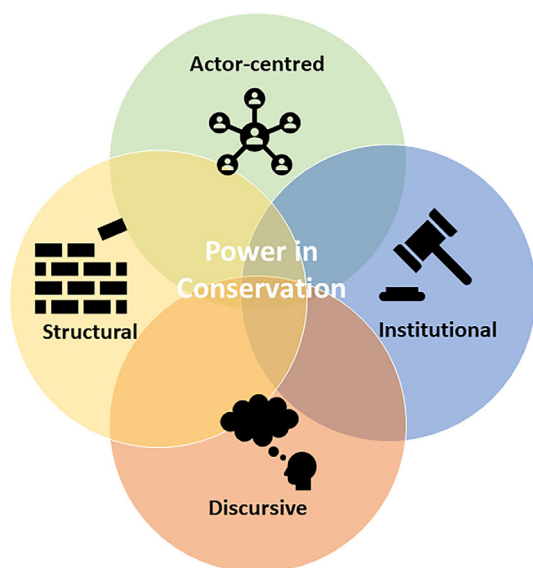

FIGURE 1 The four common power theories (actor-centered, institutional, structural, discursive), which often overlap with each other

briefly point to additional ways of conceptualizing power, particularly drawing on Indigenous perspectives, to highlight that our overview of social theories of power in conservation is not exhaustive, and to encourage readers interested in other conceptions of power to look beyond the scope of this article.

Although these four common approaches to power stem from different theoretical traditions, methodological orientations, and emphasize different objects of study, the boundaries between them are blurred and researchers often combine them in various ways (Allen, 2002; Fuchs & Glaab, 2011; Sen, 1999). What these power approaches have in common is the ability to help understand what supports or hinders actions and what shapes conservation-related knowledge, perceptions and behaviors.

2.1 | Actor-centered approach

One way to approach power is to see it as a force that is exercised by actors such as individuals, social groups or organizations (Table 1). The actor-centered approach perceives power as a "resource," a "capacity to act" or a personal "attribute" that can be harnessed to impose an actor's will on others (Ahlborg & Nightingale, 2018). Here, power is generally understood as a zero-sum game, where increasing one person's power leads to the decrease of another person's power. Consequently, conflicts and alliances—whether they are tacit or explicit, dormant, or active—are essential channels of expression, research, and analysis for actor-centered power (Svarstad et al., 2018).

According to this approach, finding how power is exercised in conservation implies finding out *who* governs (Dahl, 2005), be it state agencies (e.g., Appendix S1, Case 2), the private sector (e.g., tourism operators), NGOs (Appendix S1, Case 1), or influential social, political or cultural leaders, and even social groups or movements "i.e., people power" (Table 2). It means looking for those who set the political and policy agenda and steer and enforce decisions. This approach does not necessarily assume that actors wield power just because they have the formal status to do so, or that policies are inherently power-exercising vessels for these actors. Rather, it studies empirically if and how these actors exercise power, and how policies are implemented and enforced. An actor-centered perspective tends to emphasize issues related to stakeholder involvement, co-management and collective action (interest groups, social movements, and advocacy coalitions) (Armitage et al., 2009, 2012).

Overall this approach to power is one of the easiest to observe empirically and there are many tools developed

TABLE 1 Overview of different approaches to studying power and their application in conservation

Approach to power	Characteristics	General example from conservation science and practice (*see specific examples in* Table 2 *and the case studies in the supporting material*)
Actor-centered power (e.g., Weber's, Dahl's tradition)	Power is an actor's (or a group of actors') capacity to act and impose their will on others, to (overtly or covertly) influence the actions of others or to predetermine their options or roles.	Applied to study how scientists, state agencies, the private sector, NGOs or other influential social, political or cultural leaders exercise power by setting the agenda or dominating decisions on what to conserve and how.
Institutional power (e.g., Ostrom's tradition)	Power is exercised through institutional systems (governments, public administrations, electoral systems, property rights) and public policies (e.g., land reforms, conservation policies, development plans, payments for ecosystem services frameworks), and informal and traditional institutions (norms, customs).	Applied to study complex regimes of rule-making and enforcing; highlights how rules of access to land and resources are negotiated, enacted and enforced through a set of social norms, institutions, public policies and property arrangements, and what roles actors play in designing, implementing and enforcing these regimes.
Structural power (e.g., Marxist tradition)	Power is imprinted in political and economic structures and class relations which are socially produced but not vested in individual actors or institutions; this manifests in uneven distribution and access to (material and symbolic) resources.	Applied to study colonial legacies of conservation, the role of the state in reproducing class relations and political-economic structures of capital accumulation and dispossession, the role of entrenched class/racial/gender divisions that privilege some over others (e.g., capital vs labor, landed vs landless, men vs. women) and can lead to elite capture within conservation initiatives
Discursive power (e.g., post-structuralist approach/Foucauldian tradition)	Power is constitutive of all social relations and individual subjectivities and it is exercised through the mobilization of certain knowledge, dominant ideas, discourses, and narratives, to govern people and spaces by shaping human and non-human behavior (governmentality), and to govern life itself (called biopower).	Applied to study how conservation sciences, discourses and decisions about nature and wilderness, gender or race, frame some people as poachers or hunters, or as environmental destroyers or stewards. Used to study how conservation science and practice makes some species live whereas others are "let die" and whose values and views these decisions reflect.

