

# Anthropocentrism: More than Just a Misunderstood Problem

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**Abstract** Anthropocentrism, in its original connotation in environmental ethics, is the belief that value is human-centred and that all other beings are means to human ends. Environmentally -concerned authors have argued that anthropocentrism is ethically wrong and at the root of ecological crises. Some environmental ethicists argue, however, that critics of anthropocentrism are misguided or even misanthropic. They contend: first that criticism of anthropocentrism can be counterproductive and misleading by failing to distinguish between legitimate and illegitimate human interests. Second, that humans differ greatly in their environmental impacts, and consequently, addressing human inequalities should be a precondition for environmental protection. Third, since ecosystems constitute the “life-support

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system” for humans, anthropocentrism can and should be a powerful motivation for environmental protection. Fourth, human self-love is not only natural but helpful as a starting point for loving others, including nonhumans. Herein we analyze such arguments, agreeing with parts of them while advancing four counter-arguments. First, redefining the term anthropocentrism seems to be an attempt to ignore behavior in which humans focus on themselves at the risk of the planet. Second, if addressing human inequalities is a precondition for environmental protection, biodiversity protection will remain out of the scope of ethical consideration for an indefinite period of time. Third, anthropocentric motivations can only make a positive contribution to the environment in situations where humans are conscious of a direct benefit to themselves. Fourth, ‘self-love’ alone is an inadequate basis for environmental concern and action. We also explore the question of agency, shared responsibility, and a fair attribution of blame for our environmental predicaments.

**Keywords** Anthropocentrism · Biodiversity loss · Environmental ethics · Human chauvinism · Speciesism

## Introduction

### Introducing Anthropocentrism

Since the early days of environmental ethics there has been discussion and debate about whether values in nature are anthropocentric (human-centered) or ecocentric (nonhuman-centered) (e.g. Goodpaster 1978; Rolston 1983; Taylor 1983). With the popularization of the concept of ecosystem services (MEA 2005), this debate has broadened to the conservation community at large (Kareiva and Marvier 2012), resulting in calls for inclusive conservation that accepts both forms of valuation (Tallis et al. 2014). Many have argued that anthropocentrism is inevitable and even benign for the aim of environmental protection (Norton 1984; Weston 1985; Grey 1993), whereas others argue that anthropocentrism is inadequate for biodiversity conservation (Rolston 2012; Cafaro and Primack 2014; Shoreman-Ouimet and Kopnina 2016).

In this article we take a deeper look at the anthropocentrism versus ecocentrism debate, with a particular focus on arguments put forward by Tim Hayward (1997) in *Anthropocentrism: A Misunderstood Problem*. A review of this debate is timely because there is a rising interest in the ethical underpinnings of animal rights and welfare (e.g. Singer 1977; Regan 1986; Bisgould 2008; Borrás 2016) and biological conservation (e.g. Tallis et al. 2014; Doak et al. 2015; Mathews 2016; Cafaro et al. 2017; Kopnina et al. 2018; Piccolo et al. 2018).

Hayward (1997) argued that the term anthropocentrism is often misused as a criticism of humanity as a whole, and that this is counterproductive for environmental protection, and even misanthropic. The arguments put forward by Hayward are reflected in the wider literature relating the issues of human agency to environmental damage and protection that will be discussed in this article. The sections below outline Hayward’s arguments and are followed by rejoinders. We

contend that Hayward seeks to re-shape the definition of anthropocentrism to simply mean being humane and compassionate for people, and that this definition is at variance with its more long-standing and common meaning. We argue, in contrast, that the distinction between legitimate and illegitimate anthropocentrism is unhelpful, and that, in essence, anthropocentrism supports a utilitarian argument. The concluding section will redress some points of Hayward's criticism of anthropocentrism as legitimate and helpful, and will provide an overall assessment of the counterarguments and an outline of ways forward.

### **Arguments Against the Use of Term Anthropocentrism**

First, Hayward argues that it is important to define what is 'good' and 'not so good' about anthropocentrism in relation to other species, stating that "it is less tenable to think of humans as made in the image of God, as the purpose of creation, than as one of the products of natural evolution" (Hayward 1997, p. 50). He outlines ontological (seeing humans as being the centre of the world) and ethical criticisms of the term anthropocentrism, defining it as attitudes, values or practices which promote human interests at the expense of the interests or well-being of other species or the environment. Significantly, 'at the expense of nonhumans' makes anthropocentrism, at least in this definition, akin to speciesism and human chauvinism. The conception of human chauvinism outlined in the Introduction is often present in humanist anthropocentric thought, as represented by the dominant Western paradigm (Catton and Dunlap 1978). Hayward argues that criticism of anthropocentrism can be counterproductive in failing to distinguish between legitimate and illegitimate human interests. Legitimate concerns include the need to care for other members of one's own species; and illegitimate concerns include speciesism and human chauvinism. Indeed he argues: 'it would also appear to be unavoidable that we should be interested in ourselves and our own kind' (Hayward 1997: 51). Hayward reflects: "it is not the concern with human welfare per se that is the problem here, but the arbitrary privileging of that welfare over the welfare of members of other species" (Ibid p. 59).

Instead of anthropocentrism, Hayward speaks of human chauvinism and speciesism as truly objectionable: "when humans give preference to interests of members of their own species over the interests of members of other species for morally arbitrary reasons" (Ibid p. 52). For instance, Hayward reflects: "if it is wrong in the human case to inflict avoidable physical suffering because humans are sentient beings, then it would be morally arbitrary to allow the inflicting of suffering on other sentient beings. That is why cruel and degrading treatment of animals can be condemned as speciesist" (Ibid pp. 52–53). Indeed, he argues, there is, by definition, no legitimate form of speciesism to safeguard or defend (Ibid p. 59). For the human chauvinist, Hayward reflects:

Interests of humans must always take precedence over the interests of nonhumans. Human chauvinism does not take human values as a benchmark of comparison, since it admits no comparison between humans and nonhumans. Human chauvinism ultimately values humans *because they are*

*humans*. While the human chauvinist may officially claim there are criteria which provide reasons for preferring humans—such as that they have language, rationality, sociality etc.—no amount of evidence that other beings fulfill these criteria would satisfy them that they should be afforded a similar moral concern. The bottom line for the human chauvinist is that being human is a necessary and sufficient condition of moral concern (Ibid pp. 56–57).

Thus, Hayward argues, it is not anthropocentrism but speciesism and human chauvinism that are ‘bad’.

