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Communicating the Biodiversity Crisis: From "Warnings" to Positive Engagement

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Abstract

Background: Effective communication can play a vital role in societal transformations towards sustainability and biodiversity restoration. However, the complexity and long-term nature of environmental change presents a communication challenge. If not carefully navigated, messages around environmental degradation can lead to audience disengagement and issue fatigue, at a time when motivation, engagement and positive action is required. **Methods:** In this Conservation in Action piece, we describe the principles of positive communication, which are being adopted by a growing movement of conservation organizations. We support this approach by reviewing evidence on the role of emotions in decision-making from diverse fields such as psychology and communications, paying particularly close attention to the experiences of climate change communicators. **Results:** Positive emotional experiences, including feelings of hope, collective efficacy, and the warm glow that follows actions aligned with intrinsic values, can play an essential role in sustaining actions that contribute to transformative change. While negative emotions prime specific action tendencies, positive emotions enable creativity, cooperation, and resilience, which are all essential for overcoming the challenging nature of acting on the biodiversity crisis. **Conclusions:** Communications from conservation researchers and practitioners need to reflect the reality of the biodiversity crisis. While some communications may seek to motivate action through warnings and threats, messages that trigger positive emotions in audiences can help inspire long-term engagement and action. We suggest that this positive communication approach is underutilized. **Implications:** We present a guide to help those working in conservation convey their messages in ways that are empowering and positive. As the biodiversity crisis intensifies, it is critical that conservation professionals continue to imagine and develop pathways to a better future and communicate with others in society in a way that supports transformative change towards this future.

Keywords

communication, positive emotions, empowerment, socio-ecological change, conservation optimism, transformation

Introduction

Communications play an important role in driving social change. Words, images, and sounds can be used to develop narratives that provide meaning, and influence how individuals and groups view, perceive, and respond to issues (Gregg et al., 2021; Kusmanoff et al., 2020). Many conservation researchers and practitioners feel a responsibility to drive change by communicating with different audiences, and often aim to motivate action using warnings about the threat posed by biodiversity loss (e.g., Bradshaw et al., 2021; Ripple et al., 2017). However, the experience of climate scientists, and evidence from disciplines such as psychology and communications, tells us that communicating threat alone is unlikely to motivate action. An array of approaches is needed and we argue that positive communications, which aim to motivate and provide pathways to action, are a neglected part

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of the communications toolbox, which can support societal transformation towards a sustainable future (Markowitz & Guckian, 2018; van der Linden et al., 2015). We describe the principles of positive communication, which are being adopted by a growing movement of conservation organizations.

Reversing declines in nature requires transformative change across economic, political, and social systems (Díaz et al., 2019). This requires change at both individual (e.g., choices and values; Ives & Fischer, 2017) and structural levels (e.g., institutions, norms, regulations; O'Brien, 2015). Using the global wildlife trade as a case study, Naito et al. (2022) show that achieving transformative change requires cross-level action that results in the production of new social meanings and norms. Individual actions that can contribute to this change are those which send important social signals, or which directly aim to influence social systems, such as policies or laws. These individual and structural level factors are interdependent and reinforcing, as prevailing social structures both influence and are influenced by individual behaviors (Naito et al., 2022).

Communications are a core component of the strategies of political actors, activists, and other groups aiming to drive such structural change (Hertog & Zuercher, 2014). One group of actors for whom communication is important is conservationists (including researchers and practitioners) who work to document, understand, and disseminate information on environmental change and conservation strategies. Narratives can frame challenges and potential solutions in different ways, shape environmental policy, and serve as heuristics for imagining how sustainable futures can be achieved (Louder & Wyborn, 2020). Through channels including the media, educational institutions, and access to policy-making processes, these actors (henceforth conservation communicators) have a valuable platform for constructing narratives and frames in ways that can encourage positive social change (Bickford et al., 2012). However, communicating in a manner that catalyzes individual and collective action is challenging, particularly given that conservation communicators are not generally trained in media communications.

In this Conservation in Action piece, we discuss this evidence, paying particular attention to the role of emotion.

There is an increasing focus on communication strategies in conservation. For example, Kusmanoff et al. (2020) provide key considerations in framing messages. They describe strategies to help messages feel more relevant to audiences, that evoke helpful social norms, and leverage cognitive biases. As a complement to these strategies, we argue that messages that trigger positive emotions in audiences are a vital yet underappreciated resource in addressing the communication challenges inherent in promoting action to address the biodiversity crisis. We suggest that positive communication can enable actionable framing of conservation challenges. This style of communication combines a clear description of the issue at hand with possible paths or actions that can be taken at an individual level, and uses audience-appropriate context and language while avoiding disempowering emotions. Thereby, positive communication can lead to the development of productive collaborations, relationships, and conversations, which may trigger actions to help address the biodiversity crisis. To help conservation communicators communicate the extent of this crisis in a way that can support audiences' journey from understanding the threat that humanity faces to long-term engagement and transformative change (Figure 1), we offer five simple tips. These are as follows: (1) to think of what associations are already in people's heads; (2) clarify what is happening to whom and why; (3) balance threats with positive actions or solutions; (4) avoid typecasting; and, (5) be open about failure as a learning experience. These principles are being embodied by a growing movement of conservation organizations, including over 166 member organizations in the Conservation Optimism network, an online hub that seeks to empower and motivate conservationists across the globe (Conservation Optimism, 2022a).

