

*Chapter 15 – Indigenous Amazonia, Regional Development and Territorial Dynamics:
Contentious Issues*

**The Non-human Borderlands: Engaging with ecological justice
and indigenous rights in Amazonia**

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Abstract

Indigenous rights' relationship to ecological justice in Amazonia has not been explicitly explored in the literature. As social scientists rarely talk about violence against non-humans, this case study of conservation in Amazonia will explore this new area of concern. Ethical inquiries in conservation also engage with the manifold ways through which human and non-human lives are entangled and emplaced within wider ecological relationships, converging in the notion of environmental justice, which often fails to account for overt violence or exploitation of non-humans. Reflecting on this omission, this chapter discusses the applicability of engaged social science and conservation to habitat destruction in Amazonia, and broader contexts involving violence against non-humans. The questions addressed in this chapter are: is the idea of ecological justice sufficiently supported in conservation debate, and more practical Amazonian contexts? Can advocacy of inherent rights be applied to the case of non-humans? Can indigenous communities still be considered 'traditional' considering population growth and increased consumptive practices? Concluding that the existing forms of justice are inadequate in dealing with the massive scale of non-human abuse, this chapter provides directions for conservation that engage with deep ecology and ecological justice in the Amazonian context.

Keywords: Amazonia; Conservation; Deep ecology; Ecological justice; Indigenous rights

1. Introduction

Anthropologists, political ecologists and social justice advocates working in biological conservation have mediated between discriminated communities and outsiders, particularly helping to influence public opinion in favor of Indigenous rights through advocacy work. A less explored area is how indigenous rights relate to ecological justice in Amazonia. As social scientists rarely talk about violence against non-humans, the case study of conservation in Amazonia will explore this new area of concern. Ethical inquiries in conservation also engage with the manifold ways through which human and non-human lives are entangled and emplaced within wider ecological relationships, converging in the notion of environmental justice. Yet, environmental justice is often used synonymously with social justice and often fails to account for overt violence or exploitation of non-humans (Strang 2016).

This chapter develops an argument that we need a more balanced theory and practice of social and ecological justice that not only recognizes the mutually constitutive processes but also recognizes human dependency on nature (Washington 2015). This chapter supports the call for the simultaneous provision of justice for all human and non-human beings based on the case of conservation in Amazonia.

Deforestation of the rainforest of all countries in the Amazonian region has accelerated significantly between 1991 and the present, closely followed by associated loss of biodiversity. In 2004, the forest loss rate of 27,423 km² has gained international attention, both in the media and in academic publications (Laurance et al 2004; Fearnside 2015). Accelerations in deforestation were witnessed in 2008, 2013 and 2017 (Buttler 2017). The major causes of deforestation are illegal logging but also state-sponsored 'legal' timber operations (Hahn et al 2015), cattle and soya farming (Nepstad et al 2014), road-building (Fearnside 2015) and climate change associated, in part, with all these factors. The most successful anti-deforestation strategy so far has been strict protection, not allowing direct (commercial) and indirect (limited) use of the area. As noted in the case of Peru, because indirect use is often unregulated, the deforestation pressure was higher in the zones of indirect-use protected areas (10.31 percent) than in direct use (7.42 percent) (Dourojeanni 2015).

While the amount of conserved land in Amazonia has nominally recently increased, there is also sustained resistance and a major shortfall in political commitments to effectively secure protected areas from economic activities (Watson et al 2014). Part of this shortfall is the predictable resistance by major corporate and political players interested in continuing with extractive activities to make a profit (Laurance et al 2004; Barber et al 2014; Ter Steege et al 2015). The less obvious resistance comes from the critique of conservation itself.

