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Recognizing reflexivity among conservation practitioners

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Article Impact Statement: Conservationists' self-reflection on their values, background, and emotions shapes conservation practice.

Abstract

When deciding how to conserve biodiversity, practitioners navigate diverse missions, sometimes conflicting approaches, and uncertain trade-offs. These choices are based not only on evidence, funders' priorities, stakeholders' interests, and policies, but also on practitioners' personal experiences, backgrounds, and values. Calls for greater reflexivity—an individual or group's ability to examine themselves in relation to their actions and interactions with others—have appeared in the conservation science literature. But what role does reflexivity play in conservation practice? We explored how self-reflection can shape how individuals and groups conserve nature. To provide examples of reflexivity in conservation practice, we conducted a year-long series of workshop discussions and online exchanges. During these, we examined cases from the peer-reviewed and gray literature, our own experiences, and conversations with 10 experts. Reflexivity among practitioners spanned individual and collective levels and informal and formal settings. Reflexivity also encompassed diverse themes, including practitioners' values, emotional struggles, social identities, training, cultural backgrounds, and experiences of success and failure. Reflexive processes also have limitations, dangers, and costs. Informal and institutionalized reflexivity requires allocation of limited time and resources, can be hard to put into practice, and alone cannot solve conservation challenges. Yet, when intentionally undertaken, reflexive processes might be integrated into adaptive management cycles at multiple points, helping conservation practitioners better reach their goals. Reflexivity could also play a more transformative role in

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conservation by motivating practitioners to reevaluate their goals and methods entirely. Reflexivity might help the conservation movement imagine and thus work toward a better world for wildlife, people, and the conservation sector itself.

KEYWORDS
adaptive management, biodiversity conservation, conservation practice, positionality, reflexivity, transformative change, values, well-being

Reconocimiento de la reflexividad entre los practicantes de la conservación

Resumen: Cuando se decide cómo conservar la biodiversidad, quienes la practican sortean varias misiones, algunas veces con enfoques contrastantes y compensaciones inciertas. Estas elecciones no se basan solamente en las evidencias, prioridades de los financiadores, los intereses de los actores y las políticas, sino también en las experiencias personales, formación y valores de los practicantes. En la literatura sobre las ciencias de la conservación han surgido llamados para una mayor reflexividad – la habilidad individual o grupal para examinarse a sí mismo en relación con sus acciones e interacciones con otros. Pero ¿cuál es el papel de la reflexividad en la práctica de la conservación? Para responder esto, exploramos cómo la autorreflexión puede determinar cómo ocurre la conservación individual y grupal de la naturaleza. Realizamos una serie de talleres de discusión e intercambios virtuales durante un año para ejemplificar la reflexividad en la práctica de la conservación. Durante estas sesiones examinamos casos de la literatura gris y revisada por pares, nuestras propias experiencias y conversaciones con diez expertos. La reflexividad de los practicantes abarcó niveles individuales y colectivos y escenarios formales e informales. La reflexividad también comprendió diferentes aspectos de los practicantes, como los valores, conflictos emocionales, identidad social, preparación, contexto cultural y experiencias exitosas y fallidas. Los procesos reflexivos también tienen limitaciones, riesgos y costos. La reflexividad informal e institucionalizada requiere la distribución de tiempo y recursos limitados, puede ser difícil de poner en práctica y no puede resolver los retos de conservación por sí sola. Aun así, cuando se realizan intencionalmente, los procesos reflexivos pueden integrarse a los ciclos de manejo adaptativo en varios puntos, lo que ayuda a quienes practican la conservación a lograr sus metas de mejor manera. La reflexividad también podría tener un papel transformador en la conservación al motivar a los practicantes a reevaluar completamente sus metas y métodos. La reflexividad podría ayudar al movimiento de conservación a imaginar, y por lo tanto trabajar para tener, un mundo mejor para la vida silvestre, las personas y el propio sector de la conservación.

PALABRAS CLAVE
bienestar, cambio transformador, conservación de la biodiversidad, manejo adaptativo, posicionalidad, práctica de la conservación, reflexividad, valores

【摘要】
当决定如何保护生物多样性时, 保护实践者需要处理不同的任务, 有时要采用相互冲突的方法, 或面临不确定的利弊权衡。这些选择不仅基于证据、资助者的优先排序、利益相关者的利益及政策, 而且也基于保护实践者的个人经验、背景和价值观。保护科学文献中出现了对更多反身性的呼吁, 也就是个人或团体根据他们的行动和与他人的互动来反思自己的能力。然而, 反身性在保护实践中发挥了什么作用?本研究探讨了自我反思如何塑造个人和团体保护自然的方式。为了提供保护实践中反身性的例子, 我们进行了为期一年的一系列研讨会和在线交流。在这些活动中, 我们讨论了同行评议和灰色文献中的案例、我们自身的经验, 以及与十位专家的会谈。保护实践者之间的反身性跨越了个人和集体的层面以及非正式和正式的环境。反身性也包含了不同的主题, 包括保护实践者的价值观、情感挣扎、社会身份、训练、文化背景, 以及成功和失败的经验。反思的过程存在局限性、危险性和成本。非正式和制度化的反身性需要分配有限的时间和资源, 可能很难付诸实践, 而且不能独自解决保护挑战。然而, 如果有意进行反思,