The Role of Emotion in Environmental Communications

Emotion can be understood as "*both physical feeling and a conscious making sense of that feeling. Emotions are contextual, embodied and socially constructed – and deconstructed and reconstructed in fluid, plural and emergent processes; emotions are relational across relational spaces*" (Askins, 2009, p. 9). From a psychological perspective, emotions are closely bound to cognition and decision-making processes. Healthy adults tend to act to increase positive emotions (such as pride or happiness) and decrease or avoid negative emotions (such as guilt or regret; for a review, see Lerner et al., 2015). Positive and negative emotions play distinct roles in human cognition (Lerner et al., 2015). Negative emotions, such as fear, anger, and shame, help us respond to threats of a specific kind by narrowing our focus and priming tendencies towards certain kinds of action. For example, fear increases the perceived magnitude of risks being faced, while anger tends to reduce the assessed risks that might result from an action (Lerner & Keltner, 2000). Conversely, positive emotions, such as hope, love, pride, and happiness, have the effect of "broadening and building" the scope of attention and thought-action repertoires (Fredrickson & Branigan, 2005). They enable and promote thoughts and actions marked by curiosity, creativity, flexibility, and pro-sociality, which facilitate the learning of new behaviors and appreciation of new perspectives (Fredrickson, 2004; Fredrickson & Branigan, 2005).

Experienced emotions such as worry, hope, and interest, are among the key predictors of action on climate change (Brosch, 2021), and the appropriate use of emotive language or imagery is likely to increase the effectiveness of persuasive

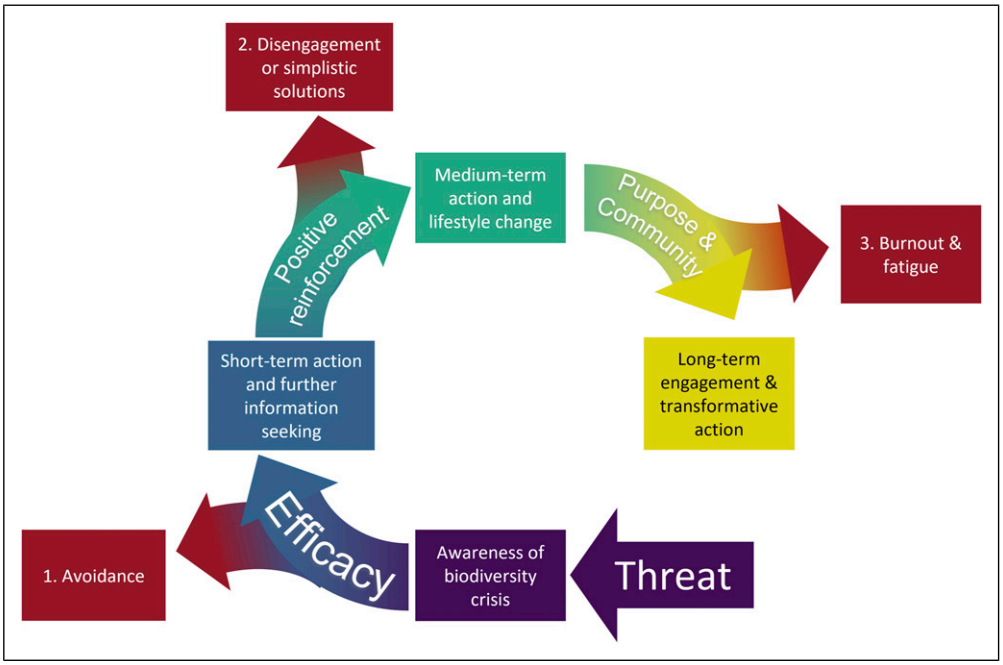

Figure 1. The role of communications in wider transformational change. Given the complex and long-term nature of the biodiversity crisis, there are numerous psychological risks that can lead to avoidance (1), disengagement (2), or fatigue (3), all of which reduce pro-environmental action. Different kinds of messaging or experiences are likely to be important for the individual at each stage. Experiences of efficacy can help individuals begin to act, while experiences of positive emotions such as social validation, and the "warm glow" of acting in alignment with intrinsic values, are vital to maintaining long-term engagement.

and other forms of messaging (Petty & Briñol, 2015). Building narratives and messages that center negative emotional experiences such as fear, anger, and guilt can be an effective way to communicate urgency and mobilize action (Brosch, 2021). Indignation and/or outrage, for example, may be important catalysts for action when environmental threats are politicized within narratives that identify the powerful actors responsible (Stanley et al., 2021). However, the experience of climate communicators suggests that strategies relying on generating negative emotions also carry significant risks and may not be impactful for all audiences. For example, they may have contributed to a widespread sense of apathy and disempowerment (Lertzman, 2012), anxiety and distress (Marks et al., 2021), and to distrust and sometimes unproductive conflict between social groups (Lewis et al., 2021).

In contrast to climate change, evidence about the role of emotion in messaging about the biodiversity crisis is limited, and reviews show that there is mixed evidence to support the efficacy of messaging based on either optimistic or pessimistic framings (Kidd et al., 2019; Morris et al., 2020). Moreover, this evidence often comes from artificial settings and is focused on the effectiveness of messaging intended to motivate specific actions, such as by examining short-term audience responses to messages delivered at a single point in time. This is incongruent with the complex and challenging nature of communication around the biodiversity crisis (Moser, 2016). For example, although societal transformation requires long-term engagement with the ecological issues that are causing nature loss, emotional effects on behavior tend to attenuate quickly (Schwartz & Loewenstein, 2017), meaning the effects captured in lab studies are unlikely to apply in the real world. It is also incongruent with our understanding of emotion as a complex and multidimensional system. "*Emotions are not simple levers*" (Chapman et al., 2017; p. 850) and cannot be triggered to produce predictable behavioral responses.