While biological conservation was originally intended to preserve wild landscapes and protect wildlife, protected areas are now expected to achieve an increasingly diverse set of social and economic objectives (Watson et al 2014), including poverty alleviation

(Adams et al 2004; Goodall 2015) and addressing the needs of vulnerable communities (Naughton-Treves et al. 2005). While the evidence shows that biodiversity-motivated conservation is compatible with the rights of indigenous groups (Doak et al 2015), some conservationists and critical social scientists have argued that the aim of conservation should be solely enhancement of human well-being (e.g. Kareiva et al 2011; Marvier 2014; Büscher 2015; Fletcher and Büscher 2016). Environmental justice, in this case, refers to the economic and social benefits of conservation or other environmental action. Environmental justice refers to the “equitable distribution of environmental goods such as natural resources and clean air and water among human populations as well as between species” (Kopnina 2014).

Others have argued in favor of preserving biodiversity for its own sake (Cafaro and Primack 2014; Miller et al 2014; Batavia and Nelson 2016; Cafaro et al 2017). This position is based on the idea of ecological justice or justice between human and non-human species which considers non-human living beings as morally considerable (Baxter 2005). In some cases, this justice is included in environmental justice (Schlosberg 2004). Biospheric altruism extends concern beyond human beings (Shoreman-Ouimet and Kopnina 2015: 130). This stance supports non-human entitlement to a fair share of essential goods and their right to ‘flourish’ (Mathews 2016). In the context of justice for nonhumans, human use of nature can also be seen as abuse – in legal terms, seeing the destruction of biodiversity and erasure of natural habitats as a violation of justice (White 2013).

This chapter will address the ethics of conservation contrasting anthropocentric and ecocentric perspectives, drawing on examples from conservation and indigenous communities in Amazonia. Below we shall explore the bottlenecks and trade-offs between indigenous and ecosystem interests as well as potential reconciliation between them. This chapter will explore the following questions: Is the idea of ecological justice sufficiently supported in conservation debate, and more practical Amazonian contexts? Can advocacy of inherent rights be applied to the case of non-humans, especially when indigenous interests and those of individuals within the species, entire species, or habitats do not coincide? Can indigenous communities still be considered to be 'traditional' in their treatment of non-humans? How do human population growth and increased 'modernization' of consumptive practices affect Amazonia?

In the sections below, the main differences between ethical standpoints on conservation will be examined. Following this exploration is the discussion of deforestation in Amazonia in the context of these perspectives. Finally, points of ethical reconciliation and strategic suggestions for improvement of morally just conservation practices will be developed. This chapter will conclude that the existing forms of anthropological engagement are inadequate in dealing with the massive scale of destruction of habitats and non-human abuse, suggesting directions for conservation that engages with deep ecology and ecological justice in the Amazonian context.

1.1. Conservation in Amazonia

From the 1980s onwards, alarming trends in deforestation and loss of biodiversity in Amazonia have become widely known (Barrett 1980). Conservation of Amazonian habitats (Ter Steege et al 2015) and creation of protected areas has recently helped preserve biodiversity (Barber et al 2014; Watson et al 2014), including Amazonian endangered species (Pimm et al 2014), including the giant otter, South American tapir and red-faced uakari monkey. It was argued that to have any chance of preserving vulnerable habitats and endangered species, increased recognition, funding, effective management, planning, and enforcement are urgently needed (Watson et al 2014).

The largest and possibly most threatened tropical savanna and one of the 25 most important terrestrial hotspots in the world are the Cerrado, a region that occupies the center of South America (Meyers et al 2000). The biodiversity of the Cerrado, concentrated in an area of 1.86 million km² includes 10,000 plant species, 161 mammal species, 837 bird species, 120 reptile species, and 150 amphibian species which have been recorded (Myers et al 2000). However, even a decade ago the situation of Cerrado's biodiversity can be categorized as catastrophic, as only 20% of the region remains undisturbed and only 1.2% is preserved in protected areas (Mittermeier et al 1999; Cardoso da Silva et al 2002). Presently, the situation has worsened due to over-exploitation, climate change, and many other associated factors (Lahsen et al 2016; Mustin et al 2017).

