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Title:
Why Politics and Context Matter in Conservation Policy

Date:
2017-05-01

Citation:
Damiens, F. L. P., Mumaw, L., Backstrom, A., Bekessy, S. A., Coffey, B., Faulkner, R., Garrard, G. E., Hardy, M. J., Kusmanoff, A. M., Mata, L., Rickards, L., Selinske, M. J., Torabi, N. & Gordon, A. (2017). Why Politics and Context Matter in Conservation Policy. Global Policy, 8 (2), pp.253-256. https://doi.org/10.1111/1758-5899.12415.

Persistent Link:
https://hdl.handle.net/11343/292641

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Received Date : 21-Dec-2016

Revised Date : 14-Jan-2017

Accepted Date : 18-Jan-2017

Article type : Response Article

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Why Politics and Context Matter in Conservation Policy

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A Response to 'Beyond Resilience: How to Better Prepare for the Profound Disruption of the Anthropocene'

Peter Kareiva and Emily Fuller* [1]

Short-form of the title: **Politics & Context in Conservation**

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/1758-5899.12415

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Kareiva and Fuller (2016) consider the future prospects for biodiversity conservation in the face of the profound disruptions of the Anthropocene. They argue that more flexible and entrepreneurial approaches to conservation are needed. These include focusing on change rather than historical reference points, an 'evolutionary paradigm' for resource management and conservation policy, and encouraging new technologies and dramatic interventions. We commend their effort to generate debate in this area and articulate their view of a more effective approach conservation. We agree that a greater emphasis on flexibility and learning could be useful to respond to unpredictable changes in the Anthropocene. Likewise, we agree that in some cases, focusing on distributed bottom-up decision-making approaches may be more effective than top-down decision making. However, while these approaches may work in particular situations, we believe their proposal risks unintended and detrimental social and ecological consequences by presenting them as global solutions to complex political, economic, social and ethical problems that are context-dependent.

Here, we argue that Kareiva and Fuller inadequately considers the following core issues of biodiversity conservation in the Anthropocene, namely: (i) the structural causes of biodiversity depletion and the responsibilities of key actors; (ii) the questions around what should be conserved, the processes by which biodiversity is valued, and who has the legitimate authority to value it; (iii) the fact that new tools, technologies and innovative approaches are unsuitable as guiding principles to solve complex, context-dependent social-ecological problems; (iv) the challenges of choosing relevant interventions, given experts' limited ability to 'manage for change and evolution' in the face of unpredictable ecological changes; and (v) the risks associated with promoting a utilitarian approach and a neoliberal governance model for conservation at the global scale. Below we expand on each of these key issues.

Depoliticizing biodiversity loss

Acknowledging the primary causes of biodiversity loss in the Anthropocene and working on approaches to address them should be at the centre of contemporary conservation policy. However, Kareiva and Fuller (2016) remain silent on the underlying causes of biodiversity loss, as if they were external forces beyond human control. Yet the most 'profound disruptions' to biodiversity result from shortsighted economic development (Rands *et al.*, 2010; Soulé, 2013) that are the consequences of socio-political choices. Kareiva and Fuller (2016) chiefly focus on anthropogenic climatic change, which, although important, arguably overlooks the major drivers of current biodiversity loss. These comprise the overexploitation of natural resources, intensive agricultural activity, urban development, and pollution (Maxwell *et al.*, 2016; WWF, 2016), all of which also contribute to and are exacerbated by climatic changes. While we agree that approaches encouraging innovation and adaptation to the impacts of climate change are important, this should not be at the expense of efforts to address the current major causes of biodiversity loss (Veríssimo *et al.*, 2014; Wilson *et al*., 2013). Biodiversity loss (and also climate change) should not be depoliticized by being presented as a *fait accompli*.

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Consciously accepting that biodiversity loss will continue is only one alternative that must be seen alongside alternative pathways that would instead seek to slow, stop or mitigate such loss. Even if the political and societal will to prioritise biodiversity conservation on the political agenda is missing, the choices we make now must be transparent and not obscured by assumptions about inevitability.

