frontiers in Conservation Science

PERSPECTIVE
published: 18 November 2021
doi: 10.3389/fcosc.2021.761292

Protecting Half the Planet and Transforming Human Systems Are Complementary Goals

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OPEN ACCESS

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Specialty section:
This article was submitted to Global Biodiversity Threats, a section of the journal Frontiers in Conservation Science

Received: *19 August 2021*
Accepted: *15 October 2021*
Published: *18 November 2021*

Citation:
Crist E, Kopnina H, Cafaro P, Gray J, Ripple WJ, Safina C, Davis J, DellaSala DA, Noss RF, Washington H, Rolston H III, Taylor B, Orlikowska EH, Heister A, Lynn WS and Piccolo JJ (2021) Protecting Half the Planet and Transforming Human Systems Are Complementary Goals. Front. Conserv. Sci. 2:761292. doi: 10.3389/fcosc.2021.761292

The unfolding crises of mass extinction and climate change call for urgent action in response. To limit biodiversity losses and avert the worst effects of climate disruption, we must greatly expand nature protection while simultaneously downsizing and transforming human systems. The conservation initiative Nature Needs Half (or Half Earth), calling for the conservation of half the Earth's land and seas, is commensurate with the enormous challenges we face. Critics have objected to this initiative as harboring hardship for people near protected areas and for failing to confront the growth economy as the main engine of global ecological destruction. In response to the first criticism, we affirm that conservation policies must be designed and implemented in collaboration with Indigenous and local communities. In response to the second criticism, we argue that protecting half the Earth needs to be complemented by downscaling and reforming economic life, humanely and gradually reducing the global population, and changing food production and consumption. By protecting nature generously, and simultaneously contracting and transforming the human enterprise, we can create the conditions for achieving justice and well-being for both people and other species. If we fail to do so, we instead accept a chaotic and impoverished world that will be dangerous for us all.

Keywords: Nature Needs Half, mass extinction, climate change, inclusive justice, degrowth, rights of nature

TOWARD SCALING UP CONSERVATION AND SCALING DOWN HUMAN SYSTEMS

Earth's rapidly mounting crises of mass extinction and climate breakdown are merging into a single calamity imperiling all complex life (McNeill and Engelke, 2014; Ceballos et al., 2017; Steffen et al., 2018; Bradshaw et al., 2021). Anthropogenic extinction levels are an estimated 1,000 times higher than the background rate and predicted to continue climbing

(Pimm et al., 2014). The speed with which average surface temperature is rising is heading the planet toward hothouse conditions (Steffen et al., 2018; Ripple et al., 2020). The diversity and dynamism of genetic lineages, populations, species, subspecies, ecosystems, and biomes are collapsing (Barnosky et al., 2012; Ripple et al., 2017). Studies forecast the dislocation of tens of millions of people from land degradation, environmental conflicts, and climate-change induced droughts and floods, sea-level rise, and mega wildfires; globally, an estimated 200 million people will be displaced by climate change alone by 2050 (Wennersten and Robbins, 2017; Merone and Tait, 2018).

Earth's deteriorating predicament calls for bold action. We propose international action that combines efforts on two fronts: large-scale nature conservation and downscaling human economic, demographic, and food production systems. We argue that this combined approach can halt the mass extinction underway, avert the worst effects of climate change, and prevent much human and non-human death, conflict, and dislocation. The two-pronged approach we advocate also charts a course toward redefining humanity's relationship with Earth in a way that supports justice for both human and non-human beings.

Over the past decades scientific studies have been converging on the assessment that only generous protection of the natural world can stem the collapse of biodiversity (Ehrlich and Pringle, 2008; Wilson, 2016; Dinerstein et al., 2019; Rewilding Charter Working Group, 2020). Studies are also demonstrating that policy focus on nature protection and restoration, coupled with promoting regenerative agriculture, is key for buffering climatic upheaval and averting worst-case scenarios (Griscom et al., 2017; Roberts et al., 2017; Dinerstein et al., 2019; Locke et al., 2019). It has thus become evident that along with an energy transition, large- or continental-scale conservation is essential for preventing and mitigating imminent disasters.

Yet such levels of nature protection are unlikely to be possible, or even attempted, as long as humanity remains on the trajectory of "the Great Acceleration"—the post-1945 period in which human systems have been growing exponentially and driving multiple impacts (McNeill and Engelke, 2014; Steffen et al., 2015). During this period the gravest ecological wounds to Earth's systems have been effected and the threshold of dangerous climate change exceeded (Rockström et al., 2009; Steffen et al., 2015). Alongside expanding protected areas, therefore, transitioning out of the Great Acceleration phase by downsizing the human enterprise will be necessary. Enlarging the scale of conservation and reducing the scale of human systems are complementary goals.

