

MDPI

Review

# Harmony in Conservation

Haydn Washington 1,\* D, Erik Gomez-Baggethun 2, John J. Piccolo 3 D, Helen Kopnina 4 D and Heather Alberro 5

- Earth and Sustainability Science Research Centre (ESSRC), School of Biological, Earth and Environmental Sciences, Level 5, Biological Sciences Building (D26) Kensington Campus, UNSW, Sydney, NSW 2052, Australia
- Department of International Environment and Development Studies (Noragric), Faculty of Landscape and Society, Norwegian University of Life Sciences (NMBU), 1432 Ås, Norway
- Department of Environmental and Life Sciences, Karlstad University, 65188 Karlstad, Sweden
- <sup>4</sup> Newcastle Business School, University of Northumbria, Newcastle NE1 8ST, UK
- School of Arts and Humanities, Nottingham Trent University, Room 332 MAE, Nottingham NG11 8NS, UK
- \* Correspondence: h.washington@unsw.edu.au

Abstract: Many authors have noted the role that anthropocentrism has played in creating humanity's dysfunctional relationship with the natural world. As human hubris (excessive pride or self-confidence) is an ailment that contributes to the anthropogenic sixth mass extinction of Earth's biodiversity, we argue instead for 'harmony with nature'. In recent decades, even the conservation discourse has become increasingly anthropocentric. Indeed, justification for nature conservation has in part shifted from nature's intrinsic value to 'ecosystem services' for the benefit of people. Here we call for a transformation to a more harmonious human-nature relationship that is grounded in mutual respect and principled responsibility, instead of utilitarianism and enlightened self-interest. Far from what Tennyson called 'red in tooth and claw', we argue nature is a mixture of cooperation as well as competition. We argue that the UN's 'Harmony with Nature' program is an innovative and refreshing path for change. If we are to achieve harmony with nature, modern industrial society will need to abandon its anthropocentric 'human supremacy' mindset and adopt an ecocentric worldview and ecological ethics. We conclude it is thus both appropriate (and essential) for conservationists to champion harmony with nature.

**Keywords:** harmony; hubris; ecocentrism; anthropocentrism; conservation; impact of theory; cooperation; indigenous harmony; ecotopia of harmony



Citation: Washington, H.; Gomez-Baggethun, E.; Piccolo, J.J.; Kopnina, H.; Alberro, H. Harmony in Conservation. *Conservation* **2022**, *2*, 682–693. https://doi.org/10.3390/ conservation2040044

Academic Editor: Antoni Margalida

Received: 6 September 2022 Accepted: 21 October 2022 Published: 1 November 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

# 1. Introduction

Many authors have argued recently that anthropocentrism is a key factor preventing society from transforming away from our current path of biological annihilation and mass extinction (e.g., [1–5]). In Washington et al. [4], with the same group of authors, we argued that 'hubris' is a defining feature of anthropocentrism. Defined as 'excessive pride or self-confidence' or 'a way of talking or behaving that is too proud', hubris tends to perpetuate anthropocentrism and the view that environmental solutions will occur due to enlightened self-interest [4] (p. 286). However, the accelerating environmental crisis clearly shows that this approach has failed [6–10]. Here, we focus on the positive that can heal the damage of anthropocentrism. Hence we focus on the positive, the need for 'harmony', not hubris, in how society defines our relationship with the non-human world. We make the case for an ecocentric worldview that recognizes harmony in the natural world.

What do we mean by harmony? The term 'harmony' derives from the Greek  $\dot{\alpha}\rho\mu\nu\nu i\alpha$  harmonia, meaning 'joint, agreement, concord'. The Merriam-Webster Dictionary describes it as 'an interweaving of different accounts into a single narrative'. This captures the synthesis role of harmony, where it brings things together into a harmonious whole. The Cambridge Dictionary describes it similarly as 'the combination of separate but related parts in a way that uses their similarities to bring unity'. Here we speak of both harmony

within nature (due to cooperation co-existing with competition) and harmony between humanity and nature. Regarding the latter, we see harmony with nature as mutuality-based co-existence, where our interaction is not just humans 'taking' but also giving back in gratitude [11,12]. Harmony with nature involves a sense of wonder, respect, and reciprocity towards nature [12–14].

Washington [15] discussed the role of cooperation in ecosystems, where species cooperate not only within themselves [16], but also with other species to their benefit [17]. As Washington [15] has noted, past ecologists did not refute change in ecosystems. Ecologists in the past were aware of the change created when ecosystems were disturbed. They could see that nature is always in a state of flux, but they could also see a persistence and stability (we would call it a dynamic equilibrium today) or resilience of ecosystems within a range of disturbances.

Hence historically, ecologists of an earlier period spoke of stability in ecosystems, and pondered how diversity was related to stability, and sought to measure [15,18,19]. This fell into line with the then underlying paradigm of nature as a superorganism. This paradigm also meshed well with the worldview of ecocentrism [20,21], and tied in well with what historian Donald Worster [22] called the 'Arcadian' (or 'naturalist') approach to ecology. Has the superorganism worldview disappeared? Callicott [23] has argued it was brought to life again in Gaia theory [23]. The term 'ecological integrity' was commonly used in the past, being 'the ability of an ecosystem to support and maintain ecological processes and a diverse community of organisms' [24]. Some ecologists still use the term (e.g., [25]). However, today terms such as 'stability' and 'ecological integrity' have largely fallen out of use in ecology—being subsumed by terms such as 'resilience'. This change is arguably in large part due to a change in theory within ecology.

In this paper we shall discuss 'worldview', 'ethics' and even feelings in regard to nature, things we believe should be discussed more in conservation. This paper will consider the impact of theory on ecology and conservation, as well as the view in academia that frames nature as a 'construct'. It will then consider the genetic level, examining whether the selfish gene approach is suitable. The paper will then consider the need for 'harmony with nature', and the harmony with nature approach of many Indigenous cultures. We then examine the problems with harmony that exist within conservation. Finally, we consider the creative potential for an ecotopia of harmony. This agrees with what the UN [26] 'Harmony with Nature' observes, that society requires significant change to reach an ecologically sustainable future.