Assuming a consensus on the valuation of nature

The paradigm proposed by Kareiva and Fuller (2016) advocates for significant change to current approaches to conservation globally. Such change needs also to acknowledge and address the fundamental questions regarding the components of biodiversity that should be conserved, who has the legitimate authority to value them, and by what process they should be valued. Kareiva and Fuller (2016) assume that a consensus exists about what should be conserved and how this should be decided, but this is not the case[2]. Kareiva and Fuller promote utilitarian values as a global motivation for biodiversity conservation, encouraging conservation managers 'to realize the sort of resilience the public and policy leaders really want – which is preserving the wellbeing and health of human populations' (p. 110) and to design 'urban environments that … maximize their provision of ecosystem services' (p. 115). Yet, there is significant debate around focusing on utilitarian motivations for conservation[3]. Biodiversity is uniquely place-based – dependent on site-specific biophysical characteristics, social-ecological interactions and stochastic events over time and space (Martin *et al.*, 2014; McGill *et al.*, 2015). Because the way biodiversity is valued is a context-dependent social construct (Tallis and Lubchenco, 2014), we argue that the tradeoffs and risks between conserving particular species and ecosystems at a specific time and place, as well as the financial, cultural and social implications associated with them, are inherently political and therefore should be adequately debated. Choosing *how* to undertake biodiversity conservation should be part of an ongoing societal and community dialogue about *what* biodiversity should be conserved and *why*.

Silence on responsibilities

Kareiva and Fuller (2016) argue that current conservation practices are subject to 'restrictive and often unspoken mental models' (p.107), and are resistant to change and therefore lack 'the flexibility required to respond to the Anthropocene's uncertain changes' (p.107). When viewed through the lens of policy oriented discourse analysis (Hajer, 1995; Coffey and Marston, 2013; Coffey, 2016), Kareiva and Fuller focus on the failings of 'ecologists, conservationists, and environmental scientists' (p. 107), 'policy makers' (p. 109) or 'academic ecologists' (p. 109) as the source of the problems, and suggest that they should give up their 'entrained thinking' (pp. 112-113), based on 'fixed and immutable top-down regulations or incentives' (p. 112). Kareiva and Fuller encourage policy makers and conservation managers to embrace the 'start-up model' (p. 111) and 'ideas for how to manage in the face of unpredictable and highly disruptive change [that] might be found in the business sector' (pp. 107-108). Yet this interpretation is problematic as it fails to assign responsibility to the major actors

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that cause biodiversity loss, and instead overly focuses on models from the business sector as the solution. Moreover, Kareiva and Fuller do not consider the roles played by societies, communities, individuals or States, and the political context within which conservation policy and actions are embedded. This context involves power relations, inequality, and democratic deliberation (Perreault, Bridge and McCarthy, 2015). Neither do they consider the complex politico-economic dynamics that drive land-cover and land-use change (Lambin *et al.*, 2001). By remaining silent on the political context and the respective responsibilities of different actors, and by implicitly endorsing the activities of the business sector, Kareiva and Fuller's prescription may risk amplifying the fundamental economic and social processes that drive biodiversity depletion.

One-size-fits-all governance

Kareiva and Fuller (2016) promote a neoliberal approach to biodiversity conservation governance, that favours a commodifying, cost-benefit and market-based approach in preference to government-led regulation (Igoe and Brockington, 2007; Fletcher, 2010) or other approaches. We suggest that conservation governance needs to carefully consider the particular issues at hand and the complex cultural and political context within which it is embedded. Different approaches may be better adapted to different issues (Cumming, 2016); promoting a singular governance system is unlikely to be the most effective approach in all settings given contrasting cultures, histories, systems of values and organizations.