Rather than seeking to provoke particular emotions in audiences, more effective communications about the biodiversity crisis are likely to be built on authentic and honest narratives, which can be tailored to meet the emotional needs of different audiences (Chapman et al., 2017). Emotional geographies scholarship and feminist political ecology literature (e.g., Sharp, 2009; Sultana, 2011, 2015) speak to this, describing emotions as "*important to how we make sense of the world in myriad ways*" (Wright, 2012, p. 1114). These bodies of literature show how emotions can help to give others a voice and build understanding of human behaviors (e.g., González-Hidalgo & Zografos, 2020), transform subjectivities (e.g., Singh, 2013), and forge relationships between people and place (e.g., Kearney, 2009). As emotions work to shape meaning, they play an important role in the

production and consumption of scientific communication about the biodiversity crisis (Davies et al., 2019).

Communicating the Biodiversity Crisis: The Role for Positive Emotion

Positive emotional experiences have unique effects which can help catalyze the action required to address the biodiversity crisis. In this section, we consider two principal reasons why communications that facilitate positive emotions in audiences are needed, in order to enhance the effectiveness of messaging linked to the dissemination of information about the threats surrounding, and approaches to addressing, the biodiversity crisis.

The Biodiversity Crisis is Complex. The ecological transition must be inclusive and just (IPBES, 2019), but the scale and complexity, or "wicked" nature, of the biodiversity crisis means there are often multiple valid, and sometimes conflicting, perspectives about how best to proceed. This is compounded by uncertainty about cause and effect, and disagreement about allocation of responsibility to act (Fernández-Aballí, 2019; Game et al., 2014; Moore et al., 2014). Responsibility for ecological impacts and the power to address them are unequally distributed, with both power and responsibility correlated with affluence and control over economic production, in the context of a post-colonial world (Brand & Wissen, 2021; Huber, 2021; Wiedmann et al., 2020).

Prescribing pre-defined actions can obscure or circumscribe other ways of acting, and may even result in conflicts and potential injustices when there are asymmetries in power between actors (Pascual et al., 2021; Ross & Bevensee, 2020). Rather than prescribing solutions, communications may be more impactful when they enable and empower their audience to understand their own relationships with the natural world and to identify their own ways of contributing to the transition towards sustainability according to their individual strengths, capabilities, and intersectional identities (Fernández-Aballí, 2019; Rogers et al., 2013).

For example, when aiming to address wildlife poisoning in Cambodia, conservationists from relatively privileged socio-economic positions risked harming vulnerable social groups by imposing a top-down solution (e.g., stricter enforcement action against those using poisons; de Lange et al., 2020). Therefore, conservationists instead organized community-led discussions where locally appropriate messages and strategies could be generated. This led to messages about community norms related to poisoning percolating through the community, and significant shifts in behavioral intentions (de Lange et al., 2021). This approach required the conservationists to reflect on their own positionality and acknowledge the values that they were emphasizing (e.g., Pascual et al., 2021). Further, it benefitted from messaging that facilitated positive emotions, as this helped to stimulate local collaboration and discourage typecasting of those using poisons.

By communicating with others in ways that encourage reflection, mutual understanding, and openness, conservationists can avoid perpetuating simplistic narratives. These narratives can fail to capture nuance and complexity, and can restrict evidence-based conservation (Hinsley & 't Sas-Rolfes, 2020). In orangutan conservation, for instance, simplistic narratives limited the range of conservation actions undertaken for decades and alienated other stakeholders. Scientists working in national parks in Borneo and Sumatra saw the orangutan as requiring undisturbed forest habitat. However, evidence suggests that the orangutan is well-adapted to human influence and can thrive in modified landscapes with selectively logged forest. Once these narratives were challenged, new opportunities for action and collaboration became available. Erik Meijaard (2017; p. 93), a leading orangutan conservationist, asked: "*how much more orangutan conservation could we have achieved if researchers and practitioners had been more open-minded a few decades ago*?"

To mobilize and inform the action required to achieve transformative change, conservation communicators will need to effectively engage with diverse audiences (Gardner et al., 2021; Pyke, 2017). Collaborating and co-producing knowledge with diverse social actors can facilitate deeper engagement and produce new understanding in ways that are mutually empowering and actionable (Bremer & Meisch, 2017). However, the diversity of social groups poses a challenge for communicating on the biodiversity crisis because different audiences access information from different sources, have different cultures and languages, face different barriers to action, will be motivated by different sorts of communications, and place emphasis on different values (Markowitz & Guckian, 2018). The challenging task that conservation communicators are faced with is to deliver messaging that simultaneously addresses this social complexity and explains the ecological intricacies of the biodiversity crisis. Communications could benefit from engendering positive emotions, as these emotions help form social bonds, adopt new perspectives, navigate complexity, and enable people to feel empathy (Harré, 2018).

