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Murdoch University, Australia

*CORRESPONDENCE

James A. Fitzsimons
[✉ jfitzsimons@tnc.org](mailto:jfitzsimons@tnc.org)

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Research priorities for privately protected areas

James A. Fitzsimons^{1,2,3*} and Brent A. Mitchell^{4,5}

¹The Nature Conservancy, Carlton, VIC, Australia, ²School of Life and Environmental Sciences, Deakin University, Burwood, VIC, Australia, ³School of Law, University of Tasmania, Hobart, TAS, Australia,

⁴Quebec-Labrador Foundation/Atlantic Center for the Environment, Ipswich, MA, United States,

⁵IUCN World Commission on Protected Areas, Gland, Switzerland

The important role of private land conservation, and particularly privately protected areas (PPAs), in contributing towards global conservation is increasingly recognised. With an increase in the extent of PPAs, under a variety of different legal regimes and governance types, comes an increasing number of ecological, social, governance and legal research questions. Research into various aspects of PPAs has been growing. In compiling the IUCN's *Guidelines for Privately Protected Areas*, a range of research questions were posed. The IUCN World Commission on Protected Areas Specialist Group on Privately Protected Areas and Nature Stewardship subsequently sought to gain the views of researchers and practitioners involved in PPAs regarding what they considered to be priorities for research. Responses were higher on enabling factors and mechanisms specific to PPAs and somewhat fewer on ecological and social outcomes. These results can be used to guide future research efforts that will be most meaningful to improve PPA take up, effectiveness and longevity, noting there is a need for researchers, practitioners, landowners and managers, and policymakers to collectively set the research agenda.

KEYWORDS

privately protected areas, financial incentives, research, protected area establishment, success

1 Introduction

The signing of the Convention on Biological Diversity's Kunming-Montreal Global Biodiversity Framework in December 2022 raised the stakes for global area-based protection targets. Target 3 of the Framework saw countries commit to conserving 30% of terrestrial and inland water areas and marine and coastal areas in networks of 'protected areas and other effective area-based conservation measures (OECMs), recognizing indigenous and traditional territories, where applicable' (CBD, 2022).

The important role of private land conservation, and particularly privately protected areas (PPAs), in contributing towards global conservation is increasingly recognised (e.g. [Stolton et al., 2014](#); [Bingham et al., 2017](#); [Mitchell et al., 2018a](#); [Bingham et al., 2021](#)). PPAs have been shown to make important contributions at national or subnational levels for

elements such as ecosystem representation and connectivity (e.g., Fitzsimons and Wescott, 2001; Fitzsimons and Wescott, 2008a; Fitzsimons and Wescott, 2008b; Plissock and Fuentes-Castillo, 2011; Clements et al., 2019; Archibald et al., 2020) and the initiatives of private actors (and those of indigenous peoples and local communities) are considered “central” to the implementation of the Global Biodiversity Framework (Maxwell et al., 2020).

With an increase in the extent of PPAs, under a variety of different legal regimes and governance types, comes an increasing number of ecological, social, governance and legal research questions. The interest in research in PPAs has been growing with an increasing (though still relatively small) number of papers and reports in the literature in recent years (Palfrey et al., 2021), including an increasing diversity of subjects and geographies. These range from inventories at global (e.g. Stolton et al., 2014; Bingham et al., 2017; Hardy et al., 2018; Bingham et al., 2021; Lewis et al., 2023), national (Fitzsimons, 2015; Pellin and Lima Ranieri, 2016; Shanee et al., 2020), and subnational (Elton and Fitzsimons, 2023) levels, ecological values (Archibald et al., 2020; Ivanova and Cook, 2020), issues of definition (Mitchell et al., 2018b), policy at national and global levels (Clements et al., 2018; Archibald et al., 2021; López de la Lama et al., 2023), motivations (Selinske et al., 2015; Gooden, 2019a; Gooden and Grenyer, 2019b; Selinske et al., 2019), incentives (Wright et al., 2018; Selinske et al., 2022), and monitoring (Fitzsimons and Carr, 2014) amongst others.

