



Challenges at the intersection of conservation and ethics: Reply to Meyer et al. 2021

Michael Paul Nelson ^{1*} Chelsea Batavia ¹ Kate J. Brandis,² Scott P. Carroll,³ Danielle Celermajor,⁴ Wayne Linklater,^{5,6,7} Erick Lundgren,⁸ Daniel Ramp,⁸ Jamie Steer,⁹ Esty Yanco,⁸ and Arian D. Wallach ⁸

¹Department of Forest Ecosystems and Society, Oregon State University, 321 Richardson Hall, Corvallis, OR, 97331, U.S.A.

²Centre for Ecosystem Science, School of Biological, Environmental and Earth Science, University of New South Wales, Sydney, NSW, 2052, Australia

³Department of Entomology & Nematology, University of California Davis, 1 Shield Avenue, Davis, CA, 95616, U.S.A.

⁴Department of Sociology and Social Policy, Faculty of Arts and Social Sciences, The University of Sydney, Camperdown, NSW, 2006, Australia

⁵Department of Environmental Studies, California State University – Sacramento, 6000 J Street, Amador Hall, 555D, Sacramento, CA, 95819, U.S.A.

⁶Centre for Biodiversity & Restoration Ecology, Victoria University of Wellington, Wellington, 6021, New Zealand

⁷Centre for African Conservation Ecology, Nelson Mandela University, Port Elizabeth, 6019, South Africa

⁸Centre for Compassionate Conservation, Faculty of Science, University of Technology Sydney, Ultimo, NSW, 2007, Australia

⁹Biodiversity Department, Greater Wellington Regional Council, Wellington, 6142, New Zealand

Introduction

When axioms (i.e., important yet assumed beliefs or principles) come to be accepted as authoritative and incontrovertible truths, they can become dogma. In conservation science, the belief that “conservation is engaged in the protection of the integrity and continuity of natural processes, not the welfare of individuals” (Soulé 1985) has come to be accepted somewhat dogmatically; so, too, has the practice of excluding non-native species in biodiversity calculations. Although proponents of this practice often refer to Soulé (1985) as justification, in a later work Soulé (1990) claims the distinction between native and non-native species is incoherent and advocates that species extinct in their historical ranges may be best conserved elsewhere. Against this backdrop, Wallach et al. (2020) opens a new perspective, one that emerges by challenging these 2 dogmas of conservation. Motivated by the sense that individuals matter morally and by the hidden subjectivity inherent in judgments of nativeness, especially in scientific discourse, we wonder how the inclusion of species typically considered non-native changes assessments of biodiversity loss.

We appreciate the response of Meyer et al. (2021) and their agreement with the importance of “contesting prevailing conservation paradigms.” Unfortunately, their response expresses a dogmatic refusal to critically examine the basic axioms of conservation science. This exchange provides an opportunity to highlight philosophical and ethical issues that are critical for conservation generally, show up repeatedly in the conservation literature, but that are commonly mishandled within conservation discussions.

We focus on deconstructing the criticism of Wallach et al. (2020) rather than clarifying or defending our position therein. We understand that the inclusive notion of biodiversity expressed in Wallach et al. (2020) may, to some, suggest troubling implications. Species conventionally considered non-native or invasive affect other species in significant ways, including ways that may fairly be viewed as harmful, and some may worry that curtailing activities intended to control these populations may exacerbate such harms. The critical point to recognize, however, is that the prevailing construction of biodiversity, favored by Meyer et al. (2021) and embodied in the International Union for Conservation of Nature Red List,

*email mpnelson@oregonstate.edu

Article Impact statement: Sound conservation decisions requires sound justifications and reasoning; conservationists should heed to a few simple principles.

Paper submitted September 7, 2020; revised manuscript accepted October 22, 2020.

underwrites conservation policies that yield outcomes also viewed as harms (e.g., ending the lives of rodents to protect an endemic species). Such harms, perpetrated by current approaches, are normalized, so it is easy to avoid responsibility for them or to fail to acknowledge them as harms. As such, attempts to compare harms associated with current versus alternative approaches effectively put a thumb on the scale in favor of the former because harms caused by prevailing approaches will generally be ignored or downplayed.