该过程可以被整合到适应性管理周期的多个节点中, 帮助保护实践者更好地实现目标。反身性还可以通过激励保护实践者完全地重新评估其目标和方法, 在保护中发挥更大的变革作用。此外, 反身性可以帮助保护运动的构想, 从而为野生动物、人类和保护部门自身争取建立一个更好的世界。**【翻译:胡怡思;审校:聂永刚】**

适应性管理
生物多样性保护, 保护实践, 福祉, 立场, 反身性, 转型变革, 价值观

INTRODUCTION

Conservation practitioners routinely make complex decisions, balancing the interests of diverse actors with uncertain trade-offs between multiple priorities (Ausden & Walsh, 2020; McShane et al., 2011). Numerous factors inform these choices, including practitioners' personal experiences, knowledge, and values, as well as evidence, funding constraints, stakeholder interests, legislation, and other considerations (Cundill & Fabricius, 2009; Pascual et al., 2021). For instance, practitioners' attitudes toward trophy hunting as a conservation tool are likely to be partly informed by their ethical stance. Or, practitioners' political opinions regarding free-market capitalism might influence their choices to promote market-based conservation approaches, such as payment for ecosystem services (Sandbrook et al., 2019). Moreover, conservation decisions are rarely made by individuals alone; the attributes and values represented in teams, organizations, and movements collectively influence the direction of conservation efforts. For example, Mace (2014) describes how changing views of the relationship between biodiversity and people shape mainstream conservation practice, with a shift from safeguarding nature for its own sake to protecting it for people, toward a more recent focus on supporting relational interactions.

In recent qualitative conservation social science literature, researchers are encouraged to evaluate and report how their attributes and outlooks influence their research (e.g., Beck et al., 2021; Bennett et al., 2017; Boyce et al., 2022; Brittain et al., 2020; Montana et al., 2020; Moon et al., 2019; Ramesh, 2020; Staddon, 2021; Staddon et al., 2021). For instance, researchers might examine how values affect their choice of research questions, how identities frame their interactions with others, or how their science affects the world (Beck et al., 2021). But this process of self-reflection about actions and interactions with others—sometimes termed *reflexivity*—may also be important for conservation practice. Specifically, reflexivity may enable "flexibility, adaptation, and innovation, and—if required—transformation, in the face of change" in conservation practice (Wyborn et al., 2021).

We examined how some practitioners self-reflect on their values, identities, emotions, training, and other characteristics and how this shapes the ways they do conservation. We also considered where reflexivity is present in the conservation sector; the themes and contexts it spans; potential limitations, dangers, and costs; and its possible roles in adaptive and transformative conservation. By sharing real-life examples and their associated benefits and limitations, we aimed to encourage individuals and groups to explore the role of reflexivity in their conservation work.

DEFINITIONS OF CONSERVATIONISTS, REFLEXIVITY, AND THEIR CONNECTION

Drawing on Sandbrook (2015), we define *conservationists* as people who intend to establish, improve, or maintain good relations (as subjectively perceived) with nature. This definition could encompass farmers who set aside land for wildlife, international policy makers, accountants in conservation organizations, scientists who develop conservation evidence, and many others. However, we focused on those who might self-identify as conservation practitioners and considered some examples from applied conservation science.

We use the term reflexivity to mean an individual or group's ability to examine their feelings, identities, reactions, behaviors, motives, and other attributes and how these influence what they do or think in a situation (Cambridge Dictionary, 2021). *Reflexivity* can be a confusing term, particularly because scholars across disciplines have defined it in multiple ways (Lynch, 2000; Montana et al., 2020). Furthermore, the word *reflex* also means an automatic and unconscious response, which is almost the opposite of conscious self-reflection. Moreover, self-reflecting on what one thinks and does is a routine part of daily life for most people (Archer, 2007), including conservation practitioners, even if they do not use the term *reflexivity*. As such, *reflexivity* might seem like unnecessary jargon. Yet, naming this process might help individuals intentionally engage in it, find and share resources, and promote it as a legitimate part of conservation practice. For this reason, we intentionally use *reflexivity* and synonymously use the more relatable nontechnical term *self-reflection*.

For social anthropologists, reflexivity implies exploring how their identity, behavior, and thinking influence human relationships in ethnographic fieldwork, data interpretation, and writing. Many conservationists are concerned with human and human nature (Sandbrook et al., 2019). Thus, conservationists' self-reflections might examine their relationships with wildlife and with their fellow humans. Furthermore, many disciplines emphasize the role of reflexivity in the research and writing

process (Whitaker & Atkinson, 2019). However, conservation is action oriented, so reflexivity in this context concerns both practice and research.