Second, Hayward argues that it is unhelpful to address humanity as a whole as anthropocentric. Indeed, many indigenous societies were not anthropocentric, but industrial Western society has become so (Sponsel 2014). Hayward also posits that it is: “unhelpful to criticize humanity in general for practices carried out by a limited number of people when many others may in fact oppose them” (Ibid p. 58). Hayward has noted that not all humans who benefit from the exploitative activities of some. When the exclusive benefits of exploitation are unacknowledged, the “anti-anthropocentrists are left vulnerable to ideological rejoinders to the effect that challenging those activities is merely misanthropic” (Ibid p. 59). Indeed, some scholars have accused environmentalists for putting the blame for biodiversity loss on all humanity, rather than over-exploitive elites (Brockington 2002; Chapin 2004; Holmes 2013; Fletcher and Büscher 2016). Given the many documented social ills of inequality, it is often assumed that inequality is an important factor to consider when predicting biodiversity loss (Holland et al. 2009; Andrich et al. 2010; Haupt and Lawrence 2012; Elliott 2013).

Third, Hayward argues that the best reason for preserving ecosystems is the realization that these ecosystems constitute the ‘life-support system’ for humans (Ibid p. 60). Self-interest in environmental protection is often assumed to lead to the same practical outcomes as other ethical positions. This is consistent with pragmatist environmental ethics literature, and particularly Norton’s (1984) ‘convergence theory’ which contends that human and environmental needs coincide because maintaining the environment for human material benefit is the strongest motivation for nature protection. Anthropocentric motivation is favored as the best argument for maintaining the ecological systems on which we depend, ultimately converging on the same practical outcomes as ecocentric positions (Norton 1984). Illustrative of this position is the statement of the World Charter for Nature of the United Nations General Assembly (UNGA 1982), that calls for non-wasteful use of natural resources and observes that humanity benefits from healthy ecological processes and biological diversity. This is in line with the anthropocentric ambition to guarantee environmental protection in order to benefit humanity as a whole.

Fourth, care for others starts with love for oneself: ‘self-love, properly understood, can be considered a precondition of loving others’ (Ibid p. 52). Following from this, Hayward argued that if, theoretically, humanity can be at peace with itself, and would love itself more, it will have a positive effect on other species. As Hayward states: “positive concern for human well-being need not automatically preclude a concern for the well-being of non-humans, and may even serve to promote it” (Ibid p. 52).

We now turn to our counterarguments to the four key points raised by Hayward (1997).

## The Counterarguments

### First: The Definition of Anthropocentrism

Hayward gives fragmented definitions of anthropocentrism, some of which, as noted, overlap with human chauvinism and speciesism. Hayward observes that “what is objected to under the heading of anthropocentrism in environmental ethics and ecological politics is a concern with human interests to the exclusion, or at the expense, of interests of other species” (Ibid p. 52). This is, *in part*, true, as reflected in environmental ethics and animal rights literature (e.g. Naess 1973; Catton and Dunlap 1978; Katz 1999; Borràs 2016).

Hayward, however, creates a new meaning of anthropocentrism, that of legitimate concern for human welfare. Although this is of course a valid aspect of anthropocentrism, it fails to account for legitimate concerns for nonhuman welfare, because it assumes that humans are the arbiters of what is ‘legitimate’. A deeper (ecocentric) environmental ethic recognizes the welfare of all nonhuman forms (e.g. Rolston 2002, 2012). Of course, we are all selfish to the extent that we need to eat, drink, stay warm, and reproduce, and we are thus (by evolutionary default) concerned about human welfare. In equating anthropocentrism to such legitimate concerns as being humane and having compassion, however, Hayward ignores the question of whether value lies *only in humans*. Because of this arbitrary creation of an ‘innocent’ definition of anthropocentrism, rather than its usual meaning, Hayward argues that the notion of anthropocentrism is not an accurate description of the ontological nor the ethical state of the world. Kidner (2014) made a similar assertion that anthropocentrism is related to legitimate concern about human welfare. He argued that not anthropocentrism but rather ‘industrocentrism’, or centeredness on industrial neoliberal ideology, is at the root of both human and environmental suffering. Both authors argue that the term anthropocentrism is not adequate to describe human agency in environmental damage, because there are contradictions between ‘humanity as a whole’ and groups of humans with certain worldviews, e.g. industrial-centrists.

However, this is *not* the common usage of the term. For example the Oxford English Dictionary definition is: “Regarding humankind as the central or most important element of existence”. Human chauvinism is one aspect of anthropocentrism, not a new definition. One can either accept that other species and life processes have moral value (ecocentrism) or not (anthropocentrism). While ‘Anthropocentrism’ is a vague and perhaps in some ways misused term, meaning literally just human-centeredness, in common usage it refers to human-centered *values* (as opposed to values found in other beings). As such, things can be human-centered in all sorts of ways. It is common in environmental ethics, biological conservation, and social science circles to conflate various meanings. In the case presented by Hayward, anthropocentrism means two things. First, in discussing

changing human actions, he is essentially advocating centering our efforts on humans, which is certainly a kind of anthropocentrism. Second, he is promoting an ethics that does not include only human beings. It is important not to commit the fallacy of false equivalence by confusing the two. A good parallel would be with egocentrism. Of course one cannot help but think about one's actions, or look at the world through one's own eyes and interests. That makes one egocentric in a sense, but not a worrisome sense, and it does not imply that one is therefore compelled to include *only* oneself in one's moral community.

Yet, one can (and should we believe) argue that while care for the members of one's own species can be 'good' and 'natural' as a noble manifestation of altruism, the type of care for one's species *to the exclusion of* or *at the expense of* other species is 'bad'. In fact, using the commonly accepted definition of anthropocentrism, speciesism and human chauvinism are fundamental aspects of anthropocentrism, just as is what Crist (2012) and Taylor (2013, 2014) have called its most virulent strand: human supremacy. Redefining the meaning of anthropocentrism to exclude its 'bad' side distorts what we are talking about, and certainly does not address this human supremacy approach. There is a hierarchical definition that lies between the two definitions that Hayward mostly hints about, where the 'land' as a whole (following Aldo Leopold's 'Land Ethic'), including its ecological and evolutionary processes, has greatest value, followed by communities, species, populations, individuals, and genes. All of these levels have value, but a species, for instance, has higher value than an individual—unless a species is extremely rare, in which case the two levels converge in value.

There is also a question of anthropocentrism's opposite, ecocentrism or biocentrism. If we were to do something against the 'bad' things, what are we exactly fighting for or against? What would be the opposite of human chauvinism and speciesism? Kidner (2014) contrasts industrocentrism to pre-industrial, pre-capitalist societies. Such indigenous societies often did hold worldviews involving 'ecocentrism' or 'biocentrism'. What would be helpful is if, by analogy with the terms 'ecocentrism' and 'biocentrism', the meaning of anthropocentrism was explicated, and the common points were reunited into a consistent and dominant concept. While 'ecocentrism' and 'biocentrism' are sometimes used synonymously, there are also significant differences between the focus on the 'unit' of study or care—be it individual species, individuals within the species, or entire habitats with their biota (Nelson and Vucetich 2009; Koprina and Gjerris 2015) and geo-heritage, the acknowledgment of value in geology and geomorphology of the land itself (Sharples 1995).