Assertions or Arguments

Assertions should not be confused with arguments. An argument contains premises or evidentiary claims designed to support a conclusion. Arguments are sound if the conclusion follows logically from the premises provided (i.e., if they are valid) and if those premises are also true. A conclusion without premises is simply an assertion (i.e., an unsupported belief). Thought pieces in conservation science journals routinely offer unsubstantiated assertions or opinions masquerading as arguments. Though they may be rhetorically compelling, no one should be persuaded by assertions, even if they jibe with one's intuitions or beliefs, or are stated repeatedly and forcefully. As in scientific research, one expects transparency and a clear articulation of the claims meant to underpin a given assertion even in a thought piece. How else would one be able to evaluate the claims or opinions expressed therein?

Meyer et al. make several unsubstantiated assertions about our article. For example, when they write "equalizing all species irrespective of their effects would essentially create a conservation fata morgana, where relying on species counts as an index of ecosystem function risks adverse land-use decisions and resource allocation," they presuppose claims about human decision making and behavior that we did not make. The allegation that what Wallach et al. (2020) call inclusive biodiversity counts would be "relied upon" as an index of ecosystem function extrapolates to a practical application of our analyses that we did not intend or articulate. These and other claims of Meyer et al. need to be examined critically. We would not expect the larger conservation community or the general public to find our positions persuasive without rigorous and sound justification.

Ethics or an Ethic

A common mistake in discussions of conservation ethics is the conflation of one type of ethical theory with ethics itself. Meyer et al. hinge their critique of Wallach et al. (2020) on the allegation that our approach "risks poor outcomes for conservation and society." This is a clear

example of consequentialist thinking. Although consequentialist thinking is common in the dominant Western worldview and therefore also in conservation practice reflecting that worldview, it is only one way conservation actions and policies may be motivated, justified, or critiqued.

In general, consequentialist decision making involves calculating, or attempting to evaluate, the consequences (sometimes framed as costs and benefits) associated with different actions in a given context. Generally, from a consequentialist view, it is right to maximize the ratio of positive to negative outcomes. Yet, it is important for conservation professionals to understand that people within and across cultures do not think in strictly consequentialist terms (Haidt 2012; Klain et al. 2017). Ethics, *per se*, is not merely the weighing of the harmful versus beneficial outcomes of an action, but consequentialist ethics is. Other theories suggest ethical decision making should be approached in quite different ways. Consequentialism has been the subject of long-standing criticisms, including the difficulty of adequately anticipating or measuring all outcomes of a given action and biases that favor overemphasizing benefits and underemphasizing harms or risk of harms (e.g., Baker 2016). These criticisms highlight the importance of drawing insights from other ethical frameworks. For example, the position explored in Wallach et al. (2018) is motivated primarily by virtue ethics (i.e., belief that actions and policies are justified if they are the extension of certain important character traits or virtues, e.g., compassion, empathy, care, respect, and humility).

The conservation literature has a pronounced tendency to rely on consequentialist reasoning, which directs conservationists to focus on the outcomes of actions without considering the morality of the actions themselves. This tendency may have cultivated a widespread impression that the ends of conservation justify the means. Yet environmental philosophers have long argued the root cause underpinning the need for conservation is a flawed relationship between (certain) human beings and other life forms, characterized by the view that humans are entitled to manipulate and control other beings to achieve their notion of a desirable world (Mathews 1991; Plumwood 1993). Underpinning Wallach et al.'s (2020) analyses is an ethical outlook that fundamentally challenges the assumption that other (nonhuman) beings are valuable simply as cogs in a machine and instances of their types (i.e., native populations, species, and ecosystems) and considers how biodiversity might be viewed if one took seriously the notion that the lives and deaths of all individual living beings (native and otherwise) matter as well.

Even from a consequentialist perspective, the experiences and moral relevance of all sentient animals is well established (e.g., from Bentham [1780] to Singer [1975]). Therefore, consequentialist conservation that

Table 1. Twenty-seven value-laden words and terms in Meyer et al. (2021) as they appear in the text, whether the word or term applies to Wallach et al. (2020) or Meyer et al. (2021), and our evaluation of the positive or negative connotation of the word or term as used by Meyer et al. (2020).