OUR APPROACH

We are a mix of 11 academics and practitioners from different backgrounds and professions, studying and working in different countries around the world. Most of us have connections to the United Kingdom. Six of us are from European countries, 2 from North America, 2 from Asia, and 1 from South America. Five of us are women, 6 of us are men, and at the time of writing, 7 of us were doctoral students. All (aside from T.P., L.K., and C.S.) were chosen from a pool of over 100 applicants following an invitation to collaborate (available from www.iccs.org.uk/content/icn-202021-workshop-theme-reflexive-turn-conservation) that was shared through networks and social media and that targeted at early-career conservationists. Applicants were asked to describe their role, location, background, interest in the topic, and what they thought they could contribute to a workshop series on reflexivity in conservation. These applications were evaluated by T.P. and L.K., who aimed to select conservationists from a range of backgrounds and geographical locations with a demonstrated interest and relevant experience related to reflexivity in conservation.

This essay was developed through seven 3-h workshops and ongoing online discussions involving all coauthors through 2020 and 2021 as part of the Interdisciplinary Conservation Network event. Reflexivity is an enormous topic and is sometimes written about in relatively abstract terms and not named explicitly (making it difficult to study systematically). For these reasons, we sought to provide real-world examples and present only the most illustrative of the numerous cases we found.

Each workshop centered on a specific question, including What is reflexivity in nature conservation? What topics might conservationists self-reflect on? When or where do conservation practitioners self-reflect? What might reflexivity in conservation look like in the future? These workshops accompanied structured activities, such as discussions through an online forum and searching for and examining relevant peer-reviewed and gray literature. We also drew on our own experiences with reflexivity. Furthermore, we invited 10 experts (5 from government agencies, 2 from nongovernmental organizations, and 3 from academic institutions) from our readings and networks to share examples of reflexivity. These experts were named with their permission and reviewed and approved this submission. We documented all workshop and online forum discussions and literature reviews in notes and recordings. We split into groups, each tasked with reviewing notes and workshop recordings to consolidate points around a set of predefined topics (corresponding to the essay sections), to iteratively revise the boundaries of emergent themes and examples within them.

SIX EMERGING THEMES FROM REFLEXIVITY IN PRACTICE

We found numerous examples of reflexivity, spanning multiple levels, from that of individuals and organizations to the wider conservation movement. These examples suggest that conservation practitioners self-reflect on diverse topics, which we grouped into the themes of values and views; emotions, well-being, and psychology; social identities and relations; cultural traditions and religions; training; and success, failure, and wrongdoing. We mapped these themes (Table 1) and provided related questions to encourage and guide individual and collective reflexivity.

Many of our examples describe informal processes rather than self-reflections that were intentionally integrated into individual and collective practices. Furthermore, most did not clearly show how the insights gained from self-reflection translated into practical or documentable steps. Equally, many of our examples suggest that self-reflections are rarely discrete events with a clear start, end, and outcome. Instead, it can be an ongoing process, contributing to personal development, management, and perhaps wider conservation trends over time.

Values and views

We identified several examples of how conservationists' personal values and views, and their self-reflections on these, influenced conservation practices. For instance, T.P. previously worked in a project development and fundraising role at a nongovernmental organization. He valued biodiversity because of its contributions to human well-being and described how this shaped the kind of conservation projects he promoted, such as advocating for sustainable use of biodiversity through agroforestry. Similarly, recognizing that values can underpin choices about actions, South African National Parks surveyed its staff to determine whether their views aligned with the organization's vision and those held by other actors (I. Smit, personal communication). This work is ongoing; the results are intended to inform the organizations' strategic planning and activities.

In several examples, we encountered the idea that value-aligned work contributes to motivation. For example, results of surveys among conservationists suggest that many people choose to work in the sector because of their values related to biodiversity and the feeling of making a difference was a source of motivation (Papworth et al., 2018; Pienkowski, Keane, Castelló y Tickell, Hazenbosch, et al., 2022). In contrast, a lack of alignment between values and work activities can be uncomfortable and demotivating. For instance, Suarez (2017) conducted ethnographic fieldwork among conservationists involved in the Intergovernmental Platform on Biodiversity and Ecosystem Services initiative. He observed how many practitioners used the concept of ecosystem services, for

TABLE 1 Themes that conservationists might self-reflect on and associated potential benefits, accompanied by sample questions to prompt self-reflection among individuals and groups