Also, in ethics, there is a tension between holism and individualism—and one must consider what comes first in hard cases. From the conservation point of view, the animal rights perspective appears to value animal species in proportion to the assumed similarity of their consciousness with human consciousness (Singer 1977; Regan 1986). While some scholars appreciate the empathy-grounded animal rights/liberationists perspectives, they prioritize wholes over individuals and individuals of endangered species over individuals of species that are not endangered (Nelson and Vucetich 2009; Garner 2015). For some conservationists, extinction (and not individual animal welfare) can be seen as of foremost concern, because it is *so final*;

hence, narrow-range endemics and rapidly declining species of any kingdom or phylum must receive most attention and action on their behalf.

A holistic approach leads to realization that both biocentric and ecocentric values make the conservation of the species-variety of the planet (and its genetic diversity) of paramount importance. The lesson in ecology is that in the long run one must use ‘systems thinking’ to maintain holistic ecosystems. As long as the priority on defending planetary diversity is not lost, such an approach is compatible with ‘compassionate conservation’ where species and individuals within the species (and their habitats) are protected (Bekoff 2013; Nelson et al. 2016).

In a similar way, it is important to be clear about the term anthropocentrism, which in its common meaning, is an ideology that roots all value in humanity. Although anthropocentrism might be too imprecise a term to describe conditions that range from destruction of wilderness to abuse of farm animals, we can hardly come up with the alternatively broad and meaningful term. There are of course sub-categories of meaning that are markedly anthropocentric. The terms ‘industrocentrism’, ‘human chauvinism’ and ‘speciesism’ are key examples, though they are less known outside academic discourse. Although anthropocentrism has many meanings, at its core it involves the planetary-scale subordination of nonhuman organisms that denies they have value in their own right.

Although there are some differences among various anthropocentric positions, there are also some commonalities that do not bode well for nonhuman well-being and biodiversity protection. Principal among these is the lack of ethical consideration for the intrinsic value of nonhuman forms. The commonly-held meaning of the term anthropocentrism is that “only humans are worthy of ethical considerations” and “other things are mere means to human ends” (Callicott 2006: 119). Yet Hayward changes the meaning of the term to mean to care and be compassionate for people. Such erosion of meaning is problematic, because it confuses a formal description of valuation theory with one legitimate aspect of that theory. We propose that anthropocentrism (applied to humanity as a whole) should remain as the term that describes a human-centered valuation theory, aspects of which are a powerful explanation for society’s current environmental unsustainability and unethical treatment of nonhumans.

## **Second: The Utopia of Peaceful, Equal and Unified Humanity**

Hayward reflected that: “a unified and peaceful body is more likely to be considerate—or at least guided by a far-sighted and ecologically enlightened conception of its self-interest—than one which is riven by internal strife” (Ibid p. 60). Indeed, not all humans are equal in their impacts, as: “there is tremendous diversity in relationships with and impacts on biodiversity” (Sponsel 2014). This is certainly true, humanity is not harmonious and humans are unequal. But even if they were equal—the evidence of the positive relationship between equality and environmental protection is inconclusive at best. Eco-modernization and the Kuznets curve hypothesis (assuming that societies and economies will become more ‘green’ as economic and technological progress advances) have been brought into doubt. Data from the relatively rich and egalitarian countries shows that the level of



material saturation is still unsustainably high (e.g. Czech 2008; O'Neill 2012; Kopnina 2014a, b). The presupposition that economic development and overall higher income levels can mitigate biodiversity loss through improved willingness and affordability to implement measures such as protected areas, is not supported by evidence (Gren et al. 2016). Simply, the Kuznets hypothesis does not work with biodiversity (Mills and Waite 2009). This is because raising the quality of living in practice means getting the poor to be as rich as the 'top', while the 'top' does not seem to place biodiversity protection as a priority, continuing to reify the cult of economic growth (O'Neill 2012). As Crist (2012: 141) has pointed out, while "raising the standard of living" may be nebulous shorthand for the worthy aim of ending severe deprivation, it is in fact a "euphemism for the global dissemination of consumer culture". Even if decreasing inequality of income is not aimed at making everyone rich (just stopping the rich from getting richer at the expense of the poor), unless 'equalization' happens in a 'sustainable' way, it is unlikely that the overall consumptive level of the population and damage to nature will decrease. The claim that inequality is the root cause of unsustainability is best understood as an item of faith and an expressed wish.

Also, as Islam (2015) notes, there might be a correlation between inequality and environmental protection, but it is doubtful that this is a causality. Mikkelsen et al. (2007) note that potential mechanisms behind equality-biodiversity relationship are presently unexplored. Consequently, we ought not assume reducing inequality will result in environmental benefits. Indeed, to return to Crist (2012: 141), to "feed a growing population and enter increasing numbers of people into the consumer class is a formula for completing the Earth's overhaul into a planet of resources... for the continued extraction, exploitation, and harnessing of the natural world". Many prescriptions typically made by social justice advocates are fanciful because they do not take into account the material aspirations of those currently consuming little, and the logical consequences of enabling everybody to consume more (Crist and Cafaro 2012). Simply, it does not matter to the planet whether a few rich individuals are consuming a lot or a large number of poor individuals are consuming an equal amount. Raising per capita consumption through poverty alleviation, *without* a strategy to increased productive efficiency and humanely reducing the number of consumers, is no solution.

Perhaps the reason why social equality is often conflated with environmental benefits is our desire for altruistic win-win solutions, reflected in the rhetoric of 'sustainable development' (WCED 1987) and the triple bottom line approach of 'People, Planet, and Profit' (Elliott 2013). This approach is rooted in classical economic assumptions shared by both the political Left and Right, that economic growth is generally good, and through market self-regulation, growth will maximize human well-being, and will spread evenly—thus, that the "rising tide will raise all boats" (for discussion and criticism of this notion, see e.g. Daly 2014; Washington 2015).

Yet, practically speaking, the triple objective of maintaining economic growth, social equality and ecological integrity simply cannot be balanced when society has exceeded ecological limits (as we have). Also, it is unlikely that human intra-species differences can ever be fully solved, especially because we live on a planet of



limited resources (Washington 2015). It can also be argued that as inequality and injustice have been around for millennia, trying to address them prior to turning to ecological justice (Baxter 2005) would indefinitely leave aside concerns about biodiversity loss. The continuous accent on internal strife and differences between human populations, serves to disable the idea of collective blame for destruction of nature.