Word or phrase*	Comment	Wallach et al. (2020) or Meyer et al. (2021)	Value connotation (negative or positive)
1. Artificial inflation	Something is only artificial in reference to some preestablished definition; nothing is artificial all by itself; science cannot discover it, it is a judgment not discovery.	Wallach et al. (2020)	negative
2. Harm or harmful	same as 1, also a threat	Wallach et al. (2020)	negative
3. Poor	Use of the term requires a standard. In this case Wallach et al. (2020) is challenging that standard.	Wallach et al. (2020)	negative
4. Well established, well accepted	Not clear what <i>well</i> means. It could mean standard, oft-repeated, agreed on, old, etc. It implies correctness, but why would we do something incorrect? Use is an attempt to argue by appealing to authority.	Meyer et al. (2021)	positive
5. Anthropomorphize	Not obvious how this term applies to our position, but in conservation science, it is seen as a negative; therefore, this term is something of an <i>ad hominem</i> critique (i.e., name calling).	Wallach et al. (2020)	negative
6. Distracting	negative value claim without evidence	Wallach et al. (2020)	negative
7. Considerable	Term is not an objective phrase; a judgment about how far a considerable distance is required.		
8. Large	<i>large numbers</i> as for 7		
9. Small	<i>small portion</i> as for 7		
10. Inflate	(covered in last column)	Wallach et al. (2020)	negative
11. Well-functioning	not clear what constitutes a well-functioning ecosystem	Meyer et al. (2021)	positive
12. Degradation or degraded	They assert we do not address this and that our proposal leads to it (simple assertion).	Wallach et al. (2020)	negative
13. Disrupt	They assert our proposal disrupts food webs (simple assertion).	Wallach et al. (2020)	negative
14. Adverse	They assert our proposal leads to adverse land-use decisions (simple assertion).	Wallach et al. (2020)	negative
15. Compensated	They assert new species cannot functionally compensate for native species, which is a negative thing as it applies to our proposal.	Wallach et al. (2020)	negative
16. Replaced	Similar to 15, compensate. The implication is that a proposal must do this, that this is good, and that ours does not do this, while theirs does.	Wallach et al. (2020)Meyer et al. (2021)	negativepositive
17. Not as effective	Unclear what is good enough to be effective. Need some referent to make sense of this claim, and it will evoke a value.	Wallach et al. (2020)	negative
18. Imperil	Our proposal imperils lives and livelihoods, as does theirs of course, as do all proposals.	Wallach et al. (2020)	negative
19. Major environmental degradation	They suggest invasive species impacts lead to this.	Wallach et al. (2020)	negative
20. Catastrophic	as for 19	Wallach et al. (2020)	negative
21. Negative	blatant appeal to a value	Wallach et al. (2020)	negative
22. Injury	as for 21	Wallach et al. (2020)	negative

Continued

Table 1. Continued.

Word or phrase*	Comment	Wallach et al. (2020) or Meyer et al. (2021)	Value connotation (negative or positive)
23. Succeed		Meyer et al. (2021)	positive
24. More meaningful		Meyer et al. (2021)	positive
25. Overly simplistic	Both words are loaded, there is no reference to what this means or what makes something overly simplistic. This is an ad hominem attack.	Wallach et al. (2020)	negative
26. Severe potential harm	There is severe potential harm to ecosystems with our proposal.	Wallach et al. (2020)	negative
27. Ideally	This is simply an assertion without an argument about what proposals should do. They suggest their proposal is ideal.	Meyer et al. (2021)	positive

*In order of appearance.

asserts only the moral relevance of native ecological collectives, while downplaying the moral relevance of certain non-native sentient animals, is itself a particular, selective, and arguably incomplete application of consequentialism.

Value Transparency in Science

It is problematic to use value-laden language without acknowledging its value ladenness. Although phenomena such as change, increase, and decrease are discoverable by science, qualities such as harm, health, and imperil are not. The latter are discoverable only if measured against some already agreed on standards (e.g., if a standard that measures harm is agreed on, then science can be used to measure something against that standard), or they are positively or negatively value laden (e.g., imperil is a negatively value-laden quality), or both (e.g., health can be measured against some standard and is positively value laden).

Meyer et al. rely heavily on unacknowledged normative language when they use phrases such as “adverse,” “harmful,” “distracting,” and “overly simplistic,” among others, to cast aspersions on the contents or presumed implications of Wallach et al. (2020). This is a form of what some scholars call *stealth advocacy*, in which the pretense is to be engaged in a purely scientific exercise, with implied objectivity, when in fact one is engaged in a policy exercise (i.e., by using language that is normatively loaded or value laden as if it were purely descriptive or objective) (Pielke 2003). We grant that Wallach et al. (2020) are also advocating, but our advocacy is open, transparent, and (we hope) well-reasoned. There are dozens of instances of the use of unsubstantiated normatively loaded language in Meyer et al. In each case, when words or terms are negatively value laden, they are associated with Wallach et al. (2020), and when they are positively value laden they are associated with Meyer

et al. (Table 1), which further illustrates that our arguments were not considered and evaluated, only judged.

