Vol. 62, p. 1498-1527, jul./dez. 2023. DOI: 10.5380/dma.v62i0.86642 e-ISSN 2176-9109

UFPR

DeMA DESENVOLVIMENTO E MEIO AMBIENTE

BIBLIOTECA DIGITAL DE PERIÓDICOS BDP | UFPR

revistas.ufpr.br

# Convivial Conservation: exploring transformative concepts for the promotion of (bio)diversity in Brazil

## Conservação convivial: explorando conceitos transformadores para a promoção da (bio)diversidade no Brasil

Laila Thomaz SANDRONI[1*], Katia Maria P. Micchi de Barros FERRAZ[2]

[1] University of São Paulo (USP), São Paulo, SP, Brasil.

[2] Luiz de Queiroz Higher School of Agriculture (ESALQ – USP), Piracicaba, SP, Brasil.

[*] Contact email: lailasandroni@hotmail.com

Article received on July 4, 2022, final version accepted on March 15, 2023, published on December 21, 2023.

**ABSTRACT**: The need to conserve what remains of the planet's biodiversity has become a tacit consensus over the last 40 years, placing the issue definitively on the agenda of global environmental problems to be socially solved. However, the decision on the best pathways for biodiversity conservation continues to be the subject of intense political disputes. Therefore, the need to reconcile sociocultural and ecosystem effects in the implementation of conservation projects remains a current topic of debate. This article aims to present the conceptual bases of the 'convivial conservation' approach, identifying contributions of this proposal to the collective construction of realistic alternatives that focus on the political-economy dimensions of the challenge of promoting the diversity of human and non-human life on the planet. We carry out a genealogy of the emergence of convivial conservation, unpacking it's historical and current discursive contexts. First, we situate the emergence of convivial conservation in the context of the "transformations to sustainability" literature, specifically highlighting the contribution of the critical social sciences to the transformation of biodiversity conservation. Then, we present the characteristics of the main trends and paradigmatic lines that guided the actions and policies for biodiversity conservation historically both in Brazil and worldwide, namely "fortress conservation", "participatory conservation" and "neoliberal conservation". Furthermore, we evaluate the updates of these lines in the current global debate, presenting the main features of the "neoprotectionist" and "new conservation" trends, in their distances and approximations in relation to "convivial conservation". Finally, we present the principles of convivial conservation and the actions that concretize the proposal, in its interface with the Brazilian and Latin American context. We hope that this systematic and contextualized presentation of convivial conservation can contribute to the construction of transdisciplinary and democratic tools for research and intervention in biodiversity conservation, especially in Brazil.

*Keywords*: biodiversity; political ecology; environmental justice; paradigms for conservation; transdisciplinarity; transformations sustainability.

**RESUMO**: A necessidade de conservar o que resta da biodiversidade do planeta tornou-se um consenso tácito ao longo dos últimos 40 anos, colocando a questão de forma definitiva no rol da agenda de problemas ambientais globais a serem socialmente resolvidos. Entretanto a decisão sobre os melhores caminhos para a conservação segue sendo alvo de intensas disputas políticas e a necessidade de compatibilização entre efeitos socioculturais e ecossistêmicos na implementação de projetos de conservação permanece atual. O presente artigo tem como intuito apresentar as bases conceituais da proposta da "conservação convivial", identificando contribuições desta para a construção coletiva de alternativas realistas centradas nas dimensões político-econômicas do desafio de promover a diversidade da vida humana e não humana no planeta. Realizamos uma genealogia do contexto discursivo, histórico e atual, onde a proposta emergiu. Em primeiro lugar, situamos a emergência da conservação convivial no contexto da literatura das "transformações para sustentabilidade", destacando especificamente a contribuição das ciências sociais críticas para a transformação da conservação da biodiversidade. Em seguida, apresentamos as características das principais tendências e linhas paradigmáticas que guiaram as ações e políticas para a conservação da biodiversidade historicamente no Brasil e no mundo, a saber, a "conservação fortaleza", a "conservação participativa" e a "conservação neoliberal". Ademais, avaliamos o estado da arte das atualizações destas linhas no debate global atual, ao apresentar as características principais das tendências "neoprotecionista" e da "nova conservação", em seus distanciamentos e aproximações em relação à "conservação convivial". Por fim, apresentamos os princípios da conservação convivial e as ações que materializam a proposta, em sua interface com o contexto brasileiro e latino-americano. Esperamos que esta apresentação sistemática e criteriosa da conservação convivial possa contribuir para a construção de ferramentas transdisciplinares e democráticas de pesquisa e intervenção em conservação da biodiversidade, especialmente no Brasil.

*Palavras-chave*: biodiversidade; ecologia política; justiça ambiental; paradigmas para a conservação; transdisciplinaridade; transformações para a sustentabilidade.

## *Introduction*

The need to preserve what remains of the planet's biodiversity has become a tacit consensus over the past 40 years. This globally shared social acceptance opens up a multifaceted debate on the best ways to achieve this goal, leading to disputes between different conservation models. At the dawn of the second decade of the 21st century, the contemporary discussion surrounding biodiversity conservation takes place in a context where:

a) While the relative consensus on the importance of conservation has existed for some time, biodiversity degradation is advancing at an unprecedented pace (IPBES, 2019);

b) Sucess in biodiversity conservation only at the local level generated a sense of frustration within conservation arenas, prompting attempts to reinvent the field (Büscher & Fletcher, 2020);

c) The destructive capacity of human action has become so massive that scientists and conservationists increasingly recognize the present moment

as a new era, the Anthropocene[1], characterized by the effects of this action on the climate and ecosystems, pushing the planet's limits (IPCC, 2018); and

d) The emergence of an authoritarian anti-environmentalist right in various parts of the world is reshaping debates and making resources for conservation efforts even scarcer.

In this new conjuncture, the production of "reasonable solutions" based on the reconciliation between conservation and capitalist development sounds, at the very least, naive and "increasingly appears as a technocratic politics of resignation" (Büscher & Fletcher, 2019, p. 284). The Brazilian case tragically illustrates this: under the Bolsonaro government, individuals and institutions engaged in biodiversity conservation faced both significant ecosystem degradation and practical barriers to their work (Deutsch, 2021; ASCEMA, 2021). Additionally, the rise of post-truth has led to a shift in the production, application, and circulation of knowledge about biodiversity conservation that undermines the legitimacy of scientific knowledge in decision-making, eroding its potential for action (Rajão *et al*., 2022). Thus, the need to generate viable alternatives for actions and discourse surrounding biodiversity conservation becomes pressing and a fundamental part of the so-called "transformations to sustainability", namely, long-reaching and large-scale changes towards the establishment of resilient and healthy socio-ecological systems in line with the Sustainable Development Goals (SDGs).

In these not very encouraging circumstances, innovative proposals have been formulated in recent years to create a new momentum for conservation (Büscher & Fletcher, 2019). Among these proposals, the following two stand out:

a) The "nature needs half" campaign, led by the renowned ecologist Edward O Wilson; and

b) The network formed around the concept of "new conservation", led by a group of researchers at Stanford University.

Although these proposals indeed represent updates to the debate and provide fundamental contributions, they have been criticized for not sufficiently addressing the root causes of habitat destruction. Büscher & Fletcher (2020) thus present an alternative approach to the previous ones, which they call "convivial conservation", aiming to incorporate the transformative potentials presented by the other two proposals and surpass their limitations. The convivial conservation approach explicitly draws on formulations based on political ecology and a critique of capitalism, recognized as a fundamental driver of biodiversity degradation. The approach is based on promoting social justice and creating a prosperous environment for both people and wildlife in their interactions.