for researchers and practitioners to do this (e.g., Hunjan & Pettit, 2011; Krott et al., 2014; Mbaru & Barnes, 2017; Reed & Curzon, 2015; Sahide et al., 2021). This enables non-experts to easily identify and assess actor-centered power. This approach can, however, miss or ignore deeper underlying factors (e.g., structural or discursive power) and thus oversimplify power relations. Therefore, the actor-centered approach to power analysis is often best done in tandem with the other approaches discussed below for a deeper understanding.

2.2 | Institutional approach

Power can also be assessed by studying institutions (Table 1). Institutions are broadly defined as systems for organizing standardized patterns of social behavior and might include formal and informal rules, organizations, and norms (Cleaver, 2002). Institutions can shape conservation in different ways, for example, through the way

they affect resource access or spaces for participation. Institutional approaches to assessing power also consider the informal arrangements between individuals and groups, organizations and norms which make and enforce rules and practices. In this line, the work of common property scholars (e.g., Ostrom, 1990) have had a major influence on conservation research and practice, most notably through "community-based" approaches to conservation and natural resources management (Dressler et al., 2010) (Table 2). By studying institutions, we can grasp how power is exercised through an ensemble of social norms, rules and organizations to manage resources and shape conservation.

Institutional power approaches have a strong research tradition in the conservation and environmental governance literature. A variety of well-known and easy-to-implement frameworks and models draw heavily on this approach (e.g., Bennett & Satterfield, 2018; Cox et al., 2010; Ostrom, 1990). This approach lends itself well to guiding policy and practice. It can, however, accord

TABLE 2 Overview of types of power and their manifestation in conservation research and practice across different scales[a]

	International	National	Local
Actor-centered power	Conservation project development can be dominated by the rules and values of international actors, as was the case of a World Bank funded REDD+ project in Central Africa (Walters & Ece, 2017). Rietig (2016) shows how some NGOs have strong lobbying power and set agendas for international climate change decisions and policies. Governments also use these NGOs as they provide them with "legitimacy."	In the Dominican Republic Holms (2010) shows how a small but powerful elite dominates conservation decision-making in the country, in particular by excluding international organizations. National REDD+ consultation processes in central and eastern Africa typically excluded elected officials charged with representing local people, creating undemocratic decision-making spaces (Mbeche, 2017; Nuesiri, 2017).	In coastal Kenya, local actors with better access to fishing gear and knowledge have more power and "are opinion leaders" in decision-making related to sustainable local fisheries (Crona & Bodin, 2010). Restoration in Shinyanga, Tanzania became successful when native species important for livelihoods were chosen and planted by a group of local actors who refused to plant the exotic species imposed by external actors (Barrow, 2014; Walters et al., 2019).
Institutional power	"International environmental institutions circulate and sanction forms of knowledge, establish regulatory devices and programmatic targets, and align and articulate actors with these mechanisms, [structuring] green market opportunities and practices" (Corson and MacDonald, 2012). Stressors like COVID-19 can limit international and state institutional capacity. As a result, local community institutions in many regions of the world adapted their own rules, to access, govern and protect their lands and biodiversity (Walters et al., 2021).	Mikalsen and Jentoft (2003) show that Norwegian fisheries management is predominantly a system of centralized consultation based on historic institutional structures. The national government holds power as it is the ultimate policy and decision-making authority, but it does allow for partial power-sharing through corporate arrangements with a select and limited number of stakeholders (those with high economic interest), often leading to the exclusion of other relevant and legitimate actors. Chen and Zhu (2015) conclude that fencing and demarcation of commons as private property have led to conflicts and grassland degradation in China while undermining collective action and traditional institutions for recource management.	Power is often exercised through community forestry institutions (Colfer et al., 2018). In many cases women's participation might be theoretically encouraged and stated, however, additional rules dictating, for instance, that only one member of the household can be represented in community forestry groups, can end up excluding women altogether (Agarwal, 2015). Community fisheries (CF) in Cambodia reproduced locally uneven power relations by enabling male decision-makers to install their female relatives in CF leadership positions (Resurrección, 2008).
Structural power	Conservation science underrepresents female and global south authors (Maas et al., 2021), with significant differences in ability to access funding resources (North et al., 2020) North–South divides in the sciences (Karlsson et al., 2007) date back to colonial times. North–south conservation initiatives should consider these legacies, fund fellowships co-design research, and provide leadership roles for southern scientists while promoting	In the Arctic, the Swedish crown appropriated land from Finnish and Sàmi communities, ending communal tenure and later opening up these lands for commercial wood production. To fight against this loss and working within the existing Finnish legal context, some Sàmi and Finnish villages have worked together, as part of a rewilding program, to purchase private land and restore community rights enabling them to managed the land for biodiversity protection (Mustonen and Feodoroff, 2021).	Parts of Tayrona National Park in Colombia have been privatized for the benefit of tourism entreprises, which has led to significant restrictions on local access to land and resources and to the criminalization, relocation and expulsion of workers and park residents (Ojeda, 2012). In Honduras, the Miskitos peoples defended their territory against the incursion of enterprises and the military in the Rio Platano Biosphere