Theme	Individual-level questions	Group-level (teams, organizations, movements) questions	Potential benefits
Values and views	How do my values inform my conservation practices? Do my activities align or conflict with my values? How do my values align or conflict with others? How should I engage with those with different values?	Which values are represented in our group, with what implications? How do our values align or conflict; can they be reconciled or respected? How do the values held between different groups align and conflict?	Understanding others' values may help find cooperative strategies that benefit both people and nature. Individuals might ask if their activities align with their values, helping them find fulfilling and motivating roles in conservation. Acknowledging the ethical stances of others might lead to more fruitful debates around controversial topics among conservationists. Such self-reflection can also reveal whose voices are underrepresented and thus perhaps need to be promoted in conservation practice.
Emotions, well-being, and psychology	What are my emotional experiences and motivations? What strategies might support my well-being? What are the challenges and rewards that I face? Who can I work with to improve conditions?	What are the emotional experiences of people in our group? How do these affect our efforts to meet conservation goals? Are institutions (e.g., employers) fulfilling legal and ethical duties? Who are at most at risk, why, and what can be done?	Employers might promote the positives and manage the challenges of working in conservation, perhaps supporting conservationists' mental health, satisfaction, and productivity (Pienkowski, Keane, Castelló y Tickell, de Lange, et al., 2022; Singh et al., 2020). Organizations and others might think about how framings affect those in the sector, including the risks and benefits associated with optimistic and gloom-and-doom narratives (Swaisgood & Sheppard, 2010). Addressing workplace stressors might help simultaneously tackle sources of organizational instability and inefficiency (Pienkowski, Keane, Castelló y Tickell, Hazenbosch, et al., 2022).
Social identities and relations	How do my social position and identities affect my conservation work? What privileges do I enjoy? How can my practices address inequalities? What is my relationship with the history of conservation?	Who is represented in our group? How do experiences vary by identity and social position? What are the aspirations and ideals for how people should be treated within and beyond our group? What steps can we and others take to improve equity and justice?	Conservationists and conservation groups concerned about discrimination and inequality might assess how their activities can support efforts to tackle these issues. For example, Jones and Solomon (2019) outline issues (e.g., salary and advancement inequalities) that could be addressed and support (e.g., training opportunities) offered to tackle gender discrimination. Rudd et al. (2021) outline steps to help address racism in conservation science (e.g., educational curricula representing past and present relationships between people and conservation) and practice (e.g., fair dissemination of funds to organizations led by Indigenous representatives).
Cultural traditions and religions	How do my culture and religion affect how I relate to people and other life? How do these factors influence my practices? How do these aspects align and conflict with others?	What cultural traditions shape how the conservation movement understands nature and humanity? Which worldviews are represented (or not) within our group? How does this representation influence our conservation practices and agenda?	There have been calls for conservation approaches that simultaneously protect both cultural and biological diversity (e.g., Agnoletti & Rotherham, 2015). Practitioners might assess how their worldviews align and diverge from those living in biodiverse landscapes. Doing so might help identify practices harmful to local cultures. Employers might assess how their staff's cultural background influences the approaches and strategies they adopt. Hiring or engaging individuals from relevant cultural backgrounds might offer more socially just approaches supporting biological and cultural diversity.

(Continues)

TABLE 1 (Continued)

Theme	Individual-level questions	Group-level (teams, organizations, movements) questions	Potential benefits
Training	How has my training prepared me to work in different roles? How is my training influencing how I do conservation? How do I prioritize different sources of evidence?	What competencies, skill sets, and knowledges are represented within our group? What gaps and shortages exist, and what competencies are needed? Which knowledges and sources of evidence are we prioritizing? What competencies should training institutions be offering?	Individuals entering careers in conservation might find it useful to explore the competencies required in practitioner roles. Employers and training providers might work together to identify and address skills shortages. This could be forward-looking, preparing the conservation workforce to meet the challenge of reversing biodiversity loss. Employers might examine their recruitment practices. Appleton (2016) compiled a list of competencies useful for protected areas practitioners. Such registers could be extended to other conservation roles, helping employers choose suitable candidates or address gaps through training.
Success, failure, and wrongdoing	What was my role in influencing outcomes? What can I learn from these experiences? How can I create a culture of accountability and learning?	How do we respond when things go right and wrong? How do we balance recognizing success, ensuring accountability, and learning from failure? How do we talk to others, such as funders, about problems?	Learning from failures in conservation can help avoid them and do better in the future (Catalano et al., 2018, 2019). Fostering accountability can support procedural, retributive, restorative, and other forms of justice. Strengthening performance reporting may build funders' confidence and thus willingness to invest in conservation (M. Smith, personal communication).

example, when engaging with policy makers but felt uncomfortable emphasizing the instrumental value of biodiversity. In another example, one of us left an organization because this person felt that its activities, which involved displacing local communities from forests, were unethical.

There were several examples of how practitioners' values influenced collective conservation efforts. The draft post-2020 Global Biodiversity Framework includes plans to greatly increase the current extent of conserved areas by 2030 (CBD, 2021). This plan has been influenced by Half-Earth, which stresses the intrinsic value of biodiversity (Wilson, 2016). This plan is controversial partly because it discounts the value some ascribe to interactions between people and biodiversity (Coetzee et al., 2022; ICCA Consortium, 2021). This apparent conflict around the weighting of different values in decision-making relates to broader concerns about who sets the conservation agenda. For example, Tallis and Lubchenco (2014) and Kothari (2021) argue that global decision-making is disproportionately influenced by the views and values of senior Western conservationists. Recognizing this and seeking a broader understanding of the views held across the conservation movement, Sandbrook et al. (2019) surveyed more than 9000 professionals from 149 countries. They found large geographic variability; respondents from Africa, Asia, and South and Central America are more likely to endorse people-centered conservation than those from Europe, North America, and Oceania.