The review by Palfrey et al. (2021) on research published in the peer reviewed literature suggests “limited questions have been asked about PPAs” noting that “38% of articles (n = 155) investigated the location of PPAs or ownership characteristics, incentives, and motivations for PPA establishment”. Palfrey et al. (2021) suggested the research questions in already published studies “reflect an exploratory research agenda and demonstrate a trend of research heavily dominated by factors shaping PPA establishment and aims (inputs), rather than results (outputs)”.

The International Union for Conservation of Nature (IUCN) World Commission on Protected Areas developed Guidelines for Privately Protected Areas (Mitchell et al., 2018a) as part of its Best Practice Protected Areas Guidelines Series, in recognition of the growth and diversity of PPAs. The aim of these guidelines was to shape the application of IUCN policy and principles towards enhanced effectiveness and conservation outcomes for PPAs, focused on the managers and administrators of such areas. In compiling the guidelines, a range of research questions were posed in relation to PPAs. In order to help direct research that might be useful for advancing PPAs from a policy and practice perspective, the IUCN World Commission on Protected Areas Specialist Group on Privately Protected Areas and Nature Stewardship (PPA Specialist Group) sought to gain the views of researchers and practitioners with an interest in PPAs regarding what they considered to be priorities for research.

2 Methods

The following questions were sent to the ‘Privately Protected Areas and Nature Stewardship’ Google Groups listserver (a list that

contained 373 people at the time) via email on 4 April 2019 and was posted on ResearchGate (www.researchgate.net) on 5 April 2019 (see Supplementary File 1):

- What do you consider to be the priorities for a research agenda on PPAs?
- What is the capacity for conducting research on PPAs? (That is, what academic institutions are engaged or interested in topics related to PPAs)?
- What are your research interests? Where do you see yourself/ your institution in future research on PPAs?
- Why is research into PPAs attractive (or not attractive) to you?

It was noted in the request for feedback that all disciplines and perspectives from any geography or scale were welcome.

Respondents were encouraged to email responses to the sender directly (Brent Mitchell, then Chair of the PPA Specialist Group) as opposed to all on the listserver. This avoided respondents’ answers being influenced by other respondents, thus reducing bias. Respondents were informed that the results from the survey would be synthesised and made publicly available.

Between 5 April 2019 and 15 April 2019, we received 28 responses from researchers and practitioners in 16 countries (and all inhabitable continents, Table 1). The 28 respondents represent a response rate of 7.51% based on the mailing list of 373 recipients. The respondents were diverse – only 22% could be characterized as being researchers primarily. 28% were owners or managers of PPAs, and another 28% manage projects for national NGOs. The balance of

TABLE 1 Origin of respondents to survey on research priorities for privately protected areas.

Country	Respondents
South Africa	4
Brazil	3
UK	3
USA	3
Australia	2
Canada	2
Spain	2
Belgium	1
China	1
Chile	1
Colombia	1
Democratic Republic of Congo	1
India	1
Iran	1
Namibia	1
Paraguay	1

respondents work for international NGOs, national governments, and international donor organizations.

We focused on responses to the question “What do you consider to be the priorities for a research agenda on PPAs?”. An inductive thematic analysis (Braun and Clarke, 2006; Nowell et al., 2017) was undertaken by JF on responses, identifying various themes and focal areas for future research (Table 2). We grouped suggested research topic that were similar and categorised responses into common themes. Where a respondent suggested multiple research topics, each topic was recorded.

We sought to retain anonymity of respondents when coding the data, including by removing unnecessary detail that might link the responses to a particular individual or group.