TABLE 2 (Continued)

	International	National	Local
	interdisciplinary and regional projects (Blicharska et al., 2017). Many global conservation organisations were founded during the colonial era, supporting the creation of protected aras through land dispossesion (Adams, 2004). Many of these western conservation institutions and NGOs, place western/global north donor priorities over local needs, paving the way for processes of "green grabbing" (Corson and MacDonald, 2012).	Trophy hunting and photographic tourism in Tanzania facilitate capital accumulation for the international and national tourism industry through the dispossession of local communities (Bluwstein et al., 2018).	Reserve to preserve their long-standing access to land and resources (Mollett and Kepe, 2018).
Discursive power	The discourse of "pristine" wilderness (Wuerthner et al., 2015) has enabled the establishment of many protected areas, resulting in the displacement of local people and a disregard for their customary knowledge about the environment (Brockington & Igoe, 2006). Such discourses continue to be reproduced about conservation in European zoos (Sithole et al. 2021). IPBES has moved away from the phrase "ecosystem services," rooted in 'western' economic values and promoted by western organizations (Masood, 2018), to "nature's contributions to people," which was seen to be more representative of global perspectives and diverse value systems including indigenous and non-western views (Pascual et al., 2017).	In the United States over much of the last century, fire suppression supported by anti-fire national discourse, has been preferred over Native American burning techniques, resulting in disastrous fires (Pyne, 1997). In Madagascar, colonial anti-fire policies continue to dominate conservation at the expense of local fire knowledge (Kull and Laris, 2009). Dominant and entrenched scientific and popular narratives and discourses of overpopulation continue to legitimate the dispossession of local and Indigenous peoples in the name of conservation (Ojeda et al., 2020)	Until recently, conservation has tended to prioritise western over Indigenous knowledge. However, collaborations between western and Indigenous researchers can improve species conservation as in the case of collaborative research with Aboriginal scientists on the yellow spotted monitor (*Varanus panoptes*) in Australia (Ward-Fear et al., 2019). Agricultural production through swidden cultivation, mostly practised by ethnic minority groups in Southeast Asia, is crucial to their livelihoods and land sharing conservation. However, this form of cultivation has long been viewed as incompatible with state goals for development, modernization and environmental protection, leading to anti-swidden policies in line with certain colonial and NGO discourses (Dressler et al., 2010; McElwee et al., 2020).

aExamples are from international to local scales and cover different species and land/seascapes, and different social and ecological systems across all continents to show the breadth of the manifestation of power in conservation and environmental governance. We limited the table to a maximum of two examples for each scale and type of power, and acknowledge there are many more examples out there. We also forced some examples into a category for illustrative purposes, but many are cross-cutting across two or more power categories.

too much agency to rules and institutions, risking to reproduce rather than question entrenched and often inequitable power relations (Haller et al., 2020; Nayak, 2021a). Like actor-centered power approaches, assessments of institutional power often lack a critical edge which discursive and structural power analysis offer (see next sections).