Emotions, well-being, and psychology

Several examples illustrated the role of emotions, psychology, and well-being among conservationists. A survey of over 2300 conservationists showed that many did not expect pressures on biodiversity to lessen or its overall status to improve over the next 10 years (Pienkowski, Keane, de Lange, et al., 2022). In this context, many conservationists, who are often passionate about the state of nature (Sandbrook, 2019), may feel grief at witnessing biodiversity loss and the prospect of this loss continuing (Fischer & Riechers, 2021). Perhaps in response, movements such as conservation optimism, earth optimism, and vikalp sangam have emerged. These movements seek to provide examples of conservation success to motivate people to act for biodiversity (but see "Success, failure, and wrongdoing" below).

Multiple studies have been conducted on conservation workplace challenges, such as rangers' poor safety conditions, isolation from family, inadequate compensation, and precarious employment (Anagnostou et al., 2022). In one of the largest such studies, Singh et al. (2020) surveyed over 1740 rangers across 40 countries in Asia, Africa, and Latin America. Among these, 79.9% said they had faced a life-threatening situation during their careers, 68.1% were not provided with adequate equipment to ensure their safety and do their jobs, and 26.5% saw their families for fewer than 5 days a month. Recognizing the challenges rangers face, participants at the

2019 World Ranger Congress endorsed the Chitwan Declaration (IRF, 2019). This declaration calls for improved health and safety conditions, adequate life insurance, and work–life balance among rangers. However, challenging working conditions in the conservation sector are not unique to rangers. For instance, among 2311 conservationists (primarily with university-level education and desk-based roles), 27.8% reported moderate or severe psychological distress, and workplace challenges, such as heavy workloads, job demands, and organizational instability, were associated with higher distress (Pienkowski, Keane, Castelló y Tickell, de Lange, et al., 2022). Other examples of conservationists reflecting on these challenges can be found on, for example, the *Lonely Conservationists* blog, where stories recounting the challenges faced by conservationists, particularly at early career stages, are shared (Lonely Conservationists, 2020).

Practitioners may also evaluate other psychological aspects beyond conservationists' well-being. For instance, experts at the U.K. government's Joint Nature Conservation Committee spoke to us about their experiences building teams with diverse cognitive profiles (sometimes termed *neurodiversity* [C. Maggs, B. Trippier, & M. Smith, personal communication]). They were motivated to do so because of the ethical imperative to provide equal opportunities and the value of having team members who might approach problems from different perspectives.

Social identities and relations

One common theme in our discussions was the examination of identities and social positions, including class, race, ethnicity, gender, sexuality, age, geographic location, and insider–outsider status (Merriam et al., 2001). Examples included self-reflection of how conservation actions can propagate or diminish inequalities. For instance, one expert we spoke with was involved in participatory research with Nepali conservationists, where participants reflected upon the risks of perpetuating and the opportunities to challenge inequalities around gender, caste, class, and religion (S. Staddon, personal communication). Another expert attended a study circle held by a grassroots conservation organization in India (N. P. Broome, personal communication). This session evolved into a critical discussion of patriarchy and caste hierarchies and the organization's role in addressing these dynamics.

Conservationists also often described their experiences of feeling discriminated against by peers and those outside the conservation sector. Several recently published blog entries by Black African conservationists describe experiences of racism and exclusion by nonblack colleagues. For instance, Duff (2020) collected stories describing the discrimination more than 20 African female conservation leaders faced. These included cases where African professionals received lower wages and fewer career development opportunities than equally or less qualified White counterparts. Similarly, F.N. described how she and other White coworkers were invited to social events organized by the director of an organization, but her Black colleagues were not. An expert from Asia described how caste discrimination constrained data collection. So-called lower caste team members could not access food and accommodation in certain upper caste villages, so the team avoided surveying such areas (M. Ramesh, personal communication).

Several examples focused on the status of professionals as insiders and outsiders in relation to the groups they engaged with through their work. For example, one of us worked in a conservation organization in Central America, staffed predominately by residents. This organization often employed local, former hunters familiar with the landscape, wildlife, and hunter behavior. However, several of these rangers told this author how this sometimes put them in difficult positions. They faced conflicting responsibilities and loyalties between their employers and friends, families, and neighbors (similar tensions have been reported elsewhere [e.g., Dutta, 2020; Moreto, 2016; Sudha, 2002]).

A vast body of research explores conservation's links with state making, military conquest, and colonialism. For instance, Kashwan et al. (2021) discuss how exclusionary protected areas were promoted across Asia, Africa, and elsewhere during European colonial rule. Peluso (1993) explores how conservation activities may facilitate state elites to broaden their power through military violence against resistant populations. These themes are often in the background of many of the examples we provide. For example, these themes played a role in the experiences of conservationists in postcolonial countries (e.g., Duff, 2020; M. Ramesh, personal communication) and the support and opposition for protected areas reported by Sandbrook et al. (2019). As a result, many questions around values, identities, well-being, culture, training, and responses to success and failure relate to the history and political economy in which conservation occurs.