Moral denunciations of detrimental effects of protected areas on local populations are supported by the: “shrill rhetoric of the fortress critique, along with the intimidating high moral ground of human rights it professes” (Crist 2015: 93). The position that biological conservation should benefit these communities or cease to exist has been morally defensible (e.g. by some ‘new’ conservationists) because equality with other species is simply left out of any consideration (Noss 1992; Kopnina 2016; Cafaro et al. 2017). The so-called ‘new’ conservationists who promote biodiversity protection for human sake only, and label conservation for the sake of nature as misanthropic (e.g. Marvier 2014), are often aligned with the neoliberal/capitalist side of the economic spectrum. These self-described ‘eco-modernist’ critics typically place their faith in technological solutions and promote intensive management of nature, either top-down or at the community level (for a discussion and criticism of anthropocentrically-motivated conservation see e.g. Miller et al. 2013; Doak et al. 2015 and Crist 2016). On the other hand, those deeply rooted in Marxism and Leftist development studies (e.g. Brockington 2002; Chapin 2004; Holmes 2013; Büscher 2015; Fletcher and Büscher 2016) see conservation as a barrier to eliminating poverty and class divisions. The former group of neoliberal eco-modernists with anthropocentric social justice priorities, and the latter with Leftist social justice priorities are *both* essentially anthropocentric. With both, human well-being (as they envision it) always trumps the rest of the living world.

If interspecies justice is addressed as secondary to social justice, in all likelihood it will never be achieved. To paraphrase George Orwell’s famous maxim, exclusive focus on social injustice implies that human beings are infinitely more ‘equal’ than all other living beings (Kopnina 2016). By supporting ecojustice, none of us are arguing against social justice. Indeed, they can and should be entwined (Washington 2015).

Most environmentalists will not deny the destructive reach of industrial elites. Crist (2015), for example, has clearly stated that economic growth is one of the most significant causes of unsustainability and the disappearance of habitats and species. It is a well-known maxim that if all of us lived as Western consumers right now, we would need four new planet Earths to satisfy our consumption desires. However, while the destructive reach of the affluent is globally profound, that of the poor is more localized, involving deforestation for subsistence agriculture and overhunting for bushmeat, leading to the ‘empty forest syndrome’ (Crist and Cafaro 2012).<sup>1</sup>

Splitting humans into the ‘innocent’ and the ‘guilty’ is counterproductive when it comes to addressing interspecies discrimination. As Polly Higgins, an advocate of ecocide law has suggested, there are no *a priori* innocent or guilty parties:

<sup>1</sup> [http://www.cites.org/eng/news/pr/2011/20110610\\_bushmeat.shtml](http://www.cites.org/eng/news/pr/2011/20110610_bushmeat.shtml).

Those who are *prima facie* guilty of committing ecocide are not in themselves evil—many companies have bought into the norm that it is collateral damage to destroy the earth whilst serving humanity. There is rarely wilful intent where companies are looking to help satisfy human needs, such as energy. Rather it is a blindness that prevents many from facing the truth that human needs can be well served without diminishing the earth's capacity to support life as we know it (Higgins 2010).

Unless we address all humans, including Slovakian transgender fashion models, Mexican drug dealers, Turkish history professors, Japanese Lolitas, American amateur astronomers, and so on, we cannot speak of humanity to start with? We disagree. Some groups (for example commercial loggers) can be more easily held responsible than small-scale poor farmers who are forced to cut trees to feed their families. Indeed, Elliott (2013) argued that the poor are caught in the vicious spiral in which they are forced to overuse natural resources, which in turn further impoverishes them. But are these poor farmers by definition 'innocent', while their actions still result in hectares of forest being destroyed? Will they still be 'innocent' when they become more rich by striking gold or migrating to a high-consumption country? While it might be easy to assign blame to a CEO of Shell for contributing to greenhouse gas emissions, can we say that an average driver who fills his tank with fuel is innocent, or a bit more innocent than the CEO? How can we measure innocence? The relevance of this discussion is to reinforce the argument that anthropocentrism is *not just about elites*, it is about an ideology that privileges any and all humans above the rest of nature. This discussion is also significant in relation to people who live outside the industrial market system, and who do not degrade their habitats. On an individual level, we can speak of 'innocents'. Yet every collectivity such as nation states (even if relatively poor) should be held responsible. We accept that in some states, some people have greater responsibilities.

### Third: Self-Interest is Not Enough

Third, the convergence theory (Norton 1984) supports shallow ecology or protection of nature for human sake (Naess 1973) and is often associated with strong anthropocentrism or pragmatic environmental ethics. Pragmatic ethics is based on the assumption that anthropocentric or ecocentric motivations achieve the same ends, for example as in the case of fighting pollution threatening human health (e.g. Norton 1984; Weston 1985; Grey 1993).

Ecocentric writers would disagree with Hayward that: "the best, if not only, reason for preserving eco-systemic relations is precisely that they constitute the 'life-support system' for humans" (p. 60). While an anthropocentric motivation can produce environmentally-positive outcomes in situations where both humans and environment are negatively affected, anthropocentrism does not protect nonhumans without utilitarian value (Katz 1999), nor safeguard animal welfare (Singer 1977). In fact, the loss of some biodiversity does not affect humanity (at least not yet), as evidenced by mass extinctions (Crist 2015). Also, utilitarian approaches presume that we know the long-term effect of disappearance of keystone species necessary

for our survival—however, what keystone species should be saved is in fact unknown and is likely to remain so (Washington 2013). What allows pragmatic ethicists to rehabilitate anthropocentrism, as a basis of an environmental ethic, is their own rejection of the intrinsic value of nature (Noss 1992; Katz 1999; Mathews 2016). By rejecting intrinsic value, environmental protection is enacted only to the extent needed for human well-being, and a human environmental right subjugates all other needs, interests and values of nature to those of humanity (Bisgould 2008; Borràs 2016).

Thus, ecocentric scholars have argued that non-anthropocentrism is necessary to counter the accelerating threats to environmental elements that do not directly contribute to human welfare (e.g. Quinn et al. 2016). Anthropocentric motivation is not enough. UNGA (1982) calls for non-wasteful use of natural resources and observes that humanity benefits from healthy ecological processes and biological diversity. However, this, essentially, is still an anthropocentric position that sees nature as a resource where protection extends only to the ‘critical natural capital’ (Ekins et al. 2003) needed for society—not the rest of nature. This argument, in fact, is at the root of the concept of ecosystem services (MEA 2005), which has now become a dominant paradigm in ecology and conservation literature, and a driving force for governmental and NGO conservation. The ecosystem services approach however remains anthropocentric, as it focuses on only benefits for people (Norton 1984; Washington 2015).