Other places in Amazonia face similar turmoil. Strict conservation in the Amazon region prohibiting all economic activities other than very limited 'traditional' subsistence activities by indigenous groups have been shown to be most effective in Peru (Bodmer and Puertas 2007; Nunez-Iturri et al 2008; Dourojeanni 2015) and Brazil (Turner 1993; Nepstad et al 2006; Hahn et al 2014; Lahsen et al 2016). Bruner et al (2001), Nepstad et al (2006) and Nunez-Iturri et al (2008) provide evidence that banning all hunting in Amazonian protected areas has greatly contributed to biodiversity protection. In Peru, results of animal censuses in the Samiria river basin show a general increase in animal densities of white-lipped peccary, howler monkey, woolly monkey, lowland tapir, giant river otters, Amazon manatees, and black caimans and agouti between the period of strict control and the period of local community involvement (Bodmer and Puertas 2007).

1.2. Indigenous people and conservation

Indigenous lands occupy one-fifth of the Brazilian Amazon — five times the area under protection in parks (Nepstad et al 2006). While assessing the success of conservation in terms of biodiversity protection, the position of indigenous people in conservation appears to be highly ambiguous.

On the one hand, the indigenous people are seen as the "noble savages" (Koot 2016) and "natural" protectors of the forests and their inhabitants against the encroachment

of extractive industries (McSweeney 2005; Orta-Martínez and Finer 2010). Modern forest-dependent indigenous communities are seen as ecologically wise as they inherited the traditional knowledge of their ancestors, and it is assumed that local beliefs and practices that influence the use of biodiversity are essential for understanding sustainable use and conservation policies (Van Vliet et al 2018). Examples of indigenous communities protecting their forest are well known, including in Ecuador, where the government allows the exploitation of underground resources in national parks and where oil development has been unsuccessfully but persistently opposed by both indigenous peoples and conservationists (Chicchón 2009). Also, conservation, indigenous rights, and poverty reduction are often seen to go hand in hand. Win-win scenarios in conservation and poverty reduction are often discussed (e.g. Adams et al 2004; Naughton-Treves et al 2005). Jane Goodall (2005:22) reports the results of the TACARE case-study, whereby environmental degradation was due to a local community's efforts in striving for survival. Goodall mentions "...ranger forces are underpaid and poorly equipped, making them vulnerable to bribes from poachers" (Ibid p. 24). Effectively, a program for poverty alleviation was enacted. Goodall (2015) certainly makes a strong case in favor of the environment and civil actions necessary to maintain the environment and also discusses the economic benefit from nature.

In describing conservation alliances with local communities, Schwartzman and Zimmerman (2005) note that local support is crucial for conservation and typically both conservation and indigenous people benefit. As Chicchón (2009) notes, looking at the whole picture in Latin America, the magnitude of the displacement by infrastructure and industrial development in natural areas is much greater than displacement due to the creation of protected areas. In many cases, protected areas have benefited indigenous people because they have established alliances that have brought more national attention to their situations (Chicchón 2009).

On the other hand, due to expanding populations and the use of "modern" weapons by indigenous communities (Jerozolinski and Peres 2003), the "traditional" sustainable relationship with the environment has been scrutinized (Turner 1993). Indeed, indigenous fertility is high and, with the introduction of "modern" medicines infant mortality is low with populations correspondingly young (Holt et al 2004; McSweeney 2005). In Guatemala, for instance, the Maya Biosphere Reserve is shaped by the dramatic population expansion (McNab and Ramos 2007).