#### 2. The Impact of Theory

We are concerned that ecology and the conservation it advises, are influenced unduly by theory. Regarding the impact of theory on ecology and conservation, Washington [15], urges us to remember the dictum: 'Essentially, all models are wrong, but some are useful' [27] (p. 424). If they help our comprehension, theories can be useful. However, a danger remains, that theory can become more real than reality to the theorist. This has been called 'the fallacy of misplaced concreteness' by philosopher Alfred North Whitehead [28]. Washington [15] argues that within the discipline of ecology, in the last few decades, the theory has not positively valued non-human nature.

Worster [22] argues that separate from the Arcadian stream, there is also a Linnaean or 'imperial' stream of thought in ecology, sometimes seen in some strands of mathematical and theoretical ecology. This stream of thought tends to argue that only humans have moral standing (anthropocentrism), and tends to see nature as merely a resource [14]. It also focuses on 'competition' in ecosystems, rather than on a balance of cooperation and competition. Tennyson's phrase that nature is 'red in tooth and claw' [29] lends itself to the mindset of imperial ecology. In imperial ecology, nature is thus not envisioned as a superorganism, but as operating competitively, similar to machines [30,31]. Imperial ecology is now arguably dominant in academia [15]. We thus consider the impact of theory on ecology and conservation to be major, and harmony with nature has suffered as a result.

#### 3. Nature as a Human Construct?

We are concerned that theory can write 'nature' out of the picture. Environmental theory over the last few decades has tended to become even more anthropocentric, as shown by what has been called 'post-environmentalism', 'post-nature' and 'after nature' theorizing in academia and conservation (e.g., [32,33]). Many scholars are now critical of the idea of 'nature', supporting what philosopher Val Plumwood [34] called 'nature skepticism' in her critique of this stance. Postmodernist scholars especially seem to refute that there is such a thing as 'wild nature' [35]—with some arguing the very idea of 'nature' should be abandoned altogether [36]. This line of argumentation, shared by ecomodernists and many political ecologists alike [37–39], rejects the idea of a wild nature with which we should live in harmony. Often it argues that nature is just part of the culture—a 'human artefact' [40]. They also deny any difference in naturalness between wild and built environments. Harvey [41] (p. 186), for example, has famously argued that: 'there is nothing unnatural about New York'. Within this line of thinking it has also been argued that environmental limits do not exist as objective (external) entities, and that they are rather to be understood as relative and socially-constructed [42]. This anthropocentric mindset about the social construction of nature has been taken up by two new groups in academia, the so-called ecomodernists and 'new conservationists' (who draw on neoliberal ideology) and self-labeled 'critical social scientists' (who draw on postmodern variants of neo-Marxist ideology). This is further discussed by Kopnina et al. [1,2]; Miller et al. [43]; Kopnina and Washington [44];

We argue that the idea of nature (as opposed to its materiality) is socially-constructed we believe is a rather useless tautology. We argue that the anthropocentric, postmodern, and neoliberal theories that emphasize the social construction of nature (and that grant equal 'naturalness' to wilderness and industrial technology) have not helped humanity develop an Earth ethic that lives within the limits of the Earth [20,21,46–48], and lives in harmony with nature [12]. Sometimes their writings even foster a cynical understanding of anthropogenic climate change and other forms of environmental disruption as being 'natural'. We are a species that evolved a culture that has changed the world. Nevertheless, we argue that we are nature's 'artefact' rather than nature being a human artefact.

#### 4. Survival of the Fittest? Selfish Genes?

We should move from the ecosystem level to the genetic level to query the theory behind the common 'selfish gene' argument. As noted above, one must be careful with scientific theory—perhaps the words we use to describe our theories of nature reflect our own worldviews more than the natural world we are viewing? Is nature really only made up of survival of the fittest? Are genes really selfish?

Neo-Darwinian science has largely focused on competition, i.e., 'survival of the fittest' as in Darwin's thesis in the 'Origin of Species' [49] and hence suggests this is the driving force in creating biodiversity. It is worth noting, however, that Darwin added 'survival of the fittest' only to the last edition of the Origin, somewhat against his will, having adopted it from Herbert Spencer [50]. Although Darwin argued very coherently for competition as a driving force behind natural selection, it is important to remember that he also referred to 'mutual relations among organisms' and gave it a prominent place in the Origin. He also focused in detail on social instincts as precursors to human moral sense in the 'Descent of Man' [51]. Nowhere do we require more humility and less hubris than in exercising our moral sense. This is not only amongst our fellow humans, but even more so in our treatment of the natural world. It is a valid question to ask if perhaps we also need a little humility in interpreting what ecology is telling us?

Species are what they are only in their mutual relations with the other species in their world. A closer look at the natural world reveals communication and mutual relations everywhere—flowers 'talk' to bees and bees cross-pollinate flowers, fostering genetic diversity through sexual reproduction. Furthermore, such mutualistic networks have been empirically observed to increase biodiversity [17], especially when direct competition is

weak [52]. This diversity is the raw material upon which natural selection works. In a narrow anthropocentric worldview, this is merely 'survival of the fittest' overseen by 'the blind watchmaker' (as Dawkins [53] argues). But to view this through an ecocentric lens, we see flourishing as well as perishing—beauty and wonder arising from the struggle for existence. Darwin [49] (p.490), in contemplating a tangled bank wrote:

There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.

From the macro we should also descend to the micro, to consider the genes that are the libraries of Earth's 'storied achievement' [54]. Four billion years of natural selection has encoded in life's genetic memory all of the steps along the way, from protozoa to *Protoceratops* and *Pan troglodytes*. Is it all simply 'selfish genes' looking after their own interests? One can validly ask if genes even have 'selves' outside of their genomes that include thousands of other genes, all of which are required to tell the story of the organism—to 'explain' (for example) to an acorn how to make an oak tree out of sunlight, water, and soil [55]. There could be no oak trees (indeed no eukaryotes) without symbiogenesis [56], the combinations of divergent genomes to make new organisms. It is widely accepted that long ago, prokaryotic bacteria entered primitive eukaryotic cells, and cooperated to stay and become mitochondria and chloroplasts [57].

In terms of cooperation, there is a tradition of thought dating back at least to Kropotkin [16], who argued, based on extensive evidence and observations, that mutual aid within species is observed everywhere in nature. More recently, we have learned that mutual aid also takes place between species, as in the case of trees from one species assisting trees from another by transferring sugars via soil mycorrhizae [58]. 'Selfish genes' [53] is a catchy phrase, but we argue it projects a narrow cultural view upon the complex panorama of life's eco-evolutionary heritage and harmony. In summary, biologists should be aware that the world is universally connected, and so is the survival and the development of human beings. Accordingly, our traditional anthropocentric human-centered thought is extremely narrow, and we do not believe it will aid us in seeking harmony. We believe harmony requires us to widen our thought to include the rest of life on Earth.

