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REVIEW AND SYNTHESIS



Ethical considerations for conservation messaging research and practice

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Abstract

1. Conservation professionals are familiar with value-driven research and practice. However, recent efforts to use strategic communication, specifically conservation messaging, to affect targeted behaviour change or influence values and attitudes towards conservation introduce new ethical dilemmas that conservation professionals may not have considered or are ill-equipped to deal with.
2. Drawing from strategic communication theory and professional guidelines, including from public relations, social marketing, advocacy, and the social sciences more broadly, we provide a framework and discuss important ethical considerations for conservation messaging.
3. The considerations discussed include those that apply across all stages of conservation messaging (*be reflexive, engage responsibly, and consider power*), as well as those that apply when defining the problem (*ensure fairness in audience targeting*), designing the solution (*use equitable messages and calls to action and use truthful messaging and authentic messengers*), and considering outcomes (*consider intended and unintended consequences*).
4. We present these considerations not as a fail-safe checklist to prevent unethical conduct in conservation messaging, but rather as points of reflection to consider in the design of ethical conservation messages and campaigns. We present a series of prompting questions to guide this process. We believe taking the time to reflect in this way paves the way for more effective and ethical strategies for conservation messaging, leading to more open, trusting, and sustainable relationships with our audiences.

KEYWORDS

advocacy, biodiversity, conservation marketing, public engagement, science communication, social marketing, strategic communication, values

1 | INTRODUCTION

Conservation science is, by definition, a normative, value-driven field aiming to conserve biodiversity (Kareiva & Marvier, 2012; Meine

et al., 2006). Since ecological problems exist within broader socio-ecological systems, conservation research and practice interact with complex social and political environments, often fraught with ethical conflict and disagreement. From welfare concerns around

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feral species management, to development corporations with goals at odds with conservation efforts, conservation professionals may grapple with ethical conflicts with stakeholders including local communities and councils, industry groups and advocacy organisations. These conflicts have sometimes been framed within both formal and informal conservation science discourse as an issue of mass public (or policymaker) ignorance, resulting in the use of frameworks such as the knowledge-deficit model and a focus on information dissemination and education (Schultz, 2011; Sturgis & Allum, 2004). The knowledge-deficit model assumes the problem is a lack of knowledge and therefore that providing people with information will result in changes in attitudes and behaviours (Schultz, 2011). However, in what has been called the 'post-truth era', simply improving communication practices is unlikely to effectively counter misinformation or information flows influenced by algorithms that re-enforce certain beliefs and values (Lewandowsky et al., 2017). In addition, research demonstrates that simply providing information does not necessarily change individual attitudes or behaviours, suggesting that these conflicts are more often due to opposing perspectives or value priorities (Schultz et al., 2016; Sturgis & Allum, 2004). In light of this, there has been move away from the knowledge-deficit model towards different conservation engagement pathways, including participatory approaches such as stakeholder engagement (Marino et al., 2021; Sterling et al., 2017), the inclusion of customary practices and local knowledge (Borrelle et al., 2020; Huntington, 2000; Kadykalo et al., 2021; Uprety et al., 2012), and citizen science (Ballard et al., 2017; Buchs et al., 2021), as well as behaviour change and strategic communication approaches such as conservation messaging (Groffman et al., 2010; Kusmanoff et al., 2020; Sturgis & Allum, 2004).

Conservation messaging uses strategic framing or social marketing techniques to inspire attitudinal or behavioural change to benefit biodiversity (Echeverri et al., 2017; Green et al., 2019; Kidd, Bekessy, et al., 2019; Kidd, Garrard, et al., 2019; Kusmanoff, 2017; Kusmanoff et al., 2020; Veríssimo, 2019; Weinstein et al., 2015). Message design and framing theory have been applied to behaviours varying from consumer to advocacy behaviours, including post-zoo visitor behaviour (Esson & Moss, 2014; MacDonald, 2015), sustainable behaviours in tourism settings (Hardeman et al., 2017; Warren et al., 2016), cat containment behaviours (McLeod et al., 2017), and direct impacts on wildlife (Kamrowski et al., 2014). This interest in using strategic, purposeful communication techniques to affect human behaviour through conservation messaging introduces new ethical implications that conservation professionals may not have considered or are ill-equipped to deal with (Barnhill-Dilling & Delborne, 2021; St. John et al., 2014; Veríssimo, 2019).

While familiar with the procedural ethical considerations guided by policy, professional research integrity standards and ethics approval processes (e.g. the Singapore Statement, Resnik & Shamoo, 2011), conservation professionals are not always trained in the philosophy or applied ethics studies that are important for informing ethical decision-making in complex social environments (Brenkert, 2002; Brittain et al., 2020; Palmer et al., 2014). For

example, central to communication disciplines is rhetorical theory, which is concerned with how human communication produces understanding, attitudes, beliefs, judgements and, ultimately, action (Borchers & Hundley, 2018). Within these disciplines, the use of rhetorical techniques, such as persuasion or other emotional appeals, is ethically justified by their use as key tools contributing to active and collaborative discussion to determine moral norms and 'truths' (Hogan, 2012; Ihlen, 2020). However, this justification assumes a two-way communication context in which individuals can determine, through discussion, the 'best' rational argument, while considering ethical values and power relations (Spahn, 2012). Because of this assumed rhetorical purpose of communication, so-called 'symmetrical' approaches, where both parties are actively communicating with each other from equal positions of power, are considered a normative ethical ideal. Conversely, 'asymmetrical' forms, where one party is communicating from a higher position of power, are considered a necessary evil (Grunig, 2001; Spahn, 2012).

The concepts of 'symmetrical' to 'asymmetrical' are not a dichotomy but rather opposite ends of a spectrum. This spectrum is echoed by the concept of 'downstream' and 'upstream' messaging, where 'downstream' refers to instances where messaging flows from an organisation 'down' to the general public (e.g., large scale media campaigns) as compared to 'upstream' approaches, where messaging is primarily community-led (Wilsdon & Willis, 2004). These concepts of symmetry and upstream/downstream messaging are mirrored in the 'continuums of community engagement' commonly applied by organisations that articulate a spectrum of engagement from transactional, such as information provision, to transformational, such as community-led advocacy campaigns (Bowen et al., 2010). It is worth noting that different approaches can be used in concert with each other. For example, a messaging campaign may primarily use an asymmetrical and downstream approach, but also incorporate some more symmetrical and upstream tools such as encouraging self-led community groups.