Metaphors and Similes

Finally, those of us who work at the intersections of disciplines are challenged to communicate effectively. Metaphors and similes are critical forms of explanation in our interdisciplinary endeavors and widespread in conservation science (e.g., assisted migration, conservation triage, tipping point, and niche) (Olson et al. 2019). But the use of figurative language generally is tricky business, and we urge caution. For example, some environmental philosophers have long used the phrase ecological-, environmental-, or eco-fascism to describe the belief that ecological collectives are of central importance and the individuals who make them up do not possess direct moral standing. Our experience suggests that colleagues in conservation science sometimes struggle with metaphorical expression. In this case, they fail to understand the difference between saying something is like fascism or has the same logical structure as fascism and saying something or someone is, in fact, fascism or a fascist (e.g., Vucetich & Nelson 2007).

Meyer et al., for example, compare a naturally (i.e., nonhuman) evolved ecosystem to a piece of art, specifically to Van Gogh’s *Sunflowers*, suggesting that the loss of an ecosystem is like the loss of a great work of art: “Replacing native species with widespread, generalist, invasive species promotes species homogenization and is akin to replacing Van Gogh’s *Sunflowers* with a mass-produced print.” Though environmental philosophers have long used the metaphor of art to think about restoration (i.e., to ask whether the value of a restored ecosystem can be understood by considering the value of a restored or replicated work of art [Elliot 1982]), Meyer et al.’s usage is problematic. First, the example is inaccurate because *Sunflowers* is not the name of one

painting, but rather the name of 2 sets of paintings. Accuracy is critical for similes and metaphors to be understood, nondistracting, and not dismissed out of hand. Second, the analogy is awkward because sunflowers are themselves plants that are not native to the south of France, where Van Gogh painted his sunflower series, or to Van Gogh's home in The Netherlands. Most importantly, though, Meyer et al. suggest that, like offprints of a painting, the propagation of non-native species fills the world with individuals who are all, and only, instances of their type, thereby denying the relevance of individuality. This view illustrates the point we are trying to raise in the first place: if individuals are regarded as individuals, then a world populated by individuals is not homogeneous.

Literature Cited

- Baker K. 2016. The consequences of accepting consequentialism. *Philosophy Now* **115**:38–40.
- Bentham J. (reprinted 1907). 1780. Introduction to the principles of morals and legislation. Clarendon Press, Oxford, United Kingdom.
- Elliot R. 1982. Faking nature. *Inquiry* **25**:81–93.
- Haidt J. 2012. The righteous mind: why good people are divided by politics and religion. Vintage, New York.
- Klain S, et al. 2017. Relational values resonate broadly and differently than intrinsic or instrumental values, or the New Ecological Paradigm. *PLOS ONE* **12**:e0183962. <https://doi/10.1371/journal.pone.0183962>.
- Mathews F. 1991. The ecological self. Routledge Press, London.
- Meyer FVM, et al. 2021. Beyond species counts for assessing, valuing, and conserving biodiversity: response to Wallach et al. 2020. *Conservation Biology*.
- Olson ME, Arroyo-Santos A, Vergara-Silva F. 2019. A user's guide to metaphors in ecology and evolution. *Trends in Ecology and Evolution* **34**:605–615.
- Pielke R. 2003. The honest broker: making sense of science in policy and politics. Cambridge University Press, Cambridge, United Kingdom.
- Plumwood V. 1993. Feminism and the mastery of nature. Routledge Press, London.
- Singer P. 1975. Animal liberation: a new ethics for our treatment of animals. Harper Collins, New York.
- Soulé M. 1985. What is conservation biology? *BioScience* **35**:727–734.
- Soulé M. 1990. The onslaught of alien species and other challenges in the coming decades. *Conservation Biology* **4**:233–240.
- Vucetich JA, Nelson MP. 2007. What are 60 warblers worth? Killing in the name of conservation. *Oikos* **116**:1267–1278.
- Wallach AD, et al. 2020. When all life counts in conservation. *Conservation Biology* **34**:997–1007.
- Wallach AD, et al. 2018. Summoning compassion to address the challenges of conservation. *Conservation Biology* **32**:1255–1265.