Contrary to Kareiva and Fuller's view, we argue that prohibition and top-down regulation can and does work in the right context. Protected areas (PAs) are a major component of biodiversity conservation in many countries with demonstrable progress in protecting biodiversity (Coetzee, Gaston and Chown, 2014; Gray *et al.*, 2016). Even so, the governance systems and funding need to be appropriate to each PA's context, if unenforced PAs (Pearce, 2007; Mascia *et al.*, 2014; Iritié, 2015) and environmental injustices (Adams and Mulligan, 2003; Vidal, 2016) are to be avoided. The examples of successful environmental incentive-based mechanisms provided by the authors (pollution control in Scandinavia and reverse auctions in Australia and Germany, p. 113) arguably owe at least part of their success to the strong state-based regulatory frameworks operating in these countries. Kareiva and Fuller's claim that adaptive responses are incompatible with top-down regulation in any context is unsupported. Top-down regulatory mechanisms may not be appropriate in all circumstances but must not be dismissed out of hand and should not be portrayed as the antithesis of innovation.

Overreliance on technology and evolution

The solutions presented by Kareiva and Fuller place unreasonable faith both on the evolutionary capacity of species to adapt to abrupt changes, and on conservation practitioners' ability to assist evolution via innovation and technology. The authors suggest that evolution is already impacting the inherent capacity of species to adapt to changes in climate and argue that 'in the face of unpredictable

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and highly disruptive change … biodiversity and conservation might be better served by managing for change – in particular managing for evolution' (pp. 107-108). It is likely that some species have the capacity to adapt to abrupt short-term changes. Yet the trend of increasing numbers of threatened species due to an *inability* to adapt to human-induced disturbances occurring at much shorter time scales than evolutionary processes (Rickards, 2016) demonstrates that many species are at risk of disappearing in coming decades (Maxwell *et al.*, 2016; WWF, 2016). This is a fundamental reason why conservation continues to focus on halting large-scale species extinction, on conserving existing ecosystems (e.g. Soulé, 2013, 2014), and on developing multiple conservation strategies adapted to dynamic social-ecological contexts (Chapin *et al.*, 2010; Ban *et al.*, 2013).

Innovations and new technologies, such as genetic engineering, may be appropriate in some cases. But due recognition must be given to the complexity of ecosystems and the pace and stochasticity of evolutionary dynamics. Care should be taken not to place undue faith in innovation and the ability of experts to assist evolution, as this may overlook the high probability of failure and the far-reaching consequences should interventions fail. In general, tools and technologies, whether commonly used or innovative, should not be presented as guiding principles for solving complex social-ecological problems. Their suitability should be assessed on a case-by-case basis, and encompass philosophical and ethical implications, as well as matters of feasibility and holistic impacts.

Conclusion

In the right context, there is certainly merit in some of the approaches put forward by Kareiva and Fuller (2016). However, their proposal provides a skewed understanding of the nature and magnitude of the social-ecological problems that we confront as societies, and constrains consideration of what is required if we are to live on this planet in ways that sustain us, each other, and the biosphere. Without proper consideration of these challenges, their policy prescriptions risk having unintended and detrimental consequences for both societies and ecosystems.

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Acknowledgements

We would like to thank Raven Marie Cretney and Merina Lohani Sitoula for useful discussions on this topic. This research was supported by the Australian Research Council (ARC) Discovery Project DP150103122, and the ARC Centre of Excellence for Environmental Decisions. Sarah Bekessy was supported by an ARC Future Fellowship FT130101225. Georgia Garrard and Richard Faulkner were supported by the Australian Government's National Environmental Science Programme Threatened Species Hub. Luis Mata was supported by the Australian Government's National Environmental Science Programme Clean Air and Urban Landscapes Hub.

[1] Kareiva, P. and Fuller, E. (2016) 'Beyond Resilience: How to Better Prepare for the Profound Disruption of the Anthropocene', *Global Policy*, 7, pp107–118. DOI: 10.1111/1758-5899.12330.

[2] For a diversity of views, see Adams and Mulligan, 2003; Maris and Béchet, 2010; Kareiva, Marvier and Lalasz, 2012; Soulé, 2013; Maris, 2014; Chan *et al.*, 2016.

[3] For example, see Kareiva et al., 2012; Marvier, 2014; Meine, 2014; Soulé, 2014, 2013; Tallis and Lubchenco, 2014.

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