Unga (1982) also states that every form of life warrants respect “regardless of its worth to man”, and that according such respect requires us to be “guided by a moral code of action” (in Sykes 2016). This moral code of action is not likely to be instructed by the same thinking that produced anthropocentrism as a dominant ideology in the first place. To recall the famous quote by Albert Einstein: “We cannot solve our problems with the same thinking we used when we created them”. Anthropocentrism does not allow for the possibility of radical change similar to those that have ended slavery, and led to rights for women and ethnic minorities. While the most promising hope for maintaining significant biodiversity under our prevailing value system has been said to be ecologically -enlightened self-interest, it holds no ground if there are risks, and when exclusive self-interest promises a ‘bigger pay off’ (Rees 2008: 89). As Washington (2015) argues, if instead we were to shift to ecocentric values, nature’s survival would be ensured even more effectively, along with the ecosystem services humanity depends on.

#### **Fourth: Self-Love Can Just be Selfish**

We should be cautious to assume that ‘self-love can be considered a precondition of loving others’ (Hayward 1997) as sometimes in consumer-oriented and often narcissistic societies, self-love often happens to be the goal in and of itself (Carnegie 2004). While it is presently fashionable in wealthy neoliberal societies to raise individualism and personal freedom to the level of an intrinsic good, self-loving people do not necessarily care more about others—humans or animals (Pearce 2002). In fact, the self-love fetish in the Western consumer society may preclude collective action, individual sacrifice, and most importantly, the altruism that the

dire environmental conditions require (Carnegie 2004). Orr (2013, p. 287) discusses governance for sustainability, and notes that democracies are prone to ‘spoiled child psychology’, which involves contempt for many realities.

Besides, even if ideally humanity can be at peace with itself and harmonious (which as Hayward himself notes, it is not), this does not mean that it will be collectively biophilic—some people will be, some not (Taylor 2010; Kopnina 2015). While some cultures respect (holy) cows or worship trees (Sponsel 2014), other communities can be cruel to animals and indifferent to this-worldly environmental concerns (Taylor 2010, 2013; Taylor et al. 2016). Learning to ‘love’ or respect one’s own tribe does not mean loving animals (or sacred forests and places). This ethnographic example is instructive:

Should Aboriginal communities in Australia have the ‘right’ to adapt their traditional practices to shoot rather than spear wallabies, to the point that the once plentiful population of wallabies in Cape York has dwindled to critical levels? The complexities of the issue surfaced at a meeting between Aboriginal elders and representatives of the Queensland National Parks service, while legislation was being tabled to prevent hunting in Australia’s national parks. One of the elders, Colin Lawrence, referred to the history of settlement in the area. In the early 1900s, a European grazier had shot a number of Aboriginal people until being speared by one of their leaders, now regarded as a local hero. The grazier had shot Aboriginal people ‘like dogs’, said Lawrence pointedly, ‘and now you want to tell us we can’t even shoot a wallaby!’ (field notes 1991 in Strang 2017: 275).

Clearly Aborigines no longer want to use spears (and other traditional hunting tools) as they have been ‘Westernised’ into Australian society. Yet ‘traditional hunting practice’ seems to be praised, without any realization that hunting in reserves no longer occurs in ecologically-sustainable ways. More generally, when humanity ‘loves itself’, this does not mean that it does so by also respecting nonhumans. This is not to imply that killing animals (especially for food) is wrong. This does not follow from ecocentrism, for which it is the ‘good of the environmental system’ that is the axial value.

Even though some individuals might ‘love’ animals, there is an increasing proportional difference between the number of people on this Earth and the number of nonhumans outside of food and medical industries. ‘Self-love’ cannot address how the food and medical industries have evolved to serve us at the expense of billions of other species without the protection of law.

### **Connecting the Dots: Legal Protection of Nonhumans**

In human law, the ‘attribution of responsibility’ is easier. In the emerging fields of animal law (Borràs 2016; Sykes 2016) or environmental law (Burdon 2011) that focuses on Earth jurisprudence (Higgins 2010) the attribution still needs to be established. Partially, this is because acting on behalf of nonhumans calls into question the assumption that we cannot presume to ‘know’ what animals want. Wandesforde-Smith (2016) states that people cannot represent animals or

“negotiate with them or in any way treat them as political equals” (p. 185). Wandesforde-Smith argues that for the purposes of giving a place (in our own minds) to what we imagine might be nonhuman interests, it could be helpful to talk metaphorically about animals as if they were actors who could shape their own future. But, he continues: “it is, at best, reasoning by analogy, a fanciful notion, a mere projection” (p. 185).

We do not agree that what makes anthropocentrism unavoidable is a limitation: “which cannot be overcome even in principle because it involves a non-contingent limitation on moral thinking as such” (Hayward 1997: 56). There is nothing in human moral-thinking that should prevent us from realising that nonhumans are not mere objects, without personhood. While we agree that we can discuss the wants and needs of nonhumans, we also believe it is hard to deny that many animals feel fear, pain, and have other emotions akin to our own. For example, Fitzgerald (2015: 174) reflects while observing an elephant family: “When the matriarch approaches the top of the bank, she looks down, leans onto her back knees, and slides down. Imagine a three-ton animal sand-sledding. It is incredible to watch; the scene makes it hard not to imagine hearing an anthropomorphic ‘Yee-haw’ coming out of their mouths”.

Hayward’s ideas about avoiding speciesism and human chauvinism are most helpful: “My claim that speciesism is avoidable can be made vivid by referring to the analogy with racism and sexism: thus while a white man cannot help seeing the world with the eyes of a white man, this does not mean that he cannot help being racist or sexist” (Ibid p. 55). The ‘Anthropocentric Fallacy’ explains that just because humans can only perceive nature by ‘human’ senses, this does not mean they cannot ‘attribute’ intrinsic value to it (Fox 1990; Eckersley 1992; Washington 2015). As Washington states, by way of comparison, white men are quite capable of cultivating a non-sexist or non-racist consciousness. They do not ‘have’ to be sexist or racist, and can clearly attribute value to women and dark-skinned people. Following similar logic, humans are quite capable of cultivating an ecocentric consciousness (Washington 2015). What is significant is not what the white men think or do, but whether or not non-whites or women had value in and of themselves *before* white men recognized it. The same is true for ecocentric value, which requires the recognition that there is objective good to be found in the world *without* any relation to human preference or even human existence (Rolston 2002). This good was here long before us and will outlive us.

Hayward notes that there is in practice a significant difference between speciesism and racism in that whereas discriminated individuals can articulate their claims in a language understandable to those who discriminate, nonhumans: “quite literally, do not have the ears to hear” (Ibid p. 55). However, the progressive overcoming of speciesism is a: “clearly defined project, and there is no reason in principle why it should not be fully accomplished” (Ibid p. 55). Indeed, there is also no reason to limit certain rights duties or entitlements or legal protection to some individuals. It is assumed that the whole of humanity should enjoy the same privileges, and if some individuals transgress, they should be punished. Why can humanity as a whole not be held responsible for transgressing the rights of nature?