NATURE NEEDS HALF

We support the Nature Needs Half (or Half Earth) platform as moving us toward achieving conservation levels commensurate with the magnitude of the ecological crisis (Noss, 1992, 2020; Noss and Cooperrider, 1994; Soulé and Terborgh, 1999; Locke, 2015; Wilson, 2016; Dinerstein et al., 2017). Nature Needs Half calls for the conservation of half the planet's terrestrial, freshwater, and marine areas, with inclusive representation of all ecosystems. Presently, around 15% of the Earth's land surface and just over 5% of the global ocean are protected with designations ranging from strict protection to sustainable use (UNEP, 2018; Marine Protected Area Atlas, 2020). Current protection levels, or moderate upward adjustments, are inadequate for sustaining a biologically rich planet or preempting anticipated disasters (Noss et al., 2012; Dinerstein et al., 2019).

Indeed, despite expansion of protected areas in recent decades, high extinction rates persist (IPBES, 2019). Yet the ongoing erosion of Earth's biodiversity does not demonstrate that conservation measures are ineffective, since without current levels of protection ecological losses would have been far worse (Pimm et al., 2014; Godet and Devictor, 2018; Pacifici et al., 2020; Wolf et al., 2021). We can draw two conclusions from the ongoing decline of biodiversity: (1) the Nature Needs Half platform is steering us toward the scale of protection required; and (2) human systems must be downscaled and transformed to reverse mounting pressures of human demands and waste output and to facilitate biodiversity conservation.

The initiative to protect half the planet's ocean and land may seem overambitious or idealistic (O'Leary et al., 2016; Locke et al., 2019). Yet it constitutes a response on a par with today's unprecedented emergencies. Nature Needs Half offers a pragmatic framework that can save Earth's remaining biodiversity and help sustain a livable climate, by protecting sufficient land and marine ecosystems for wild populations and for carbon sequestration. Nature Needs Half also offers an ethical framework that institutes justice toward the non-human world, by providing enough space for that world to recover and even thrive (Wienhues, 2020). These positive qualities are generating mainstream attention and support. For example, the Nature Needs Half proposal is being reported in widely read media, thus reaching the broader culture (Hance, 2018); and the European Parliament recently passed a resolution to protect 50% of the European Union's ecosystems by 2050 (Campagnaro et al., 2019; European Parliament, 2020; Müller et al., 2020).

Although the Nature Needs Half vision is bold it is not far-fetched. All continents have extensive areas still remote from civilization and largely under natural land cover (Davis, 2020; Maron et al., 2020; Noss, 2020). Most taiga and tundra habitats of North America and Eurasia are still relatively free of roads, as are many South American, Central African, and Southeast Asian rainforest habitats (Ibisch et al., 2016). Many of these areas are under assault from extractive industries, but it is not too late to save much of each (Beyer et al., 2019). Some countries, like Canada and the United States, have hundreds of millions of hectares of government- and tribal-owned lands that can be protected. Equally important if we are to stem the extinction crisis is protecting and connecting smaller habitat patches embedded in human-dominated landscapes (Ellis and Mehrabi, 2019). It is in such areas that the bulk of biodiversity is often concentrated and where extinctions loom (Pimm et al., 2018; Wintle et al., 2018). These smaller sites retain varying degrees of wildness, provide refuges for threatened life, and help nurture human well-being (Louv, 2011; Noss, 2020).

RESPONDING TO CRITICISMS OF NATURE NEEDS HALF

Can protecting half the planet be realized? Critics have objected to such an undertaking most especially for three reasons (Büscher et al., 2016; Schleicher et al., 2019; Napoletano and Clark, 2020). First, they argue that large-scale protection will cause hardship for poor people living near natural areas restricted from human use. Second, they maintain that Nature Needs Half does not confront the economic system of profit-driven growth underlying resource extraction and human inequality. Finally, critics contend that Nature Needs Half conservation leaves unexamined "the other half"—conditions in the human utilized portion of the planet. Uniting these criticisms is a concern for social justice and fears that such large-scale conservation could exacerbate inequality and food insecurity by placing natural areas off limits to human access (Ellis and Mehrabi, 2019).