[1] In this article, we employ the conception of the Anthropocene as originally coined by the Dutch chemist Paul Crutzen, which pertains to the transition from the Holocene to a new geological era in which humans would be the primary driver of transformations on the planet (Crutzen, 2000). This conception has been subject to criticism in the field of political ecology due to its homogenizing nature and historical detachment from the category 'humanity' used as its foundation, giving rise to new formulations such as the Capitalocene (Moore, 2017) and the Phallocene (Las Canta, 2017). While we acknowledge many of these criticisms, for the purposes of this elaboration, the concept of the Anthropocene proves more suitable. Our entire framework is oriented towards identifying possibilities for political action in accordance with the effects of words on actions in the world, with the Anthropocene being the category with the greatest current political mobilization potential, including in Brazil (Pinto *et al.,* 2020).

This article aims to present the foundations of the convivial conservation proposal and to conduct a genealogy of the historical and current discursive contexts in which the proposal emerged. In this regard, the article is structured into four parts:

1) Systematization of the literature that deals with transformations towards sustainability and its key concepts of "transdisciplinarity" and "co-production", which form the background for the emergence of the convivial proposal for conservation. We highlight the perspective brought to the table by the critical social sciences engaged in such transformation and their contributions to promoting the diversity of life on Earth;

2) Identification of the three main paradigmatic trends that have historically guided the global debate on conservation and their shapes in the Brazilian context;

3) Brief presentation of three new approaches to conservation that have gained prominence in the current decade in the global debate, namely, neoprotectionism and new conservation, along with the approach that seeks to counterbalance them, convivial conservation;

4) Summarized exposition of the principles of convivial conservation and the actions that materialize the proposal, in its interface with the Brazilian and Latin American contexts.

As a conclusion, potential future research paths in transformations towards promoting (bio)diversity and contributions to a convivial perspective rooted in the global South, especially in Brazil and Latin America, are presented. Our aim in mapping this debate is to make accessible to the Brazilian public a set of ideas that can serve as catalysts for fairer conservation practices in a context where the very need to halt ecosystem degradation is being questioned. The dissemination of innovative ideas to enrich the discussion arenas on this topic in Brazil becomes central, just as the wide range of local experiences spread across Latin American territories can offer a fresh perspective on these global theoretical currents. It is hoped that this systematic, rigorous, and contextualized presentation of convivial conservation can contribute to the construction of transdisciplinary and democratic tools for research and intervention in biodiversity conservation, especially in Brazil and Latin America.

## *2. 'Transformations to Sustainability': co-producing knowledge for the future*

The convivial conservation proposal comes into being within the context of the emergence, consolidation, and rapid expansion of a literature driven by the promulgation of the Sustainable Development Goals (SDGs), centered around the idea of "transformations to sustainability" (O'Brien, 2012). The concept spread quickly through various channels of scientific dissemination, primarily among English-speaking audiences, and possesses a flexibility that allows its application in diverse contexts and epistemologies (Feola, 2015). In general terms, this transformation implies the construction of plural knowledge aimed at changing socio-ecological systems to establish new patterns of interaction between humans and the environment (Patterson *et al*., 2017). One of the strengths of this approach is its ability to serve as a boundary object, capable of connecting different disciplines

as well as non-academic knowledge (Schneidewind & Augenstein, 2016). However, this literature still finds limited dissemination among Brazilian researchers, representing a significant gap given the country's biological megadiversity and scientific capacity. Moreover, the transformation literature itself calls for greater contributions from conceptual experiences developed in the global South, as they possess specific capacities for innovation by placing historical context, environmental justice, and power relations at the forefront (Pereira *et al*., 2020). This section, therefore, aims to contribute to filling this gap while contextualizing the emergence of the convivial conservation approach.

### *2.1. Systematic classifications of the transformations literature*

Given the diversity of approaches proposed under the umbrella of transformations to sustainability, efforts to recognize trends in the literature have been made. O'Brien & Sygna (2013) identified three spheres of action permeating transformative responses specifically to climate change: the practical sphere, focused on direct, measurable action with results oriented towards transformation; the political sphere, referring to structures and systems that define the boundaries and possibilities for transformation; and the personal sphere, where the transformation of individual or collective beliefs, values, and worldviews is the focus. Feola (2015), in a similar effort, differentiated between descriptive and prescriptive analyses, akin to Brand's (2016) distinction between analytical and strategic trends in transformations literature. Schneidewind & Augenstein (2016), on the other hand, seek to deepen and complexify these initial classifications by differentiating three schools of transformative thought: the idealist, the institutionalist, and the technological innovation schools. The idealist school, according to the authors, starts from analyses of the central role of transformative ideas in societal changes, shedding light on the processes of forming new cultural values that underlie possible futures. Research aligned with this approach is predominantly interested in the historical formulation of dominant paradigms and how they shape human action at different levels. For example, Beck *et al.* (2021) operationalize the concept of "sociotechnical imaginaries" to reflect on how the construction of shared worldviews of what "sustainable future" means can either open up spaces or limit the scope for societal political actions. The institutionalist school highlights the role of institutions in shaping society and therefore analyzes and proposes changes in the state, organizations, and laws that can generate sustainability-oriented transformations. Finally, the innovation school recognizes new technologies as drivers of social transformation towards sustainability.

In the most recent effort, which we present here in more detail, Scoones *et al.* (2020) identified three predominant transformative approaches, namely, structural approaches, systemic approaches, and enabling approaches, each with its specific openings and closures. Structural approaches align with a revolutionary perspective, conducting robust historical analyses of the role of global markets and class struggle in understanding transformation within the intrinsic context of modes of production. According to Scoones *et al*. (2020), these approaches contribute to understanding long-term perspectives on transformations but have limitations due to their overly generic nature and fail to recognize

the importance of localized and short-term actions. Systemic approaches, on the other hand, focus on identifying particular characteristics of systems as targets for change, often mediated by the implementation of public policies, seeking to incorporate the dimensions of uncertainty and non-linearity of socio-environmental problems. Closer to the field of natural and technological sciences, this approach highlights the role of innovation and learning to enhance the resilience of systems. The main advantage of this approach is its applicability and high degree of social legitimacy, but it has deficiencies in terms of democratic and plural incorporation of non-Western perspectives and tends to overlook power relations inherent in decision-making processes. Lastly, enabling approaches emphasize agency and political choices in relation to the directions to be taken for transformation. It underscores the need to build attributes that empower marginalized individuals and groups to take actions for transformation from their own standpoint.

A common feature among all the mapping endeavors is that different trends should not be seen as mutually exclusive but rather complementary. However, different perspectives have different weights and measures: practical approaches (O'Brien & Sygna, 2013), prescriptive approaches (Feola, 2015), technological innovation approaches (Schneidewind & Augenstein, 2016), or systemic approaches (Scoones *et al*., 2020) tend to have more space in institutional debates and funding mechanisms. Nevertheless, Scoones *et al.* (2020) argue that just and equitable transformations in line with the SDGs require a combination of perspectives that takes into account knowledge politics and power relations necessarily present in processes of transformation to sustainability. Challenges related to reconciling different perspectives permeated by power relations have been addressed through the concepts of coproduction and transdisciplinarity, which are presented below.