## 5. Harmony

Aldo Leopold [59] (p. 158) eloquently discussed harmony in nature:

[S]it quietly and listen for a wolf to howl, and think hard of everything you have seen and tried to understand. Then you may hear it—a vast pulsing harmony—its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals, its rhythms spanning the seconds and the centuries.

Jordan and Kristjannson [60] point out that the older industrial, as well as current neoliberal, society are oriented towards disharmony. They argue for a 'virtue ethic of harmony', asking what would a person who could be said to possess the virtue of harmony with nature be like? They argue that a person in harmony would perceive and act in accordance with an ecological worldview, and would feel wonder towards nature. Washington [14] enlarges on a sense of wonder towards nature, and discusses the relation of green virtue ethics to wonder.

Calzadilla and Kotze [61] refer to the term 'Vivir Bien' in the Bolivian Constitution, where essentially, 'Vivir Bien' ('To live well') means living in complementarity, in harmony and in balance with Mother Earth and society, in equality and solidarity and eliminating the inequalities and mechanisms of control and domination. The Constitution of Ecuador similarly talks of 'Buen Vivir', and grants rights to nature [62]. Washington [15] argues harmony is not a system of ideas but the reality experienced phenomenologically by an empathic person stepping into wild nature (which includes culturally-influenced nature with

high ecological integrity). Washington notes however that some scholars may be hesitant to speak of harmony, thinking it will be deemed 'unacademic'.

However, we believe it is time for academics in the conservation arena to speak out, indeed to promote, harmony with nature. The UN [26] has come to the same conclusion. Washington [15] refers to a harmony that encompasses both competition and cooperation, and this harmony can be restored. This is the harmony that arguably underlies the 'old' sustainability concept [63]. Washington [63] argues that what we mean by sustainability today draws on a long history of people thinking (and feeling) about living in harmony and balance with nature, and recording this story as lore or 'law' [64]. He notes that the old sustainability speaks of terms such as harmony, balance, sacredness, responsibility, custodianship, and beauty.

We need to briefly discuss what is meant by 'sustainability' in the context of harmony, as this difficult issue was raised by one of our reviewers. They suggested that harmony be linked to the sustainable development goals (SDGs) of the UN. We do not see sustainability as being the same thing as sustainable development, which in many cases is an oxymoron [63]. We also find natural capital an anthropocentric term that should be avoided [65,66]. We would also note that ecosystem services is an anthropocentric term that may threaten conservation [4,5,67,68].

Wijkman and Rockstrom [9] point out that there is simply not enough natural capital to sustain the policies of conventional growth, and without better management of it, there is no chance of meeting the basic needs of today's population, much less an increasing population. Sustainability is often spoken of as 'strong' or 'weak' (in the latter where you swap human capital for natural capital). However, we point out that even 'strong' sustainability is an anthropocentric concept. Strong sustainability requires the minimum biophysical requirements for human survival, without regard to other species [69]. It considers natural capital just for the human species [63], which is not necessarily what nature needs for a harmonious approach in the long or even mid-term. We thus need to go beyond strong sustainability to the strongest sustainability which accepts the intrinsic value of nature [63]. We would like to observe that the Sustainable Development Goals developed by the UN are commonly upheld as the background for sustainability. We do not support the goals to the extent that the goals ignore the environmental impact of the population (it is not an SDG) and support 'sustainable growth' which is poorly defined, and is often used as a code for business-as-usual [70,71].

In regard to the issue of change vs. stability, O'Neill et al. [72] (p. 3) note that those who see change, and those who see stability, are looking at two sides of the same coin, for: 'both impressions are correct, depending on the purpose and time–space scale of our observations'. The harmony of nature thus involves both competition and cooperation, where nature has a dynamic harmony where change is always present, yet where (if humanity strives to minimize harm to ecosystems)—harmony persists [15].

The Harmony with Nature document [26] was released this July by the UN, and calls on all to create a 'new narrative for a regenerative world in which human rights go hand in hand with the rights of Nature'. It notes in the introduction that we must change our:

Economic system rooted in and driven by the infinite exploitation and commodification of the natural world, rampant consumerism amid a widening wealth gap, the fragility of both local and global food systems, the continuing human encroachment on ecosystems and wild areas, and legal frameworks inadequate for averting climate chaos and ecological breakdown. (UN [26], Cl 1)

It further states how this is a: 'Reminder how anthropocentric world views jeopardize the existence of all forms of life, human and non-human, on the planet' (Cl. 2). It argued: 'for a future in which humankind is again living with respect for Mother Earth and in harmony with Nature' (Cl. 3). They argued that the: 'current growth-insistent economic system must be replaced with ecological alternatives that nurture a harmonious human relationship with the natural world' (Cl. 73). The Secretary-General argued that: 'the current model of

infinite growth in a world of finite physical resources will deliver a permanent triple shock of inflation, climate chaos and conflict' (Cl. 84.). The document continued;

For too long, Nature has been fragmented, compartmentalized, and objectified. The time has come to rectify that historical error and recognize. ([26] Cl. 97)

By way of final conclusion it stated: 'Perhaps one day, we will look back at present exploitative human-Nature relationships with the same sense of disgust that most people feel today about the brutal history of slavery and colonization' (UN [26], Cl. 95).

The UN [26] Harmony with Nature document is fully in line with this paper, and we believe it rightly encourages a sense of 'Harmony with Nature', and we endorse its conclusions. We do not believe the conservation community has as yet fully (or properly) engaged with the concept of harmony with nature.

