Correspondence

Conservation: listen to more voices

Heather Tallis and her 239 co-signatories rightly argue that conservation science and practice would benefit from a more inclusive representation of scientists and practitioners (*Nature* **515,** 27–28; 2014). Their call is weakened, however, because it is dominated by voices from the United States (68% of the authors). A further 10% are from Australia.

Non-English-speaking and developing regions are especially poorly represented, with just 5% of the authors coming from continental Europe and 1% from Asia; there are none from China, India, Russia, the Middle East or Japan.This is in no way representative of the global distribution of conservation need or expertise, or of the scientific literature published on conservation topics.

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Conservation: stop profit trumping all

The barriers to diversifying voices and values in conservation and its governance run deep (H. Tallis *et al. Nature* **515,** 27–28; 2014). Anyone who has sat on a diversity and equity committee knows how hard it can be to implement changes in practice.

Barriers include systemic racism and a dominant political–economic system that champions profitability above all. Futhermore, regulations governing issues from land tenure to wilderness acts are relics of colonial administrations — hangovers from elite Euro-American visions of property and land management.

What is needed to make a world where a genuine diversity of views can take root? We suggest that conservation should embrace something akin to the climate justice movement, in which scientists, activists, academics, farmers, indigenous peoples, urban and rural populations demand not just emissions reductions, but a dramatic redistribution of wealth and power.

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Conservation: more than inclusivity

Tallis *et al.* missed two opportunities to strengthen their call for greater inclusion in the conservation-biology debate (*Nature* **515,** 27–28; 2014).

First, they could have cited more female authors. Of 37 references, only 9 are first-authored by women (of the 103 authors referenced 28 are women). Thus the authors replicate a form of exclusion they critique. Citing members of under-represented groups as legitimate sources of knowledge is essential to making a discipline inclusive.

Second, the letter did not engage with scholars in the humanities with expertise in values, politics and power — major areas of contention. For example, the authors ignore the fact that Yellowstone National Park's founding, like that of some other national parks, depended on the US government's violent expulsion of Native Americans.

Our characterization of historical and contemporary conservation movements is indeed too Western, too white, too wealthy — too Thoreau, Muir and Leopold, with an occasional Carson thrown in. But when the authors call for "an end to the fighting", they should not confuse inclusion with harmony. Nor is inclusion itself a guarantee of equal voice or equal representation.

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Conservation: focus on implementation

High-impact conservation science may offer insights for policy-makers and funders, but in our experience it is of limited value on the ground. To protect biodiversity, research needs to focus more on how conservation can be implemented (B. Pressey *et al. Nature* **515,** 28–31; 2014).

Biodiversity conservation is achieved by activities that abate threats to species and their habitats, and are mostly done by local practitioners. Conservation science helps, in principle, by determining which actions are likely to be effective. This work is mostly done by academics, who are, however, judged by citation rather than conservation impact.

What conservation practitioners need is practical advice rather than academic analysis and assessment (see E. Meijaard and D. Sheil *Biodiversity Conserv.* **16,** 3053–3065; 2007; and M. Cardillo and E. Meijaard *Trends Ecol. Evol.* **27,** 167–171; 2012).

Take our Indonesian-language book on how timber concessions can improve wildlife management (E. Meijaard *et al. Hutan pasca pemanenan;* CIFOR/UNESCO, 2006). The book has been used widely in teaching and training, and for informing changes to forestry practices and strategies — including Indonesia's ecosystems restoration initiative. It has been downloaded 35,000 times — yet has garnered only four citations. We need to develop a conservation science that does far more to achieve conservation.

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New pasture plants pose weed risk

Many new plant varieties that are sold for livestock pasture pose a weed risk that jeopardizes their purpose — the sustainable intensification of agriculture — by increasing the environmental costs of food production. We urge governments to include potential environmental damage when screening new pasture varieties and to introduce a 'polluter pays' penalty system.

More than 90% of new pasture-plant species are invasive weeds with characteristics that include fast growth and wide-ranging environmental tolerance (see D. A. Driscoll *et al. Proc. Natl Acad. Sci. USA* **111,** 16622–16627; 2014). The consequences have been disastrous in some countries, including Australia and the United States, where buffel grass, for example, increases fire risk and transforms ecosystems.

Worldwide, limited regulation of new pasture varieties places the environment at increased weed risk. We suggest that agribusinesses should be held financially accountable for environmental damage that their products cause, providing incentives to stem the threat from invasive pasture plants.

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CONTRIBUTIONS

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