We respond to these criticisms by proposing complementary human-system goals that have yet to be elaborated in much of the Nature Needs Half literature. We argue that alongside expanding nature protection we also need to downsize and retool economic life, humanely and gradually reduce the global population, and transform food systems. Downscaling the human enterprise will facilitate large-scale conservation by lessening human demands on nature and reducing waste output. The combined effort to protect nature and downsize humanity's activities and numbers will benefit humans and non-humans alike by freeing geographical space and livelihood sources for *all* species (Rees, 2020).

We concede critics' point of needing to flesh out Nature Needs Half in a whole Earth context. At the same time, we regard the alternative approach they offer as falling short of the transformations needed (Cafaro et al., 2017; Kopnina et al., 2018). Instead of large-scale nature protection, critics counter that humanity must manage and allocate the natural world to serve all people in an equitable way. Contrasting their views with the Nature Needs Half proposal, for example, Büscher et al. (2016) write: "Instead, we promote concerted and widespread programmes of regulation and redistribution to equalize use and control of our remaining natural resources… Our suggestion is that natural resources and ecosystems become global public goods" (Büscher et al., 2016, p. 409). While we agree with the thrust for social justice, the non-human world seems curiously absent from moral consideration. Indeed, describing the natural world in terms of human natural resources and public goods tacitly supports the received assumptions that human beings are above and in control of nature, that Earth is subject to human ownership, and that distributive justice does not apply to non-humans (Wienhues, 2018; Washington et al., 2021).

Critics of Nature Needs Half sidestep engagement with a paradigm shift gaining strength worldwide: the emerging recognition that justice is urgent not only for people but for the non-human world as well, especially in a time of extinctions, displacements, killings, mass mortality events, and starvations of non-humans (Moore, 2016; UN General Assembly, 2016; Washington et al., 2018; Chapron et al., 2019; Safina, 2020a). We invite critics of large-scale conservation to recognize that humanity must move beyond the beliefs that humans rightfully control all geographical space and that only humans deserve moral consideration. While these beliefs are far from universally held, they have become globally prevalent. When the need to supersede these beliefs is acknowledged another course of action emerges: one based on broadening existential and ethical concerns to include both human and non-human worlds. Specifically, humanity can choose to downscale economically and demographically, and set free half the planet from our control. These conditions make possible protecting biodiversity and human well-being, goals that Nature Needs Half and its critics share.

The more research reveals about non-human lives, minds, and cultures, the more evident is it becoming that non-humans possess justice-relevant qualities of agency, sentience, intelligence, dignity, and capacity for life's joys and tribulations (Gruen, 2014; Safina, 2015, 2020b; Wohlleben, 2017). Advocating for inclusive justice—greater equality among people and respect for non-humans and their habitats—is corrective of an ethics that advocates for Earth as an open-access commons while implying that non-human species as less morally considerable (Cafaro and Primack, 2014; Crist, 2018; Lynn, 2019; Treves et al., 2019). The strategy we propose—conserving upward of half the planet while scaling back human economic activity and numbers—moves us toward realizing inclusive justice.

The most transformative action to that end would be to undertake expansive protection of land and seas from large-scale agribusiness, domestic animal grazing, commercial fishing, fossil-fuel extraction, corporate logging and mining operations, overhunting and poaching, infrastructure expansion (especially road-building), and urban sprawl (Soulé and Terborgh, 1999; Kopnina, 2016; Gray et al., 2018; Laurance, 2018; Johns, 2019). This approach requires establishing new protected areas while connecting and restoring existing ones (Soulé and Noss, 1998; Pimm et al., 2014; Griscom et al., 2017; Roberts et al., 2017; Dinerstein et al., 2019). Such protection is imperative for conserving and restoring populations of large predators. These animals are critical for maintaining healthy structure and function of ecosystems, and they are suffering from exploitation, declining prey, and habitat loss (Wolf and Ripple, 2018). Extensively protecting habitat, ecosystem processes, and biodiversity will yield significant benefits for the non-human realm and humanity, including stemming the extinction crisis, promoting climate stabilization, and safeguarding ecosystem amenities such as pollination and freshwater conservation. In alignment with Nature Needs Half critics, we advocate that large-scale nature protection will bar corporate access from much of the natural world, preventing that sector from profiting at the expense of biodiversity and marginalized people (Vettese, 2018).