Socio-Ecological Transformations Take Time. The transformation to sustainability is, by definition, a long-term endeavor. Although rapid changes are required now, these will need to be scaled up, adapted and, in many cases, maintained into the future (IPBES, 2019). For this to happen, diverse audiences may need to engage with ecological systems and their conservation throughout their lifespans, and societies may need to progressively transform over multiple generations. This will require continuous adaptation and learning (Fernández-Aballí, 2019). These timespans, together with the scale of the challenge, present risks of disengagement and

fatigue (Figure 1; Lertzman, 2012). Conservation communicators can inadvertently contribute to inertia and disengagement if narratives revolve around overwhelming threats and do not provide a roadmap to a more sustainable future (Figure 1, endpoint 1; Chu & Yang, 2020; Wullenkord & Reese, 2020).

Inevitably, negative emotions will arise as individuals experience and process ecological transformations. Indeed, globally widespread feelings of anxiety and sadness among young people are attributed to the slow pace of government action in the face of climate change (Marks et al., 2021). A lack of perceived progress may lead to people giving up or resorting to personally protective strategies like disengagement (Figure 1, endpoint 2). For example, in a survey of German schoolchildren, over half were found to be seriously concerned about climate change, but also disillusioned about the possibility of action. Compared with other groups, they displayed stronger emotions around the issue, but did not engage in more pro-environmental behaviors (Grund & Brock, 2019). Even those who have been engaged in conservation efforts for a long period of time risk burnout and resignation when effort is expended but tangible progress or rewards are not felt (Figure 1, endpoint 3; Cox, 2009; Pienkowski, Brittain, et al., 2021).

Positive emotional experiences can help sustain action and change into the long-term (Schneider et al., 2021). By contributing to creative, flexible, and pro-social cognition, positive emotions enable individuals and groups to build resilience and adapt to challenging and changing circumstances (Gloria & Steinhardt, 2016; Ong et al., 2006). Experiencing positive emotions following pro-environmental behavior, such as the warm glow following action that is aligned with pro-environmental values, can motivate further action (Jia & van der Linden, 2020; van der Linden, 2018). By developing opportunities and fostering expectations for such positive emotional experiences, individuals can enter into a long-term "virtuous cycle" of motivation and emotional reward that can sustain action leading to transformative change (Figure 1; Brosch, 2021; Hartmann et al., 2017; Schneider et al., 2021). Long-term engagement is also most likely when individuals feel intrinsically motivated to act, rather than motivated by external rewards or threats. Intrinsic motivations can include finding personal or social meaning in one's actions, or perceiving them to be personally rewarding, such as when helping loved ones (van der Linden, 2015). For this, it is essential to build a sense of purpose and community, (Figure 1, endpoint 4; van der Linden, 2015).

Fundamentally, individuals require positive reinforcement, such as through repeated exposure to appropriate messaging or other positive experiences, in order to continue along on their personal journey of transformation (Schneider et al., 2021). Conservation communicators need to be honest about the scale of the challenge, but, at the same time, identify and communicate to the public the concrete, positive incremental steps that individuals and groups can undertake to contribute to a more sustainable future (Brulle & Norgaard, 2019). Many veteran and successful conservation professionals will have found their own sources of strength that enable them to continue their challenging work, whether it is a sense of hope, love, duty, or community (Conservation Optimism, 2022b; Papworth et al., 2019). The challenge for conservation communicators is to help others share in that same power.

A Practical Guide to Communicating Positively

Here, we offer a practical guide to crafting messages that can empower audiences to act through engendering positive emotions. Words, images, and sounds matter, and different ways of phrasing and presenting a message can have important consequences for how audiences respond and react (McAfee et al., 2019). The guide outlines four key elements of a communication strategy; a clear objective, a specific audience, a desired outcome, and an appropriate measure of success (Underhill, 2019). With these elements in place, we offer five tips for crafting messages that build connection and avoid disempowerment. These are intended to help conservation communicators navigate the challenges of communicating on the biodiversity crisis. They draw on the Positive Communication Toolkit published by Conservation Optimism (2020), an organization which aims to empower everyone to act for nature, and with which all of the authors are associated. This toolkit was created following a workshop led by Ralph Underhill, a communication and framing expert and Director of Framing Matters, and drew on the experience and insights of conservationists who participate in the Conservation Optimism network. It is published online in English, Portuguese, Spanish, and Bahasa Indonesia.

First, it is essential to clarify and define the **overall objective** of the communication. With a clear objective, it is possible to define the appropriate audiences to target, and ultimately inform the design and implementation of the communications.

Second, it is unrealistic for a single message to appeal to everyone, so having a **specific audience** in mind helps to tailor the message. Audiences are groups of people that are relatively homogenous in terms of their relationship with the issue at hand. For conservation researchers, target audiences frequently include academic peers, conservation practitioners, policymakers, and different segments of the wider public, such as residents of conservation areas or users of natural resources, such as fishers. A clear profile of the intended audience enables the communicator to think carefully about what this audience might respond to and resonate with. This may include thinking about the issues that are salient for this audience and which motivate them. It may also include thinking about the way this audience experiences barriers to action, their intrinsic values, needs and preferences. For example, climate change skeptics in the United States can be motivated to take pro-environmental actions when messages

are framed to align with their priorities, such as by emphasizing the other societal benefits of action to mitigate climate change (Bain et al., 2012).