### *2.2. Transdisciplinarity and coproduction*

Transdisciplinarity is understood as a set of knowledge production processes that involve not only different scientific disciplines but also other forms of knowledge with the aim of producing solutions for concrete socio-environmental problems (Hadorn *et al*., 2008). The focus on dynamic and complex socio-ecological phenomena requires a shift towards a new type of research that is action-oriented while maintaining scientific rigor (Pereira *et al*., 2020). Thus, knowledge coproduction[2] is advocated as a tool to access the perspectives of different social groups on transformations, generating politically engaged research practices. In this sense, the ideas brought forth by this literature resonate with various alternatives for building more democratic, inclusive, and action-oriented knowledge widely disseminated in the Brazilian context, such as coresearch (Machado & Cava, 2013; Roggero, 2014), post-normal science (Funtowicz & Ravetz, 1997; Taddei & Hidalgo, 2016), citizen science (Holdren, 2015; Comandulli & Alexandrino, 2021), among others. However, the

[2] In this article, we use the term "coproduction" to refer to the set of participatory research methods and knowledge constitution associated with the transformations literature. We do not specifically refer to the analytical concept proposed by Jasanoff (2004), which deals with the interconnections between how we represent the world and the way we choose to live in this world.

concepts of coproduction and transdisciplinarity have demonstrated significant political potential for mobilization in global environmental scenarios (Brand, 2016), materializing a discursive avenue with specific possibilities that can both benefit from the practices carried out in the global South and pollinate democratizing research actions in Brazil.

Paths to knowledge coproduction vary in the literature according to the underlying transformation approach. Literature more aligned with systemic approaches tends to suggest coproduction of knowledge with groups recognized by Marin *et al.* (2016) as "aligned partners" i.e., actors who share norms and interests with the research-action project leaders, where all involved parties feel represented in the same formulation of the socio-environmental problem and its solutions. Knowledge coproduction in this sense is often restricted to scientists, managers, and certain technical organizations of civil society, such as environmental NGOs. Marginalized voices and non-aligned actors tend to be implicitly or explicitly excluded from the process. Approaches closer to the structural perspective emphasize the importance of considering class struggle, seeking to create space for perspectives from social movements and intellectuals who have insisted on the transformative power of environmental justice struggles (Temper *et al*., 2018). Researchers more aligned with enabling approaches argue, however, that much of the coproduction literature is limited to presenting "to-do list" methodologies and emphasize the importance of flexibility and politicization throughout the coproduction process to make room for effective participation of dissenting voices, pluralism, and contestation (Turnhout *et al.,* 2020). Thus, researchers engaged with this perspective assume that historical context, cultural values, and power relations will necessarily shape different understandings of a given problem (Pereira *et al*., 2020). This engagement presents specific challenges in the global South, as the greater educational gap between stakeholders and researchers, makes communication more challenging. There is always some level of discomfort in creating these spaces, generating specific challenges that need to be incorporated as part of the research and/or intervention project.

### *2.3. Biodiversity conservation in the transformations debate*

The need for the involvement of different scientific disciplines and interested social groups through shared processes of knowledge production is a central aspect to be considered in research or intervention projects for biodiversity conservation. Transdisciplinarity and coproduction thus appear as valid instruments in constructing an integrated perspective of transformation in conservation. However, literature on transformation specifically focused on conservation is relatively scarce when compared to other topics such as water resource management, energy transition, or climate change (Blackmore *et al*., 2016; Zurita *et al*., 2018; Starck *et al*., 2022). Among other reasons, this is due to an apparent paradox between transformative actions and the maintenance or resistance to change implicit in the idea of conservation. This contradiction is debatable, as the aforementioned despair emphasizes the urgency of thinking about transformation, if not of the ecosystems to be conserved, certainly of the

means used in that conservation. Furthermore, the dominant trend in conservation is to act through direct and localized interventions, contrasting with the recognition that long-term solutions for maintaining planetary biodiversity depend on global governance (Adams, 2017).

Additionally, transdisciplinary knowledge moves towards a true fusion of perspectives, including those from the social and natural sciences, which can help generate a broader vision of conservation. In this context, critical social sciences[3] offer specific contributions to the construction of alternatives for conservation by challenging assumptions and identifying underlying causes of biodiversity degradation, often linked to global economic flows. Massarela *et al*. (2021) identify the following central contributions of critical social sciences in promoting transformative agency in conservation:

1) Due to their analytical role, critical social sciences question dominant discourses in conservation arenas and challenge the linear relationship between scientific knowledge and public policies as formulated by orthodox "evidence-based policy" proposals (Sutherland *et al*., 2004);

2) They interrogate the processes of knowledge production and circulation that underpin conservation projects, highlighting the occurrence of, at times unintentional, injustices in the implementation of conservation projects and seek to create democratic openings;

3) They focus less on individual-level changes and more on societal-level changes; and

4) They possess a particular propositive capacity developed through the analytical role played in coproduction with socio-environmental justice movements. By engaging with these movements, social scientists in conservation identify ongoing alternatives that cultivate in practice transformative sustainability for conservation.

In summary, the main contribution of critical social sciences, both to the broader transformations literature and to the biodiversity conservation debate, has been to bring to the forefront what was considered a blind spot: the structural conditions that generate asymmetries and the power dimensions associated with them (Brand, 2016; Schneidewind & Augenstein, 2016; Turnhout, 2020). This recognition finds direct resonance in the Brazilian context: a systematization of the contributions of sociology and anthropology to the biodiversity debate shows that the main themes brought forward concern social injustices caused by the implementation of conservation projects and the need to connect with movements for environmental justice (Sandroni & Carneiro, 2016). It is clear that both globally and nationally, realistic alternatives for building a prosperous future for ecosystems and human populations, especially the most vulnerable, must encompass different perspectives on transformation, combining systemic, structural, and enabling approaches. The proposal of convivial conservation, drawing from this debate, seeks to formulate a set of ideas that complement the transformative potentials

[3] We understand critical social sciences here as those that engage in a direct questioning of power relations intertwined with the analyzed phenomena. We make this distinction as the need for the incorporation of social sciences into conservation is increasingly being recognized (Bennett, 2017). However, this often occurs in an instrumental manner to support pre-existing goals and paths (Sandbrook, 2013).

of existing forms of action to address the challenge of promoting conservation in the Anthropocene.

## *3. Historical Paradigms of Conservation*

Before delving into the exploration of contemporary alternatives, we will provide a brief overview of the history of ideas regarding biodiversity conservation. In this regard, we align ourselves closely with the idealist school of transformation (Schneidewind & Augenstein, 2016), focusing on how definitions of what should be done to solve a specific socio-environmental problem — the conservation of biodiversity — have direct effects on how actions are carried out. This step is fundamental for our objective because:

1) Current approaches do not emerge in a vacuum, but in relation to the history of ideas about conservation, and a looking into the past is essential for understanding the present.

2) The historical classification presented here is grounded in international literature but has specific characteristics and nomenclatures in the Brazilian context, and systematization helps locate the movements of conservation paradigms in Brazil in the global arena.