2.3 | Structural approach

The structural approach presumes that an actor's space to exercise power is constrained by political, cultural and economic structures, such as entrenched social classes, gender roles, economic relations, or colonial legacies (Table 1; Appendix S1, Cases 1 and 3). It draws on Marxist theory, in which socially produced, and historically rooted political-economic structures underpin the uneven distribution of and access to capital (material and symbolic resources) in societies, reinforcing domination and social exclusion (Hall et al., 2011; Jessop, 2012; Robbins, 2012; Agarwal, 2015). In conservation settings, it is common to find persistent structures of uneven economic development, colonial legacies, and entrenched gendered roles. Through these structures (or structural forces), conservation initiatives tend to reproduce entrenched inequalities and injustices that are already present in these settings (Table 2; Appendix S1, Case 3). Manifestations of structural power are often linked to the processes of "accumulation by dispossession," a Marxist concept which highlights, for instance, through conservation initiatives, farmers or pastoralists are divorced from their means of production (land and land-based resources that they own or have access to) (Svarstad et al., 2018). Through such dispossession, others (e.g., conservation investors, protected area authorities) can benefit economically through what is called capital accumulation (Kelly, 2011) (Table 2). An analysis attentive to power as structured class relations (Jessop, 2012) points out that privatization of resource control and conservation efforts tends to benefit economic elites at the expense of ordinary people, thus reproducing uneven power and class relations and structures (Table 2; Appendix S1, Case 1).

A major benefit of looking into structural power in nature conservation challenges researchers and practitioners to see the winners and losers in struggles over resources, and the consequences of conservation decisions, while asking us to take seriously the ethical dilemmas and social (in)justice in conservation (Agrawal & Redford, 2009; Ahlborg & Nightingale, 2018; Robbins, 2012; Sodikoff, 2012; West, 2016). However, structural power cannot be observed empirically and thus requires more training in social science theory and methods. In particular, structural approaches often give a voice to the less powerful or marginalized and help to challenge mainstream views and practices.

2.4 | Discursive approach

While the above-mentioned approaches tend to conceive power as a personal attribute, an institutional structure or a class relation, discursive (or post-structural[ist]) power draws predominantly on Michel Foucault's work and identifies power as a productive force that shapes social norms (what counts as socially acceptable behavior) and individual subjectivities (how we see ourselves) by acting through knowledge, truth claims and narratives (Table 1). In this vein, actors, institutions or social classes do not possess power and hence cannot exercise it. Instead, certain discourses exercise power *through* actors and institutions, shaping individual and collective behavior (conduct) and subjectivity, through what Foucault called governmentality (Foucault, 2007). Importantly, the discursive concept of power assumes that people are only governed in so far as they are—in a liberal economic sense—free subjects (Carpenter, 2020). To govern, in Foucault's words, is "to control the possible field of action of others" (Foucault, 1982, p. 790, Foucault, 2007). These "others" are free to act, yet the "field of action" is "controlled" by a set of discourses and social norms, not only by class relations.

Applied to conservation, power can be conceptualized as "green governmentality" (Rutherford, 2007), where discursive power is exercised not *by*, but *through* actors and institutions like the state, the police, an influential donor, NGO or tourism investor, and *through* a set of dominant ideas, narratives, knowledge, sciences or norms about people, nature, and the environment (e.g., common lands are prone to degradation—the narrative of the tragedy of the commons) (Table 2). In a famous example, Agrawal (2005) developed the idea of "environmentality" to investigate how by actively participating in forest management, people became "environmental subjects" who care about the environment. Without the use of coercive force, community-based forest management (understood as a set of ideas and practices) became a form of government "at distance" (by the state), and a form of "intimate" government (by communities) (Agrawal, 2005; Anand & Mulyani, 2020).

Increasingly, conservation governmentality research is coupled with the analysis of biopower. Biopower is understood as the exercise of power in the name of and in defense of life itself. An analysis of biopower examines how certain populations are "made live" whereas others are allowed to "let die" (Foucault, 2003). To understand how biopower is exercised discursively in conservation,

scholars investigate how conservation science categorizes and assigns values to species or landscapes, thus stressing how science can underpin life and death decisions, based on powerful ideas about nature, race, space, and history. This perspective shows that conservation science and practice are often entangled with decisions about what species and/or ecosystems should be saved, at what costs and with what consequences for what other species, ecosystems, or people (Biermann & Anderson, 2017; Bluwstein, 2018).

The benefit of discursive power assessments is that they give insights into the relationship between knowledge and power (Bixler, 2013; Robbins, 2006; Van Assche et al., 2017). In particular, this approach helps to show how dominant historical discourses shape conservation science and practice today and allows us to better understand and problematize underlying assumptions, and offer new or foreground marginalized perspectives (i.e., Indigenous Knowledge). However, like structural power, discursive power cannot be observed empirically and requires other methods, such as examining texts from organizational literature, politicians, and the media and requires a strong base in social science theory (e.g., Mustonen, 2014).