## 6. Indigenous Cultures and Harmony with Nature

We should state at the start that we do not support the 'noble savage' idea as applying to all Indigenous people. However, we do think it worth re-stating that many indigenous cultures had built up a wisdom over time as to how it was best to live sustainably in an area [73]. Many indigenous societies were (and still are) animist, where animism is the belief that creatures and places possess a distinct spiritual essence. Harvey [74] describes animists as those who maintain that the world is full of persons, only some of whom are human. Knudtson and Suzuki [64] (p. 40) in 'Wisdom of the Elders' observe in regard to the 'Dreaming laws' of the Aboriginal Yarralin people that: 'Its ancient Laws remain timeless, eternally binding human beings to live in harmony with and respect for other species'. Washington [14] notes that the ecocentric worldview is not 'new' as such, rather it is a return to the 'wisdom of the elders' of many Indigenous cultures, which generally upheld 'kinship ethics' [12,26,73]. It is a return to an ethic of living in harmony with the wonder of the living world, where all life is our kin [14]. As Rowe [75] (p. 106) has noted, ecocentrism is the: 'chord that harmonizes humans and Earth'. A commitment to harmony was thus inherent in many Indigenous cultures. However, they did not always use that specific word, perhaps because the need for harmony was seen as obvious, something that did not need to be stated. Today, however, we believe there is an urgent need to foreground harmony in modern industrial society and the conservation community.

Many indigenous cultures spoke about their kinship. Black Elk of the Sioux in the US evoked the unity of life by saying [76] (p. 1):

It is the story of all life that is holy and is good to tell, and of us, two-leggeds sharing in it with the four-leggeds and the wings of the air and all green things; for these are children of one mother and their father is one spirit.

This certainly captures the sense of sharing life in harmony. Standing Bear [77] (p. 45), wrote that Dakota children reached an early understanding: 'that we are of the soil and soil of us', that 'we love the birds and beasts that grew with us on this soil'. Hence they shared a harmony. In Australia, it has been said that the land *is* the law, which is why Aboriginal Elders speak of a 'Law of Obligation' [73], where one is obliged to live in harmony with our fellow species. David Mowaljarlai, a Ngarinyin Elder of the Kimberleys, writes of his bonding with the land [78] (p. 115) of how: 'Your vision has opened and you start learning now. . . . When you touch them, all things talk to you, give you their story'. He notes also they give you their wisdom.

These quotes from Indigenous cultures bring to the fore the sense of harmony felt with our non-human kin, and the land itself. The teachings of many Indigenous cultures exalt kinship ethics with nature [26]. Harmony with nature has thus clearly always been seen as central to many Indigenous cultures [14], and we think that some of them have a lot to teach modern industrialized cultures. This is a positive way forward.

## 7. Problems within Conservation in Regard to Harmony

There has been a strong anthropocentric approach within modern industrial society for centuries [20,46,79]. However, this has arguably worsened in recent decades [1–5]. Anthropocentrism within conservation is supported by both the political Right (e.g., 'New' conservation) and much of the political Left (critical social scientists) [1,44]. Often it seems that academics are unaware of (or indeed deny) their own unacknowledged anthropocentrism [4]. Often justice [80,81], and equity and rights [82] are seen as applying purely to humanity [48]. Even the IPBES, set up to promote the protection of the world's biodiversity, arguably contains anthropocentric underpinnings [3–5]. The conservation arena may well be becoming even more anthropocentric, with some claiming conservation should primarily serve humans [83]. We find this deeply troubling.

The dominance of the 'ecosystem services' approach in conservation is also troubling, as this is inherently anthropocentric as it is purely services 'for humanity' (not the rest of life) [5,73–80]. Batavia and Nelson [68] conclude that the idea of non-human intrinsic value is at risk, and they argue it will probably become extinct if the ecosystem services model continues to dominate conservation. Such increasing anthropocentrism in conservation does not support a harmonious approach for humans to co-exist with nature. Rather, it comes close to a human supremacy approach [84]. Yet as Washington et al. [4] have noted (in this journal), the anthropocentric human supremacy approach has failed. This is hardly surprising, as a worldview and ethics that ignores or denigrates nature is unlikely to support harmony with nature—or lead to an ecologically-sustainable future [14,85]. Indeed all environmental indicators (e.g., ecological footprint of 1.75 planets [86]; Living Planet Index declining by 68% since 1970 [87]; one million species threatened by extinction, [88]) show an anthropocentric worldview and strategy clearly has not been ecologically-sustainable—or led to greater harmony. Hence the need for an ecocentric worldview and ecological ethics that foreground both justice for nature [80] and a conservation approach based on harmony with nature. The UN has independently discovered this [26].

One should also note that while the UN 'Harmony with Nature' program is mentioned by the IPBES report [88], the vision is by no means foregrounded or made central. It speaks of 'inspiring humanity to reach the 2050 Vision of the UN Biodiversity Convention "Living in Harmony with Nature". We would suggest that we need to inspire humanity in regard to harmony long before 2050, as all the environmental data clearly show modern industrial society is moving rapidly to massive disharmony with nature. Also, harmony is not mentioned at all in the Sustainable Development Goals Report [89] (which goals are implicitly anthropocentric as justice, rights and equity are seen as only applying to humanity [70,71]). The recent UN 'Nature Positive' (https://www.naturepositive.org/ (accessed on 16 October 2022)) vision similarly fails to speak of harmony with nature.

Harmony with nature may have been central to historical conservationists and deep ecologists such as Thoreau [90], Muir [91], Leopold [59], Carson [92,93], and Naess [94], but in recent decades its importance has diminished in the conservation community. We believe it is time to resurrect the centrality of harmony with nature.

# 8. The Creative Possibilities of a Concrete Ecotopia of Harmony

There has been some discussion of 'ecotopia' in the literature regarding its potential for transforming our relations with nature [95,96]. Utopianism argues that things can become otherwise than what they currently are, and offers creative projections of alternative worlds. More specifically, we argue for a concrete ecotopia where humanity commits to living in harmony with nature, reorganizing its economy along ecological \*principles to live within ecological limits [26,95–99] (according to scientists we have massively exceeded such limits [9,88,100]). Utopias evoke aspirations for a better world unconstrained by realistic considerations of human psychology and social feasibility. Political realism argues for accommodation to practical realities. The ideas of 'real' or 'concrete utopias' address this tension between practice and dreams, by paying attention to feasibility and constraint, while

emphasizing that what we deem possible is shaped by our ability to envision alternative futures [100–102].

Ecotopias typically involve critiques of the problems of modern industrial societies that are based on endless growth and the commodification of nature. They suggest imaginative reconfigurations of human-nature relations along more ethical, egalitarian, and resilient trajectories [95]. Ecotopias generally proclaim the impossibility of endless growth within a finite Earth [49,103,104]. Different sorts of utopias range from technocratic utopias to 'deep green' utopias (often critical of the hubristic use of technology for the exploitation of the Earth). The latter emphasizes the need for fundamental value transformation in our dealings with nature, often based on an ecocentric worldview [4,20].