Within the conservation context, an example of a symmetrical approach would be stakeholder engagement in which discussions between research, government, and non-government organisations and other affected communities enable collaborative decision-making. However, when aiming to influence individual attitudes or behaviour, as is the aim of most conservation messaging, following a true symmetrical model is likely to be difficult or ineffective due to irreconcilable differences between different stakeholder's perspectives and goals, the relative powerlessness of even highly engaged audiences, or the low engagement of the public majority (Ciszek, 2015; Dozier & Lauzen, 2000; Porter, 2010). Therefore, conservation messaging will usually follow an asymmetrical approach, applying tools from behaviour change, social marketing, or advocacy to reach a broad or targeted public. Within rhetorical and discourse theory, views differ on the extent to which asymmetrical approaches are ethical: for example, Grunig (2001) posits that communicating to a wider public within an asymmetric system is ethically reasonable when attempts at symmetrical models fail, while Porter (2010) suggests that rhetorical theory provides the justification for asymmetric

communication tactics (e.g. persuasion) regardless of attempts at symmetry. The concept of symmetry for communication highlights how ethical and rhetorical theory is fundamental to strategic communication, and how careful consideration is required to ensure ethical practice, particularly since standard conservation messaging methods are one-way and asymmetrical. This is particularly relevant in this 'post-truth' era, as there may appear to be more symmetrical communication in the context of online or social media, however feeds or threads may in fact be influenced by algorithms or bots that reinforce pre-existing values and beliefs and spread misinformation (Lewandowsky et al., 2017). Conservation professionals themselves may be influenced by these factors, as well as the influence of other political actors working within this complex media landscape.

Conservation professionals have moral, pragmatic, and legal obligations to engage ethically in their research and practice and protect people from harm and unintended consequences (Alshurideh et al., 2016; Brittain et al., 2020). In this paper, we aim to support conservation professionals to improve conservation outcomes through conservation messaging, while also considering the potential human impact. We draw from the key strategic communication fields of public relations, social marketing, and advocacy to present ethical considerations for conservation messaging research and practice. We present these with the aim of encouraging reflectivity and improved consideration of target audiences and their communities in the planning and design of conservation messaging. While there may be differences in the primary ethical challenges faced by conservation professionals in on-ground practice as opposed to research, we believe these considerations are relevant for anyone engaging in conservation messaging. For the purposes of this discussion, we consider conservation messaging to include any strategic communication (Hallahan et al., 2007) that aims to inform, change attitudes or trigger behaviour change for the benefit of biodiversity, including communication that forms part of stakeholder or public engagement programs, or advocacy campaigns. We suggest that whether conservation messaging is used as part of a social marketing or advocacy approach, or targets consumer or advocacy behaviours, the overarching ethical considerations remain the same.

2 | CONSIDERATIONS FOR ETHICAL CONSERVATION MESSAGING RESEARCH AND PRACTICE

All professionals have an obligation to be ethical in their work, and strategic communication disciplines emphasise a particularly keen awareness of ethical communication in practice. The storied history of public relations—an undeniably effective but notorious field—warns of the potential consequences of unethical communication (Dulek & Campbell, 2014; Parsons, 2016). Strategic public relations approaches assisted the cigarette industry in misleading the public for years about the health effects of smoking (Cummings et al., 2007), and there are known instances of corporate public relations groups setting up so-called 'grass-roots' groups, where

community participation was largely fabricated (Head, 2007). As well as being unethical, the revelation of such undemocratic practices results in strong public distrust, drastically limiting the effectiveness of future communication (Bowen & Gallicano, 2013). Conservation itself is not free from communication controversies. The concept of 'wilderness' as land uninhabited by humans remains integral to many modern conservation management approaches, often used as a justification to protect 'natural' ecosystems from any human 'interference'. Yet, deliberately or not, the idea of 'wilderness' disregards the legacy of land management by Indigenous and local peoples, disempowering communities and ignoring the fundamental effects of Indigenous agriculture and fire use on past and present landscape structure (Fletcher et al., 2021). In addition to downplaying the agency of Indigenous peoples in maintaining landscapes, continued use of this language can result in unsuitable management strategies, and perpetuates the dehumanising social narrative that it is impossible for humans to live on biodiversity-rich land without damaging it. Given these problematic histories and uses of strategic messaging, there are clear ethical obligations for those engaged in conservation messaging to consider the implications and consequences of projects carefully and present open, honest, and justified work to both the scientific and broader community.

In this pursuit, we can be guided by ethical theory and scholarship. For something to be ethically justified it must be considered right or reasonable, however what is considered right or reasonable will vary across different philosophical approaches. Discussions of ethical practice tend to draw from five moral philosophy approaches: *teleological ethics* focus on the outcomes or consequences of the message (e.g. utilitarian ethics, consequentialism); *deontological ethics* are concerned with whether the message itself is intrinsically right or wrong and the obligations of the messenger (Bowen, 2004, 2005); *virtue ethics* focus on the character of the messenger; *ethics of care* are concerned with implicit social contracts and theories of justice (Tao & Kim, 2017); and *relativism* considers ethical truths as relative to context or culture (Bowen, 2020; Eagle et al., 2015; Toledano, 2018). These approaches can inform frameworks for ethical communication; for example, Andreasen's social marketing ethical framework consists of five principles that draw from teleological, deontological and virtue ethics (Andreasen, 2001).