While it is argued that "indigenous population growth need not inevitably lead to resource degradation" (McSweeney 2005: 1375), this position discounts the fact that humans, indigenous or not, as large apex predators, have a very significant effect on local ecosystems (Turner 1993). In the Amazon, and elsewhere, deforestation for subsistence agriculture and fuel, or rampant killing of forest animals or bush-meat leads to the 'empty forest syndrome' (Crist and Cafaro 2012:6). There is also evidence that no human contact zones have been most effective in preserving biodiversity (Bruner et al 2001; Laurance

2005; Peres 2005). For example, in unfragmented forests of southeastern Peru, which are not strictly protected, because of the regular hunting with firearms rather than traditional weapons for 30–40 years, large primates were extirpated and medium primates were reduced 61% compared with protected forests (Nunez-Iturri et al 2008).

In some situations ‘local’, ‘native’ and ‘indigenous’ people (as these definitions are not always clear) were involved in conservation-based income-generating activities (Chicchón 2009). ‘Traditional’ non-monetary economies have typically collapsed under the influence of industrial development and protected areas have become fragmented into intensive exploitation zones. Larger reserves without any human interference have greatly increased the efficacy of conservation for endangered species and reduced deforestation (Laurance 2005; Peres 2005). Compromise positions allow habitation and traditional indigenous activities combined with some form of financial compensation for the protection of some species from hunting.

While local support remains crucial for the success of conservation, the trade-offs between the needs of indigenous communities and the dire predicament of endangered species need to be carefully weighed (Cheung and Sumaila 2008; McShane et al 2011; Shoreman-Ouimet and Kopnina 2015). Despite the reported success of integrating indigenous and biodiversity interests under the banner of protecting **biocultural diversity**, this relative success of conservation has not been met with heavy resistance. To understand this resistance, we shall consider below two generalized ‘camps’ in conservation thinking – anthropocentrism and ecocentrism.

2. Two main camps in conservation

Biological conservation, environmental anthropology, political ecology, and social geography address sources of legitimacy of conservation policies as well as indigenous land rights in connection with conservation practice, highlighting social inequality, and environmental and ecological injustice. Conservation is often discussed against the backdrop of two main ethical standpoints: preservation of natural resources for human use (an anthropocentric position that supports biodiversity protection for the well-being of humans), and protection of nature for its own sake (an ecocentric perception that supports biodiversity protection due to the intrinsic value of nature).

2.1. *Anthropocentric position*

Recently, protest against protected areas has appeared from an unexpected corner, from academic disciplines that have ‘environment’, ‘ecology’ or ‘conservation’ in their titles, namely environmental anthropology, political ecology, and conservation science. The emergence of the so-called ‘critical social science’ and ‘new conservation’, signalled recently by, among others, in the Future of Conservation debate (for detailed analysis of it, see Kopnina et al 2017) opened up a venue of moral attacks against both the underlying ethic

and practice of conservation, as well as against a generalised group of 'environmentalists'. The anthropocentric position is exemplified by the "new conservation" biologists (e.g. Kareiva, Lalasz and Marvier 2011; Marvier 2014), or social scientists, specifically anthropologists and human ecologists that claim that conservation should only protect the interests of vulnerable human communities (e.g. Kalland 2009; West and Brockington 2011; Büscher 2015; Fletcher and Büscher 2016) as well as academics working in the field of economic development (e.g. Baviskar 2013). These authors appear to be neo-Marxist in orientation as they focus on the critique of the neoliberal agents that profit from conservation and place the moral focus on vulnerable, poor communities rather than biodiversity (see detailed discussion in Kopnina et al 2017). These scholars note the complex relationship between conservation and local communities (e.g. The Economist 2013) framing them mostly in socially defined environmental justice. In this case, violence is seen as originating from capitalist elites (generalized industrial developers but also supposedly conservation NGOs) directed against poor people, poachers, and indigenous ways of life. Practically, this has led to the assumption that nature should be used for people, and conservation's highest value is to contribute to the people's well-being (e.g. Kareiva, Lalasz and Marvier 2011; Marvier 2014; Ellis 2017).