Cultural traditions and religions

Global biodiversity conservation involves many cross-cultural encounters, and much has been written (including by cultural anthropologists) about how these shape conservation practices (Kiik, 2018). Conservation is done in places spanning humankind's cultural, philosophical, and spiritual diversity, and several of us have reflected on how our spiritual traditions and religious beliefs have shaped our approach to conservation. One high-profile example of practitioners assessing how their cultural background influences how they do conservation comes from the Intergovernmental Platform on Biodiversity and Ecosystem Services, an advisory body of conservationists worldwide. Since its establishment, it has recognized the need to embrace a cross-cultural understanding of the nonhuman world (Díaz et al., 2015). However, Suarez (2017) illustrates how participants in the process struggled to reconcile concepts of biodiversity, nature, and Mother Earth represented in different cultures.

Training

The literature on how conservationists' training shapes their work is growing. For instance, Gardner (2021) examined the descriptions of undergraduate conservation degrees in the United Kingdom, finding that many did not offer dedicated social science training and were largely biocentric. He concluded that many graduates may be ill-prepared to work in interdisciplinary conservation practice. Similarly, another recent study identified 5 areas critical to contemporary conservation practice: collaboration, leadership, policy, practice, and interdisciplinarity (Elliott et al., 2018). The authors evaluated 650 postgraduate-level capacity development initiatives in 54 countries relative to these 5 areas, finding gaps in leadership and policy-related training. They suggested that practitioners are often called upon to do work for which they have not been adequately trained.

We also found examples of conservationists assessing how their training influenced their beliefs about what conservation approaches should be taken. For instance, a global survey of conservationists showed that those trained in social and interdisciplinary sciences were more likely to endorse people-centered conservation approaches than those trained in the natural sciences (Sandbrook et al., 2019). Cleary (2018) highlights how the definition of *conservationist* has grown to include lawyers, business managers, social scientists, and others not trained in the natural sciences. He suggests this shift has sidelined activities directly focused on supporting biodiversity, to the frustration of some trained in ecology and related disciplines.

Success, failure, and wrongdoing

Conservation outcomes are rarely clearly a success or a failure, and one key theme that emerged was the way conservationists reflect on these terms and their meanings. Individuals can face incentives to deny poor outcomes and organizational norms that discourage reflection (Catalano et al., 2019; Wahlén, 2014). For example, a culture focused on sharing good-news stories in WWF may have discouraged the reporting within the organization of alleged human rights abuses in conserved areas (WWF, 2020). Similarly, many of us have experienced conservation organizations "selling success" to help secure future funding (Büscher, 2014).

Acknowledging and reflecting on failure and success can offer valuable learning opportunities (Catalano et al., 2018). Recognizing this, Fauna & Flora International drew on the concept of after-action reviews (initially developed by the U.S. army) in its projects in Kenya and elsewhere (C. Hodgkinson & A. Komen, personal communication). This process involves asking what happened, why, what seems to be working, and what could be done differently. This structured debriefing process may reveal alternative ways individuals and groups might approach a given conservation situation. In general, examining attitudes and practices that enable or discourage frank discussion of success and failure could help move the conservation movement toward a culture of transparency, accountability, and learning (Catalano et al., 2018).

LIMITATIONS, DANGERS, AND COSTS OF REFLEXIVITY

Although we provide examples of the benefits of reflexivity, we also identified several associated challenges (Table 2). These include the potential trade-offs between taking action and investing resources and time in reflexivity; the frustrations of self-reflection in situations resistant to change; and acknowledging that putting reflexive principles into practice is often easier said than done. Equally, reflexivity alone will not solve many pressing conservation problems and can be an uncomfortable process (though this is not necessarily a bad thing) that might uncover or foster differences in groups that are hard to reconcile. These challenges might be most pronounced in group or collective settings, such as institutions. As such, reflexivity alone is not a panacea for solving conservation problems, but it can be integrated into individual and organizational practices.

REFLEXIVITY IN ADAPTIVE AND TRANSFORMATIVE CONSERVATION

Our methods did not allow us to determine whether conservation is now having a reflexive turn, akin to that which has occurred in social anthropology and related disciplines. However, multiple recent articles call for greater reflexivity in conservation science (e.g., Beck et al., 2021; Bennett et al., 2017; Boyce et al., 2022; Brittain et al., 2020; Montana et al., 2020; Moon et al., 2019; Ramesh, 2020; Staddon, 2021; Staddon et al., 2021). Moreover, many of our examples from the peer-reviewed and gray literature were published in the last few years. Consequently, we believe there is growing interest in the role of reflexivity in conservation practice, at least among researchers. This attention might have emerged from the increasing use of social science approaches and ideas (Bennett et al., 2017; Moon et al., 2019). It might also have arisen from increasing recognition that current conservation strategies have failed to reverse the loss of nature, prompting some to question underlying values, beliefs, and perspectives held in the sector (e.g., Wyborn et al., 2021). Regardless of the cause, we believe that conservationists who take a metaphorical look in the mirror might gain insights into how, why, and for whom conservation is done and if there are more suitable alternative approaches.