SOCIAL TRANSFORMATIONS COMPLEMENTING LARGE-SCALE CONSERVATION

To achieve high levels of conservation, while avoiding unnecessary human hardship, it is crucial to partner with Indigenous and local communities near protected areas (Kealiikanakaoleohaililani and Giardina, 2016; Salomon et al.,

2018; Ellis and Mehrabi, 2019). Indigenous Peoples remain among the strongest defenders of Earth rights, and over one third of remaining natural lands are Indigenous lands (Mander and Tauli-Corpuz, 2006; Strang, 2016; Dinerstein et al., 2019). Conservation initiatives must respect Indigenous knowledge of the land, and collaborate with nearby communities to ensure they benefit from conservation actions. There is no one-size-fits-all model for protecting nature *and* supporting human residents. Communities need to be actively involved in conservation decision-making in ways that are context relevant, culturally sensitive, and attuned with Indigenous and local knowledge systems (Sanderson and Redford, 2003; Wuerthner et al., 2015; Aswani et al., 2018; Naidoo et al., 2019). The Jane Goodall Institute offers a holistic model of human rights-based conservation through projects that pursue nature protection, ecological restoration, sustainable food production, employment and small business opportunities, as well as family planning and education (Goodall, 2015). We support such a comprehensive approach. What specifically it looks like will vary according to ecological and social specifics.

At a global level, economic activity and human numbers must be substantially downscaled (Dietz and O'Neill, 2013; Bongaarts, 2016; Crist et al., 2017; Rees, 2020). This will reduce humanity's collective pressures on Earth for food, land, freshwater, wild fish, bushmeat, energy, wood, minerals, and other materials. Economic degrowth and attaining a steady-state economy are critical components for downsizing the human factor, while moving toward a reduced human population will support lowering economic activity, including production, consumption, and trade. It is worth emphasizing that such a course correction toward downscaling the human enterprise can be justified even on purely anthropocentric grounds, given the dangers to humanity of heading deeper into ecological overshoot (Dasgupta, 2019; Tucker, 2019; Rees, 2020).

Proposed shifts for a sustainable economic life include shortening the workweek, shrinking production of superfluous products, reducing global trade, boosting local economies, lowering the production of animal-derived foods, making commodities that are durable and recyclable, and creating a culture of repairing and reusing material things (Victor, 2010; Dietz and O'Neill, 2013; Daly, 2014; Harwatt et al., 2020; Rees, 2020; Washington and Maloney, 2020). Chief consumer countries, and the global consumer class more broadly, must reduce consumption levels, especially of throwaway, luxury, and imported goods (Lenzen et al., 2012; Olsen et al., 2019; Wiedmann et al., 2020). Rich nations also need to lead the transition away from fossil-fuel-powered economies, and support the developing world by renewable energy transfer, forgiving debt, and investing funding (accrued from a wealth tax) into viable living conditions, healthcare, family-planning services, and education for all. Such economic transformations will no doubt be challenging, but the benefits of a living planet and greater human equality will far outweigh the costs.

Alongside achieving economic degrowth and human equity—and reinforcing those goals—we can take action to end population growth and transition to a lower global population. Why numbers matter with respect to impact on Earth's systems is evident in the socioeconomic trajectory of the human population. The global middle class (or consumer class) has been growing by hundreds of millions of people per decade since the 1990s. In 2018, the consumer class passed the milestone of half the human population, reaching over 3.8 billion people (Kharas and Hamel, 2018). Growth of the middle class is expected to continue barring some drastic setback (Kharas, 2017).

The main characteristics of the middle class standard of living are electrification, expendable income, material accumulation, and participation in the global economy. The consumer lifestyle is saturated with commodities many of which are accessed on the global marketplace. Membership in the middle class involves owning an array of fashionable items (from apparel to furnishings), as well as materials- and energy-intensive products such as refrigerators, washing machines, dryers, appliances, TVs, laptops, phones, and other electronic devices. Middle-class food habits—eating more animal products, consuming processed, packaged, and imported foods, and regularly dining out—are costly in their demands for land, freshwater, and energy, and their output of pollution and food waste. Middle-class living typically also includes owning an automobile and carbon-intensive travel.