Recently, anti-conservation and movements against protected areas have appeared not just from the 'usual suspects' – corrupt governments, industrial lobbies, timber, mining, and energy industries – although these remain key actors defeating conservation but from human rights advocates. Organizations such as Cultural Survival (to name just a few) have attacked 'environmentalists' who in their view endanger poor people's livelihoods by confiscating their land for conservation, violate human rights by punishing impoverished poachers and by imposing their own Western and elitist view of nature on poor communities. Environmentalists are portrayed as a generalized group of neoliberal profit-seekers that displace local communities to welcome wealthy tourists (West and Brockington 2011). Critical social scientists and new conservationists have argued that environmentalists entrench economic inequality as they marginalize local communities to generate conservation revenue (e.g. Baviskar 2013). Generally, the entitlements to the benefits derived from the exploitation of wildlife, natural resources, and ecosystem services seem to be ethically unquestioned as long as local, vulnerable or poor communities profit from it. Supposedly, environmentalists create 'politics of *hysteria* in conservation' (Büscher 2015). West and Brockington (2011, 2) state:

Environmentalism went south, so to speak, and inserted itself into the power struggles over environmental governance in the recently decolonized nations. While there, it got snugly in bed with its old enemy, corporate capitalism.

Amita Baviskar, a professor at the Institute of Economic Growth at Delhi University, argues similarly. When people try to achieve environmental justice, this results in injustice for

people, where the peoples' lower social class primarily drives this injustice. In these instances, the 'working poor' may have their environmental priorities, such as having drinking water and sewers (Baviskar 2013). Also, most of the pollution and environmental harm is not even caused by vulnerable communities but by the wealthier and urbanized portion of the society, "by their cars and their sewage" (Baviskar 2013). Baviskar argues that the discussion surrounding conservation is fundamentally neocolonial as northern states continue to control southern states by imposing developmental constraints on post-colonial economies using environmental protection as an excuse to interfere. Baviskar (2013) also argues that conservation pushes indigenous communities into marginal lands, thus unequally distributing the burden of environmental responsibility. Agrawal and Redford (2009) also contrast the gap between the severity of accusations in human rights violations in the case of conservation and the seeming lack of industrial development-induced displacement. Major development-focused international organizations such as the World Bank (IBRD), the Inter-American Development Bank (IADB), and the Organization for Economic Cooperation and Development (OECD) have each formulated a set of guidelines to shape their actions in the face of development-induced displacement. Thus, there is a need for conservation organizations to formulate a consistent ethical vision that defines what constitutes justice in conservation.

2.2. *Ecocentric position*

By contrast, the ecocentric perspective is based on the assumption that biodiversity loss is a moral wrong (Cafaro 2015) and that anthropocentric motivation condemns those species that are 'useless' for humans to extinction. Within the biological conservation community this position is represented by conservation biologists (Cafaro and Primack 2014; Miller, Soulé and Terborgh 2014; Washington 2015; Batavia and Nelson 2016; Cafaro et al 2017), and by environmental and social scientists (Taylor 2008; Crist 2012; Kopnina 2016a and 2016b; Mathews 2016), among others. The ecocentric position is based on the recognition of the intrinsic value of ecosystems (e.g. Curry 2011; Batavia and Nelson 2017; Piccolo et al 2018) and the evidence that protection of large natural areas characterized by biological cores, corridors, and carnivores (Noss and Cooperrider 1994; Noss et al 2013) is highly successful in protecting biodiversity.