As the basis for this articulation, we rely on the typology proposed by Vaccaro *et al*. (2013), who recognize three central paradigms in the mainstream global environmental governance regarding conservation: fortress conservation, participatory or community-based conservation, and neoliberal conservation. We chose this specific systematic review due to its aim to summarize the contributions of "political ecology of conservation", based on critical social sciences and in close interaction with the theoretical foundations of convivial conservation[4]. As we will see, the central point of contention in conservation revolves around the inclusion or exclusion of different populations in territorially-based conservation initiatives, phrased differently, the "people versus parks" debate. The three paradigms we refer to here are concurrent and overlapping: the historical order is more related to the emergence of a new perspective than to the supersession of the previous one. These are discursive ideal types that, in practice, are permeated by interactions and ambiguities, which we will attempt to clarify as much as possible. Here, we understand “paradigms” as forms or models with a greater capacity for circulation and influence during a certain period, not as a closed formulation closer to reality that renders the previous one ineffective and obsolete[5].

### *3.1. Fortress Conservation*

The ideological foundations that enabled the first actions aimed at nature protection through the creation of Protected Areas (PAs) date back to

[4] This typology is also fundamentally similar to the one outlined briefly by Bücher & Fletcher (2020) based on the updated contributions of Brockington *et al.* (2008).

[5] We distance ourselves from the conception of a paradigm proposed by Thomas Kuhn, both because we do not confine ourselves to the scientific realm and because we do not rely on the 'universality' of the paradigm during its period of validity. For more on the Kuhnian concept of a paradigm, see Kuhn (2009).

the 19th century[6]. Ecology, a science born in the mid-19th century, was part of the process of establishing the foundations of conservation discourse by addressing concerns about the balance in natural environments and how processes of imbalance occur (Portilho & Lima, 2001). Furthermore, these actions were primarily anchored in a new imaginary around nature as something exotic to be preserved, inspired by the bucolic ideals advocated by Romanticism. Landscapes were redefined, and certain animal species in particular, became symbols of a "pre-human" nature. During this period, the word most commonly used in English to refer to this entity to be protected was not "nature" but "wilderness," a name that harks back to a wild, untamed nature, divorced from everything human (Franco, 2013).

As a materialization of this ideology, the first PAs were created. The world's first national park, extensively cited in histories of biodiversity conservation, was Yellowstone National Park, established in 1872 in the Northern United States. Vaccaro *et al*. (2013) recognize that Yellowstone inaugurated the first global paradigm of nature conservation, calling it "fortress conservation" or "protectionism." This model is based on protecting spectacular natural landscapes for the aesthetic enjoyment and appreciation of humanity through visits by nature enthusiasts, while restricting access and use of natural resources. In a complementary vein, in 1914, Switzerland established the world's first Biological Reserve specifically for scientific purposes (Milano, 2001). Thus, another model of fortress conservation was inaugurated, focused less on protecting scenic landscapes and more on advancing scientific knowledge. Common assumptions include fencing off the area and limiting human circulation to the minimum necessary through the implementation of command, control, and enforcement measures. Therefore, in the first half of the 20th century, the delineation of PAs became the primary strategy for global-scale biodiversity conservation (Adams, 2004).

During this period, the first PAs were institutionalized in Brazil. In 1937, Itatiaia National Park was created, followed by two other parks in 1939, namely, Serra dos Órgãos National Park and Iguaçu National Park, clearly inspired by Yellowstone (Mittermeier *et al.,* 2005). However, unlike the United States, where the first parks were established in relatively unaltered areas, in Brazil, the priority was to protect pristine areas from the encroaching advance of development (Nunes *et al*., 2011). The first three parks were located in the Atlantic Forest, a biome of great visibility and, even at that time, with a high degree of devastation. The political context of the creation of Brazil's first official PAs was associated with the Getúlio Vargas regime, and the consolidation of fortress conservation was intimately linked to the modern Nation-State, representing one of the strategies for territorial control. Both in Brazil and worldwide, from the early days of nature conser-

[6] A caveat regarding the use of the term "Protected Areas" in Brazil. This category is the globally used nomenclature to designate any territorial area administratively recognized by the state as of interest for conservation and, therefore, endowed with some policy in this regard. In Brazil, following the promulgation of the National System of Conservation Units (SNUC) in 2000, the category 'Conservation Units' (UCs) legally describes areas such as Parks and Reserves, while the concept of 'Protected Areas,' which is more comprehensive, also includes other areas that are not UCs, such as Legal Reserves and Permanent Preservation Areas. In this article, we use 'protected areas' as a general category that also encompasses what we now recognize in Brazil as UCs since our goal here is to bridge the practices and discourses present in the Brazilian and global contexts.

vation until today, the State is the primary actor in the implementation (if not the sole monopolizer) of territorialy-based conservation policies.

Approaches developed during this period continue to be central tools in conservation policies worldwide, although they have become more complex and updated (Wilshusen *et al*., 2002). Since the 1950s, there was a shift in the legitimacy bases of this model due to the progressive emergence of a "scientific environmentalism" (Foster, 2000). In the 1960s, the creation of restrictive PAs gained new momentum and dimension, aiming to encompass the "degradation of ecosystems" more broadly, no longer limited to specific spectacular landscapes. Examples of the beginning of this shift include the 1962 World Conference on National Parks in the United States and the establishment of the Brazilian Institute of Forest Development in 1967 (Nunes *et al*., 2011). In the 1980s, the model changed with the consolidation of the concept of biodiversity, which, to some extent, supplanted the idea of "wilderness" (Franco, 2013). In this regard, stand out the institutionalization of conservation biology as a "mission-oriented discipline" to save species from extinction (Meine et al., 2006) and the production of extensive inventories and lists of threatened species, such as the IUCN Red List of Threatened Species (IUCN, 1989). These foundations eventually became dominant political tools for biodiversity conservation, finding strong support in the global arena and in Brazil. During this period, Brazil was the tropical country with the highest investment in creating PAs, having created 22 National Parks, 20 Biological Reserves, and 25 Ecological Stations established between 1974 and 1989 (Mittermeier *et al*., 2005). This wave of restrictive PAs, based on monitoring and restricting the movement of different groups of people, generated a series of socio-environmental conflicts and was criticized in subsequent years, and was named as "preservationism" in Brazil (Gerhardt, 2016).

### *3.2. Participatory Conservation*

In the 1970s, a compelling critique regarding the social and environmental injustices against local populations caused by the establishment of parks and reserves began to emerge. In 1975, the General Assembly of the International Union for Conservation of Nature (IUCN), published a resolution stating that nation-states should not expel indigenous peoples from their areas in the name of biodiversity conservation (IUCN, 1975). In the midst of the spread of counterculture movements in the United States, decolonization movements in Africa and Asia, the emergence of a new environmentalism focused on the connection between social and environmental issues, and the strengthening of global indigenous population movements, a new paradigm for conservation began to take shape. It became evident that PAs needed to incorporate economic and social inclusion components, especially for the populations living within and around them (Adams & Hutton, 2007). This perspective found its space at the first United Nations Conference on the Human Environment in Stockholm in 1972, at the dawn of inclusive conservation proposals, including participatory mapping and community-based conservation. Meanwhile, Brazil was under military dictatorship. The problems generated by restrictive

biodiversity conservation were still far from being the main concern of Brazilian environmentalism, in a context where state-led mega-projects were causing significant socio-environmental impacts[7]. Thus, in Brazil, few changes occurred in the central paradigm of conservation from the establishment of the first National Parks until the 1980s (Nunes *et al*., 2011).