While describing a concrete 'ecotopia of harmony' is beyond the scope of this paper, we summarize below what we think should be some of its key elements. We suggest:

- A change in worldview from anthropocentrism to ecocentrism [12,21,26].
- A change in ethics from utilitarian to ecological or Earth ethics [46] and towards an ethics of reciprocity and care [5,12].
- An extension of the community of justice to the non-human [5,80,81].
- A change in the meaning of ecosystem services from benefits just for humanity to benefits nature provides all species [67], and a focus not just on 'Nature's Contributions to People' but also on people's moral obligations to nature [55].
- A move (or return, given many Indigenous societies upheld this) to ecoreciprocity, a giving back to nature (where gratitude is key) [11,12].
- A move away from growth economics to degrowth to a steady state or post-growth economy [49,97,105,106].
- A 'culture of limits' embedded in social values and institutions, that keeps (or returns) society to being within ecological limits [42,107].
- A move to breaking the denial dam within society about many environmental problems, so that society accepts its predicament and solves key issues (e.g., overconsumption, promotion of endless growth in population and economic output) [10].
- Moving rapidly to increase the area of land and seas protected in reserves (of all types). There are coherent scientific arguments that the current Aichi target of 17% terrestrial protected areas is inadequate to avoid widespread ecosystem collapse, and that targets should be closer to 50% (Two of the authors (Gomez-Baggethun and Alberro) express reservations about a possible 50% target.). Increasing the area of land and seas protected in reserves of all types, including Indigenous Protected Areas, is, therefore, an imperative [108,109].

We argue the points above would contribute constructively to a major change in modern industrial society and in conservation. We suggest that society is only likely to affect an 'ecotopian' transformation if we adopt a strategy of harmony for, and respect to, nature. An ecotopia for harmony will work to envision the concrete values and institutions that can shape harmonious relationships between human and non-human nature.

#### 9. Conclusions

We maintain that the goals of conservation should remain primarily to protect the unique evolved biodiversity of life on Earth—for their own sake. We conclude this will only have a chance of success if society adopts a harmony with nature approach to living with the rest of life (a goal the UN has independently concluded). We accept that harmony does not entail the complete absence of conflict. However, it is time for a qualitative shift in human-nature relations where we celebrate ways of valuing nature, not only in terms of what we receive from it, but also for its intrinsic value. A key component of this transformation is a move away from anthropocentrism, which situates humans as aloof and aloft from nature, towards ecocentrism, which (re)situates humans within nature as our kin. Harmony can be further facilitated by embedding an ethic of care, respect, and attentiveness into every aspect of our dealings with our non-human kin.

The conservation community often speaks of drivers of biodiversity loss, and of strategies that may be ecologically sustainable. However, in recent decades, rarely does it speak of harmony with nature, of the urgent need for a change in the way we interact with the non-human world. We believe this is a major oversight. We need to rein in the deep (and arguably increasing) anthropocentric hubris evident in both society and the conservation community. However, we also need to focus on the positive. We argue this requires a transformation to a harmony with nature approach, which many Indigenous societies upheld, and which modern industrial society has lost sight of. Hence, we believe the conservation community needs to engage in a dialogue about harmony with nature, as the UN Harmony with Nature initiative suggests. We believe conservation should now champion 'harmony' with nature by promoting 'harmony in conservation'. Harmony should be our central vision, one that inspires our practical strategies. We should seek an ethics and ecotopia of harmony. Along with harmony must come respect for, and obligation to, nature. We should act from a deep duty of care to maintain harmony between society and nature.

We praise the UN for the creation of the 'Harmony with Nature' program, though we are surprised that the UN does not foreground harmony in its other programs (such as the recent 'Nature Positive' initiative). We hope this will change in the future. We conclude also that so far harmony has seemingly had little promotion or support within the academic conservation community. There thus remains a strong need to foreground harmony with nature within conservation. This paper has attempted to continue a positive dialogue on the need for our society (and the conservation community) to operate in harmony with nature.

**Author Contributions:** Conceptualization, H.W.; writing—original draft preparation, H.W.; input on and editing of draft and additional referencing, J.J.P., E.G.-B., H.K. and H.A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

**Informed Consent Statement:** Not applicable. **Data Availability Statement:** Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

**Study Limitations:** This study was not a matter of seeking funds but of speaking out for harmony with nature in conservation. This is something rarely spoken of regarding conservation, but it should be.

**Future Directions:** Research is likely to focus on the ecological ethics of what society is doing. Already some of us are looking at the relation of social justice in conservation to ecological justice for nature.

# References

- 1. Kopnina, H.; Washington, H.; Gray, J.; Taylor, B. The "future of conservation" debate: Defending ecocentrism and the Nature Needs Half movement. *Biol. Conserv.* **2018**, 217, 140–148. [CrossRef]
- 2. Kopnina, H.; Washington, H.; Taylor, B.; Piccolo, J. Anthropocentrism: More than Just a Misunderstood Problem. *J. Agric. Environ. Ethics* **2018**, *31*, 109–127. [CrossRef]
- 3. Taylor, B.; Chapron, G.; Kopnina, H.; Orlikowska, E.; Gray, J.; Piccolo, J. The need for ecocentrism in biodiversity conservation. *Con. Biol.* **2020**, *4*, 1089–1096. [CrossRef] [PubMed]
- 4. Washington, H.; Piccolo, J.; Gomez-Baggethun, E.; Kopnina, H.; Alberro, H. The Trouble with Anthropocentric Hubris, with Examples from Conservation. *Conservation* **2021**, *2*, 285–299. [CrossRef]
- 5. Muradian, R.; Gomez-Baggethun, E. Beyond ecosystem services and nature's contributions: Is it time to leave utilitarian environmentalism behind? *Ecol. Econ.* **2021**, *185*, 107038. [CrossRef]
- Caldwell, L. Between Two Worlds: Science, the Environmental Movement and Policy Choice; Cambridge University Press: Cambridge, UK, 1990.
- 7. Meadows, D.; Randers, J.; Meadows, D. Limits to Growth: The 30-Year Update; Chelsea Green: White River Junction, VT, USA, 2004.
- 8. Brown, L. World on the Edge: How to Prevent Environmental and Economic Collapse; W.W. Norton and Co.: New York, NY, USA, 2011.
- 9. Wijkman, A.; Rockstrom, J. Bankrupting Nature: Denying our Planetary Boundaries; Routledge: London, UK, 2012.
- 10. Washington, H. What Can I Do to Help Heal the Environmental Crisis? Routledge: London, UK, 2020.