Even with the pursuit of actions to lower the consumption of the global middle class, as outlined above, the commodity-saturated lifestyle of that class still implies consumption levels well-beyond the basics. The attainment of a middle-class standard of living follows in the wake of the abolition of poverty, which is clearly a desirable trend. In the aggregate, however, the materials- and energy-intensive features of middle-class consumption have massive ecological consequences. The global convergence toward a consumer standard of living thus implies that ultimately the global population—total number of people—is a critical factor for planetary health in this century and beyond (Crist, 2019). Of course, it is still imperative to lower the footprint of aggregate middle-class consumption *via* increasing dematerialization and efficiency in production systems, ending fossil-fuel use, moving increasingly toward plant-based diets, investing in public transportation, and eliminating or substantially reducing luxury and throwaway products. Yet even with a best-case scenario of progress on all those fronts, a total of 9–10 billion people—with electricity, disposable income, commodity possessions, and connection to a global economy—will have a much higher ecological footprint than a total of 2–4 billion people. We argue that ending population growth and moving toward the lower end of that spectrum is the sensible choice for the health of the natural world and a high-quality human life.

Population growth can end and numbers can be gradually lowered within a human-rights framework (Dasgupta and Ehrlich, 2013; Engelman, 2016; Hawken, 2017; Hedberg, 2020). Lowering human numbers is achievable by expanding and protecting human rights, especially for children and women. Among the rights that should become universal are accessible and affordable family-planning services; secondary education guaranteed for all girls and young women, and support systems for post-secondary school training; comprehensive sexuality education in school curricula; intolerance from the international community of "child brides;" and women's economic rights to

buy and inherit property, to borrow and bank money, and to own a business (Bongaarts, 2016; Kaidbey and Engelman, 2017; Wodon et al., 2017; Engelman and Johnson, 2019). It is imperative to pursue these rights for their own sake, yet their dissemination also entrains the benefit of lowering fertility rates. A smaller human population will facilitate the conservation of a biodiverse planet while also supporting a higher quality of life for people by lowering pollution levels, preempting resource conflicts, ameliorating overcrowding in urban centers, and empowering girls and women (Bradshaw et al., 2021).

Population deceleration within a human-rights framework is not a "quick fix" to current problems (Bradshaw and Brook, 2014). The human population challenge has often been sidelined for this very reason: namely, that addressing it will not yield immediate dividends. While an orientation to the emergencies of the short-term is critical, the medium- and long-term well-being of humanity and planet are equally important goals to work toward and should not be neglected. The sooner the international community addresses the population challenge by means of ambitious action on the human rights outlined above, the better the prospects for the future. It is precisely because a sustainable human population is an intergenerational achievement, and not a quick fix, that embarking on its achievement in the present moment can yield benefits for future generations and the planet. Moreover, even by this century's end action on the population front can result in substantial benefits. The United Nations has estimated a median population of 10.9 billion people by 2100. If the global community, however, achieved an average reduction of 0.5 births below the total fertility of the median scenario, the human population projected by century's end is 7.3 billion (United Nations, 2019). Relatively small decreases in average family size result in substantially smaller total human numbers by 2100, accentuating the need for public engagement with the population question.

A third arena for achieving sustainable human inhabitation is transforming how we produce food and what we eat. Food production constitutes the most extensive and destructive human economic system (Foley et al., 2011; Campbell et al., 2017; Urbina, 2019). Instead of food production claiming a disproportionate share of terrestrial, freshwater, and marine realms, we can revamp it into a modest subsystem of the planet. By promoting agroecological and low-impact production models, the landscapes and seascapes of food can be transformed to interface supportively with wild nature, sustain pollinators and other wildlife, build healthy soils, accommodate a reduced number of livestock, eschew synthetic pesticide and fertilizer pollutants, and take wild fish and other marine life with a lighter hand.

We also need to situate sources of ecologically and ethically produced food near human settlements (including cities) to ensure food security, lower food miles, reduce food waste, and preserve the nutritional value of food. To shrink the land, freshwater, and carbon "hoofprint" of food, humanity can turn to a mostly plant-based diet, a proclivity that younger generations are increasingly embracing (Foley, 2013; Weis, 2013; Machovina et al., 2015; D'Silva and Webster, 2017). Last but not least, the hunting and handling of wild animals that have a high risk of disease transmission to humans should be strictly curbed, both for the conservation of wildlife and human safety (Ripple et al., 2016, 2019; Dobson et al., 2020). The spread of COVID-19 is our most recent sobering lesson, but other zoonotic diseases that were probably caused by bushmeat hunting and processing include Anthrax, Salmonellosis, Ebola, HIV-1 and−2, and Simian foamy virus among others (Wolfe et al., 2005; Safina, 2020c).

The Nature Needs Half initiative was never intended to imply that "the other half" of the planet might remain legitimately subject to exploitation, pollution, coercive labor practices and gross human inequality, or continued maltreatment of non-humans in factory farms, industrial monocultures, and wildlife markets. A comprehensively protected planet must be accompanied by deep transformations of human systems including rooting out systems of human-human oppression and exploitation. The aim of instituting large-scale protection and restoration of land and seas, while simultaneously transforming humanity's presence and activities, is to create equitable and sustainable social and ecological systems.