3 Results

Respondents identified 25 different priority research topics for PPAs, which we classified into 10 different themes (Table 2). The highest responses were for better understanding of the factors that are successful and not successful as they related to financial incentives (13 respondents), policy and/or legal mechanisms (9)

and governance and/or institutional mechanisms (7) for PPAs. A better understanding of ecological outcomes was the second most suggested theme, including the contribution of PPAs to global, continental and regional conservation objectives (5), protection of threatened or restricted range species (3) and improved biodiversity outcomes at site level over time (3). Social research such as the contribution of PPAs to socio-economic development including positive and negative social aspects of PPAs (5) and motivations of landholders for the creation of PPAs (3) was the next most commonly listed priority for research. Six respondents identified aspects of the security of PPAs as important, particularly as part of intergenerational transfer of properties. Management (e.g. supporting and monitoring management plan implementation), economic issues (e.g. sustainable finance and economic impacts on property values) and the role of PPAs in surrounding landscapes and role of PPA networks were each considered research priorities for five respondents. Future opportunities and the role of tenure in future growth of PPAs in national protected area networks and changes over time (e.g. with climate change and landholders perceptions) where considered priorities by four respondents and further research on the definition of PPAs and priority for three.

TABLE 2 Broad themes and priority research topics for privately protected areas identified by respondents to survey.

Broad themes	Total	Priority research topics	Responses
Mechanisms	29	Financial incentives and terms that are successful and those that are not (and related context)	13
		Policy and/or legal mechanisms that are successful and those that are not (and related context)	9
		Governance and/or institutional mechanisms that are successful and those that are not (and related context)	7
Ecological outcomes	11	How are PPAs contributing to global, continental and regional conservation objectives (in terms of improving representation, connectivity, ecosystem services etc. of the protected area estate)?	5
		Have PPAs quantifiably contributed to the formal protection of threatened or restricted range species?	3
		Have PPA proclamations/agreements resulted in improved land management and biodiversity integrity (and has that changed over time)?	3
Social	9	How do PPAs contribute to socio-economic development (including positive and potential negative social aspects of PPAs, and landholder wellbeing)?	5
		What are the motives (generally) of people who create and manage PPAs?	3
		Indicators of the social dimensions of effective PPAs (e.g., landholder commitment, willingness-to-participate, willingness-to-collaborate)	1
Security	6	Intergenerational issues of transfer of properties (including stewardship)	5
		Reasons for PPA abandonment	1
Management	5	How to improve and support PPA management plans (including whether management plans are effectively enforced and how are landowners that default on management agreements addressed)?	3
		What the barriers to effective operation (generally)?	1
		What are the basic skills needed of a PPA manager?	1
Economic	5	Sustainable finance through the private sector (e.g. ecotourism)	2
		How best to balance sustainable use with conservation in PPAs (ecotourism, non-lumber forest products, bird watching, domestic animals vs. wildlife, cultivations vs. native climax vegetation, etc)?	2
		What impact has the establishment of PPAs had on property value?	1

(Continued)

TABLE 2 Continued

Broad themes	Total	Priority research topics	Responses
Role of surrounding landscape/uses/actors	5	Interrelationships, interactions, and even eventual conflicts between PPAs and public protected areas (or how do they operate as part of a boarder protected area network)	2
		Do other forms of conservation on private land act as a 'stepping stone' to PPA status and what are key drivers for this?	1
		What is the role of third-party non-government organisations in helping maintain community engagement in the PPA effort?	1
		Are PPA networks useful? Do they create added value, or just added work? Under what conditions does a network create added conservation value?	1
Future opportunities	4	Land tenure, and how much 'opportunity' a nation has for PPAs to contribute to a representative protected area network (and are some tenures more or less favourable?)	4
Change over time	4	How climate ready are policies/laws re PPAs?; using individual PPAs as a means to study climate change impacts over time; what are the perceptions of climate change by PPA owners and their confidence to manage as a result?	3
		How does capacity, satisfaction and perceptions of the PPA programs change over time to inform PPA program design?	1
Definition	3	Definition of PPA (including intersection between IUCN protected area management category guidelines and consistency of standards of definitions for PPAs between countries).	3

4 Discussion

Our findings highlight at least 25 different priority research topics for PPAs as identified by researchers and practitioners. The priorities were diverse and ranged from inventory (contribution of the current network of PPAs to global conservation efforts), forward looking (documenting change over time – ecologically and socially), focuses on site qualities and landholders/managers and definitions. The three highest responses were for better understanding of the factors that were successful (and not successful) as they related to 1) financial incentives, 2) policy and/or legal mechanisms and 3) governance and/or institutional mechanisms. This suggests a desire for a deeper, system-level and comparative approach to understanding how to grow and maintain successful PPA programs. Many respondents identified more than one of these, highlighting the potentially inter-related nature of these issues and the need for a multi-disciplinary approach to explore them.