When translating ethical theory into practice, communication guidelines typically focus on the communicators, who are encouraged to reflect on their motivations and behaviour, keeping in mind their obligation to the common good (e.g. Baker & Martinson, 2002; Baker & Martinson, 2001; Edgett, 2002). There is also a responsibility on researchers and organisations involved in advocacy to consider the interests of those who may receive their messages (Heath, 2007), who may be affected by the message or the action it is designed to encourage. This kind of reflection is known as reflexive practice and goes beyond typical reflective practice by explicitly focusing on the impact of one's own positioning, beliefs and broader context upon the work. The importance of reflexivity has also been highlighted for conservation scientists, whose research or practice may involve human participants or otherwise impact people through

a range of activities and outcomes (e.g. Brittain et al., 2020). Here, we present seven key ethical considerations to guide reflexivity for conservation professionals engaging in conservation messaging (Figure 1; Table 1). By applying communication guidelines, and recommendations made by conservation scientists engaging in advocacy, to the specific context of conservation messaging, we aim to present a relevant and practical guide (including guiding questions) for conservation professionals (see the Supporting Information Table S1).

We present these considerations not as a fail-safe checklist to prevent unethical conduct in conservation messaging, but rather as points of reflection to consider in the design of ethical conservation messages and campaigns. The first three considerations—*be reflexive*, *engage responsibly*, and *consider power*—apply across all stages of conservation messaging, while the remaining four fit within three broad stages: defining the problem, designing the solution, and considering outcomes. Most conservation messaging research and practice focuses on designing the solution, since conservation messaging is typically applied as an engagement strategy or behavioural intervention that aims to address a pre-defined conservation problem. However, to design an ethical and effective message, it is important to take the time, even retroactively, to understand how the problem has been defined before jumping to designing the solution.

2.1 | Across all stages

2.1.1 | Be reflexive

All disciplines are driven by normative values to some extent; however, incorporating values into conservation agendas remains an ongoing challenge for conservation professionals (Barry & Oelschlaeger, 1996; Chapman et al., 2015; Gibbons et al., 2008; Latombe et al., 2022; Noss, 2007). A conservation message will almost always be influenced by the value-based judgements, priorities, and socio-political context of those involved in its planning and design. These factors can influence how the problem is defined, what specific communication objectives are set, and the message design itself (e.g., value-based framing), as well as assumed applications. A person's values and judgements will be influenced by a multitude of factors, including age, gender, race, class, wealth and other elements of their social, cultural, political and geographic context (e.g. Winkler-Schor et al., 2020). These in turn may determine research interests and outputs, including motivations for engaging in conservation messaging (Neely & Nguse, 2015). While these influences are unavoidable, care should be taken to ensure they do not inadvertently or considerably influence research aims, methodology and assumed research applications without acknowledgement (Garrard et al., 2016; Wilhere, 2012).

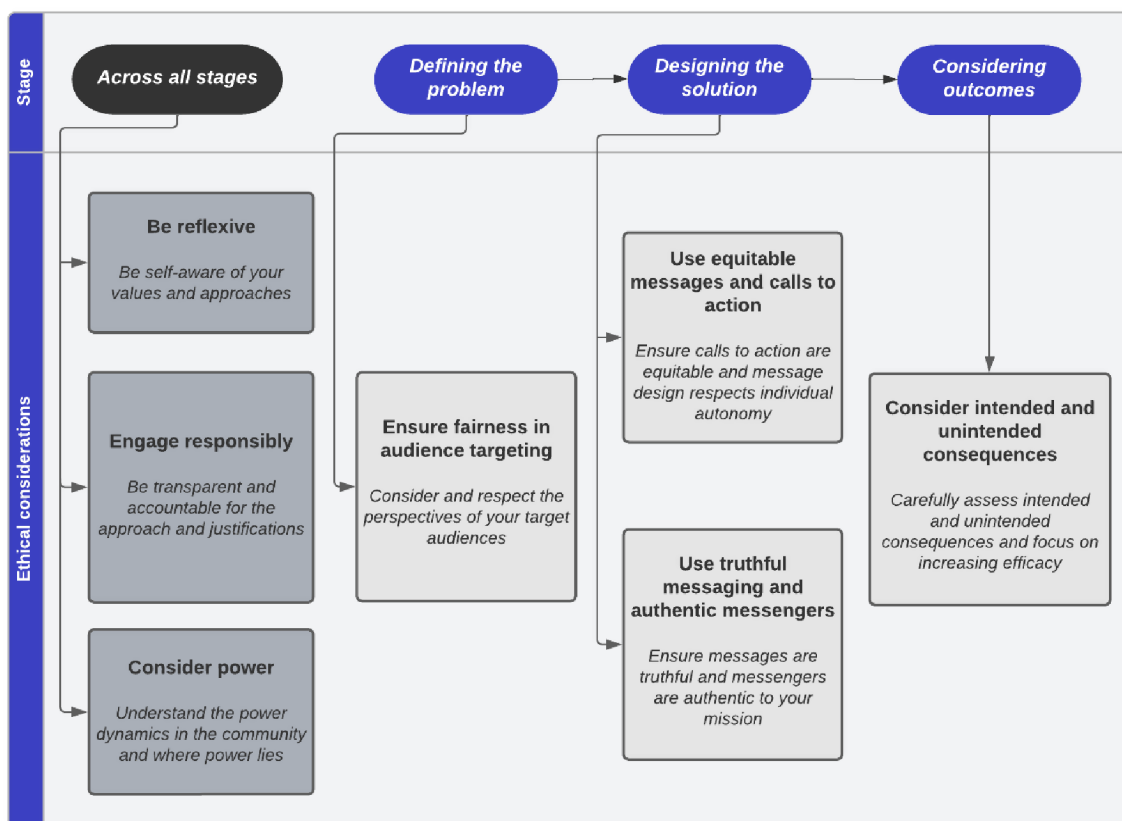


FIGURE 1 Outline of ethical considerations for conservation messaging and practice. See the Supporting Information (Table S1) for further detail on how these considerations were identified and categorised.