2.5 | Further approaches to assessing power

Thus far, we have addressed the four most common social science concepts of power, focusing on actors, institutions, structures, and discourses (Table 1). However, there are a variety of additional conceptions to power, that highlight how power and agency can be exercised through human (e.g., ancestors) and nonhuman entities, for example, species (plants and animals), ecosystems (e.g., the Ganges river), cosmologies, sacred places, myths, territorial spirits, sorcery, and more (Akhmar et al., 2022; Barua, 2021; Hobson, 2007; Nyamnjoh, 2017; Verschuuren & Brown, 2018). Some of these approaches are particularly useful in that they help to incorporate Indigenous knowledge perspectives and broader ethical aspects into power analysis and conceptualization.

"More-than-human" or "posthuman" perspectives highlight that species themselves or ecosystems and environmental spaces can hold power and agency (Panelli, 2010; Paul et al., 2021). Such approaches to power aim to highlight the attention to non-humans and the agency they have, to commit research and practice beyond the focus on humans as the only political subjects and overcome the tendency to see nonhumans as objects. For example, through more-than-human methodologies, Durand and Sundberg (2022) center a plant in their analysis to highlight "the power of plants to affect others and co-produce the world". "Spiritual" perspectives of power operate within cosmologies where diverse non-human entities exercise power, control fates, and shape emergent outcomes. Such power concepts can be critical to conservation efforts by Indigenous people. For instance, the protection of sites is often governed by powerful stories and myths based on the non-human and spiritual realms (Akhmar et al., 2022). These concepts of power can go beyond the four approaches mentioned above, by highlighting how for instance territorial spirits wield power to govern resource use as in the case of the Batéké Plateaux of Gabon (Walters et al., 2015) and in Cérékang, Indonesia (Akhmar et al., 2022).

While some researchers would argue that references to spirits are just different ways of understanding social reality or of exercising power through humans, others suggest that spirits are existing forms of power (Graeber, 2015). We do not take a stance on this debate but encourage conservation practitioners to take local concepts of power seriously (Campbell, 2013), while also being conscious not to reproduce colonial images of the "other" (Chandler & Reid, 2020; Todd, 2016). Acknowledging and incorporating such spiritual, more-than-human, or non-human power will help to represent and legitimize diverse views and voices of different people and draw better on Indigenous knowledge and customs to enhance conservation (Reed & Rudman, 2022). Progress towards better inclusion of Indigenous knowledge and views and conceptions of power is growing within conservation institutions such as IPBES (Hill et al., 2021; IUCN, 2022; McElwee et al., 2020; Pascual et al., 2017). A future, complementary review of these power concepts in conservation could help facilitate just conservation outcomes, and decolonize conservation thinking about power, giving weight to these concepts alongside more dominant western ones (Smith, 2021).

2.6 | Studying power: A simple introduction to tools and approaches

Many social science tools are used to study power and generate data to support findings or decision-making. This can include questionnaires, interviews, observations, workshops, participatory research, case study analysis, reviews of archives, policy documents, academic and gray literature, and more. When studying power or implementing decisions, it is important that the investigator's or institutions theoretical lense(s) and positionality (philosophical orientation of person or organization guiding their actions or research), ontology (what is considered as real and about which one can acquire knowledge) and epistemology (how that knowledge can be created) are

clearly stated (Moon and Blackman ([2014](#)) for a useful summary of ontology, epistemology and theoretical perspectives; and Reed and Rudman (2020) for an illustration on how to do this). This can help with critical analysis and understanding of the findings and recommendations provided.