Ecocentric authors are generally instructed by the land ethics and deep ecology movements developed by Aldo Leopold (1949) and Arne Naess (1973). Applied in the case of Amazonia, empirical evidence points to the fact that biodiversity profits the most from habitats minimally disturbed by humans (Jerozolimski and Peres 2003; Nunez-Iturri et al 2008; Buttler 2017). While indigenous presence has historically evolved without endangering native flora and fauna, the assumption that indigenous groups "live in harmony with nature" has changed (Koot 2016; Shoreman-Ouimet and Kopnina 2016). This is due to the expansion of human activity due to commercial logging and mining, but also due to

population expansion and the growing need for food (Holt et al 2004) and the use of modern technology, such as weapons for hunting (Jerozolinski and Peres 2003; Nunez-Iturri et al 2008). Furthermore, as Tuner (1993:526) has noted:

Advocates of native forest peoples have tended to assume that recognition of the rights and contributions of the native inhabitants of the forests, as well as their physical and cultural survival, would depend, like the salvation of the forests themselves, upon them. That native forest peoples themselves, many of whom number among the most primitive and remote human societies on earth, should come to play an important role as allies and even leaders in the world struggle to save the forests is a prospect so apparently remote as to seem only a little less improbable than Martians arriving to lend a hand.

These two positions are differentiated on who needs justice: only less powerful people, non-humans, or everyone. Noting interdependence between human and non-human species, cultural anthropologist Veronica Strang (2016:259) observes that a “short-term focus on immediate human interests has longer-term detrimental effects on humans and non-humans alike” as these interests are interconnected. Strang (2016:259) notes:

With the most powerful societies living in unsustainable affluence, it is difficult to suggest that other people should be prevented from enjoying the material benefits that industrialized economic practices allow. Discourses on justice often imply that the most disadvantaged human groups should have special rights to redress long-term imbalances, and there is a case to be made. However, if the result is only a short-term gain at the long-term expense of the non-human (and thus humans too), this is not a sustainable way to achieve either social or ecological equity.

In the case of Amazonia, this justice translates into who or what is being abused, who are getting protected and who profits from conservation: endangered habitats, species, or indigenous communities. While the ethical stances outlined above seem demarcated and categorical, there are also in-between positions that argue for justice for both indigenous communities and the environment, arguing that reconciliation between human- and non-human foci in conservation can be reconciled (Shoremn-Ouimet and Kopnina 2015; 2016).

Exclusive focus on social justice leaves entire species and individuals within the species outside of moral considerations. Thus, the fate of displaced or even entirely eradicated white-lipped peccaries, howler and woolly monkeys, lowland tapirs, giant river otters, Amazon manatees, and black caimans, etc. remains invisible.

If ecological justice (Baxter 2005) is to be taken at face value, moral consideration would extend to all living creatures and that they should have rights or at least the same basic ‘dignity’ as humans (e.g. Terborgh 2015; Strang 2016; Piccolo et al 2018). Following this, non-human beings should be granted direct moral consideration that requires humans to consider the interests of all morally relevant beings (Batavia and Nelson 2017). Granted, the exact meaning of ‘right’ is rarely spelled out (Terborgh 2015), and the Pandora’s box of which lives are more important than others may present new challenges. Most people would choose a life of one’s child over that of a bacteria – and does human indigenous hunting, for example, have more value than hunting by a non-human predator even if the human’s

harvest (or even very life) is threatened? Thus, ecological justice should not be treated as a normative guide to navigating practical situations (as this comes later when the basic principles are adequately established) but a radical re-consideration of "right" to unilaterally exploit living beings as objects (Batavia and Nelson 2017). In other words, expanding concerns from vulnerable (human) communities and criticism of displacement, indigenous non-humans and their displacement and their very physical eradication need to be considered (Cafaro and Primack 2014; Miller et al 2014; Batavia and Nelson 2017; Cafaro et al 2017).

Below we shall explore areas in which bottlenecks and trade-offs between indigenous and animal – or ecosystem interests as well as potential reconciliation between them can be found. Exclusive focus on social justice leaves entire species and individuals within the species outside of moral considerations. Thus, the fate of displaced or even entirely eradicated white-lipped peccaries, howler and woolly monkeys, lowland tapirs, giant river otters, Amazon manatees, and black caimans, etc. remains invisible.