TABLE 1 Questions to guide reflectivity on ethical considerations in conservation messaging and practice

Stage	Consideration	Guiding questions
Across all stages	<i>Be reflexive</i>	- What are your/your organisation's perspectives and values? - How will these influence your objectives and approaches? - What is the broader social, cultural, and historical context of your work and to what extent is this central to your research or practice? <i>For researchers:</i> - What is your research paradigm (i.e., ontology, epistemology and methodology)? - What are your research aims and assumed applications? How are these formed or influenced by your own values or those of your organisation or partner organisations?
	<i>Engage responsibly</i>	- To what extent can you justify your actions and aims based on peer-reviewed evidence, expert guidance, or relevant experience? - To what extent can you justify your actions and aims based on your own (or your organisation's) values and mission (e.g., theory of change)? - Who is making decisions about what is justifiable? Is the decision left to an individual or a socially representative committee or an ethics board? - To what extent can your communication planning or design process involve your audience? Consider whether open face-to-face engagement (e.g., storytelling approaches) could be appropriate for aspects of your work.
	<i>Consider power</i>	- What are the power relations at play in the target community and social system? Who has the power and agency to make change? - Where do you sit within the power structure?
Defining the problem	<i>Ensure fairness in audience targeting</i>	- Which audience is the most appropriate for your message? Why are they not already engaged? - What are your audience's perspectives and values?
Designing the solution	<i>Use equitable messages and calls to action</i>	- Is the desired message response fair on the audience? - Will responding to the message cost the audience? - How does the message objective balance outcomes that benefit individual's vs the environment / common good? - Will you follow through on actions and support implied in your message? - Will you be seeking consent from your audience? (e.g., in a research context) Can audiences opt-out from receiving your message?
	<i>Use truthful messaging and authentic messengers</i>	- Is your message an authentic representation of your/your organisation's mission and/or values? - Is your messenger an authentic representative of your organisation?
Considering outcomes	<i>Consider intended and unintended consequences</i>	- Does the message evoke positive or negative emotions? Are negative emotions ultimately linked to a call to action? - Does the message increase efficacy? - Does the message push individuals and communities to action or inaction? - To what extent will your message lead to short and/or long-term impact? - To what extent is there the risk of unintended consequences and can these be avoided or mitigated?

Engaging in self-reflection, perhaps through a personal mission statement (Van Dyke & Lamb, 2020a) or theory of change (Wallen & Daut, 2018), can assist with identifying and acknowledging values, personal ethics, and biases and how they may influence the conservation messaging work (Montana et al., 2020). For example, conservation science is underpinned by the normative value assumption that nature should be conserved and therefore conservation professionals are typically focused on this mission to protect and conserve it (Meine et al., 2006; Soulé, 1985; Van Dyke & Lamb, 2020b). Reflecting on ingrained values and assumptions such as this can aid in the development of new research and practice approaches, including being more adaptive and open to alternative perspectives (e.g., anti-colonial epistemologies, Borrelle et al., 2020) or solutions (e.g. new kinds of media channels, messengers or messages; Attia &

Edge, 2017; Bowen & Gallicano, 2013; Montana et al., 2020). Within professional contexts, an organisation's explicit and implicit values can be a helpful guideline for reflections (e.g. mission statements, theory of change), as can guidelines presented by professional bodies (e.g. university codes of conduct, research society guidelines; e.g. the Society of Conservation Biology's Code of Ethics: <https://conbio.org/about-scb/who-we-are/code-of-ethics>). Conservation professionals are encouraged to consider how these organisational mission statements and professional guidelines align with their own values and to what extent they will rely on the organisation's ethical stance within their work.

Within conservation messaging research contexts, considering the research paradigm/philosophy, including the ontology and epistemology, can help to guide methodology and highlight

the implications of the scientific approach (Babbie, 2013; Moon et al., 2019; Williams & Gordon, 2015). Ontology concerns *what reality is* and varies along a spectrum from realism (where one reality exists) to relativism (where multiple realities exist; Moon & Blackman, 2014). Epistemology concerns *what knowledge is and how we can know reality* and varies from objectivism (where meaning exists within an object), to constructionism (where meaning is created by the interplay between subject and object) and subjectivism (where meaning exists within the subject). The traditional research paradigm for natural scientists is positivism, in which the ontology is realism, and the epistemology is objectivism. Many conservation professionals trained in the natural sciences who move into social science or communication research (ourselves included) tend to continue approaching research through a positivist paradigm. This can be problematic when positivist methodologies are mismatched with research questions. For example, a message testing survey collecting quantitative data on participant responses to different messages may answer questions about which messages are more effective, but may not answer questions about which elements of the messages work or how the audience feels about the message in the same way a targeted focus group or interview might. Moon and Blackman (2014) and Moon et al. (2019) provide more detail on research paradigms and approaches.

2.1.2 | Engage responsibly

Approaches to conservation messaging cross a broad spectrum from science communication to advocacy. It is up to individual conservation professionals and their organisations to consider their level of comfort with different approaches and which they are prepared to professionally engage in. Those engaging in conservation messaging should consider the position from which they are delivering a message, as well as the intention of the message. For example, does the communicator want to be an 'issue advocate' who explicitly supports a specific policy or action (Colloff et al., 2021), or an 'honest broker' who shares scientific evidence and policy options, without encouraging a particular policy or action (Nisbet, 2009)? Is the message designed to improve comprehension or to persuade?

Given the normative nature of conservation science, many different aims, objectives, and approaches are possible and ethically justifiable (Evans, 2021). As with any professional decision-making process, justifying a messaging approach should follow democratic, just, and responsible decision-making processes (Barnhill-Dilling & Delborne, 2021) and be based on 'sound rationality, good reason, and moral judgement' (p. 62) (Bowen & Zhu, 2019). In practice, this may mean that empirical evidence is used to support the use of messaging approaches, just as they would be used to support conservation management and policy recommendations. For example, ecological monitoring data showing the decline of a threatened species due to a specific human land use may be used to justify messaging to discourage this disruptive land use. However, focusing solely on empirical evidence to ethically justify an approach can

prove problematic in a broader social context, as this can lead to inadvertently paternalistic or authoritarian approaches to creating change (Brenkert, 2002). Even seemingly unquestionable empirical justifications have unavoidable moral dimensions; for example, prioritising empirical measures monitoring the population of one threatened species, rather than measures assessing an overall biodiversity index, indicates a greater value being placed on that specific species for the purposes of the project. Focusing purely on empirical evidence from the ecological sciences can also result in assumptions about what 'the better outcome' is, without considering social and political dimensions. For example, certain land use changes may be assumed to be 'better', without consideration of local land use or social value of the space. Considering social and political dimensions is also critical for equity and justice; for example, is it reasonable to ask communities who have not caused species decline to make sacrifices to their employment or resources to save it?