## Discussion

Considering these points, we cannot speak of supporting ecocentrism and protecting nonhumans without assigning agency to *all* humans. While the label ‘sexist’ or ‘racist’ does not apply to all men or all whites, these labels ensure that discrimination is recognized—both sexism and racism are ethical failings that must be resolved. In a similar way, the ideology of anthropocentrism (including speciesism and human chauvinism) does not necessarily apply to all humanity, but to discriminating practices and society en masse—anthropocentrism is also an ethical failing that ought to be resolved. As there is no reason to *a priori* limit certain rights or legal protection to some parts of humanity, no part of humanity should be ‘exempt’ from responsibility to nonhumans. The rhetoric of humanity as a whole is necessary to address ecological justice and animal welfare. It is hypocritical to suggest that humanity should be seen as a whole when it comes to social equality (and corresponding responsibilities), but not when it comes to responsibilities for nonhuman organisms and environmental systems.

Respect for others’ creeds, rights, and freedoms has been recently learned, and even more recently enshrined in legal systems. In the same way, it is possible to learn respect for nonhuman species and enshrine it in law against human chauvinism and speciesism. The implications of this transition are profound. They can lead to a ‘Global Deal for Nature’, similar to the Paris climate change agreement signed in 2015. The Global Deal for Nature can be based in both scientific facts, necessitating the need to designate large areas of Earth for nature protection (Noss 1992; Dinerstein et al. 2017), and in a solid ethical foundation that rejects anthropocentrism (Cafaro et al. 2017). This ethical foundation is necessary as, judging from the example of climate change, it is not the scientific evidence that is lacking, but its denial by society (Washington 2017) and associated political, economic and social barriers that prevent successful mitigation policies. Based on an example of the Universal Declaration of Human Rights, such a robust foundation for nature protection can be established. While not all biodiversity automatically links to human self-interest or wellbeing, the ecocentric foundation that explicitly values living beings that have no instrumental/utilitarian value, is crucial to what Higgins (2010) terms ‘earth justice’.

We agree with Hayward that being humane and showing compassion to our fellow humans is a good thing. However, we argue that this is *not* the meaning of anthropocentrism, and that such usage distorts the common meaning by defining a new ‘innocent’ meaning. It is a biological fact that all animals, evolutionarily, are concerned with survival of their own species. There is nothing wrong with that. Indeed, a degree of human activism is a necessary part of environmental protection, not because humanity is at the centre of the biosphere, but because humanity is the only species which possesses the consciousness to recognize the morality of rights. Thinking about values by humans is clearly anthropogenic (caused by humans), but it does not have to be anthropocentric. By extension, the moral duty towards fellow humans can be seen (through ecocentric lenses) as inseparable from the moral duty to offer environmental protection (Borràs 2016).

Indeed, considering that continuous advocacy is needed to represent non-humans (who will never speak for themselves), development of a post-racial, post-gender, post-class collective responsibility for other species is necessary (Abram et al. 2016). Human identity is not served by anthropocentrism but *profoundly demeaned by it*—and will not be absolved of it by merely abandoning the term anthropocentrism or by distorting its meaning as Hayward does. Ecocentrism will foster a new human identity—not short-sighted and insatiable but grateful, caring, and in awe of life and part of greater planetary existence (Rolston 2012; Crist 2016). Simultaneously, ecocentrism can serve to undermine what Kidner (2014) has argued is an even greater enemy than anthropocentrism—the hegemonic ideology of industrocentrism.

## Conclusion

We have highlighted herein the battle of worldviews between anthropocentrism and ecocentrism. Is value limited to humanity or does it reside in the rest of life also? Hayward and others side-step this fundamental question by redefining anthropocentrism from an ideology that considers human beings to be the most significant entity of the universe, to a general compassion and humane caring for people. This is a total eclipse of meaning. Hayward is not talking about the same thing as those who criticise anthropocentrism as being focused just on ourselves. As such, attempts to rehabilitate anthropocentrism using this totally different definition are a ‘sleight of hand’ to confuse the public. What we face as a society is deciding whether we want to insist that *all* value and ethics is limited to humanity, or whether value and ethics lie in the rest of life on Earth, as ecocentrism maintains. Anthropocentrism as an ideology is egotistical and solipsistic, obsessed only with humans. Yet humans actually *do* love animals, trees, rivers and landscapes, and many indigenous cultures attributed value and respect to them (Knudtson and Suzuki 1992). Anthropocentrism is clearly a significant driver of ecocide and the environmental crisis, for society has been madly pursuing project ‘human planet’ without considering that humanity is (in the end) fully dependent on nature (Washington 2013). Anthropocentrism cannot lead us to a sustainable future. Ecocentrism, in contrast, accepts that we are part of nature, and have a responsibility to respect the web of life and heal the damage caused by the ideological dominance of anthropocentrism (Washington et al. 2017a, b).

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## References

- Abram, S., Acciaioli, G., Baviskar, A., Kopnina, H., Nonini, D., & Strang, V. (2016). Involving anthropology: Debating anthropology’s assumptions, relevance and future. *Anthropological Forum*, 26(1), 74–95.