From the 1980s and 1990s onward, the trend toward greater participation of local and indigenous populations in conservation gradually became predominant worldwide, gaining significant momentum after the Rio-92 summit. In international debates on biodiversity conservation, the focus of major discourse and practice production centers, such as UNESCO and IUCN, increasingly shifted toward the sustainability of populations (Adams & Hutton, 2007). This period coincided historically with the emergence of the concept of sustainable development, which emphasized the need to reconcile environmental preservation with human and social development (Bruntland, 1987). This new perspective was grounded in the criticism that, for much of the 20th century, conservation actions did not consider the heterogeneity of affected groups, resulting in exclusion and injustice. Fortress conservation was, in many cases, aligned with the view that local populations were threats to biodiversity, creating a dichotomous opposition between nature and society. Various researchers, especially social scientists, sought to highlight the myriad of ways in which people interacted with the environment beyond the separation of nature and society, playing a significant role in diversifying ecosystems (Nodari *et al*., 2016). In this context, both academics and social movements, including environmentalists and indigenous groups, began to argue for the existence of substantial common interests between biodiversity conservation projects and indigenous populations seeking access to and/or maintenance of their territories (Dawson *et al*., 2021).

In Brazil, conservation projects intensified and diversified during this period. In 1981, Law No. 6,938/81 was enacted, establishing the National Environmental Policy, which provided parameters for the creation of Conservation Units in the country (Hayashi, 2015). In the following years, the participatory paradigm deepened in direct connection with the country's democratization process, culminating in the promulgation of the 1988 Constitution. This shift in the Brazilian conservation perspective was entitled "socioenvironmentalism". Santilli (2005), a prominent figure in this theoretical-political movement, states that the aim was to align demands for social justice and for a healthy environment. Similarly, Almeida & Cunha (2001) argued that the historical and intellectual processes of the 1980s fostered new connections between indigenous and traditional populations and environmental issues in a positive and proactive manner. The emergence of the "Peoples of the Forest Alliance" based on Chico Mendes' struggle, stands out. This alliance brought together diverse groups such as rubber tappers, riverine communities, and indigenous peoples from the Amazon in international campaigns for forest preservation. In alignment with these movements for environmental justice, Brazilian anthropologists, geographers, and sociologists repeatedly argued

[7] For example, the Itaipu Hydroelectric Power Plant was built on the Salto das Sete Quedas, generating resistance among environmentalists and local residents who were solemnly ignored by the government at that time.

that the emphasis on excluding local populations from environmental conservation processes not only led to injustices but also compromised the effectiveness of conservation projects (Sandroni & Carneiro, 2016). They suggested recognizing the social, economic, and cultural heterogeneity of local social groups, emphasizing the importance of participation, especially of “traditional populations”, including indigenous and afro-descendent communities, in the development of sustainable practices (Cunha *et al*., 2021).

During the 2000s, the participatory paradigm deepened and consolidated. In 2000, IUCN established a thematic chamber specifically titled "indigenous and local populations, equity, and protected areas." In 2003, representatives of indigenous peoples participated significantly for the first time in the World Parks Congress, and meetings between indigenous leaders and major conservation NGOs took place worldwide (Franco *et al.*, 2015). In Brazil, the National System of Conservation Units (SNUC) was enacted in 2000 (Law 9985/00), which included a list of categories that allowed or even encouraged the compatibility of conservation with social well-being objectives, referred to as sustainable-use Conservation Units (CUs). It is also worth highlighting the creation of the Chico Mendes Institute for Biodiversity Conservation in 2007, a specialized agency responsible for the implementation and management of CUs. Between 2000 and 2010, 137 new federal CUs were designated in Brazil, most of them falling under the sustainable-use categories.

Globally, a wide range of initiatives were proposed, nurturing practices in Brazil as well. The term "community-based conservation" began to be used as part of manuals of major discourse dissemination centers on conservation, such as the Convention on Biological Diversity (CBD) and IUCN. The term was used to encompass experiences related to participatory approaches to conservation, such as "community-based natural resource management (CBRM)" (Mulale *et al*., 2013); "collaborative management of protected areas (CMPA)" (Borrini-Feyerabend, 1996); and "Indigenous Peoples' and Local Community Conserved Territories and Areas (ICCAs)" (ICCA, 2021). These experiences shared a shift toward two principles, sometimes concurrent, sometimes competing:

1) Reorientation of conservation policies from centralized forms of management anchored solely in the state towards collaborative management of areas, involving local populations living in or using these areas in decision-making processes affecting the territory.

2) The recognition and support of conservation initiatives carried out in practice by indigenous and local populations (Kothari *et al*., 2013).

In other words, both the global movement and Brazilian socioenvironmentalism aimed to generate new conservation practices capable of encompassing cultural diversity and generating legitimacy and recognition for the role of populations living in and using natural landscapes as essential elements for long-term conservation effectiveness. As articulated in Brazil, the traditional knowledge of local populations should be considered as important as scientific knowledge in decision-making processes to coproduce management and planning of PAs (Castelli & Wilkinson, 2002).

### *3.3. Neoliberal Conservation*

In the midst of efforts to promote more participatory conservation, new conservation management mechanisms began to emerge. Starting in the 1990s and gaining momentum in the 2000s, conservation actions began to be funded by market mechanisms and environmental offset agreements, monetizing formally conserved areas. Protected areas (PAs) started to be assessed and mapped to optimize the preservation of specific species based on their ability to attract funding (Brockington *et al*., 2008). This process was recognized by the Anglophone literature on political ecology as the emergence of a new conservation paradigm, still in the process of consolidation and expansion: neoliberal conservation. Büscher *et al*. (2012) define this new paradigm as an "amalgamation of ideology and techniques informed by the premise that nature can only be 'saved' through their submission to capital and its subsequent revaluation in capitalist terms" (p.4). The dynamics of interaction between conservation and market logic have intensified, incorporating practices, imaginaries and discourses of contemporary capitalism (Büscher & Fletcher, 2020).

Neoliberal conservation is built on the promise of injecting new resources into conservation, especially in poorer countries, gaining momentum in the context of the global economic crisis of 2008. In line with the aforementioned discourse of sustainable development, the push to merge conservation and development concerns began to be promoted through a strategy based on "selling nature to save it" (McAfee, 1999), materialized in market-based mechanisms (MBMs). Examples of MBMs for conservation include payments for environmental services (PES), carbon credits through strategies like the United Nations Reducing Emissions from Deforestation and Forest Degradation (REDD+), corporate ecotourism projects, sale of lots for bioprospecting, establishment of private protected areas, creation of monetary flows between large corporations and international conservation NGOs, among others. Neoliberal conservation proposals present themselves as "win-win to the seventh power" solutions, as they are believed to benefit corporate investors, national economies, biodiversity, local populations, consumers, development agencies, and conservation NGOs (Grandia, 2007).

The emergence of these mechanisms was closely tied to the expansion of neoliberalism as an economic-political model that spread in the 1980s and 1990s (Igoe & Brockington, 2007). Neoliberalism introduced a new rationality that organizes and structures both the actions of the state and ordinary people, advocating private entrepreneurship at multiple levels instead of state management, which was considered corrupt and inefficient (Dardot & Laval, 2016). However, especially in the context of biodiversity conservation, this premise is contradictory since most MBMs are based on restrictive PAs controlled by the state. Rather than state deregulation, we can say that neoliberal conservation advocates for re-regulation, where the state continues to play a central role, although its management capacity is limited by close ties to diverse networks of private sector actors and organized civil society. Thus, the neoliberalization of conservation fostered a new status quo in land appropriation, connecting control and access to land resources in various parts of the Global South to international capital flows

(Brockington *et al*., 2008; Borras Jr *et al*., 2011, Büscher *et al*., 2012).