The normative mission of conservation science itself has been previously justified by the instrumental value (e.g., ecosystem services value) of biodiversity (Newman et al., 2017), and therefore the benefits that biodiversity conservation has for humans at both local (e.g. greater well-being) and global levels (e.g. ecological stability). It has also been justified by the inherent 'biophilic', intrinsic, and relational value many people, cultures, and religions place on nature (Doremus, 2000; Elliott, 2020; Newman et al., 2017; Piccolo, 2017; Simaika & Samways, 2010). However, biodiversity conservation is not always a value, or priority, of the communities conservation professionals work within (Kellert, 1997; Palmer et al., 2014), and so the normative assumption that biodiversity conservation is ethically justified remains a value judgement that requires moral as well as empirical justifications, dependent on the specific context and trade-offs.

Because of this, considering both empirical and moral justifications is crucial for ethical and evidence-based practice. Transparently articulating both evidence-based and value-based justifications can also encourage reflection by communicators and organisations on their own ethical norms and what is seen as typically ethically justifiable in their working context, including judgements of harms and benefits, the necessity of consent, the legitimacy of the intervention, the balancing of consequences and individual freedoms, and who is making the ultimate decision about what is ethically justifiable (Eagle et al., 2015; Rossi & Yudell, 2012a). While the values and perspectives of communicators and organisations may alter moral justifications and ethical norms in practice (e.g. through differences in priorities and ideals), these should not alter *moral standards* as these should be defensible across worldviews and cultures, nor adherence to formal ethical standards (e.g., professional ethical codes of conduct, legal standards) (Bowen & Zhu, 2019). Therefore, while legal standards or cultural norms may guide decision-making processes, they may be of limited use when determining moral justifications for messaging approaches. Transparently articulating the empirical and moral justifications of the approach may also be useful for demonstrating how it is preferable to the current state or process (e.g. when supporting certain policy change) (Nisbet, 2009). Transparency is likely

to also cultivate genuine (and perceived) authenticity for communicators and their organisation amongst their audience and stakeholders (Bowen & Gallicano, 2013). We note that there are some actions and approaches that ethical norms of communication and scientific research suggest are unjustifiable. This includes the inappropriate use of data or literature, drawing unsupported conclusions from research, spreading misinformation, or the use of persuasion to the point of Orwellian manipulation that may subvert an individual's power over their own choices and understanding (e.g. spin campaigns) (Brulle, 2010; Medvecky & Leach, 2017; Peery et al., 2019). In practice, openness, transparency, and accountability can be enacted through simple disclosures or declarations of potential conflicts of interest, as well as providing clear information and contact details. It may also be useful for non-profit or other organisations to outline a clear theory of change that guides their work (Wallen & Daut, 2018), while researchers may describe their ontology and epistemology in methods sections of their published work.

2.1.3 | Consider power

Throughout the process of conservation messaging, it is important to understand and recognise the power relations at play within the target community (Head, 2007). This includes understanding who the relevant stakeholders are and their level of power and connection within the conservation context, including the information flows and inherent pre-existing social structures, and where the involved conservation professionals and organisation sit (de Lange et al., 2019). For example, certain customs and traditions may mean that targeting of specific demographics (e.g., across gender, class, and race) reinforce pre-existing inequities or increase the vulnerability of certain individuals (Büscher et al., 2016; Miriti et al., 2021; Sandbrook, 2017). For example, the Half-Earth proposal (Wilson, 2016)—which suggests that half the Earth should be converted to protected areas in order to protect biodiversity and ecosystem services—would result in drastic social and cultural impacts associated with the physical and economic displacement of and dis-possession of land from local communities and Traditional Owners/First Nations (Büscher et al., 2016). On a messaging level, the framing of the Half-Earth proposal excludes local communities from the narrative, also ignoring the possibility that humans can live on the land without negatively impacting biodiversity. Proposals such as Half-Earth may require local individuals to support management strategies that negatively impact their community's access to crucial resources. Even if there are genuine attempts to engage in community consultation, it may be difficult to ensure that the community is truly represented and their concerns acted upon, particularly in cultural contexts where certain demographics (e.g., women, young people) may not have the opportunity or feel comfortable voicing their concerns (Brittain et al., 2020). Navigating these challenges ethically and effectively requires great awareness of the pre-existing social structures and power relations and careful consideration of the appropriate target groups, messaging, and behaviours.

Conservation science itself contributes to power dynamics through its colonial history and complicity in historical and ongoing inequity and injustices against marginalised communities (Chaudhury & Colla, 2021; Kiik, 2018; Miriti et al., 2021). This means that there are contemporary socioeconomic contexts where conservation organisations still hold considerable influence over how individuals understand and use their social and ecological environment, including through significant financial, political, and social resources that may not be available to the communities they are working within (Sandbrook, 2017). Within such contexts conservation agendas may be implicitly reinforced and legitimised without full and appropriate consideration of local human impacts. Those engaged in conservation messaging should consider whether their message reinforces problematic dynamics or outcomes, inadvertently or not. This challenges conservationists to engage in culturally and politically appropriate approaches, particularly within countries or cultures that are not their own. When conducting messaging research within these contexts, it is always worth considering whether the problem being addressed is locally relevant and whether the involved conservation professionals and organisations are the right people to be doing the work. A more ethical approach may be to seek opportunities to co-define and co-design messaging research with local communities, organisations, and individuals (indeed, some publications will insist on this, e.g., Conservation Letters now requires that manuscripts focused on work within low- or middle-income countries include author/s from the relevant countries), or support local researchers to conduct their own relevant research.