The third aspect is to define **desired objectives and outcomes**, which describe what successful communications would look like, and what we want others to think, feel, and do. Objectives and outcomes are subtly different. Objectives set out goals and a vision, while outcomes comprise the evidence required to assess whether objectives are achieved. The **metrics** we choose to measure these outcomes are important. Good metrics can guide our communication decision-making, while poorly chosen metrics can lead us down unhelpful paths. For example, if we are using a newsletter to communicate with our audience, measuring increased readership of the newsletter could indicate success, even if the actual content of the newsletter is demotivating supporters or failing to generate action. It is therefore key to choose metrics that accurately reflect the desired impacts in the long-term. With clear objectives, target audiences and outcomes, communicators can define useful metrics to indicate success, enabling them to assess the impact of their communications.

We illustrate these principles through two examples shown in Figure 2. In the first example, conservationists in Cambodia were concerned about the use of pesticides for hunting wildlife, as this was impacting Critically Endangered wildlife species, as well as the health of residents. The conservationists identified two key **objectives** for subsequent communications campaigns: firstly, to reduce the likelihood that local hunters would use poisons for hunting, and secondly, to influence national authorities to enforce existing regulations on the pesticide trade. To achieve the first objective, key **audiences** were identified including the hunters themselves (typically young men resident in the area), but also parents and other residents concerned about the health and environmental risks of poisoning, who have important relationships with hunters (de Lange et al., 2020, 2021). To reach these groups, in-person multimedia events were organized in the villages. Messages were designed to be informative about how residents can participate in reducing poisoning (through promoting a reporting hotline and describing safe pesticide use). The desired **outcome** of the events was to motivate participation by drawing on pride in the community's natural environment and sense of care for one another. Post-event surveys were used to **measure** changes in the audiences' perceptions of poisoning and their intentions to engage in anti-poisoning behaviors (de Lange et al., 2021). A future campaign to achieve objective two could incorporate social media to reach urban elites who may have influence on policymakers.

The second example examines attempts to address perverse fishing subsidies (Figure 2). The fishing sector is hugely subsidized, and researchers and advocates for reform argue that much of this subsidy is harmful to the sustainability of international fisheries, contributing to overfishing and threatening the food security and livelihoods of fishers and those involved in the trade of fish (Sumaila et al., 2021; Sumaila et al., 2021). A key **objective** is to enact reforms at the World Trade Organization (WTO), the institution through which agreements on the rules of international trade are

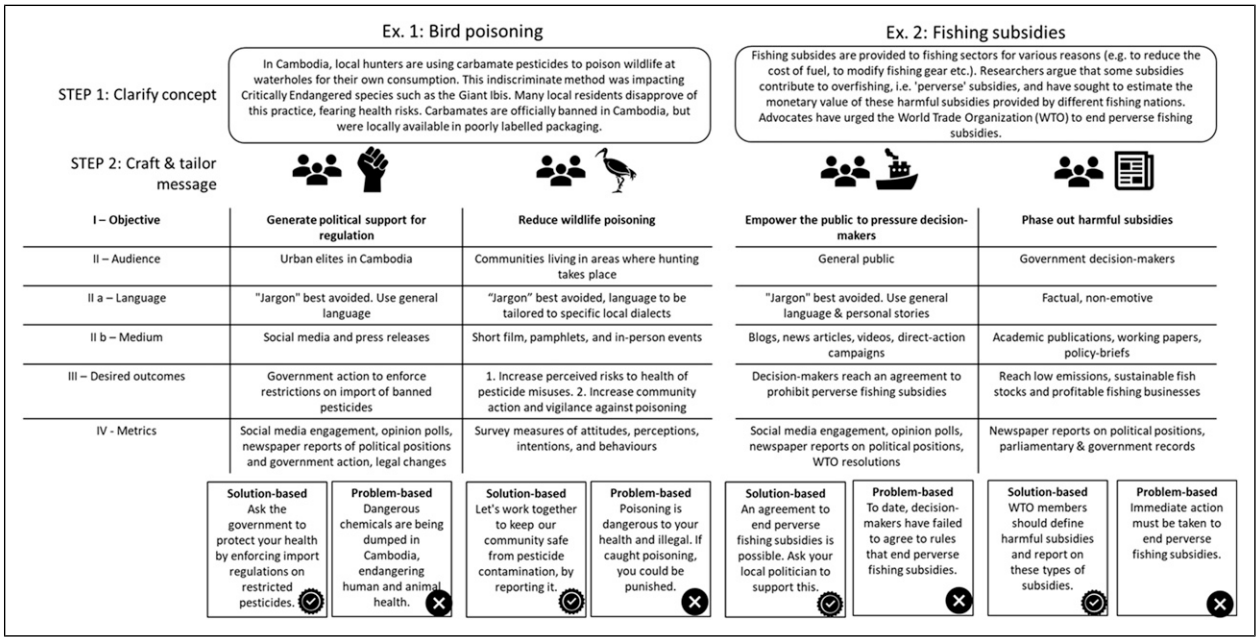

Figure 2. Communications are most effective when they have a clear objective, are tailored to specific audiences, and focus on solutions. We illustrate this using four sets of communications strategies aiming to address two contrasting conservation problems: the use of poisons to hunt birds in Cambodia (Left, examples from de Lange et al., 2021), and the effects of harmful fishing subsidies (Right).

negotiated by member governments (Sumaila et al., 2007). Therefore, one key **audience** for communications is WTO members, represented by government ministers and delegates. Messages aimed at this audience are typically informative, neutral, and use non-emotive language. Campaigners communicate through media such as academic publications, working papers and policy briefs, with the desired **outcome** of changing the discourse at WTO meetings, leading to **measurable** changes in WTO policy. Other communications have the **objective** of pressuring decision-makers to end perverse subsidies. Such messages are often directed at the **audience** of the public through a mix of media including blogs and public-facing awareness campaigns (e.g., the Stop Funding Overfishing campaign; International Institute for Sustainable Development, 2021), typically using general, non-academic language. Visually engaging videos disseminated through online platforms such as YouTube are also used to communicate the personal stories of fishers whose catch-rate has declined because of subsidized foreign fishing vessels operating in local waters. The desired **outcome** is an increase in public awareness of the damage done to local livelihoods and fish stocks by perverse subsidies, potentially **measured** using opinion polls.

