

This is the peer reviewed version of the following article: Kidd, L. R., Bekessy, S. A., & Garrard, G. E. (2019). Evidence Is Key for Effective Biodiversity Communication. *Trends in Ecology & Evolution*, 34(8), 693-694; which has been published in final form at <https://doi.org/10.1016/j.tree.2019.05.010>.

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Evidence is key for effective biodiversity communication

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Submission type: Letter

Keywords: Conservation, Framing, Strategic communication

In our recent article [1], we highlight an alarming lack of empirical evidence to justify the widespread promotion of optimistic message frames within conservation. As McAfee and Connell rightly point out, whether to focus on positive or negative frames is but one of many considerations when constructing a message [2]. In their response, McAfee and Connell outline important theoretical literature from other disciplines that provides a great basis for research within conservation science. However, they do not identify any examples from within conservation, which was the crux of our piece: there is a lack of conservation-specific evidence for designing strategic messages.

How people respond to biodiversity messages is poorly researched, even though it is crucial for interpreting why policies, management approaches and campaigns succeed or fail. There is increasing recognition that many conservation communication efforts could be more strategic [3, 4], and approaches to strategic messaging from other disciplines can provide a useful

starting point. However, lessons from other disciplines are unlikely to be directly applicable to conservation; the effective design of conservation messages will need to address the specific conservation context. Unlike pro-environmental behaviors such as energy-use reduction, which can have immediate economic benefits to the individual, advantages for an individual to engage in biodiversity conservation behaviors are either difficult to identify or can take a long time to emerge [5]. Biodiversity issues are often diffuse, making the link between behavior and biodiversity impact difficult to examine. Furthermore, conservation communications often have varied goals, for example, raising issue awareness or soliciting donations.

A few themes have emerged from the notable efforts towards guiding the strategic communication of conservation messages [6]. One of them is an enthusiasm for conservation optimism to combat the disengagement associated with negative messages as described by McAfee and Colleagues [7], and to unite people to act. This is an example of message framing, which has been shown to be an effective tool for influencing behavior, attitudes and judgment across disciplines from policy to psychology. Framing theory suggests that the structure or organization of a message can alter perception of its content [8].

However, the use of differently framed messages is just one of many factors known to influence how people respond to communications. Other factors include, but are not limited to, efficacy (both personal and collective), the messenger, social context, and the message channel; it is often a complex interaction between many of these factors [9, 10]. These factors help us define the types of research questions that need to be answered to apply strategic messaging to conservation issues. But too often, we do not subject conservation communications questions to the same rigor used to answer other applied questions.

Developing effective message framing strategies will require multidisciplinary and methodologically varied approaches [11], and will take some conservationists into unfamiliar territory. Thankfully, suitable experimental frameworks exist and are immediately practicable. Experimental frames should be made as analogous as possible and it is useful to

test comprehension and the extent to which different frames convey the intended central idea [12]. In addition, studies should compare ways of talking about social issues that already exist in the public domain [12], so conservation optimism vs pessimism is a pragmatic starting point. McAfee and Connell point out that the line between a pessimistic and optimistic message can be unclear; regardless, this should not deter efforts to build a corpus of experimental evidence with the aid of existing experimental frameworks. Using rigorous approaches, we can compile the empirical evidence that conservationists should start using as a matter of course when designing communications.

Conclusion

Lack of research about how to design strategic messages to benefit biodiversity is limiting our ability to measure and optimize their effectiveness. As empirical evidence emerges, it will be fascinating to see whether heuristics developed in other disciplines will hold for conservation, but there is reason to believe that it should not be taken for granted. Research into effective messaging for conservation behavior change can, and should be informed by evidence-based, systematic approaches from these other disciplines. Our initial focus upon optimism and pessimism was intended as a practical starting point, and we welcome more nuanced and broad investigation into effective messaging strategies to benefit biodiversity.

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