3. ***Bottlenecks in conservation ethics***

Not all conservation and local activity can be successfully combined (Cheung and Sumaila 2008; McShane et al 2011; Shoreman-Ouimet and Kopnina 2015; Kopnina et al 2017). The issue of human versus non-human justice is one of the key bottlenecks in conservation. In the strict protection model, conservation biologists speak of increasingly intensive human use the farther one gets from these essential reserves (Noss and Cooperrider 1994). This human use, both 'traditional' (indigenous use), or 'modern', (commercial use), needs to be carefully weighed (Kopnina et al 2017). Crucially, without considering the number of people using the 'resources' in vulnerable natural areas with endangered species, deciding on the rights of access becomes an ideological rather than scientific discussion. Often driven by the assumption that only humans and not animals or entire habitats have rights, and that these rights become somehow even more inalienable in the case of indigenous communities, this completely overrides the possibility that animals, plants and other living creatures should have access to land and the right to live and flourish depending on their natural needs. Practically, this requires large areas to be set aside for nature, as this is necessary to guarantee an *abundance* of species and not just sufficiency - what Mathews (2016) has termed this 'bio-proportionality'.

In this context, the concept of "sustainable use" (Ellis 2017), which in practice implies continuing to hunt (even when some species are critically endangered), logging (while logging can be 'traditional' in a sense of being done by indigenous people, considering the expanding populations of users, the scale of use is no longer sustainable), grazing, etc. by indigenous people or any other people, needs to be treated with great caution (Cafaro et al 2017; Kopnina et al 2017). The right of access and use cannot be granted automatically if biodiversity is to be preserved as human populations have expanded, the use of "modern"

transport or weapons (Nunez-Iturri et al 2008) among indigenous communities has increased, and relationships between the use of resources as subsistence as opposed to commercialism (e.g. selling 'gifts of the forest' to tourists) has become blurred (Shoreman-Ouimet and Kopnina 2015).

Besides, having exclusive rights of use (and abuse) simultaneously idealizes and denigrates indigenous people as pre-modern 'noble savages' living 'in harmony with nature' (Koot 2016). The indigenous controlled areas risk being turned into resource extraction zones, employing indigenous people in mining or another commercial resource harvesting (World Bank, n.d. in Kopnina et al 2017). Given the threats to bio-cultural diversity throughout the globe, some cultural (traditional) use might be allowed by indigenous custodians of the land (Shoreman-Ouimet and Kopnina, 2016). In this case, violence is seen as directed against the very lives of non-humans and their habitats. Unfortunately, protected areas or environmentalists, in general, have also been often seen as scape-goats by advocates of exclusive (socially defined) environmental justice (Strang 2016).

Points of reconciliation

However, the deep ecology movement was largely dependent on indigenous traditions of natural preservation, therefore the argument can be made that philosophically, many indigenous cultures practice an animistic spirituality that incorporates humanity into nature (Devall 1980). Therefore, by pursuing an ecocentrism, the global population may be seen as adopting indigenous values, that, at least traditionally, used to foster natural protection, rather than trying to eradicate them. Also, the system of industrial development and neoliberal economy often sees both native people and non-humans as inferior (Crsit and Kopnina 2014), and thus the united call for preservation of biocultural diversity in Amazonia using indigenous traditional knowledge provides one of the points of reconciliation between human and biodiversity interests (Van Vliet et al 2018).

However, one needs to be careful not to equate 'indigenous' with 'traditional' and with automatic 'harmony with nature'. The inhibitory effect of indigenous lands on deforestation was strong after centuries of contact with the national society and was not correlated with indigenous population density and the use of modern weapons to a point that some native species are pushed to extinction (Jerozolimski and Peres 2003; Napstad et al 2006; Nunez-Iturri et al 2008).