Most conservation messaging approaches are likely to be asymmetrical or 'downstream'; that is, they are likely to be designed and implemented within a system where the communicators have more power than the audience, and communication flows in one direction rather than as a two-way conversation (e.g., large scale media campaigns). These approaches can pose a risk of misalignment between conservation intention and the views of local communities, and unintended consequences of this power imbalance. For example, certain species may be deemed an effective flagship for messaging on an international level, despite being unpopular or even dangerous within local communities living alongside the species (Bowen-Jones & Entwistle, 2002). While not always possible, symmetrical or 'upstream' approaches to communication, where there is substantial community participation or community-led approaches, can be used to avoid inequity around power relations or lack of autonomy for individuals and communities (Kennedy & Santos, 2019; Spahn, 2012). For example, conservation professionals could consider whether they can use their position to involve the community in a campaign or message design or return power and self-determination to disenfranchised communities. Programs that are led or co-designed by the community can be empowering but such programs will not be possible or appropriate in every situation and should only be considered if the involved conservation professionals and organisations are willing to meaningfully relinquish power and control, particularly when working with vulnerable or disenfranchised communities, or within communities where self-determination is paramount (e.g.,

Indigenous communities; George, 2020). Such programs also require significant community leadership and cross-cultural skills to be successful (George, 2020).

More broadly, it may be worth considering power in the context of individual change as opposed to system-level change, and which is most appropriate for the intended purpose. Commonly used approaches in conservation messaging include social marketing or behaviour change (e.g. Theory of Planned Behaviour, Madden et al., 1992) that focus on change at the individual level (Brenkert, 2002). These frameworks are incredibly useful and using them is not in and of itself an ethical problem. However, the actions of individuals exist within complex socio-political and economic contexts that also influence sustainable and long-term change. In particular, a focus on individual behaviours, while fundamental for certain issues (e.g. wildlife trade, Wallen & Daut, 2018) may be problematic in the context of issues that are fundamentally systemic, where there are critical power relations at play, or where decision-makers are much better placed to create effective change than their constituents (Larson et al., 2021; McPhearson et al., 2021). It is critical for conservation professionals to be aware of these limitations and remain open to avenues for change that do not solely rely on the actions of everyday citizens, particularly their actions as consumers (Kennedy & Santos, 2019). For example, in democratic nations, advocacy behaviours applying pressure on policymakers to implement improved conservation policy may have a much greater long-term impact than individual purchasing behaviours alone (Kelly et al., 2018; Kendal & Ford, 2017). While the ethical considerations for messaging around individual and advocacy behaviours will be the same, they may manifest in different ways; for example, advocacy behaviours may require greater consideration of intended and unintended consequences, particularly for behaviours that deviate substantially from the social norm.

2.2 | Defining the problem

Conservation messaging is usually an attempt to address conservation problems, and those problems come about because of a range of social, economic, environmental, and cultural contexts and interactions. Understanding those contexts is important for designing effective and ethical messages. Once communicators reach the stage of planning and message design, the problem (and the aim and audience) may already have been defined, either explicitly or implicitly. Regardless of this, it remains important to consider this step to ensure critical elements of the social context have not been overlooked and the process is both ethical and effective. Below we discuss one element key to this stage: ensuring fairness in targeting audiences.

2.2.1 | Ensure fairness in audience targeting

To ensure fairness in how and why certain audiences are targeted for conservation messaging, conservation professionals must

consider why their potential audiences and surrounding communities are not already engaging in the way desired, and whether they are the most ethical and effective target for reaching the defined environmental and social objectives. Careful reflection on the exact relationship between the defined problem and key audience segments may assist in ensuring unfair assumptions are not made about the audience, or used to justify audience targeting, without evidence. For example, over-reliance on the knowledge deficit model, can lead researchers to overlook other influential factors such as values, social norms, or self-efficacy (Brenkert, 2002; Wynveen & Sutton, 2016). Such a focus on knowledge can also inadvertently disregard forms of knowledge other than empirical ecological knowledge, such as experiential, local or cultural knowledge, particularly that of traditional owners (Kadykalo et al., 2021; Moggridge et al., 2019). Respecting the knowledge, perspectives and values of communities and potential audiences is key for ethical targeting of messages.

Understanding audience perspectives can also result in more effective strategic targeting to better fit within the audience's pre-existing understanding around an issue. In situations where there is a substantial audience segment that is unsympathetic to the cause of conservation, communicators should carefully consider the ethical justifications for targeting them. In some contexts it may be both more ethical and more effective for conservation messaging aiming to change behaviour to target already sympathetic audiences, rather than attempting to change the values or attitudes of those who are unsympathetic (Manfredo et al., 2017). Indeed there is increasing strategic interest from advocacy groups in focusing on 'engaging the base' and 'persuading the middle', rather than expending resources on swinging the opposition (Shenker-Osorio, 2012). Having said this, if the decision is made to actively avoid targeting a certain group, communicators should ensure this is ethically justified, and will not result in unintended consequences to fairness and equity, such as preventing fair access to important information (e.g., environmental risk), or reinforcing a pre-existing inequity (de Lange et al., 2019; Kennedy & Santos, 2019). For example, if communicators exclude a suburb from an awareness campaign leaflet drop, what will the residents of that suburb miss out on compared to their neighbours? Will the campaign introduce or reinforce any pre-existing inequity within the community? In a similar vein, where messages consistently fail to reach certain demographics, perhaps due to inaccessibility to messages, communicators can focus on framing messages and using media channels in new ways that will capture these audiences (Nisbet, 2009). Pre-existing structures may determine how and in which direction information about the issue currently travels, and whether the spread of information is equitable, particularly when it comes to communication of environmental risk. For example, health communication research has shown disparities in health outcomes across factors such as race, ethnicity, language and social class are also linked to low information seeking behaviours and trust in media, indicating that further work and understanding of these differences are required to improve communication and ultimate health outcomes (Viswanath & Ackerson, 2011).