- Andrich, M. A., Imberger, J., & Oxburgh, E. R. (2010). Raising utility and lowering risk through adaptive sustainability: Society and wealth inequity in Western Australia. *Journal of Sustainable Development*, 3(3), 14–35.
- Baxter, B. (2005). *A theory of ecological justice*. New York: Routledge.
- Bekoff, M. (Ed.). (2013). *Ignoring nature no more: The case for compassionate conservation*. Chicago: University of Chicago Press.
- Bisgould, L. (2008). Power and irony: One tortured cat and many twisted angles to our moral schizophrenia about animals. *Animal Subjects: An Ethical Reader in a Posthuman World*, 8, 259.
- Borràs, S. (2016). New transitions from human rights to the environment to the rights of nature. *Transnational Environmental Law*, 5(1), 113–143.
- Brockington, D. (2002). *Fortress conservation: The preservation of the Mkomazi Game Reserve, Tanzania*. Bloomington, IN: Indiana University Press.
- Burdon, P. (Ed.). (2011). *Exploring wild law: The philosophy of earth jurisprudence*. Adelaide: Wakefield Press.
- Büscher, B. (2015). “Rhino poaching is out of control!” violence, heroes and the politics of hysteria in online conservation. In *Paper presented at the British international studies association. 16–19 June*, London.
- Cafaro, P., Butler, T., Crist, E., Cryer, P., Dinerstein, E., Kopnina, H., et al. (2017). If we want a whole earth, nature needs half. A reply to ‘half-earth or whole earth? Radical ideas for conservation, and their implications’. *Oryx—The International Journal of Conservation*, 51, 400.
- Cafaro, P. J., & Primack, R. B. (2014). Species extinction is a great moral wrong. *Biological Conservation*, 170, 1–2.
- Callicott, J. B. (2006). Conservation values and ethics. In M. J. Groom, G. K. Meffe, & C. R. Carroll (Eds.), *Principles of conservation biology*. Sunderland: Sinauer.
- Carnegie, D. (2004). *How to stop worrying and start living*. New York: Simon and Schuster.
- Catton, W. R., & Dunlap, R. E. (1978). Environmental sociology: A new paradigm. *American Sociologist*, 13, 41–49.
- Chapin, M. (2004). A challenge to conservationists. *World Watch* pp. 17–31.
- Crist, E. (2012). Abundant earth and population. In P. Cafaro & E. Crist (Eds.), *Life on the brink: Environmentalists confront overpopulation* (pp. 141–153). Athens: University of Georgia Press.
- Crist, E. (2015). I walk in the world to love it. In G. Wuerthner, E. Crist, & T. Butler (Eds.), *Protecting the wild: Parks and wilderness, the foundation for conservation* (pp. 82–95). Washington, London: The Island Press.
- Crist, E. (2016). Choosing a planet of life. In H. Washington, & P. Twomey (Eds.), *A future beyond growth: Towards a steady state economy* (pp. 43–54). New York: Routledge.
- Crist, E., & Cafaro, P. (2012). Human population growth as if the rest of life mattered. In P. Cafaro & E. Crist (Eds.), *Life on the brink: Environmentalists confront overpopulation* (pp. 3–15). Athens: University of Georgia Press.
- Czech, B. (2008). Prospects for reconciling the conflict between economic growth and biodiversity conservation with technological progress. *Conservation Biology*, 22(6), 1389–1398.
- Daly, H. (2014). *From uneconomic growth to the steady state economy*. Cheltenham: Edward Elgar.
- Dinerstein, E., Olson, D., Joshi, A., et al. (2017). An ecoregion-based approach to protecting half the terrestrial realm. *BioScience*, 67, 534–545.
- Doak, D. F., Bakker, V. J., Goldstein, B. E., & Hale, B. (2015). What is the future of conservation? In G. Wuerthner, E. Crist, & T. Butler (Eds.), *Protecting the wild: Parks and wilderness, the foundation for conservation* (pp. 27–35). Washington, London: The Island Press.
- Eckersley, R. (1992). *Environmentalism and political theory: Toward an ecocentric approach*. London: UCL Press.
- Ekins, P., Simon, S., Deutsch, L., Folke, C., & De Groot, R. (2003). A framework for the practical application of the concepts of critical natural capital and strong sustainability. *Ecological Economics*, 44(2), 165–185.
- Elliott, J. (2013). *An introduction to sustainable development*. London: Routledge.
- Fitzgerald, K. H. (2015). The silent killer: Habitat loss and the role of African protected areas to conserve biodiversity. In G. Wuerthner, E. Crist, & T. Butler (Eds.), *Protecting the wild: Parks and wilderness, the foundation for conservation* (pp. 170–188). Washington, London: The Island Press.
- Fletcher, R., & Büscher, B. (2016). *Why E. O. Wilson is wrong about how to save the Earth*. <https://aeon.co/opinions/why-e-o-wilson-is-wrong-about-how-to-save-the-earth>.

- Fox, W. (1990). *Toward a transpersonal ecology: Developing new foundations for environmentalism*. Boston: Shambhala.
- Garner, R. (2015). Environmental politics, animal rights and ecological justice. In H. Kopnina & E. Shoreman-Ouimet (Eds.), *Sustainability: Key issues* (pp. 331–347). New York: Routledge.
- Goodpaster, K. E. (1978). On being morally considerable. *The Journal of Philosophy*, 75(6), 308–325.
- Gren, M., Campos, M., & Gustafsson, L. (2016). Economic development, institutions, and biodiversity loss at the global scale. *Regional Environmental Change*, 16(2), 445–457.
- Grey, W. (1993). Anthropocentrism and deep ecology. *Australasian Journal of Philosophy*, 71(4), 463–475.
- Haupt, J., & Lawrence, C. (2012). Unexpected connections: Income inequality and environmental degradation. *Shaping Tomorrow's World*. <http://www.shapingtomorrowworld.org/hauptinequality.html>.
- Hayward, T. (1997). Anthropocentrism: A misunderstood problem. *Environmental Values*, 6(1), 49–63.
- Higgins, P. (2010). *Eradicating ecocide: Laws and governance to prevent the destruction of our planet* (pp. 62–63). London: Shephard Walwyn Publishers Ltd.
- Holland, T. G., Peterson, G. D., & Gonzalez, A. (2009). A cross-national analysis of how economic inequality predicts biodiversity loss. *Conservation Biology*, 23(5), 1304–1313.
- Holmes, G. (2013). Exploring the relationship between local support and the success of protected areas. *Conservation and Society*, 11, 72–82.
- Islam, S. N. (2015). *Inequality and environmental sustainability (no. 145)*. UNDESA Working Paper. [http://www.un.org/esa/desa/papers/2015/wp145\\_2015.pdf](http://www.un.org/esa/desa/papers/2015/wp145_2015.pdf).
- Kareiva, P., & Marvier, M. (2012). What is conservation science? *BioScience*, 62, 962–969.
- Katz, E. (1999). Envisioning a de-anthropocentrised world: Critical comments on anthony weston's 'the incomplete eco-philosopher'. *Ethics, Policy and Environment*, 14, 97–101.
- Kidner, D. (2014). Why 'anthropocentrism' is not anthropocentric. *Dialectical Anthropology*, 38(1), 465–480.
- Knudtson, P., & Suzuki, D. (1992). *Wisdom of the elders*. Sydney: Allen and Unwin.
- Kopnina, H. (2014a). Consumption, waste and (un) sustainable development: Reflections on the Dutch holiday of Queen's day. *Environment Systems and Decisions*, 34(2), 312–322.
- Kopnina, H. (2014b). Christmas tale of (un) sustainability: Reflecting on consumption and environmental awareness on the streets of Amsterdam. *Sustainable Cities and Society*, 10, 65–71.
- Kopnina, H. (2015). Revisiting the Lorax complex: Deep ecology and biophilia in cross-cultural perspective. *Environmental Sociology*, 43(4), 315–324.
- Kopnina, H. (2016). Half the earth for people (or more)? Addressing ethical questions in conservation. *Biological Conservation*, 203(2016), 176–185.
- Kopnina, H., & Gjerris, M. (2015). Are some animals more equal than others? Animal rights and deep ecology in environmental education. *Canadian Journal of Environmental Education*, 20, 109–123.
- Kopnina, H., Washington, H., Gray, J., & Taylor, B. (2018). The 'future of conservation' debate: Defending ecocentrism and the nature needs half movement. *Biological Conservation*, 217, 140–148.
- Marvier, M. (2014). A call for ecumenical conservation. *Animal Conservation*, 17(6), 518–519.
- Mathews, F. (2016). From biodiversity-based conservation to an ethic of bio-proportionality. *Biological Conservation*, 200, 140–148.
- MEA. (2005). *Millennium ecosystem assessment. Ecosystems and human well-being: Biodiversity Synthesis*. Published by World Resources Institute, Washington, DC. <http://www.millenniumassessment.org/en/index.html>.
- Mikkelsen, G. M., Gonzalez, A., & Peterson, G. D. (2007). Economic inequality predicts biodiversity loss. *PLoS ONE*, 2(5), e444.
- Miller, B., Soule, M., & Terborgh, J. (2013). *The "new conservation's" surrender to development*. Rewilding Institute. <http://rewilding.org/rewildit/the-new-conservations-surrender-to-development/>. Accessed 23 May 13.
- Mills, J., & Waite, T. (2009). Economic prosperity, biodiversity conservation, and the environmental Kuznets curve. *Ecological Economics*, 68, 2087.
- Naess, A. (1973). The shallow and the deep: Long-range ecology movement. *A summary, Inquiry*, 16, 95–99.
- Nelson, M. P., Bruskotter, J. T., Vucetich, J. A., & Chapron, G. (2016). Emotions and the ethics of consequence in conservation decisions: Lessons from Cecil the Lion. *Conservation Letters*, 9(4), 302–306.

