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Steps to diversify prioritysetting research in conservation: reflections on de Gracia 2021

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1 Taking steps towards diversifying priority setting research in 2 conservation science: reflections on de Gracia (2021)

3 There is growing awareness across many branches of science of the need to decolonize research
4 practices and curricula (Aikenhead, 2006; Radcliffe, 2017), and the fields of ecology and
5 conservation are no exception (Baker *et al.*, 2019). However, while conservation scientists and
6 practitioners from the Global North are gradually waking up to the fact that local knowledge and
7 agency – including that of indigenous people – are essential for social justice and to achieving
8 conservation outcomes, the road to decolonizing conservation science remains a long one (Baker
9 *et al.*, 2019). As a discipline, conservation has a long colonial history and remains heavily
10 dominated by institutions in the Global North when it comes to publications, funding and research
11 networks (Maas *et al.*, 2021).

12 In a letter drawing attention to the need to decolonize conservation science, de Gracia (2021)
13 focuses on how exercises that aim to set global conservation priorities are heavily biased in their
14 representation towards researchers from the Global North. This despite the fact that many of
15 today's most pressing conservation challenges are faced by countries and people in the Global
16 South. To make this point, de Gracia identifies Jucker *et al.* (2018) as an example of research
17 that perpetuates the power dynamics and priorities of researchers in the Global North. We thank
18 de Gracia for voicing this issue and for giving us the opportunity to contribute to this important
19 conversation. We strongly encourage others to read de Gracia (2021) and related perspectives,
20 which provide much needed context on why we should strive for better representation in
21 conservation science. Here we take this opportunity to reflect on some of the limitations of our
22 own work, while also clarifying a few points made by de Gracia (2021) in reference to Jucker *et al.*
23 *et al.* (2018) and priority setting research more broadly.

24 **Broadening participation in priority setting research**

25 de Gracia's (2021) central message is that certain groups – particularly those from the Global
26 South and those outside traditional academic circles – rarely get a seat at the table when
27 conservation priorities are set. We entirely agree. This disparity is captured clearly in a recent
28 meta-analysis by Dey *et al.* (2020), who report that only around a third of priority setting exercises
29 in ecology and conservation involve resource users, and almost none engage with indigenous
30 organizations (although most do include participants from governmental and non-governmental
31 organizations outside academia). It is easy to see why de Gracia chooses Jucker *et al.* (2018) as
32 a specific example of this broader issue. This project was led by a group of conservation scientists

33 largely based at a single institution, the University of Cambridge, which in many ways epitomizes
34 the power imbalance between different regions of the globe. Lack of broad institutional and
35 societal representation is certainly a valid criticism of our work, and a limitation which we ourselves
36 drew attention to in our paper. However, de Gracia's letter does overlook three important aspects
37 of Jucker *et al.* (2018): (i) our goal was not to set new conservation priorities, but to develop a
38 method to re-evaluate existing ones; (ii) the approach we developed actively sought to increase
39 representation (albeit imperfectly); and (iii) despite our shared institutional affiliation, as authors
40 we actually represented a diverse group of early career researchers (ECRs).

41 First, Jucker *et al.* (2018) was not a conventional priority setting exercise, as the paper did not aim
42 to identify any new priority research areas. Instead, what motivated our work actually echoes
43 several of de Gracia's general criticisms of current priority setting exercises. Recent years have
44 seen priority setting research become increasingly popular in the environmental sciences (Dey *et al.*, 2020),
45 with at least 35 such papers being published in the decade between 2006–16 (see Fig
46 S12 in Jucker *et al.* 2018). However, continuously identifying new areas of priority research might
47 not necessarily be the best way to advance conservation, particularly if no attempt is made to
48 determine how the broader conservation community judges their relative importance. We therefore
49 set out to develop a framework to revisit existing priority questions and identify key knowledge gaps
50 that remained. We used the 100 questions posed in Sutherland *et al.* (2009) as our case study, as
51 it was one of the first exercises of its kind explicitly focused on conservation. Using these as a
52 reference, we asked two basic questions: (i) how much effort had gone into addressing each of the
53 100 questions over the past decade? and (ii) are these topics still perceived as highly relevant to
54 achieving global conservation goals? We did this using a two-pronged approach: a literature review
55 to estimate effort and an online survey to assess relevance (the latter of which is the focus of de
56 Gracia's letter). We acknowledge that by choosing these specific 100 questions as our reference,
57 we implicitly legitimize them, even if in our paper we were careful to highlight lack of broad
58 representation as a major limitation of Sutherland *et al.* (2009). However, it is important to keep in
59 mind that at its heart ours was a methodological exercise – a first attempt to develop a framework
60 for re-evaluating existing priority topics across any field of research.