11. Kimmerer, R. Returning the Gift, Center for Humans and Nature Website. 2013. Available online: <a href="https://www.humansandNature.org/earth-ethic-robin-kimmerer">https://www.humansandNature.org/earth-ethic-robin-kimmerer</a> (accessed on 17 October 2022).

- 12. Washington, H. Ecoreciprocity: Giving Back to Nature. Sydney: Independently Published. 2021. Available online: https://www.lulu.com/en/gb/shop/haydn-washington/ecoreciprocity-giving-back-to-nature/paperback/product-8d9p74. html?page=1&pageSize=4 (accessed on 16 October 2022).
- 13. Louv, R. Last Child in the Woods: Saving our Children from Nature-Deficit Disorder; Atlantic Books: London, UK, 2005.
- 14. Washington, H. A Sense of Wonder Towards Nature: Healing the World through Belonging; Routledge: London, UK, 2019.
- 15. Washington, H. Harmony—Not 'theory. Ecol. Citiz. 2018, 1, 203–210.
- 16. Kropotkin, K.P. Mutual Aid: A Factor of Evolution; Black Rose Books: Sydney, Australia, 2021; Originally published in 1902.
- 17. Bastolla, U.; Fortuna, M.A.; Pascual-García, A.; Ferrera, A.; Luque, B.; Bascompte, J. The architecture of mutualistic networks minimizes competition and increases biodiversity. *Nature* **2009**, *458*, 1018–1020. [CrossRef]
- 18. Washington, H. Diversity, biotic and similarity indices: A review with special relevance to aquatic ecosystems. *Water Res.* **1984**, *6*, 653–694. [CrossRef]
- 19. Pennekamp, F.; Pontarp, M.; Tabi, A.; Altermatt, F.; Alter, R.; Choffat, Y.; Fronhofer, E.A.; Ganesanandamoorthy, P.; Garnier, A.; Griffiths, J.I.; et al. Biodiversity increases and decreases ecosystem stability. *Nature* **2018**, *563*, 109–112. [CrossRef]
- 20. Curry, P. Ecological Ethics: An Introduction, 2nd ed.; Polity Press: Cambridge, UK, 2011.
- 21. Washington, H.; Taylor, B.; Kopnina, H.; Cryer, P.; Piccolo, J. Why ecocentrism is the key pathway to sustainability. *Ecol. Citiz.* **2017**, *1*, 35–41.
- 22. Worster, D. Nature's Economy: A History of Ecological Ideas; Cambridge University Press: Cambridge, UK, 1994.
- 23. Callicott, J.B. The worldview concept and Aldo Leopold's project of 'worldview' remediation. In *Linking Ecology and Ethics for a Changing World: Values, Philosophy, and Action*; Rozzi, R., Pickett, S., Palmer, C., Armesto, J., Callicott, J., Eds.; Springer: Berlin/Heidelberg, Germany, 2013; pp. 113–123.
- 24. OHI Ecological Integrity. Ocean Health Index. 2017. Available online: https://oceanhealthindex.org/methodology/resilience/(accessed on 16 October 2022).
- 25. EPA. Assessment of Wetland Ecosystem Condition across Landscape Regions: A Multi-Metric Approach. Part A. Ecological Integrity Assessment Overview and Field Study in Michigan and Indiana; Environmental Protection Agency: Washington, DC, USA, 2012. Available online: https://is.gd/YD5hWK (accessed on 17 October 2022).
- 26. UN Harmony with Nature Report. 2022. Available online: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/444/24/PDF/N2244424.pdf (accessed on 17 October 2022).
- 27. Box, G.; Draper, N. Empirical Model-Building and Response Surfaces; Wiley: London, UK, 1987.
- 28. Whitehead, A. Process and Reality; Harper Brothers: New York, NY, USA, 1929.
- 29. Tennyson, A. 'In Memoriam A.H.H.' Poem by Alfred, Lord Tennyson. 1849. Available online: https://poets.org/poem/memoriam-h-h (accessed on 16 October 2022).
- 30. Oelschlaeger, M. The Idea of Wilderness: From Prehistory to the Age of Ecology; Yale University Press: New Haven, CT, USA; London, UK, 1991.
- 31. Abram, D. The mechanical and the organic: On the impact of metaphor in science. Wild Earth 1992, 2, 70–75.
- 32. Escobar, A. After Nature: Steps to an Anti-essentialist Political Ecology. Curr. Anthropol. 1999, 40, 1–30. [CrossRef]
- 33. Purdy, J. After Nature: A Politics for the Anthropocene; Harvard University Press: Harvard, UK, 2015.
- 34. Plumwood, V. The concept of a cultural landscape. Ethics Environ. 2006, 11, 115–150. [CrossRef]
- 35. Washington, H. The Wilderness Knot. Ph.D. Thesis, University of Western Sydney, Sydney, Australia, 2006. Available online: https://researchdirect.westernsydney.edu.au/islandora/object/uws:44 (accessed on 17 October 2022).
- 36. Morton, T. Ecology without Nature: Rethinking Environmental Aesthetics; Harvard University Press: Harvard, UK, 2007.
- 37. Robbins, P. Political Ecology: A Critical Introduction; John Wiley & Sons: Toronto, ON, Canada, 2012.
- 38. Asafu-Adjaye, J.; Blomquist, L.; Brand, S.; Brook, B.W.; De Fries, R.; Ellis, E.; Foreman, K.; Keith, D.; Lewis, M.; Lynas, M.; et al. An Ecomodernist Manifesto. 2015. Available online: http://www.ecomodernism.org/ (accessed on 17 October 2022).
- 39. Kallis, G. An Ecomodernist Mismash. 2015. Available online: https://degrowth.info/blog/an-ecomodernist-mishmash (accessed on 17 October 2022).
- 40. Langton, M. Burning Questions: Emerging Environmental Issues for Indigenous Peoples in Northern Australia; Centre for Natural and Cultural Research and Management, Darwin, Northern Territory University: Northern Territory, Australia, 1998.
- 41. Harvey, D. Justice, Nature and the Geography of Difference; Blackwell Publishers: Oxford, UK, 1996.
- 42. Kallis, G. Limits; Stanford University Press: Redwood City, CA, USA, 2019.
- 43. Miller, B.; Soulé, M.; Terborgh, J. New conservation" or surrender to development? Anim. Conserv. 2014, 17, 509–515. [CrossRef]
- 44. Kopnina, H.; Washington, H. Conservation: Integrating Social and Ecological Justice; Springer: New York, NY, USA, 2020.
- 45. Doak, D.F.; Bakker, V.J.; Goldstein, B.E.; Hale, B. What is the future of conservation? In *Protecting the Wild: Parks and Wilderness, the Foundation for Conservation*; Wuerthner, G., Crist, E., Butler, T., Eds.; The Island Press: Washington, DC, USA, 2015; pp. 27–35.
- 46. Rolston, H., III. A New Environmental Ethics: The Next Millennium of Life on Earth; Routledge: London, UK, 2012.
- 47. Gómez-Baggethun, E. More is more: Scaling political ecology within limits to growth. Political Geogr. 2020, 76, 102095. [CrossRef]
- 48. Gomez-Baggethun, E. Political ecological correctness and the problem of limits. *Political Geogr.* 2022, 98, 102622. [CrossRef]
- 49. Darwin, C. On the Origin of Species, 6th ed.; Everyman's Library: London, UK, 1859.