Crafting Positive Communications

With a clear objective, audience, desired outcome, and appropriate measure of success, a conservation communicator can begin to craft an effective message. Communicators can craft messages to convey different information, meaning, and provoke varying responses in the audience. Applying the following five tips can help to ensure that messages are positive and empowering, and therefore can support the prolonged societal engagement required to engender transformative change (Conservation Optimism, 2020; Figure 1).

Tip #1: Think of What Associations are Already in People's Heads

Every word, sound or image has the potential to evoke different sets of associations in different audiences. Those associations depend on the audience's interactions, memories, and experiences, and so are likely to vary between social groups. It is easy to forget that other people may have different associations with the same word, sound or image. Although it may not be possible to predict the complete set of associations a given word, sound or image evokes for a given audience, it is important to anticipate how a word, for example, might be perceived and understood to avoid unintended consequences. Sometimes, this can be a result of different regional or socio-economic meaning. For example, the word "fishing" formally refers to the act of catching fish, including recreational, subsistence, and industrial catch. In parts of the UK, the word fishing is often used colloquially to refer to recreational fishing. Seeing or hearing the word "fishing" the audience might imagine a person leisurely fishing at the weekend from the banks of a pristine river. This image may have been influenced by children's books, television programs, and adverts, which will have contributed to the specific shared frame carried about what "fishing" looks like. If your goal is to communicate information about distant water fleets (Table 1), then these images may be distracting and misleading. Using a more precise term that evokes the impact of modern large-scale fishing, such as "industrial fishing", is more likely to clearly convey the ideas and associations relevant to the message.

Tip #2: Clarify What is Happening to Whom and Why

Scientific communicators often write in the passive voice, which can cause readers to feel like the situation described is inevitable. In the worst cases, this can cause them to feel fatalistic and hopeless. Hope and action arise from clarity of understanding. When describing a conservation challenge, it is vital to be clear about who is doing what to whom and why. This brings the actors (be it a person, an animal or plant, or an object) into the frame and highlights their agency in causing a particular situation. This clarity will also enable the audience to identify their own agency to effect change. For example, saying: "Pesticide manufacturers in Thailand and Vietnam are exporting banned pesticides to Cambodia, in the context of weak enforcement of import regulations" makes the situation much clearer than saying: "Cambodia is a dumping ground for harmful and illegal pesticides." The latter example describes the situation as if it is unchangeable, whereas the former clearly identifies which actors and actions are involved, and guides the reader towards identifying the changes that are required to address the issue. At the same time, it is also important to ensure we do not oversimplify the narrative we describe or typecast the actors identified as causing the problem (see tip #4).

Tip #3: Balance Threats With Positive Actions or Solutions

Conservation is a crisis discipline, and many of the issues we wish to communicate are threats to both human wellbeing and biodiversity. Yet, as conservationists, we do the work that we do because we believe that restoring nature is possible. When we communicate about the issues we want to tackle, it is necessary to be clear about the threats, but also to show that actions to address these threats are available. Achieving a balance between these two things can help to increase the audience's motivation and perceived ability to engage with a specific issue (Clayton & Myers, 2015), while avoiding feelings of complacency or fatalism. Highlighting solutions can help "*provide a pathway forward that builds the*

Table 1. Five Key Tips for Empowering Communications, Taken From Conservation Optimism's Positive Communication Toolkit (2020), With Examples of Their Application to the Issues of Bird Poisoning in Cambodia (Taken From de Lange et al, 2021) and Global Harmful Fishing Subsidies, as Well as Examples of Mistakes These Tips are Intended to Help Avoid.