The tools and analyses utilized will depend on the type of power being studied. For example, actor-centered power is commonly assessed through stakeholder mapping (Reed & Curzon, [2015](#)) and social network analysis (Mbaru & Barnes, [2017](#)). Krott et al. ([2014](#)) also highlight key steps to identify actor-centered power, particularly looking into cohesion (dis-)incentives and dominant information. Guidelines and games have been developed to help people who are not experts to identify actors' power and roles (e.g., power cube [Hunjan & Pettit, [2011](#)]). Other scoring tools to assess conflict between actors can also be useful (e.g., Sahide et al., [2021](#)). Policy and discourse analysis is another common tool used for assessing and understanding various types of power, especially institutional power (Art & Visseren-Hamdkers, [2014](#); Gerber et al., [2009](#)). Such analyses show how power is exercised through, for example, agenda-setting by institutions (Dandy et al., [2014](#)). Structural power is often approached through attention to investments, policies and economic and legal practices that affect conservation (Bluwstein et al., [2018](#)). Discursive power is commonly studied through analysis of discourses and narratives, knowledge and truth claims, and by tracking the social history of particular concepts and how they are used today and, in the past (Hastings, [1999](#)). Increasingly there are guidelines to better and ethically incorporate different knowledge types and narratives in research and practice (e.g., CBD, [2019](#); IUCN, [2022](#)). However, methods of studying power remain very open and no single approach is recommended (Figure [1](#); Table [1](#)). What is important is that those studying or addressing power are familiar with common power theories like some of the ones presented in this paper, and if they are not, seek to build interdisciplinary and transdisciplinary collaborations with researchers, practitioners and local knowledge-holders who do.

3 | NAVIGATING AND DEALING WITH POWER IN CONSERVATION

Carefully tracing the often-tacit ways in which power influences conservation and is exercised through conservation science and practices is a first step towards constructively dealing with it, ultimately contributing to more just and sustainable conservation outcomes. Here we provide six propositions and recommendations

moving forward. They are based on the key points that emerged from the transdisciplinary workshop that was used to develop this paper (similar to Sayer et al., [2013](#); Wyborn et al., [2020](#)). These recommendations are cross-cutting for all of the power approaches identified above. However, applying them does not replace collaborating with social scientists and other knowledge holders.

3.1 | Clarify underlying values and assumptions

The first recommendation for navigating power in conservation is the need to invest in tracing, understanding, acknowledging and making visible key values and assumptions, and to test them within adequate contexts. The values that inspire conservation science and practice are shaped by diverse ways of seeing and understanding the world (Sandbrook et al., [2019](#)) which often remain unexamined, and thus unquestioned. Powerful and dominant discourses and ideals (discursive power—Table [1](#)) when remaining unquestioned, can advance certain values and norms of actors and institutions (actor-centered and institutional power—Table [2](#)) in conservation while marginalizing others (Table [2](#); Appendix S1). This can have direct consequences, for people and species (Nayak, [2021b](#)), types of conservation actions implemented (e.g., militarized conservation [Lunstrum, [2014](#)]), or through how research on conservation is framed and undertaken (Meinherz et al., [2020](#)). For example, common discursive and structural power legacies in conservation may invisibilize and exclude certain people and communities from decision-making and meaningful participation (Bouleau, [2014](#); Fernandez, [2014](#); Lafaye de Micheaux et al., [2018](#)). Furthermore, the initial framing of a "conservation problem" or a "conservation threat" (discursive power—Table [1](#)) might already be the outcome of entrenched but unexamined perspectives, knowledges and discourses which exercise power through those who mobilize them against others (Robbins, [2012](#)). It is important to recognizing that statements and ideas about nature and ecology are in this sense always already political. Underlying views, values and assumptions are increasingly re-examined in conservation (Pascual et al., [2021](#)) and scholars are calling attention for the need to consider the plurality of values of nature and its conservation in science-policy initiatives (Turnhout & Purvis, [2021](#)). In this vein, the Intergovernmental Science-policy Platform for Biodiversity and Ecosystem Services (IPBES) adopted a new methodological assessment on values that will help to address the diverse conceptualization of multiple values of nature and its benefits. The Platform has also developed and adopted an

"Indigenous and Local Knowledge approach" to better work with different values and knowledge systems (Hill et al., 2020; Lahsen & Turnhout, 2021) including Indigenous approaches to power (see Section 2.5). Increasingly the right to intervene (see Section 3.6) is also being questioned and should only be considered after a reflection and clarifications of underlying values and potential consequences for different actors and institutions, particularly in terms of how power is exercised in concrete conservation initiatives (see Section 3.4).

3.2 | Consider power across scales and spaces

Secondly, to better navigate and understand power we recommend that careful attention is paid to space and scale. The different types of power presented in this paper (Tables 1 and 2) can affect people, species and ecosystems across multiple scales (Figure 1) which is often not considered and can lead to unintended consequences. For example, many international conservation conventions and policies lack consideration of national and local needs and realities, which can undermine the implementation of conservation initiatives or lead to unintended outcomes at overlooked scales (Collen et al., 2013; Corson, 2012) (Table 2: Appendix S1, Case 1). Moreover, spatial actions like mapping or fencing protected area boundaries or borders can have impacts on broader social production systems, ecological flows and access, privileging some species, spaces and actors and institutions over others (Bassett & Gautier, 2014; Harris & Hazen, 2011; Ramutsindela, 2014; Wyborn & Evans, 2021). Keeping in mind cross-scale dynamics and spatial effects of power will allow researchers and practitioners to be more aware of the knock-on and unintended effects of decisions which can lead to conflicts (see Section 3.3) and unequal gains and losses for different actors (see Section 3.4). Political ecology and Telecoupling approaches analyze the impact of human-induced activities in a specific region of the world on another (Hull & Liu, 2018; Robbins, 2012) and can improve our understanding of power across spatial scales.