- 50. Browne, J. Charles Darwin: The Power of Place; Princeton University Press: Princeton, NJ, USA, 2002; p. 312.
- 51. Darwin, C. The Descent of Man, 2nd ed.; Prometheus Books: New York, NY, USA, 1872.
- 52. Pascual-García, A.; Bastolla, U. Mutualism supports biodiversity when the direct competition is weak. *Nat. Commun.* **2017**, *8*, 14326. [CrossRef]
- 53. Dawkins, R. The Selfish Gene; Oxford University Press: Oxford, UK, 1976.
- 54. Rolston, H., III. Three Big Bangs: Matter-Energy, Life, Mind; Columbia University Press: New York, NY, USA, 2010.
- 55. Piccolo, J.J.; Taylor, B.; Washington, H.; Kopnina, H.; Gray, J.; Alberro, H.; Orlikowska, E. "Nature's contributions to people" and peoples' moral obligations to nature. *Biol. Conserv.* **2022**, *270*, 109572. [CrossRef]
- 56. Cornish-Bowden, A. Lynn Margulis and the origin of the eukaryotes. J. Theor. Biol. 2017, 434, 1. [CrossRef]
- 57. Zimorski, V.; Ku, C.; Martin, W.F.; Gould, S.B. Endosymbiotic theory for organelle origins. *Curr. Opin. Microbiol.* **2014**, 22, 38–48. [CrossRef]
- 58. Simard, S. Finding the Mother Tree; Penguin: London, UK, 2021.
- 59. Leopold, A. A Sand County Almanac, with Essays on Conservation from Round River; Sierra Club/Ballentine Books: New York, NY, USA, 1949.
- 60. Jordan, K.; Kristjánsson, K. Sustainability, virtue ethics, and the virtue of harmony with nature. *Environ. Educ. Res.* **2017**, 23, 1205–1229. [CrossRef]
- 61. Calzadilla, P.; Kotze, L. Living in Harmony with Nature? A Critical Appraisal of the Rights of Mother Earth in Bolivia. *Transnatl. Environ. Law* **2018**, *7*, 397–424. [CrossRef]
- 62. Villalba, U. Buen Vivir vs. Development: A paradigm shift in the Andes? Third World Q. 2013, 34, 1427–1442. [CrossRef]
- 63. Washington, H. Demystifying Sustainability: Towards Real Solutions; Routledge: London, UK, 2015.
- 64. Knudtson, P.; Suzuki, D. Wisdom of the Elders; Allen and Unwin: Crows Nest, Australia, 1992.
- 65. Monbiot, G. Put a Price on Nature? We Must Stop this Neoliberal Road to Ruin. *The Guardian* 24 July 2014. Available online: https://www.theguardian.com/environment/georgemonbiot/2014/jul/24/price-Nature-neoliberal-capital-road-ruin (accessed on 8 July 2022).
- 66. Creasy, K. Contending with new conservationism. In *Conservation: Integrating Social and Ecological Justice*; Kopnina, H., Washington, H., Eds.; Springer: New York, NY, USA, 2020; pp. 33–44.
- 67. Washington, H. Ecosystem Services—A key step forward or anthropocentrism's "Trojan Horse" in conservation. In *Conservation:* Integrating Social and Ecological Justice; Kopnina, H., Washington, H., Eds.; Springer: New York, NY, USA, 2020.
- 68. Batavia, C.; Nelson, M.P. For goodness sake! What is intrinsic value and why should we care? *Biol. Conserv.* **2017**, 209, 366–376. [CrossRef]
- 69. Wackernagel, M.; Rees, W. Our Ecological Footprint: Reducing Human Impact on the Earth; New Society Publishers: Gabriola Island, BC, Canada, 1996.
- 70. Kopnina, H. The victims of unsustainability: A challenge to sustainable development goals. *Int. J. Sustain. Dev. World Ecol.* **2016**, 23, 113–121. [CrossRef]
- 71. Kopnina, H. Education for the future? Critical evaluation of education for sustainable development goal's. *J. Environ. Educ.* **2020**, 51, 280–291. [CrossRef]
- 72. O'Neill, R.; DeAngelis, J.; Waide, J.; Allen, T. *A Hierarchical Concept of Ecosystems*; Princeton University Press: Princeton, NJ, USA, 1986.
- 73. Graham, M.; Maloney, M. Caring for Country and Rights of Nature in Australia—A Conversation between Earth Jurisprudence and Aboriginal Law and Ethics. In *Sustainability and the Rights of Nature in Practice*; La Follette, C., Maser, C., Eds.; CRC Press: Boca Raton, FL, USA, 2019.
- 74. Harvey, G. Animism: Respecting the Living World; Hurst and Co.: London, UK, 2005.
- 75. Rowe, S. Ecocentrism: The Chord that Harmonizes Humans and Earth. *Trumpeter* **1994**, *11*, 106–107. Available online: http://www.ecospherics.net/pages/RoweEcocentrism.html (accessed on 17 October 2022).
- 76. Neihardt, J. Black Elk Speaks: Being the Life History of a Holy Man of the Ogalala Sioux; State University Press of New York: New York, NY, USA, 1972.
- 77. Standing Bear, L. Land of the Spotted Eagle; University of Nebraska Press: Nebraska, NE, USA, 1978.
- 78. Tacey, D. Re-Enchantment: The New Australian Spirituality; Harper-Collins: Sydney, Australia, 2000.
- 79. Taylor, B. Dark Green Religion: Nature Spirituality and the Planetary Future; University of California Press: Berkeley, CA, USA, 2010.
- 80. Washington, H.; Chapron, G.; Kopnina, H.; Curry, P.; Gray, J.; Piccolo, J. Foregrounding ecojustice in conservation. *Biol. Conserv.* **2018**, 228, 367–374. [CrossRef]
- 81. Treves, A.; Santiago-Ávilaa, F.; Lynn, W. Just preservation. Biol. Conserv. 2019, 229, 134–141. [CrossRef]
- 82. Cullinan, C. Wild Law: A Manifesto for Earth Justice; Green Books: Totnes, UK, 2003.
- 83. Kareiva, P.; Lalasz, R.; Marvier, M. Conservation in the Anthropocene: Beyond solitude and fragility. Breakthr. J. 2011, 2, 29–37.
- 84. Crist, E. Abundant Earth: Toward an Ecological Civilization; University of Chicago Press: Chicago, IL, USA, 2019.
- 85. Washington, H. Human Dependence on Nature: How to Help Solve the Environmental Crisis; Earthscan: London, UK, 2013.
- 86. GFN World Footprint; Global Footprint Network. 2019. Available online: http://data.footprintnetwork.org/#/countryTrends?cn=5001&type=BCpc,EFCpc (accessed on 17 October 2022).