Tips	Description	Consider saying this	Rather than this
1. Think of what's already in people's heads	Thinking about the associations that people may already have in their heads to specific words will help you tailor your communication to a specific audience	- Using the word "poisoning" is a clear way to describe the action and its deliberate nature - Using the term "industrial fishing" will give people a clear idea of the connotations that you are associating to that specific term	- "Pesticide misuse" is a broad term which does not immediately create clear associations of wrongdoing - In certain contexts, the word "fishing" may be associated with a recreational activity. This may not resonate with your audience in the way you intended
2. Clarify what is happening to whom and why	Bringing the actors (be it a person, a part of nature, an organization, or even a policy) into the frame, explaining why things have happened, and being clear about who is involved, helps your audience see how a situation can be changed	"Pesticide manufacturers in Thailand and Vietnam are exporting banned pesticides to Cambodia, enabled by Cambodia's weak capacity to enforce import regulations." "The subsidies provided by government X to industrial fishing sector Y each year contributes to overfishing, which threatens the livelihoods of Z many people who earn their living from fishing."	"Cambodia is a dumping ground for harmful and illegal pesticides." "The global fishing sector is provided with X level of subsidies per year."
3. Balance threats with positive actions or solutions	Bringing solutions into the spotlight can help build a sense of efficacy and encourage personal engagement	"Pesticides used to hunt wildlife can harm your health and that of your children, as well as kill endangered wildlife. We can protect our community and environment by storing and using pesticides safely and only for their intended purpose." "If perverse fishing subsidies were instead reinvested in ways that promote innovation and sustainability, marine resources and fishers would both benefit."	"Hunting wildlife using pesticides can damage your health, the health of your children, and kill endangered wildlife." "Perverse fishing subsidies threaten marine resources and adversely affect the livelihoods of fishers."
4. Avoid typecasting	Steering clear of villains and victims, unless there is no ambiguity or complexity in the situation, enables audiences to relate to the issue in a more nuanced and realistic way	"Young men are using pesticides to hunt, and are not aware of the risks to human health." "While China is thought to provide $X in perverse fishing subsidies per year, perverse subsidies of $Y per year to fishing fleets in [the audience's country] also contribute to overfishing."	"Hunters who use poison are endangering your health and destroying the environment." "China provides $X in harmful subsidies to its fishing fleet each year."
5. Share learning from failure	Demonstrating that failure happens, but can be learned from to enable better outcomes next time, builds trust and transparency	"There have been recent legal reforms, which is encouraging, but the enforcement of these new pesticide regulations is challenging because of unclear packaging and labeling. Greater capacity is needed to test pesticide samples and ensure they are what they say they are." "Although perverse fishing subsidies remain a huge global problem, the picture is mixed across the world. In some parts of the world, governments seem to have reduced the amount of subsidy in recent years."	"The government has banned the most harmful pesticides but has failed at enforcing these regulations" "As of yet, members of the World Trade Organization (WTO) have failed to reach an agreement to end perverse fishing subsidies."

audience's sense of efficacy and provides opportunity for personal engagement" (McAfee et al., 2019; p. 279). For example, saying "Perverse fishing subsidies contribute to overfishing and this money could instead be invested in ways that promote innovation and sustainability" may give readers a sense that positive change is possible, rather than saying: "Perverse fishing subsidies threaten fish stocks and adversely affect the livelihoods of fishers and those involved in fish supply and production."

Tip #4: Avoid Typecasting

There is a tendency for communicators to create simplistic narratives around people, wildlife, and institutions, and to describe them as either victims or villains. Often, these rhetorical strategies aim to provoke pity for the victims, and anger towards the villains. However, portraying a person or another actor (or even a place) as a helpless victim may give the impression that it is impossible for them to break out of their position. An alternative to provoking pity could be to provoke empathy and fellow-feeling. Similarly, vilifying an individual or a group can preclude the possibility for positive change on the part of that individual or group, which may polarize debate and reduce the possibilities for collaboration. For example, saying: "Young men are using pesticides to hunt, and are not aware of the risks to human health" is much less vilifying and more nuanced than saying "Hunters who use poison are endangering your health and destroying the environment." The former highlights the humanity of the group being described and invites empathy and understanding by describing the situation as they experience it. The latter focuses exclusively on the negative consequences of their actions and obscures their identities as people. Avoiding typecasting requires that we look at an issue from multiple perspectives and seek to overcome our own biases and limitations. This is done most effectively by collaborating with diverse people from different backgrounds, both when identifying the problem and when crafting a message to catalyze action to address it.

Tip #5: Be Open About Failure as a Learning Experience

While highlighting solutions can provide audiences with an idea of what is possible, demonstrating how we can learn from failure to overcome future challenges is also empowering. Failure is inevitable, but a positive, honest, and collaborative attitude towards it can help conservationists learn and do better in the future (Cannon & Edmondson, 2005; Chambers et al., 2022; Politis & Gabrielsson, 2009). Learning from what fails in a specific context, and why, may also prove helpful in other contexts. Techniques such as establishing systems to encourage the reporting of failures or providing training on how to conduct reflective debriefing sessions can help promote a culture that encourages a more positive outlook on failure (Catalano et al., 2019). By showing audiences that failures do happen and framing them as learning opportunities, conservation communicators can maintain transparency, avoid provoking despair, and build a relatable human narrative. For example, instead of saying: "The reintroduction of species x failed," communicators could emphasize learning and say: "We learnt how to make reintroductions more effective from the experience of the failure of this project to reintroduce species x."

Discussion

Conservation communicators have a responsibility to ensure their communications are contributing to positive and empowering change, rather than engendering avoidance, disengagement, or burnout (Figure 1). The complex and long-term nature of the biodiversity crisis entails significant risks of such adverse outcomes. Just as there is no silver bullet to solving the biodiversity crisis, there is no one-size-fits-all approach to communicating about it. Yet evidence from different disciplines teaches us that positive emotional experiences, and styles of communications that provide opportunities for such experiences, will be essential to galvanize the creative and collaborative learning required.

Positive emotional experiences, such as feelings of collective efficacy and the warm glow of pride in one's actions, have been found to motivate sustained action and increase resilience among individuals and groups, shifting them into virtuous cycles of long-term positive change (Ong et al., 2006; van der Linden, 2018). Positive emotions enable the learning of new behaviors, build appreciation of new and different perspectives, and expand creativity (Fredrickson, 2004; Fredrickson & Branigan, 2005). These qualities and effects are essential for tackling complex, long-term issues like the biodiversity crisis (Harré, 2018).