3.3 | Recognize and understand conservation conflicts by paying attention to power relations

To better navigate power, we, thirdly, propose to closely follow conflict and controversies as well as to be wary of how consensus and the absence of conflict might sometimes be the product of power relations. Conservation and

natural resource management are fraught with conflict (Scheidel et al., 2020) and conflicts arise where there is a disagreement between actors and/or institutions. These conflicts can be interest-driven (actor and institutional power), based on different ideologies and beliefs, inequalities over access, and historical legacies (discursive and structural power) (Temper & Martinez-Alier, 2013; Redpath et al., 2015; Shackleton et al., 2022; Table 2; Appendix S1). They can manifest in passive resistance, sabotage and violence, legal proceedings, and more. Power structures (Table 1) are a root cause of many conflicts and are often difficult to change (Bourdieu, 1990). Furthermore, it is important to recognize that hiding or preventing conflict can be an act of power in itself (Bachrach & Baratz, 1962). Identifying and assessing conflicts is a useful diagnostic tool to highlight power relations and better understand their effects (Omoding et al., 2020; Sahide et al., 2021). Although the conflict in conservation can be challenging to deal with, addressing it can benefit certain actors and also improve scientific understanding. However, in doing so careful attention needs to be paid to power dynamics and winners and losers (Section 3.4) to ensure equitable outcomes.

3.4 | Understand who wins and who loses to help promote equity

To navigate and address power in conservation, we, fourthly, propose to identify and closely monitor potential "winners and losers" of conservation actions at different steps of the process. Power relations in conservation generate patterns of winners and losers, where some groups, actors, initiatives or discourses may be empowered and others disempowered (Table 2) (Robbins, 2012). This can affect not only the actors or species involved but also conservation practice and outcomes (Avelino, 2021) and lead to conflicts (see Section 3.3). For example, conservation interventions relating to discourses around the need to protect nature (Adams & Hutton, 2007; Jones, 2006) (Table 2) and the need for livelihood changes have had problematic outcomes (Almudi & Berkes, 2010; Chomba et al., 2015; Table 2; Appendix S1, Case 3). These often-unintended consequences of conservation can include biodiversity loss, loss of rights and access to land and resources, or reinforcing social inequalities (Larrosa et al., 2016). A first step to identifying winners and losers is to analyze the historical (structural and discursive power), legal and institutional processes (institutional power) and their effects ensuring all possible actors are accounted for, including for example species themselves (Table 1). Based on these structures and processes the next step is to assess who benefits from conservation actions and who loses moving the

focus to actor-centered power. Such analyses will help to identify processes that can create systematic uneven outcomes in conservation as well as implications on the ground (Robbins, 2012). Understanding who wins and who loses as a result of conservation research or initiatives is also important to contextualize and cautiously operationalize empowerment activities for vulnerable and marginalized groups (Wali et al., 2017; Petriello et al., 2019; Reed & Rudman, 2020).

3.5 | Consider power in engagement with and participation by actors

To better navigate and address power in conservation our fifth recommendation is to carefully consider that engagement, participation processes and co-management in conservation research and practice, albeit often well-intentioned, are imbued with power dynamics (all four power types elaborated in Tables 1 and 2). Poor acknowledgement of this often leads initiatives to have limited success or unintended consequences, for example, entrenching the views of certain actors which may not be held by others (Reed et al., 2018). Involvement by actors in participatory initiatives can vary (Reed et al., 2018) and can range from "shallow" participation where researchers or certain stakeholders drive the process and retain most decision-making power to "deep," more bottom-up participation where different actors all have equal control of and power within the project (Cornwall & Jewkes, 1995; Fraser et al., 2006; Ross et al., 2002).