Judging from various examples it is possible to provide simultaneous justice for humans and non-humans, by applying an integrated approach to poverty alleviation while simultaneously conserving forests by providing education and participatory activities within local communities (Goodall 2015) provides guidance. However, these examples are also often place-specific and caution should be used when applying certain win-win policies in different Amazonian contexts. Also, caution needs to be used when poverty alleviation serves as a euphemism for a transition to an industrial, consumerist monetary economy

(Crist 2012) and does not contribute to the preservation of natural and cultural diversity. Thus, one of the areas of reconciliation where both social justice and ecological justice advocates converge is their caution in addressing neoliberal economic assumptions that underlie a lot of "new conservation" (Shoreman-Ouimet and Kopnina 2015).

More generally, prioritizing justice for people over justice for the environment seems self-defeating as we are interconnected with biodiversity and natural habitats in the processes of production and reproduction (Strang 2016). Again, however, caution should be used as human communities, including indigenous ones, are *materially* dependent on nature while nature is *existentially* dependent on humans as is most threatened by them. If the dependency of humans can be seen as needing biodiversity for food or economic development – thus emphasizing *use*, a reverse dependency is that of dire need – thus emphasizing *survival*. An IUCN (2017) reports show that today, extinction rates have drastically and exponentially increased, predicting that within the next 40-50 years, if no action is taken, many of the earth's aquatic and terrestrial species will have disappeared (Strang 2016). Indeed, Strang notes: "giving humankind priority in the provision of justice leads down a path that is morally questionable, carries high risks, and is intellectually problematic" (2016:259). This, the call for justice should be a joint plea for human rights combined with – and not over-riding – the rights of other species to exist. The cultural survival of indigenous peoples and the physical survival of biodiverse habitats are intimately interlinked.

Conclusion

What is important to advance both social and ecological justice is the ability to determine how environmental and human values overlap, conflict, and where the opportunity for reconciliation lies, building bridges between supporters of social justice and conservation. Several moral conditions to enable reconciliation between social and ecological justice 'camps' need to be met. First, one needs to recognize the present-day bias in the provision of justice to those who can speak for themselves, in preference to those who cannot. Second, humans and nature are interdependent, and disruption for any of the participants has potentially major impacts on the others. Further, the possibility of reconciliation is based on the supposition that hypothetically a large component of the social justice movement would be empathetic with a disenfranchised silent majority (albeit non-human). In principle, exploitative systems are functionally unsustainable and morally irreconcilable and this principle must be applied to all communities, including the global non-human community. In the case of Amazonia, considering the white-lipped peccary, howler monkey, woolly monkey, lowland tapir, giant river otters, Amazon manatees, and black caimans and agouti as living agents worthy of moral consideration and perhaps legal protection needs to be urgently considered.

Returning to the questions asked in this chapter, at present the idea of ecological justice needs to be more central in conservation debate in general, and the Amazonian context if the needs of non-human species are to be taken into account. Indigenous rights as well as rights of local communities and external actors that might influence biodiversity loss the most (the timber and mining companies, or more indirectly, although significantly, all international actors responsible for collective climate change or demand for hardwood) need to be carefully considered in balance with non-human rights and ecological justice. Advocacy of inherent rights still needs to be fully developed in the case of non-humans, as literature on trade-offs in conservation and especially anthropocentric motivation for conservation is often conceived in purely instrumental terms. While the idea of "justice" and ethical framing of the conservation debate is not the same as practical or scientific aspects of conservation on the ground, having a general ethical framework with associated legal obligations can help to understand 'efficiency' in Amazon conservation. Especially in cases when indigenous interests and those of individuals within the species, entire species, or habitats do not coincide, discussion of choices and trade-offs, both ethically and scientifically instructed, needs to continue.

Due to socio-demographic changes, namely the growth of the human population and increased use of modern tools and weapons, as well as commercialization of the economy, indigenous communities cannot unconditionally be considered 'traditional' and implicitly benign in their relationship to the environment. As human population growth, both in indigenous, local, and "outsider" groups continue in tandem with an increase in consumptive practices, the fate of Amazonian biodiversity and conservation remains uncertain.

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