87. World Wildlife Fund (WWF). Living Planet Report 2020—Bending the Curve of Biodiversity Loss; Almond, R.E.A., Grooten, M., Petersen, T., Eds.; WWF: Gland, Switzerland, 2020.

- 88. IPBES. Global Assessment Report: Summary for Policymakers; IPBES Secretariat: Bonn, Germany, 2019.
- 89. UN. The Sustainable Development Goals Report; United Nations: New York, NY, USA, 2016.
- 90. Thoreau, H.D. Walden; or Life in the Woods; Dover Publications: New York, NY, USA, 1854; current publication 1995.
- 91. Teale, E. The Wilderness World of John Muir; Houghton Mifflin: New York, NY, USA, 2001.
- 92. Carson, R. The Sense of Wonder; Harper-Row: New York, NY, USA, 1965.
- 93. Carson, R. Silent Spring; Houghton-Mifflin, Co.: Boston, MA, USA, 1966.
- 94. Naess, A. Ecology, Community and Lifestyle: Outline of an Ecosophy; Cambridge University Press: Cambridge, UK, 1990.
- 95. Barnhill, D.L. Conceiving Ecoptopia. J. Study Relig. Nat. Cult. 2011, 5, 126–144. [CrossRef]
- 96. Alberro, H. In and Against Eco-Apocalypse: On the Terrestrial Ecotopianism of Radical Environmental Activists. *Utop. Stud.* **2021**, 32, 36–55. [CrossRef]
- 97. Daly, H. Steady State Economics, 2nd ed.; Island Press: Washington, DC, USA, 1991.
- 98. Martinez Alier, J. Ecological economics and concrete utopias. Utop. Stud. 1992, 3, 39–52.
- 99. Gomez-Baggethun, E. Work and needs in a finite planet: Reflections from ecological economics. In *The Barcelona School of Ecological Economics and Political Ecology: A Companion in Honour of Joan Martinez-Alier*; Villamayor-Tomas, S., Muradian, R., Eds.; Springer: New York, NY, USA, 2022; *in press*.
- 100. Ripple, H.; Wolf, C.; Newsome, T.; Galetti, M.; Alamgir, M.; Crist, E.; Mahmoud, M.I.; Laurance, W.F.; 15,364 Scientist Signatories from 184 Countries. World Scientists' Warning to Humanity: A Second Notice. *Bioscience* 2017, 67, 1026–1028. Available online: https://inters.org/files/rippleetal2017.pdf (accessed on 17 October 2022). [CrossRef]
- 101. Archer, M.S. Critical realism and concrete utopias. J. Crit. Realism 2019, 18, 239–257. [CrossRef]
- 102. Wright, E.O. Envisioning Real Utopias; Verso: London, UK, 2010; Volume 98.
- 103. Schumacher, E. Small is Beautiful; Harper Torchbooks: New York, NY, USA, 1973.
- 104. Illich, I. Tools for Conviviality; Marion Boyars: London, UK, 1973.
- 105. Daly, H. From Uneconomic Growth to the Steady State Economy; Edward Elgar: Cheltenham, UK, 2014.
- 106. Dietz, R.; O'Neill, D. Enough is Enough: Building a Sustainable Economy is a World of Finite Resources; Berrett-Koehler Publishers: San Francisco, CA, USA, 2013.
- 107. Gómez-Baggethun, E.; Rico García-Amado, L. Sostenibilidad: Cultura de los límites. In *Claves del Ecologismo Social, Libros en Acción*; Ladrero, V., Ed.; Libros En Accion: Madrid, Spain, 2009; pp. 119–124.
- 108. Dinerstein, E.; Vynne, C.; Sala, E.; Joshi, A.R.; Fernando, S.; Lovejoy, T.E.; Mayorga, J.; Olson, D.; Asner, G.P.; Baillie, J.E.M.; et al. A Global Deal For Nature: Guiding principles, milestones, and targets. *Sci. Adv.* **2019**, *5*, eaaw2869. Available online: https://pubmed.ncbi.nlm.nih.gov/31016243/ (accessed on 17 October 2022). [CrossRef]
- 109. Crist, E.; Kopnina, H.; Cafaro, P.; Gray, J.; Ripple, W.J.; Safina, C.; Davis, J.; DellaSala, D.A.; Noss, R.F.; Washington, H.; et al. Protecting Half the Planet and Transforming Human Systems Are Complementary Goals. *Front. Conserv. Sci.* **2021**, *2*, 761292. Available online: https://doi.org/10.3389/fcosc.2021.761292 (accessed on 17 October 2022). [CrossRef]