In Brazil, the use of market-based mechanisms was primarily recognized as a solution for complementary actions in areas outside of fully protected PAs. In this regard, MBMs were added to participatory conservation initiatives, complementing and contradicting them to compose a range of solutions for actions around PAs or priority areas for landscape connectivity. The following activities stand out in this regard:

1) The establishment of the Private Natural Heritage Reserves, a category of PAs provided for in Law No. 9985/00. These were usually implemented by private landowners, high-impact activity corporations, and local NGOs, with funding from major international NGOs like CI and TNC (Lima & Franco, 2014);

2) The implementation of payment for environmental services (PES) schemes, often incipient ones, such as the timid Bolsa Verde program (Graciano *et al*., 2018). Some states also implemented such policies, like Paraná and São Paulo, along with PES program funded by the Global Environmental Facility (GEF), entitled "Conexão Mata Atlântica";

3) The implementation of corporate ecotourism, although on a much smaller scale than in African countries, mainly in global tourist destinations like Foz do Iguaçu and Rio de Janeiro (Penna-Firme, 2018);

4) The introduction of REDD+ policies in Brazil, especially in the Amazon (IPAM, 2012).

Although these mechanisms were adopted in Brazil, and their effects have been analyzed by various researchers on a localized basis, it is not a consensus in the Brazilian literature, as it is in international literature, that their implementation results in the emergence of a new paradigm for conservation. Much of the debate on conservation in Brazil continues to revolve around the conflicts between the fortress conservation paradigm and the participatory paradigm.

In the global arena of debates, political ecology theorists who identified the new paradigm have been dedicated to constructing a critique of its implementation. A multitude of case studies demonstrates that neoliberal conservation prioritizes capital accumulation, often at the expense of the well-being of populations and even biodiversity conservation itself, rendering the "win-win to the seventh power" promise a fallacy (Igoe & Brockington, 2007). Although effective in mobilizing pragmatic technical and administrative interventions, MBMs often have negative social consequences: local populations often lack the assets to compete on an equal footing with large corporations, and the arrival of these new enterprises often leads to new processes of displacement, for example, through real estate speculation (Büscher *et al*., 2012). On the other hand, the profitability of activities carried out via MBMs is typically not shared with local communities, and it creates an environment that diminishes other forms of economy, values, and knowledge, harming local initiatives that end up being appropriated and redefined by larger neoliberal projects (Holmes, 2015). In other words, the "community-based" aspect is incorporated by neoliberal conservation much more discursively than factually since local populations are included to the extent that they accept specific compensations associated with an economic logic (Büscher *et al*., 2012).

Some authors emphasize that these negative effects should not be seen as inevitable outcomes of MBM implementation for conservation. Neoliberal conservation can have problematic effects on biodiversity and local ways of life, but the opposite is also possible (Igoe & Brockington, 2007). A careless reading of the critiques of political ecology regarding neoliberal conservation can lead to a knee-jerk reaction of opposition to any and all initiatives containing neoliberal elements (Büscher *et al*., 2012). Ideally, expectations should be balanced with the possibilities of action in each case, recognizing that power dynamics need to be scrutinized more carefully since the promises of benefits to all involved parties do not materialize in the vast majority of cases.

Finally, it's worth highlighting the convergence between the contradictory updates of the participatory paradigm and the neoliberal paradigm on conservation and the emergence of new concepts and practices in the field of conservation biology through the proposal known as the "bioregional approach." In the 1990s, conservation biologists began to rework the foundations of the so-called "island biogeography" (Franco, 2013), the scientific basis of the aforementioned update of the fortress conservation paradigm. The bioregional perspective began to take shape, advocating for conservation at the "landscape scale", The diffusion of bioregional planning was linked to the popularization of new technologies, especially the increasingly intensive use of satellite imagery and geoprocessing tools for selecting priority areas and corridors for biodiversity conservation. Concepts like "networks" of protected areas connected to each other by "corridors", forming "conservation mosaics", started to feature in national and international debates (Ferreira, 2004). This process also involved the inclusion of human dimensions in wildlife conservation projects (Manfredo & Vaske, 1995) and the emergence of the field of study called "human-wildlife conflicts", aimed at understanding interactions between humans and certain species to mitigate threats to wildlife[8] (Dickman, 2010).

Thus, on one hand, the bioregional perspective represents an innovation compared to previous initiatives based on fortress conservation, as it definitively incorporates human populations into the planning and implementation of conservation actions. On the other hand, this approach has an ambiguous and sometimes contradictory relationship with more radically democratic aspects of the participatory paradigm, such as Brazilian socioenvironmentalism, as it maintains the foundation of the fortress conservation paradigm, which involves the extensive and intensive implementation of restrictive PAs. The bioregional approach does not imply abandoning the implementation of fully protected PAs as a fundamental solution to halt biodiversity degradation. On the contrary, the idea is to have networked planning units, often referred to as ecological corridors, whose foundation would be restrictive PAs. Thus, in theory, these restrictive core areas would be better protected from the so-called "edge effect", mainly through the implementation of other less restrictive PA categories around them, as well as projects that promote low-impact human activities and sustainable landscape use (Brito, 2006).

[8] This field of conservation biology is currently experiencing rapid expansion and has recently shifted towards a focus on the 'human-wildlife coexistence' in order to incorporate the realities and desires of positive interaction and move away from the necessarily negative connotation brought by the notion of conflict (Marchini *et al*., 2021).

Furthermore, the convergence between the bioregional paradigm and neoliberal conservation that occurred throughout the 2000s deepened technocratic aspects of decision-making in conservation. Decisions on where and how to implement MBMs often followed the principles of "evidence-based conservation" (Sutherland *et al*., 2004), which was already used for decision-making on the size, categories, and location of PAs (Franco, 2013). However, this approach is currently being questioned in Brazil and other parts of the world by leaders associated with authoritarian populism and their particular perceptions of environmental issues. Therefore, we can already recognize that we are witnessing and participating in a major reconfiguration of knowledge-power disputes around biodiversity conservation towards a predominance of post-truth dynamics in environmental governance (Büscher, 2021). Another criticism made by political ecologists in the international arena, which finds strong resonance in Brazilian socioenvironmentalism, was directed at the predominance of scientific bases for conservation decision-making (Peluso, 2003), which was absolute in the fortress paradigm and persisted through the bioregional approach. The process of scientification generated a high degree of legitimacy for NGOs and conservation scientists, who publicly recognized themselves as legitimate definers of the biodiversity agenda (Diegues, 2008). Despite having participatory dimensions, decisions based on the bioregional approach rely primarily on ecological scientific evidence, forming a sort of technocratic consensus, strengthened by the emergence of the neoliberal paradigm.

## *4. New Approaches to Conservation in the Anthropocene*

After over a century of conservation efforts, diversified sets of discourses and practices came into being, which now constitute a complex landscape of attempts at reconciliation and paradigmatic disputes. Nevertheless, the alarming trend of biodiversity degradation on Earth has persisted: despite advocacy and criticisms of different conservation paradigms, the process of species extinction and irreversible damage to ecosystems continues on a global scale (IPBES, 2019). On the second decade of the 2000s, new proposals began to materialize in the global arena of debates, seeking renewed attention to the issue of biodiversity degradation. Two prominent strands in this regard are the so-called "new conservation" and the "nature needs half" campaign. In this section, we briefly present the main characteristics of these attempts to renew the debate in the context of the Anthropocene to locate the gaps and transformative potentials identified by Büscher & Fletcher (2020) in these, that served as inspiration for proposing the convivial conservation approach.