Some tools used to resolve power issues, such as participatory governance, co-management, stakeholder mapping, and responsible engagement (Armitage et al., 2009, 2012) can help to overcome power issues, but they themselves can also reinforce existing power dynamics if not applied well (Robins et al., 2011). The legitimacy of participation schemes has thus to be critically examined and not taken for granted. Sometimes manipulation by powerful actors or institutions occurs within engagement processes, particularly when underlying structural and discursive power remain unexamined and unchecked (Cornwal & Jewkes, 1995; Reed et al., 2018). Participation schemes can be instrumentalized by conservation and development actors to receive the consent of local people and communities vis-à-vis projects that may not be in their interest. At worst, participation schemes can lead to unjust and illegitimate exercise of power or new forms of "tyranny" (Cooke & Kothari, 2001). In this sense, participatory initiatives are not a panacea and can even exacerbate existing power relations in conservation (Larson & Lach, 2008; Zeitoun et al., 2011).

Power dynamics in participatory and engagement initiatives should be questioned, acknowledged and identified, including for example, who is involved, why they are involved, their underlying values and interests (see Section 3.1), whose interests are represented, and who stands to gain and lose (see Section 3.4). It is highly important but also challenging to analyze and address power relations in engagement and it is often the reason engagement processes fail. To avoid the unjust and illegitimate exercise of power through participation in conservation, all participatory processes should be open, well-defined and transparent, with the possibility to say no and pull out at any point in time. The role of mediators, facilitators and donors of participation initiatives has to be examined and the voices of marginalized people invited to participate prioritized and uplifted. Ultimately, participation has to ensure an open-ended process if the illegitimate exercise of power through participation in conservation is to be avoided. Good facilitation and mediation in engagement actions (often by external parties) can help cope with power dynamics and has been seen as key for successful governance and adaptive co-management of natural resources (Cundill & Fabricius, 2010), although facilitators' power needs to be critically examined as well.

3.6 | Assess the right to intervene and the consequences of interventions

To navigate power in conservation science and practice, our sixth recommendation is that the right to intervene should not be taken for granted. Decisions to intervene in socio-ecological contexts with the objective of conservation must be at least supported and at best, driven by local communities. They should also only be done after carefully clarifying underlying values and assumptions and subjective differences between institutions and actors (see Section 3.1; Fisher et al., 2020) and account for and consider the different types of power (Table 1). Even well-designed and intentioned conservation interventions need to be legitimized by those who these interventions will affect (Dekker et al., 2020; Larrosa et al., 2016; Nayak, 2021b; Robbins, 2012) (Table 2; Appendix S1, Case 3). Increasingly common practice calls for the need for researcher's or practitioner's own positionality and goals of conservation actions to be explicitly stated to allow for others to assess legitimacy (Chartier & Rodary, 2016; see Sections 2.6 and 3.1). Furthermore, any decisions and interventions should be well informed by scientific evidence and guidelines, local and historical knowledge, involve fair and just participatory processes (see Section 3.5) and clearly acknowledge key interests, agendas and power dynamics (Fritz & Meinherz, 2020b; Lewis et al., 2020).

After initiation, well-justified and supported conservation and environmental governance projects should be regularly questioned, assessed and iteratively re-evaluated over time. Evaluations should assess whether the intervention should continue and whether they are still supported by relevant actors. Furthermore, any unintended, negative consequences that may have arisen should be identified and where possible corrected. Such project evaluations should entail the collection of explicit comments from stakeholders during the course of the project. This will help to identify when and where interventions should or should not be implemented or amended. Such assessments would allow conservationists to remain aware of these ethical and power-related dynamics within their work and may help them adjust, and if needed, stop their projects based on feedback received (Massarella et al., 2020).

4 | CONCLUSION

In this paper, we described four common approaches to power, but also acknowledge others. We illustrated how power is exercised in conservation research and practice by drawing on examples from the literature and three case studies (see Appendix S1). We offer six proposals for better incorporating and acknowledging power in conservation. In doing so, we hope to improve conservation research and outcomes, related to decision making, addressing conflict, and ensuring equity and justice. Accepting that all conservation interventions are acts of power (Carpenter, 2020), we hope this summary and proposals for action help conservation actors to better acknowledge and account for power in their diverse interventions throughout the world.

AUTHOR CONTRIBUTIONS

This paper was a highly collaborative undertaking. Ross T. Shackleton conceived the idea and developed it with Christian A. Kull and Gretchen Walters. Ross T. Shackleton organized and ran the workshop with support from Gretchen Walters and Christian A. Kull. All authors participated in the workshop and wrote sections of the manuscript, in particular Mialy Rann Andriamahefazafy, Van Thi Hai Nguyen, and Houria Djoudi wrote the three case studies. Ross T. Shackleton consolidated the different sections into the first manuscript and all authors provided detailed comments and edits.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.