Where possible, assessment of audience perspectives and barriers to engagement should be based on evidence, whether that be quantitative survey data, or derived from expert guidance or conversations with the audience themselves (e.g., focus groups). Drawing on pre-existing behaviour change, and public relations theories may be useful for identifying key audience segments (Grunig, 1997; Madden et al., 1992). For example, the Situational Theory of Publics can be used to understand four broad 'publics' or audience types—non-, latent, aware and active—that differ in their problem recognition, personal involvement, constraint recognition, and information seeking and processing. Communicators should consider carefully to what extent audience segmentation is necessary for the communication goals and be aware of any potential ethical implications of defining certain segments or conveying different information or messages to different groups. For example, audience segmenting that crosses the line into inappropriate profiling of individuals (e.g., racial profiling), or message targeting that creates or reinforces social inequities should be avoided. Numerous research methods can be used for understanding potential audiences. Surveys can be inexpensive (using free online services such as SurveyMonkey, <https://www.surveymonkey.com/>) and provide a broad understanding of the relevant audience(s) (Babbie, 2013; Newing, 2010). Focus groups can gather a greater understanding of how a certain group or community is feeling (although be wary of focusing on the 'loudest voice in the room') (O Nyumba et al., 2018). One-on-one interviews can take a substantial amount of time and resources but will provide a more nuanced understanding of individuals' experiences and attitudes (Young et al., 2018). Methods conducted as part of academic research should be undertaken according to guidelines and approvals required by relevant human research ethics committees. Organisations conducting research outside academia must hold themselves to similar ethical standards regardless of whether they must go through a formal approval process.

2.3 | Designing the solution

In the context of conservation messaging, strategic communication is a key component of the solution to the defined problem; perhaps as part of a social marketing campaign or a targeted behaviour change program. Regardless of the messaging context, a strategic communication program requires clear communication objectives, ideally linked to ecological objectives. For example, the aim may be to produce communication materials that increase avoidance behaviours of local communities around nesting sites of beach-nesting birds, with the ultimate ecological objective of decreasing human impact on the beach-nesting birds' fledgling success. Part of ethical process should be ensuring the designed solution is the one best suited to the task, so it is also worth considering whether messaging alone is a fair solution, and whether other methods such as education, policy change or law enforcement may be more effective pathways. For example, in the case of beach-nesting birds, it may be that messaging paired with improved protection of beach reserves or law

enforcement (e.g., fines) may be more successful than messaging alone. Of course, these approaches will come with their own ethical considerations beyond the scope of this paper.

2.3.1 | Use equitable messages and calls to action

Most strategic communication seeks to gain something from the interaction. For conservation messaging, this may be donations, a pledge to alter purchasing choices, or a long-term change in behaviour such as pet containment or increased engagement in advocacy behaviours for the environment. These are all actions that are likely to come at a cost to the individual (Selinske et al., 2018). Unlike energy or water conservation, there are rarely economic savings to be made as an individual engaging in pro-biodiversity behaviours. Individuals are more likely to be giving personal time, money, and effort, rather than saving money or receiving direct personal impacts (Brenkert, 2002). A balance must therefore be struck between the cost to the individual and the benefit to a species or society, considering ethical issues such as paternalism, individual autonomy, and power relations (see section above; Andreasen, 2001; Spahn, 2012). Any attempt to influence an individual's behaviour, attitudes, values, or norms needs to be carefully considered and determined to be justified for the audience and context, noting that, regardless of the benefit, it is likely to be unethical to ask individuals to engage in a particularly difficult or upsetting action. Judgements on what is fair, equitable and just are likely to vary across different audiences and stakeholders, making clear understanding of the audience and social context even more critical in circumstances where potential costs to individuals are high (Gurney et al., 2021). Communicators should consider to what extent communication approaches are imposing a paternalistic value judgement on their audience and ensure all potential impacts on individuals, including costs and benefits, are properly understood. Costs may include economic costs, impacts to health and wellbeing, privacy risks, and the consequences of potential behaviour changes inspired by the message (e.g., being arrested for protesting) within the social and cultural context of the audience. While benefits may include improved wellbeing, social connections through volunteering, or improvements in health due to increased activity or an improved local environment.

Engaging in message designs that take advantage of psychological biases to achieve outcomes, such as behavioural economics tactics (e.g., nudging) or persuasive technologies, should also be carefully considered and justified before use (Hofmann & Stanak, 2018; Spahn, 2012; Sunstein, 2015). Where it is known that individuals hold a supportive attitude towards a behaviour and are still not acting, such tactics are more likely to be ethically appropriate than in instances where the desired outcome is at odds with the audience's values (Rossi & Yudell, 2012b). For example, Rossi and Yudell (2012b) note how "individuals may value taking the stairs instead of the elevator in order to get exercise, save power, or cut down on elevator congestion. Nonetheless, they may take the elevator in any given

instance because they are feeling lazy or because an open elevator happens to be in front of them. In such cases, 'nudging' individuals toward taking the stairs simply amounts to reminding them of their own values" (p. 20). In a research context, participation in any activity should be voluntary, with no harm to participants, and any collected data kept anonymous and confidential (Babbie, 2013). Where free and informed consent may be impractical (e.g., online social media data), ensure ethical standards remain to avoid marginalising online communities (Thompson et al., 2021).

A common communication objective is for the message to have high reach and be shared widely, perhaps with the aim of presenting new message frames that contribute to current discourse around an issue. However, individuals do not necessarily take and use the new frame in its presented form; they integrate it into their current framework of understanding (Nisbet, 2009). In so doing, they create new frames and new conversations that then spread the adapted frame, with the potential for motivated and active individuals to actively share their frames more widely. Encouraging this 'bottom-up framing' by designing easily adaptable and accessible messages can result in more ethical and effective messaging that promotes dialogue and shared values (Nisbet, 2009). In the context of broad messaging campaigns, organisations could provide an overall messaging strategy and tactics that smaller local community groups are encouraged to use, adapt, and build on to best suit their own community and context. This approach may also remedy some of the problems with traditional 'downstream' campaigns, although it does carry the risk of messaging being too vague and unclear, and losing connection to their original intended purpose.