### *4.1. New Conservation*

The idea of new conservation is based on the work of researchers from North American universities and revolves around a think tank called "The Breakthrough Institute"[9] (Kareiva & Marvier, 2007). The two foundational publications of this perspective are the article titled "Conservation in

[9] <https://thebreakthrough.org/ >

the Anthropocene: Beyond Solitude and Fragility" (2012) and Emma Marris's book "Rambunctious Garden: Saving Nature in a Post-Wild World" (2011). Marris argues that the changes humans have already made to the planet are so massive and irreversible that the only solution for conservation is to consciously manage nature, no longer perceived as wild nature but as an "rambunctious garden" (Marris, 2011). This perspective makes it possible to take actions to make natural spaces more "lived by humans" and human spaces more "wild" (Marris, 2011; Marvier, 2014). Some of the main ideas of new conservation are:

1) The Anthropocene should be seen as an irreversible reality;

2) We should not try to return to the pre-human environments but rather embrace the new exciting possibilities that global environmental changes can bring (Kareiva *et al*., 2012);

3) Rejection of wilderness protection, fortress conservation, and the separation between humans and nature, aiming to go beyond boundaries and dichotomies (Marris, 2011; Kareiva *et al*., 2012; Pearce, 2015);

3) Recognition that nature and ecosystems are constantly changing, so the "new natures" produced by the Anthropocene should be seen with less disdain. Preserving islands of the Holocene is viewed as anachronistic and counterproductive (Pearce, 2015);

4) Market mechanisms and corporations should be the main financiers of conservation actions, including generating greater socioeconomic equality (Kareiva *et al*., 2012);

5) Biodiversity conservation should not be based on intrinsic value but on benefiting the greatest number of people possible, especially the poorest (Kareiva *et al*., 2012).

### *4.2. Neoprotectionism*

Shortly after its emergence, new conservation elicited strong responses in the global arena. The most notable response was led by the pioneering conservationist Edward O. Wilson, resulting in the "nature needs half" campaign[10] (Wilson, 2016). Wilson proposes that "only by setting aside half the planet in reserve, or more, can we save the living part of the environment and achieve the stabilization required for our own survival." (Wilson, 2016). This campaign and associated publications were recognized in global discussions as a return to protectionism or "neoprotectionism", but was quickly endorsed by several heavyweight international conservation institutions, including Conservation International. Some of the main ideas of neoprotectionism are:

1) The Anthropocene, the human capacity to alter terrestrial ecosystems, should not be viewed as (potentially) productive; instead, it is leading the Earth toward a sixth mass extinction process that could even encompass Homo sapiens (Hettinger, 2014);

2) Instead of deepening the Anthropocene, which places humans as legitimate managers of the Earth, we should put "nature back in charge" in at least half of the planet (Wuerthner *et al*., 2015);

[10] <https://natureneedshalf.org/ >; < https://www.half-earthproject.org/ >

3) Openly advocates for an intensification of the separation between nature and society, as this would be the only way to save ecosystems from complete collapse, emphasizing the importance of restrictive parks and reserves as extensive as possible, especially to ensure the persistence of large animals and the need to control borders, prevent circulation, hunting, and invasion of exotic species (Locke, 2015);

4) In some of its strands, it offers a direct and strong critique of faith in contemporary capitalism as the driver of the solution and the need to recognize the limits of economic growth and consumption (Cafaro *et al*., 2017) – not necessarily based on a critique of political economy but acknowledging that market-based conservation mechanisms did not represent the panacea they claimed to be (McCauley, 2015)[11];

5) Emphasizes the need to agree publicly on clear limits to population growth and human presence locations (Cafaro, 2014).

### *4.3. Gaps in Conservation in the Anthropocene*

Neoprotectionism emerged as a response to new conservation but ended up carrying more weight than the former in the contemporary global conservation debate arena. In this context, a group of researchers aligned with political ecology, including the authors who would later introduce the concept of convivial conservation, published an opinion piece reflecting on the limits and possibilities of the "nature needs half" campaign. Büscher *et al*. (2017a) reiterated the need for a rapid and effective restructuring of biodiversity conservation efforts but expressed reservations about the practical proposal to "set aside" half of the planet. The authors argue that the neoprotectionist proposal:

1) Largely ignores the central causes of biodiversity degradation processes, namely the ever-increasing extraction of natural resources and the promotion of consumerism based on the capitalist production logic;

2) Does not recognize the social impacts that the implementation of protected areas (PAs) could have on local populations, especially the most vulnerable ones;

3) Does not clearly acknowledge who would be the most legitimate groups in the processes of creating, controlling, and managing PAs;

4) Does not provide a clear political solution for the massive creation of new PAs;

5) Does not offer an alternative for the half of the planet that would remain "human". In summary, Büscher *et al*. (2017a) propose a perspective based, not on half but, on the whole Earth, addressing the primary driver of degradation, namely political economy and the democratic management of the remaining natural resources, while directly addressing social inequalities as part of the problem.

In response, Cafaro *et al.* (2017) state that they agree that communities need to be involved in conservation processes but argue that social justice cannot be achieved at the expense of the intrinsic value of non-human life forms. They understand that conservation is a debt owed to the diversity of life and future generations, and therefore, "if

[11] An important exception to this trend is Wilson himself, who exhibits an almost blind faith in the 'free market' as a solution for conservation.

we want the whole planet, nature needs half." This debate continued (Büscher *et al*., 2017b; Kopnina *et al*., 2018, Crist *et al*., 2021, Büscher & Duffy 2022), with renewed discussions at the CoP 15 of the CBD, which adopted the 30/30 agenda: an agreement to protect 30% of the Earth by 2030. The contrast persists between a vision that advocates the most intensive and extensive implementation of protected areas and another that points to the social injustices that will inevitably arise from this process. In any case, the explicit exposure of these ideas revealed that a significant portion of neoprotectionists are critical of contemporary capitalism and recognize the need to envision forms of human life beyond this logic. According to Büscher & Fletcher (2020), the problem is that these critiques are constructed in a fragmented manner, without a rigorous conceptual theoretical framework, resulting in contradictions. Moreover, these critiques have a clear limit: neoprotectionism is philosophically and theoretically grounded in the recovery and reiteration of the nature-humanity dichotomy, one of the pillars of capitalist processes of exploitation of nature and people (Büscher & Fletcher, 2020).

As for "new conservation", Büscher & Fletcher (2020) emphasize that proponents of this approach selectively and uniquely incorporate criticisms from the social sciences regarding the reified and essentialist concept of nature and reapply them to support their positions, which, in many respects, diverge from a perspective of critical social sciences. When new conservationists advocate for the need to include people, this necessity is translated through a specific notion of development within the context of contemporary capitalism. These assertions place new conservation in close proximity to neoliberal conservation and the advocacy of market instruments – which have led to environmental destruction – to save nature. These solutions do not question the limits of unrestrained growth and consumerism and dress them in a green disguise, making criticism more difficult (Büscher & Fletcher, 2020). Although not all new conservationists are so explicitly and directly in favor of neoliberal conservation mechanisms, they manifest the need to dispel the hostility that various conservation sectors have towards corporations, which they consider allies (Minteer & Pyne, 2015). Therefore, according to Büscher & Fletcher (2020), the main contribution of new conservationists is to seek to transcend the nature-society dichotomies upon which capitalism thrived, while their main gap is believing that this can be achieved entirely within capitalist mechanisms.