Reflexivity might be more likely to lead to tangible action when intentionally built into practices and processes. For instance, some researchers encourage conservation scientists to present positionality statements, describing how their identity and worldview influence their research (Moon et al., 2019; Ramesh, 2020). Practitioners might find it instructive to generate similar statements when advocating for and implementing conservation actions. Or, job seekers might examine potential employers' mission, values, and activities when making career choices. Equally, reflexive processes could be usefully integrated within adaptive management and monitoring, evaluation, and learning cycles in organizational settings, as we illustrate through the example in Table 3.

TABLE 2 Potential limitations, dangers, and costs associated with reflexivity in conservation

Limitations and costs	Description	Mitigation
Trade-offs between thinking and doing when time and resources are limited	Self-reflection takes time, but many conservationists report being overworked (Campos-Arceiz et al., 2013; Pienkowski, Keane, Castelló y Tickell, Hazenbosch, et al., 2022). Therefore, practitioners may face trade-offs between self-assessing and doing. Practitioners may be particularly reluctant to engage in reflexive processes mandated by others (e.g., bosses and funders) or if it is an onerous reporting requirement.	Reflexivity does not have to be time-consuming. For instance, after-action reviews can be a quick way to de-brief and learn from experience.
Reflexivity, where change is unlikely, might be exhausting and frustrating.	Reflexivity in situations where change is unlikely may be exhausting—of time, resources, and emotional commitment—and frustrating. These costs may be particularly likely when individuals have limited influence over the practices of wider groups. For instance, employees might raise issues that employers cannot address, harming morale and employer–employee relations.	Practitioners need to consider how likely it is they can change practices. Organizations encouraging reflexivity should be willing to act on findings.
Reflexivity is easy to discuss in theory but can be hard to put into practice.	Reflexivity is easy in theory, but it can be challenging to translate these abstract concepts into real practices that lead to positive change. For instance, an organization might examine the values held by its staff. However, it may be unclear how to turn these insights into actions.	Those engaging in reflexive processes might plan for how to integrate them into practices.
Reflexivity alone will not solve many conservation challenges.	Conservation is underfunded, poorly resourced, and often contends with powerful actors (Barbier et al., 2018; Sandbrook, 2017), presenting barriers that reflexivity alone cannot address. Also, attributing links between reflexivity and positive outcomes can be challenging. So, it may be hard to identify instances where reflexivity indirectly helps resolve conservation problems.	Conservationists should be realistic about linking reflexivity to precise outcomes and flexible about the types of evidence (e.g., personal narrative) and time horizons considered.
Reflexivity can be uncomfortable and highlight issues that some might want to hide, but is this a bad thing?	Reflexivity may be uncomfortable for individuals, organizations, and the conservation sector. For instance, individuals may be reluctant to examine their role in practices that harm others. Equally, organizations might be cautious in acknowledging failures if disclosure jeopardizes reputations and future funding or invites criticism (Wahlén, 2014). Although there are perhaps no easy solutions to this, the conservation sector needs to find ways to balance accountability against learning from failure (Catalano et al., 2018).	Some of us coauthors contend that feeling uncomfortable is expected in some contexts, like when trying to "decolonize" conservation (Trisos et al., 2021).
Collective reflexivity may uncover differences that are hard to reconcile, but is this a bad thing?	When groups engage in collective self-reflection, individuals may hold differing perspectives and come to different conclusions (J. Montana, personal communication, 13 October 2020). However, diverging opinions can be valuable. For instance, disagreement can help interrogate assumptions and reveal different approaches to problems.	Those engaging in collective reflexivity should avoid artificial consensus (Matulis & Moyer, 2017).

Reflexive processes may have a role in conservation beyond the adaptive management of projects and programs. Discussing reflexivity in conservation, Borie et al. (2020) distinguish between instrumental (i.e., to better achieve objectives) and transformative (i.e., questioning the objective itself) learning. Expanding on this distinction, instrumental or adaptive reflexivity might help adjust a process or project to better achieve an established goal. In contrast, transformative reflexivity might involve questioning and revising the goal or discarding it entirely. Table 3 outlines a hypothetical situation in which there are opportunities for transformative reflexivity in day-to-day decision-making. Transformative reflexivity might play a more fundamental role in reimagining mainstream conservation paradigms. For example, the Biodiversity Revisited project examined whether inherent problems in how biodiversity is conceptualized hinder its conservation (J. Montana, personal communication).

We did not agree on whether there was a clear distinction between adaptive and transformative reflexivity or if a process is only truly reflexive if it is transformative. We also disagreed on whether to advocate for reflexivity toward specific outcomes. For example, some of us believed our essay should call for reflexivity toward social justice (e.g., as done by Staddon et al. [2022]), whereas others thought this was too prescriptive. Our friendly disagreements emphasize that there is no single way to practice reflexivity and that reflexivity will not lead everyone to the same conclusions.