Dudley et al. (2018) generated 100 research priorities for protected areas more broadly, based on responses from 50 protected area specialists (researchers and practitioners) who were asked to generate two priorities per person. The responses were grouped under four categories – management, governance, ecological and social (including political and economic) issues. Each response was listed by Dudley et al. (2018) because “While recurrent themes were identified ... none of the responses received were direct repetitions, although this is partly a matter of wording or perspective in some cases”. This is interesting, and in contrast to our results where there was repetition, particularly in the most popular responses, though we did not limit responses to two priorities per person. Dudley et al. (2018) suggested responses to their broader protected area survey ranged from “very broad to quite specific issues” which was generally consistent with responses to our PPA survey, although responses we received were less geography-specific. “Environmental change” and “protected area effectiveness” were considered two highly mentioned themes by

Dudley et al. (2018) but were only mentioned in a small number of responses to our survey. Dudley et al. (2018) suggested that some high-profile issues such as Protected Area Downsizing, Degrading and Degazettement (PADDD) “featured very little” and “Interestingly there was little focus on the intersection of social and governance aspects of protected areas”. In contrast, our responses identified ‘security’ as the fourth most mentioned broad theme and ‘governance’ as the third most listed research priority.

These findings on the future research needs of privately protected areas as identified by researchers and practitioners themselves, complements the work of Palfrey et al. (2021) on the published research already undertaken on PPAs until late 2019. In addition to our findings, we concur with Palfrey et al. (2021) in “that future research should widen the geographical scope and diversify the types of PPAs studied”. However, acknowledging that significant variation in factors influencing uptake and/or establishment of PPAs can also vary significantly within countries (e.g. Australia: Fitzsimons and Wescott, 2001; Leverington, 2012; Fitzsimons, 2015; Selinske et al., 2019; Elton and Fitzsimons, 2023), broadening the geographic scope should also encompass inter-country differences, particularly between subnational governments.

It is likely that with a larger sample size, more research priorities would be identified. It is important to note, that our survey was undertaken prior to the COVID-19 pandemic, an event that did have numerous impacts on protected areas, including privately protected areas (Hockings et al., 2020; Waithaka et al., 2021). Thus, it could be that additional research priorities may arise if the questions were asked today, or the priorities of some may increase or decrease based on that major event. The passage and specifics of the Global Biodiversity Framework and its Target 3 ‘30x30’ mandate might also influence results if the survey were to be repeated.

There is a need for researchers, practitioners, landowners and managers, and policymakers to collectively set the research agenda to ensure that the research undertaken is most meaningful, and has the greatest chance of being useful and being used to improve PPA

take up, effectiveness and longevity. This should involve jointly setting research indicators that meet the multiple and often different needs of academics, policymakers and practitioners (Lavery et al., 2021). Study of the expansion of and outcomes from privately protected areas should be part of coming global stock-takes as the Global Biodiversity Framework is implemented.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical approval was not required for this study because the survey of members of the IUCN's Privately Protected Areas and Nature Stewardship listserver was not originally envisaged as a formally publishable research survey, rather a survey of members to inform a program of work for a specialist group of a large global conservation organisation, the IUCN. Nonetheless, respondents were informed that the results from the survey would be synthesised and made publicly available. The responses provided valuable information on research priorities which will be of interest to the academic community. By responding to the survey, the participants provided their written informed consent to participate in this study.

Author contributions

JF: Writing – original draft, Writing – review & editing. BM: Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcosc.2024.1340887/full#supplementary-material>

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