TOWARD A DIFFERENT HUMAN INHABITATION

In the nineteenth and early twentieth centuries, the primary goal of conservation was to serve human utilitarian, scenic, recreational, and health interests (Hays, 1958). Toward the latter part of the twentieth century, the goals of conserving biodiversity and promoting ecotourism were added. Whatever the rationales thus far, conservation has been defined as a type of human land-use, albeit more restricted than others. Protected areas have tended toward an "ecology of the minimal" that does not challenge the human dominance in the planet (Mathews, 2016).

Protecting upward of half the planet proposes a profound shift in the ethical framing as well as the practice of conservation (Piccolo et al., 2018; Taylor et al., 2020). Conservation would no longer be about sustaining a patchwork of natural areas or "islands" within a human-dominated planet, an approach that does not halt extinctions (Quammen, 1996; MacArthur and Wilson, 2001; Losos and Ricklefs, 2010; IPBES, 2019). Instead, large-scale protected nature will govern Earth's systems, with a downsized humanity transformed into a sustainable subsystem. Choosing to protect and restore half the planet thus defines a new context for human inhabitation. Briefly put, we can conserve it all and designate "use" areas, instead of the other way around.

There is growing awareness of what we stand to lose if we continue with the status quo: the planet's irretrievable biological wealth and a chance to inhabit Earth with grace (Rolston, 2012). Nature Needs Half offers an eco-social prospect that is both pragmatic and visionary. Protecting half of all ecosystems is critical for stemming ecological catastrophes and social catastrophes in their wake. At the same time, such a scale of protection reinvents our relationship with the non-human world on a basis of respect and equitable cohabitation. Large-scale conservation of land and seas proclaims a big "Yes" to a living planet. The preservation of Earth's remaining genetic, species, and ecological diversity, in turn, defines the gold standard around which human life can be designed, in terms of a modest standard of living for all, how many of us there are, where we live, and

a host of everyday practices including how we eat and fuel our societies.

Over the course of history, our species has gradually expanded the moral community, first from small groups of humans and eventually, in theory at least, to all people when the United Nations affirmed the Universal Declaration of Human Rights in 1948. Since then, there have been efforts to extend notions of personhood and rights to non-human organisms, and even natural entities such as rivers, mountains, and entire ecosystems; and sometimes these efforts have been successful (Stone, 1972; Nash, 1989; Taylor, 2010; Gray and Curry, 2016; Burdon et al., 2019; Chapron et al., 2019; Wilson and Lee, 2019). The increasingly influential philosophy of Earth jurisprudence advocates deep transformations of legal and governance systems on the ground that humans are but one species of a wider community; the well-being of all depends upon the well-being of Earth as a whole (Burdon, 2011; Cullinan, 2011; Koons, 2012; Maloney and Peter, 2014). Present-day watchwords spurring humanity toward widening the moral circle—inclusive justice, rights of Nature, rewilding, ecodemocracy, Earth jurisprudence, and Indigenous reserves—reflect an emerging consciousness alignment with all of Earth's inhabitants. To achieve this alignment necessitates conserving nature on an extraordinary scale, while redefining the human project.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

EC, HK, and PC outlined the concept, arguments of the paper, and wrote the first draft. CS, JD, WR, DD, and RN contributed refinements and substantial points on the science of conservation and biodiversity protection. JG, HW, HR, BT, EO, and JP contributed most to the ethical arguments for expanding justice beyond a solely anthropocentric conception. WR and HW additionally contributed to the economic and demographic downscaling sections. AH and WL contributed most to animal ethics aspects. All authors contributed substantially to the paper according to their expertise and globally *via* extensive edits in various places to help ensure a tight and well-referenced argument on the whole.

DEDICATION

We dedicate this article to the memory of our esteemed colleague Michael Soulé (1936–2020), a pioneer in conservation biology. Analysis of the experiences and values that animated his life, as well as his contributions to science have been published in the journal, and by the society, that he co-founded and deeply influenced (Crooks et al., 2020; Taylor, 2020).

ACKNOWLEDGMENTS

We would like to thank J. Baird Callicott, Robert Engelman, Chelsea Batavia, David Johns, Carly Vynne Baker, Katarzyna Nowak, and two anonymous reviewers for their feedback on an earlier draft.

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