We sought to encourage individuals and groups to explore ways reflexivity can help shape how they do conservation. However, our approach has limitations. Those not in networks and

TABLE 3 Hypothetical situation in which reflexivity could be integrated into adaptive and transformative conservation

Adaptive management steps*	Reflexivity in adaptive management scenario	Opportunities for transformative reflexivity
Assess: "involves determining the purpose of the planning, identifying who will initially be part of your project team, and articulating your project's geographic and/or thematic scope, your vision of what you hope to achieve, and the conservation targets on which you will focus"	Yayasan Hutan Sumatera is a hypothetical Indonesian conservation nongovernmental organization (NGO) that collaborated with local residents. Local leaders identified several representatives to work with key staff at the NGO. This comanagement team recognized that there were no participating subsistence farmers, so they invited members of this group to join. This team then shared their vision for the project and how these aligned and conflicted. The team found several areas of consensus, which was the basis of the next step.	Yayasan Hutan Sumatera might ask on what basis they have the right to intervene in the lives of others and if they should even be the ones leading local conservation efforts. Are they prioritizing the needs of local residents or nature conservation? Why?
Plan: "involves defining and developing your project's goals, strategies, and objectives, and identifying your team's assumptions about how you believe your strategies will achieve your project's goals"	Core group held a series of meetings on the project's goals, outputs, and actions, focusing on agroforestry. They shared their experience, identifying 2 members knowledgeable about suitable tree species. Attending subsistence farmers were encouraged to share their opinions on the project. They pointed out how the project would harm poorer households and offered solutions.	The NGO might ask how power dynamics—shaped by who has access to funding, political influence, land claims, knowledge, and other factors—influenced the choice of project goals.
Implement: "involves developing and implementing specific work plans while ensuring sufficient resources, capacity, and partners"	One of the staff at the NGO struggled with burnout, affecting how he interacted with colleagues and community members, his performance, and the project's progress. His supervisor spoke with him to understand why he was struggling, what was important to him in terms of work–life balance, and how he might work differently from others in the team. They also discussed the broader work culture of the organization and how it could be altered to support all staff better.	The NGO might explore why employees are under pressure and if it is a consequence of dependence on short-term grants. They might ask if the project should have been initiated if there was no long-term funding.
Analyze and adapt: analyze "project's results, core assumptions, key uncertainties, and relevant operational and financial data, and then adapt your work plan as necessary"	The NGO staff had designed a logical framework to monitor and evaluate the project, which focused on outcomes for participants and the forest. But one resident highlighted that they needed to evaluate the impacts on the community as a whole as the project was displacing subsistence farmers. So, the comanagement team updated the monitoring process, changed where the project would be implemented, and sought to compensate those who lost land.	The NGO might critically examine the process used to develop the logical framework. After learning that the project displaced subsistence farmers, they might reevaluate their overall approach to working with residents.
Share: "involves sharing lessons and formal products with key internal and external audiences"	By the end, some subsistence farmers remained angry about how the project was implemented. The NGO decided to hold a community meeting to discuss what could have been done differently. The NGO decided not to report these issues to the funder for fear of losing follow-up support.	The NGO might ask how concealing these issues affected residents and the organizational culture and created a risk of being blacklisted by funders.

*Following Conservation Measures Partnership (2021).

on social media platforms where the workshop invitation was shared were not given the opportunity to collaborate. The selection process was based on T.P. and L.K.'s subjective evaluations of who offered relevant experience and diversity. Many of us had connections to the United Kingdom, where 6 of our invited experts also worked. As a result, most of our networks, case studies, and information came from the United Kingdom, its former colonies, the English-speaking world, and English-language literature. Many of our invited speakers worked in desk-based roles; only 2 were from nonprofit organizations. So, overall, our examples and discussion cannot represent the diversity of paradigms, experiences, and ways of thinking and working in conservation worldwide. Moreover, the number of invited experts was constrained by the time available in the 7 workshops. Inviting more experts may have yielded a wider range of examples.

Nevertheless, our examples suggested that reflexivity might be common within conservation practice, particularly in informal settings. We found comparatively fewer cases where reflexive practices were explicitly integrated into institutional or group processes (although we may have missed relevant examples with our approach). By examining examples from individuals, organizations, and across the conservation movement more broadly, we identified a diverse range of issues that conservation practitioners self-reflect on, including training and cultural backgrounds, values, emotions and well-being, social identities, and success and failure. Although reflexivity in conservation can offer insights and benefits in some cases, it is not without challenges, particularly in group settings (e.g., organizations). Nevertheless, proactive adoption of reflexive processes could enhance both adaptive and transformative conservation practices. Ultimately, reflexivity may help conservationists imagine and, with a deeper understanding of everyone's differences, work together toward a better world for biodiversity, people, and the conservation sector.

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