2.3.2 | Use truthful messaging and authentic messengers

Regardless of the aim of conservation messaging, ensuring a level of expertise and trustworthiness is key for maintaining integrity and credibility for conservation professionals (Horton et al., 2016; Ihlen, 2020; Resnik & Shamoo, 2011). While different perspectives may result in different 'truths' when it comes to preferred management actions or policy changes, it is vital to maintain accuracy when it comes to empirical information and statistics shared through messaging. This includes making careful use of message framing, so while frames may effectively convey a communicator or their organisation's position, they should do so without oversimplifying or misrepresenting the problem, context, or solution (Dahlstrom & Ho, 2012; Nisbet, 2009). It may be useful for communicators to consider how 'truths' that may seem obvious within their organisation, may not be considered as such in other cultural contexts. For example, are any entities framed as conservation heroes or villains, and is this framing fair and accurate (Dahlstrom & Ho, 2012)? This is particularly vital to consider when designing media campaigns that are aimed to a broad audience across multiple demographics or across different countries (Doherty & Doyle, 2006). In the context of research, it may sometimes be necessary to include messages with

minor misrepresentations or deceptions for the purposes of testing the effect of different message frames, such as hypothetical examples, over-emphasising evidence, or creating fake species names. In such contexts, any ethical concerns or unintended consequences should be considered, and mitigations put in place, such as running pilot studies to test for unintended consequences, power analyses to determine the sample size required (to minimise audience exposure) and informing the audience of the deception and its justification as well as the correct information within the final survey page/debrief.

Designing different messages for different audiences can be a crucial part of effective communication, however, messaging and messengers should remain authentic representatives of the organisation they are speaking for. While it may be effective in the short term, an organisation that is inconsistent and inauthentic in its communication approach ultimately runs the risk of appearing untrustworthy and unprincipled, and therefore losing supporters (Bowen & Gallicano, 2013). Communicators should ensure their messages and messengers are a good representation of their, or their organisation's perspective, ethics, actions and aims (Brockington, 2008). Part of this authenticity is ensuring that short-term communication goals do not undermine long-term goals. For example, an 'ecosystem services' message may be a pragmatic tactic for promoting pro-biodiversity action in the short term, but it may in certain contexts undermine intrinsic value people already hold for biodiversity, preventing meaningful social transformation (Bekessy et al., 2018; Freeman, 2009; Gillette et al., 2021; Kusmanoff, 2017). Therefore, an organisation that considers nature as intrinsically valuable may appear inauthentic if they, for example, run a nationwide campaign focused purely on the ecosystem services that nature provides. Communicators should consider these trade-offs carefully based on the given context, for example, is it worth prioritising a short-term gain at the risk of long-term failure? Which values are at the core of their work and goals, and which can be compromised when necessary?

2.4 | Considering outcomes

2.4.1 | Consider intended and unintended consequences

Throughout the course of planning and designing conservation messaging, the desired impact, or intended consequences, of the messaging is likely to be front of mind. However, considering any potential unintended consequences on the target audience and surrounding communities is just as important for ethical practice (Kennedy & Santos, 2019). Unintended consequences include the impacts of engaging in the encouraged behaviour (e.g. negative social impacts) (de Lange et al., 2016), desensitisation, negative feelings, stigmatisation and lack of long-term change (Brenkert, 2002; Kennedy & Santos, 2019).

These unintended consequences can usually be mitigated through careful message design and testing to avoid triggering

negative behaviours or feelings or stigmatising undesired behaviours or inaction to the extent that there may be unfair consequences for individuals who do not or cannot engage in a behaviour. Consistently triggering negative feelings can result in broader consequences, such as contributing to ideological divides and increased divisiveness in the broader community around an issue. Instead, consider messages that could bridge ideological divides, and encourage further learning and conversations (Nisbet, 2009). Triggering negative feelings such as fear, anger, or guilt through messaging may inspire temporary attitudinal change; however, without a clear and achievable call to action that provides an outlet for the emotions, such messages may be detrimental to the individual (and message effectiveness), inciting negativity and apathy (Blondé & Girandola, 2018; Kidd, Bekessy, et al., 2019). Consistent negative or fear-based messaging of this nature can disempower individuals and communities leaving them feeling hopeless and fatalistic (Kidd, Bekessy, et al., 2019; Ruiter et al., 2014). Conservation messaging that leads to this outcome is arguably undesirable and unethical, not only because of the direct impact of triggering negative emotions in individuals, but also due to potential repression of active social and political discourse and community action around an issue, reinforcing pre-existing power structures and the status quo (Jackson, 2020; Smith et al., 2010). Such messages may also feed into pre-existing narratives around conservation or social change, influencing broader public perceptions of these issues and potential media coverage (Louder & Wyborn, 2020). For example, negative messages about climate change can feed into problematic social narratives, such as discourses of climate delay that slow down debate and action on climate change (Lamb et al., 2020). Where possible, communicators should consider monitoring the ongoing effect of their messaging on individuals and communities and adapt their approach or messages as needed.

3 | CONCLUSION

In this 'post-truth' era, all scientists have an obligation to engage thoughtfully with the ethical responsibilities of communication. As conservation professionals move towards using strategic and persuasive messaging as part of their 'toolbox', it is critical they reflect on the key ethical considerations that come with this approach. In this paper, we provide a guide for reflection and discussion, however, we note that when time and resources allow this reflection should feed into practice by providing the opportunity to consider and plan for potential ethical situations or unintended consequences (Sharma et al., 2020) within a broader strategic communication plan (see Gregg et al., 2021). Penn State's Arthur W. Page Center for integrity in public communication provides free online modules on public relations ethics training for those interested in further training (see <https://www.pagecentertraining.psu.edu/>). We hope this paper encourages self-reflection from those involved in conservation messaging, and results in more ethical, thoughtful, and nuanced use of

communication for conservation. By engaging ethically with conservation messaging, we improve our relationships with our audiences, make our communication approaches more effective, and are ultimately closer to reaching our conservation goals for both people and nature.

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E.A.G. conceived the idea and led the writing of the manuscript, with guidance from G.E.G. and S.A.B., and input from L.R.K., J.K.M. and J.A.R. All authors were involved in reviewing and editing manuscript drafts, including final approval for publication.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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No data was used in the production of this paper.

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SUPPORTING INFORMATION

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

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