- Nelson, M. P., & Vucetich, J. A. (2009). On advocacy by environmental scientists: What, whether, why, and how. *Conservation Biology*, 23(5), 1090–1101.
- Norton, B. G. (1984). Environmental ethics and weak anthropocentrism. *Environmental Ethics*, 6(2), 131–148.
- Noss, R. F. (1992). The wildlands project land conservation strategy. *Wild Earth*, 1, 9–25.
- O'Neill, D. W. (2012). Measuring progress in the degrowth transition to a steady state economy. *Ecological Economics*, 84, 221–231.
- Orr, D. (2013). Governance in the long emergency. In L. Starke (Ed.), *State of the world 2013: Is sustainability still possible?*. Washington: Island Press.
- Pearce, J. (2002). *Civil society and development: A critical exploration*. Boulder: Lynne Rienner Publishers.
- Piccolo, J., Washington, H., Kopnina, H., & Taylor, B. (2018). Back to the future: Why conservation biologists should re-embrace their ecocentric roots. *Conservation Biology*. (in press).
- Quinn, F., Castéra, J., & Clément, P. (2016). Teachers' conceptions of the environment: Anthropocentrism, non-anthropocentrism, anthropomorphism and the place of nature. *Environmental Education Research*, 22(6), 893–917.
- Rees, W. (2008). Toward sustainability with justice: Are human nature and history on side? In C. Soskolne (Ed.), *Sustaining life on earth: Environmental and human health through global governance*. New York: Lexington Books.
- Regan, T. (1986). A case for animal rights. In M. W. Fox & L. D. Mickley (Eds.), *Advances in animal welfare science* (pp. 179–189). Washington, DC: The Humane Society of the United States.
- Rolston, H., III. (1983). Values gone wild. *Inquiry*, 26(2), 181–207.
- Rolston, H., III. (2002). Naturalizing Callicott. In W. Ouderkirk & J. Hill (Eds.), *Land, value, community: Callicott and environmental philosophy*. Albany, NY: State University of New York Press.
- Rolston, H., III. (2012). *A new environmental ethics: The next millennium for life on earth*. New York: Routledge.
- Sharples, C. (1995). Geoconservation in forest management—principles and procedures. *Tasforests*, 7, 37–50.
- Shoreman-Ouimet, E., & Kopnina, H. (2016). *Culture and conservation: Beyond anthropocentrism*. New York: Routledge.
- Singer, P. (1977). *Animal liberation: A new ethics for our treatment of animals*. New York: Random House.
- Sponsel, L. E. (2014). Human impact on biodiversity: Overview. In S. A. Levin (Ed.), *Encyclopedia of biodiversity* (Vol. 4, p. 137). Waltham, MA: Academic Press.
- Strang, V. (2017). Justice for all: Inconvenient truths and reconciliation in human-non-human relations. In H. Kopnina & E. Shoreman-Ouimet (Eds.), *Routledge handbook of environmental anthropology* (pp. 263–278). New York: Routledge.
- Sykes, K. (2016). Globalization and the animal turn: How international trade law contributes to global norms of animal protection. *Transnational Environmental Law*, 5, 55–79.
- Tallis, H., Lubchenko, J., et al. (2014). Working together: A call for inclusive conservation. *Nature News*, 515, 27–28.
- Taylor, B. (2010). *Dark green religion: Nature spirituality and the planetary future*. Berkeley & Los Angeles: University of California Press.
- Taylor, B. (2013). It's not all about us: Reflections on the state of American environmental history. *Journal of American History*, 100(1), 140–144.
- Taylor, B. (2014). Dangerous territory: The contested perceptual spaces between imperial conservation and environmental justice. *RCC (Rachel Carson Center) Perspectives*, 1, 117–122.
- Taylor, B., Van Wieren, G., & Zaleha, B. D. (2016). The greening of religion hypothesis (part two): Assessing the data from Lynn White, Jr., to Pope Francis. *Journal for the Study of Religion, Nature & Culture*, 10(3), 306–378.
- Taylor, P. W. (1983). In defense of biocentrism. *Environmental Ethics*, 5(3), 237–243.
- UNGA. (1982). *World Charter for Nature*. UN Doc. A/RES/37/7, 28 Oct. 1982, Available at: <http://www.un.org/documents/ga/res/37/a37r007.htm>.
- Wandesforde-Smith, J. (2016). Bracketing braverman: Thinking and acting for wildlife conservation after nature. *Journal of International Wildlife Law and Policy*, 19(2), 176–187.
- Washington, H. (2013). *Human dependence on nature: How to help solve the environmental crisis*. London: Earthscan.
- Washington, H. (2015). *Demystifying sustainability: Towards real solutions*. London: Routledge.

- Washington, H. (2017). Denial—the key barrier to solving climate change. In D. A. DellaSala & M. I. Goldstein (Eds.), *Encyclopedia of the anthropocene*. London: Elsevier.
- Washington, H., Taylor, B., Kopnina, H., Cryer, P., & Piccolo, J. J. (2017a). Why ecocentrism is the key pathway to sustainability. *The Ecological Citizen, 1*, 35–41.
- Washington, H., Taylor, B., Kopnina, H., Cryer, P., & Piccolo, J. J. (2017b). A statement of commitment to ecocentrism. *Ecological Citizen*. <http://www.ecologicalcitizen.net/statement-of-ecocentrism.php>. Accessed Jan 2018.
- WCED (United Nations World Commission on Environment and Development). (1987). Brundtland report. In *Our common future: The world commission on environment and development*. New York.
- Weston, A. (1985). Beyond intrinsic value: Pragmatism in environmental ethics. *Environmental Ethics, 7*, 321–339.