61 Second, by using an online survey to assess relevance, our approach aimed to address de
62 Gracia's major criticism of priority setting exercises: lack of representation. Our survey reached
63 222 conservation scientists and practitioners, five times as many as those who originally
64 contributed to Sutherland *et al.* (2009). This included respondents from the Global South (South
65 America, Africa and Asia, excluding Japan), which, despite being a minority (17%), generally

66 tended to assign relevance scores that were broadly consistent with those of respondents from
67 Europe, North America and Australia (Pearson's correlation coefficient = 0.47, $P = 0.002$ for
68 questions with at least 5 respondents from both groups). This is not to say that our approach was
69 perfect, nor that it went far enough in addressing the issue of representation. Beyond the obvious
70 geographic biases in the survey which de Gracia (2021) focuses on, there are also less visible
71 ones linked to age, gender, ethnicity, disability, socio-economic status and education which could
72 have affected our results. These are important limitations of our work which we documented and
73 discussed in our original paper. However, while acknowledging these limitations, our approach
74 did at least take a first step towards broadening participations in priority setting exercises.

75 Third, while the authors of Jucker *et al.* (2018) were all based at the University of Cambridge and
76 its Conservation Research Institute (UCCRI), we did not reflect the typical make-up of a priority
77 setting group. For one, at the time this project was undertaken, all 45 authors were ECRs (PhDs,
78 Postdocs or Research Fellows), not established experts in our respective fields. For practical
79 purposes (including funding constraints) we needed to restrict participants to those based in
80 Cambridge, hence the strong institutional bias. We were nonetheless conscious that the
81 composition of the team was critical, as it strongly influences how collaborative and
82 interdisciplinary research is perceived, theorized and implemented (Aijazi *et al.*, 2021). To
83 encourage inclusivity and participation, diverse voices from academia and NGOs were consulted
84 during the design phase of the project. This included ECRs from across disciplines in the natural
85 and social sciences – Geography, Land Economy, Law, Plant Sciences and Zoology – who
86 participated in this planning process. Collaboration in the project emerged from an open call to
87 ECRs, irrespective of ethnicity, race, gender, or area of expertise. Of the 45 authors, $\frac{2}{3}$ were
88 women, and while certainly not a majority, several were from the Global South, including one of
89 the two project leads. There are of course many factors beyond age, gender and ethnicity which
90 determine who participates in priority setting research, and we cannot (and did not) claim to
91 represent everyone with a stake in the conservation of the world's biodiversity. But we did make
92 a concerted effort to broaden this group.

93 **The future of priority setting research in conservation**

94 Reflecting on the need to broaden participation when prioritizing conservation objectives, de Gracia
95 (2021) ultimately comes to the conclusion that "*until this work is seriously undertaken, articles such*
96 *as Jucker et al. are harmful and inappropriate*". A deeper debate is needed about how we tackle
97 the issue of representation in conservation, and whether we should accept to make incremental
98 progress while acknowledging limitations (as was the spirit of Jucker *et al.* 2018) or if a more radical

99 shift in practices needs to occur first. What we certainly agree with is that we can and should do
100 more to narrow the representation gap. Thinking practically, one thing we can do is set clear
101 authorship guidelines that ensure people from diverse backgrounds are given the opportunity to
102 participate in and lead priority setting research. This is similar to the model that the
103 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
104 follows when nominating contributing authors (although this too has been criticized for not going far
105 enough; Báldi & Palotás, 2021). Language is another important barrier to participation which we
106 can take concrete steps to remove (Amano *et al.*, 2016), although it is by no means the only one.
107 For instance, subsequent work led by authors who contributed to Jucker *et al.* (2018) looked to
108 canvass a broader group of people by translating their questionnaire into five languages (Rose *et*
109 *al.*, 2018). Finally, it is important that we think of diversity and representation holistically. de Gracia
110 (2021) puts a strong emphasis on the Global North-South divide. But diversity and inclusion are
111 much more complex than just geography. Opportunities to contribute to decision making vary
112 dramatically not just between the Global North and South, but also within them, due to factors such
113 as age, gender, ethnicity, religion, access to education, disability and socio-economic status. In
114 striving for greater geographic representation, we must not lose sight of this fact.

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