In some forms of communication, such as policy briefs, provoking emotion may not be appropriate. Negative emotions also play a vital role in the messages communicated by many environmental movements. For example, activists at Youth for Climate express indignation by invoking younger generations as victims of political procrastination and by framing perceived economic injustices in moral terms by emphasizing inequalities and overconsumption (Knops, 2021). Extinction Rebellion, an international movement, campaigns for radical change and encourages activist participation by openly communicating fears about the future of the planet (Furlong & Vignoles, 2021; Slaven & Heydon, 2020). Most visibly, the movement's symbol, an hourglass inside a circle, acts as a warning that time is running out for certain species. It remains to be seen whether these messages are effective in cutting through to the intended audiences and maintaining long-term engagement (as in Figure 1). Moreover, despite the negative external messaging, expressing and sharing emotions are core to these groups' strategies of maintaining activist engagement into the medium and long-

term. Extinction Rebellion has actively sought to build a "regenerative culture" within the movement to prevent fatigue and burnout among activists (Westwell & Bunting, 2020). By establishing gratitude and grief circles, the culture aims to promote care and build resilience, helping activists to move through anxiety and grief towards new, radical hope to save and repair whatever is left (Stuart, 2020).

A positive communications approach does not mean that everything in a message must be positive. Indeed, blind optimism and false hope can be strong enablers of inertia and resistance to change if people convince themselves that the issue will be taken care of by others or if they set themselves unachievable goals (Brulle & Norgaard, 2019; Park et al., 2020). Negative trends in biodiversity and other ecological indicators, and the full implications of these trends, should be communicated. Rather, a positive communications approach acknowledges that moving from awareness to action will also require more than provision of information about threats. This is because highly informed populations may not act if the changes required are perceived as too threatening (Norgaard, 2006), and because positive emotions can help to build the psychological and social resources needed to sustain action in the long-term (Harré, 2018; Schneider et al., 2021; van der Linden, 2015). Experiences of small positive changes and reasons for optimism have historically been necessary to build momentum for more sweeping radical change (Evans, 2020), and positive visions or experiences of alternative futures can be essential for breaking individual and societal inertia. Finally, many conservation researchers and practitioners are motivated to conserve biodiversity because they also wish to sustain and expand human wellbeing, building a world where positive emotions and experiences are commonplace (Martin, 2017). Modeling and embodying this world through our words and actions can be a powerful prefigurative force for generating that future (Trott, 2016).

Implications for Conservation

Moving forward, conservation communicators need to communicate effectively in order to empower everyone to work towards restoring nature, as this will require continuous effort from citizens, organizations and governments around the world (Riera et al., 2022). In particular, conservation communicators need to communicate findings in ways that help audiences to maintain a sense of urgency, whilst motivating and inspiring long-term engagement and action leading to transformative change. Messages that shock and invoke fear can capture attention, but they can also lead to individuals distancing themselves and feeling overwhelmed (O'Neill & Nicholson-Cole, 2009). Messages that trigger positive emotions are also needed to maintain motivation in the long-term, to empower diverse audiences to think and act creatively and cooperatively, and to enact transformative changes in their lives.

To help conservation communicators begin to construct messages that trigger positive emotions, we suggest that four elements of a communication strategy could benefit from being in place: a clear objective, a specific audience, a desired outcome, and an appropriate measure of success. Conservation communicators should reflect on these elements alongside ethical considerations in messaging, including, for example, fairness in targeting specific audiences (Gregg et al., 2022). With these elements in place, we offer five tips for designing messages that can help build the positive reinforcement and emotions needed for long-term engagement and transformative change. These tips must be considered in conjunction with important principles of conservation communication, such as honesty and scientific accuracy (Bennett et al., 2017; Hess & Fischer, 2001), and the provision of contextual information (MacFarlane & Rocha, 2020). Our tips intend to complement the useful lessons presented by Kusmanoff et al. (2020) (e.g., evoking social norms, minimizing psychological distance, and using cognitive biases) for framing effective conservation messages. We echo their call for more testing of messages.

Other comprehensive communication frameworks have also been developed to assist communicators with designing messages. For example, the Framing Equality Toolkit aims to help LGBTI activists communicate in ways that make connections with others (Public Interest Research Centre, 2017), while the Framing Nature Toolkit (Public Interest Research Centre, 2018) offers an introduction to framing and provides examples of framing in conservation practice. The Nonviolent Communication framework provides guidance on how to create constructive dialogue and positive relationships in order to build mutual understanding and trust between different parties (Williams et al., 2021). Nonviolent communication training has been applied to build empathy between people and towards wildlife as a means of promoting human-wildlife coexistence in Namibia (Kansky & Maassarani, 2022). With a growing movement of conservation organizations working to adopt and embody the principles of positive communication, Conservation Optimism (2020) offers its Positive Communication Toolkit to complement these resources.

Conservationists need to learn to pay attention to the small wins and success stories which are encountered, both in order to build their own resilience and ability to affect long-term change (Pienkowski, Brittain, et al., 2021; Pienkowski, Keane, et al., 2021), and to communicate these with others. For conservation to be successful, the discipline of conservation science itself must also shift focus from identifying threats to developing and testing possible responses and future pathways (Williams et al., 2020), working in collaboration with and supporting the conservation efforts of diverse social actors. These changes must be accompanied by a parallel shift in how conservation researchers and practitioners communicate their work.

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