Given these limitations, Büscher & Fletcher (2020) argue that neither of the two current approaches points to a realistic path forward and seek to propose an alternative. According to the authors:

> The crucial difference between mainstream conservation, the two radical alternatives now on the table, and our own convivial conservation proposal is that we explicitly start from a political ecology perspective steeped in a critique of capitalist political economy. This critique is built on a rejection of *both* nature–people dichotomies *and* a capitalist economic system demanding continual growth via intensified consumerism. (Büscher & Fletcher, 2020, p. 15).

Thus, the convivial conservation proposal seeks to advance the debate based on the transformative potential of emerging approaches in the context of the Anthropocene and present more effective and enduring solutions to the ongoing pressures on planet's biodiversity.

## *5. Convivial Conservation: Principles, Theory, and Actions*

Convivial conservation is a vision, a political perspective, and a set of governance principles that provides responses aligned with equality, structural transformation, and environmental justice to the main contemporary pressures on biodiversity. Büscher & Fletcher (2019; 2020) formulate elements of a vision for convivial conservation and provide examples of concrete actions[12]. In this section, we summarize these theoretical-practical aspects in their interface with the Brazilian and Latin American contexts.

The first element of the convivial conservation proposal suggested by Büscher & Fletcher (2019, 2020) is a transformation in the very concept of protected areas, definitively incorporating the critique of fortress conservation and its strict border control (Adams & Hutton, 2007). The authors suggest that areas of high biodiversity should become "promoted areas" with and for humans. The verb "promote" is used to shift the foundations of territorially-based conservation to a positive – and democratic – semantics, abandoning the negative connotation that protection has acquired due to the socio-environmental injustices it has caused. For this to be possible, this promotion must be carried out in convivial terms, through the construction of lasting bonds between humans and non-humans. This perspective relates to the second element of the proposal presented by the authors, namely, the celebration of a philosophical perspective based on the connections between human and non-human natures, moving away from the propensity to save untouched or wild nature. In this sense, convivial conservation is aligned with Brazilian social and academic movements that have demonstrated the harmful effects of the dichotomous division between nature and society, such as "socioenvironmentalism" (Arruda, 1999; Dumora, 2006). Adding to the critique of the nature-society dichotomy, Büscher & Fletcher (2019) challenge the concept of "human nature" as formulated by neoliberal thought – the competitive, rational, and economically motivated individual – which is largely responsible for the environmental catastrophe we are experiencing today. In the authors' view, the so-called 'human nature' is not universal but a product of multiple historical, social, and cultural contexts. They propose, therefore, an egalitarian celebration of human and non-human natures in their diversity.

Nature tourism is the target of strong criticism from proponents of convivial conservation, as much of it is based in reified views of human and non-human natures. "Click" tourism, based on distant and consumptive voyeurism, often has harmful effects on both local populations and the environment. In Latin America, studies demonstrate that ecotourism activities following the neoliberal rules led to the exclusion of local populations and their conservation practices (Ojeda, 2012). As a solution and the third element of their proposal, Büscher & Fletcher (2020) argue that visitation in promoted areas should, on the contrary, prioritize activities capable of generating meaningful

[12] The authors also present three elements of the theory of change for convivial conservation, namely, addressing the issues of power, actors, and time. However, we chose not to delve into these purely theoretical aspects in order to direct our focus towards the proposal itself.

[13] <http://quilombocampinhodaindependencia.blogspot.com/p/turismo-d.html>

and democratic experiences. Engaged visitation would be capable of creating connections between visitors, non-human nature, the territory, and those who live there daily. An example of this practice is community-based ecotourism activities, such as those carried out by the Quilombo do Campinho in Paraty-RJ, where the ethnoecological route offers visitors times of coexistence with nature imbued with the history of black resistance and culture[13]. Thus, this perspective on convivial tourism is intimately related to the fourth element of the convivial vision for conservation, which emphasizes the need to shift from the capitalist perspective of spectacularizing nature to valuing the everyday and mundane environment, highlighting its splendor. The fifth and final element of the convivial approach to conservation regards the democratization of decision-making, extending the reach of knowledge in decision-making beyond a technocratic perspective. It has been widely demonstrated that management based solely on technical knowledge often has antidemocratic aspects (Peluso, 2012). The management of promoted areas should directly encompass the views of people who live in the territories to be promoted through conservation, which is only possible through socio-ecological justice. In Brazil, and in many parts of Latin America, the defense of territories by culturally differentiated populations paves the way for a more convivial conservation through the ontological production of new spaces beyond neoliberalism (Escobar, 2015). Related to this perspective is the approach of "Territories of Life", which seeks to work with indigenous and local communities in their processes of territorial self-management[14].

Finally, the authors propose a set of actions that could underpin the implementation of a convivial conservation perspective. The first of these is to support and strengthen processes demanding historical reparations by populations whose rights have been extirpated by the ongoing process of colonization. This point is especially important in Brazil and Latin America, where the intense connections between the demands of populations leading the so-called ecoterritorial turn and their role in maintaining territories of life in the face of the advance of neo-extractivism are evident (Svampa, 2019). A second short-term action that has garnered considerable attention from the conservation community, especially in Europe, is the implementation of a "conservation basic income" (CBI) for populations living within or around protected (or promoted) areas. Unlike PES, the CBI would not be bureaucratically conditional. The link between conservation and receiving the benefit would be symbolic, promoting greater inclusion in the use and interaction with biodiversity, rather than limiting the inclusion of certain groups with less access to documents or state procedures. Thirdly, the authors suggest the need to rethink the financial interaction of conservation actions with large corporations. They propose that only corporations demonstrating a commitment, even if future, to a shift toward an alternative economic model, ideally one of degrowth, should be considered suitable to finance conservation actions. The fourth and final action suggested by the authors is the networking of actors aligned with the main visions of convivial conservation, forming a convivial conservation coalition. This could increase the influence of both

[14] < https://www.iccaconsortium.org/>

the actors themselves and convivial conservation as a political and discursive device.

## *6. Conclusion*

In our argument, we start from the recognition that socially valid perceptions of the challenge of biodiversity conservation determine the paths considered possible for its resolution. Therefore, expanding conceptual horizons is a fundamental part of the task of imagining alternatives for conservation that take the prosperity of marginalized populations and the thriving of species of plants and animals at risk as mutually reinforcing processes. Convivial conservation appears to be a possible path for constructing a political agenda to bring together actors interested in promoting more effective and just conservation. The proposal brings together elements from paradigmatic forms of participatory conservation and the connection between movements for environmental justice and biodiversity conservation, realigning them with the current context of the Anthropocene, so that a diverse set of actors can appropriate key ideas. It clearly and concisely compiles the accumulation of critical social sciences' analysis of the relationship between asymmetries and biodiversity conservation to think about short- and long-term realistic solutions.

We also understand that an appropriation of the proposal by researchers and movements situated in Brazil and Latin America could contribute to deepening some aspects of the convivial conservation proposal from a Southern perspective. Its application to the contexts of high diversity and inequality in the tropics is thus a recent development in theory, which highlights the need for a closer look at how to deal with and overcome underlying hierarchies related to race, gender, age, or status (Krauss, 2021). From the African context, Kiwango and Mabele (2022) point out that convivial conservation can indeed be a viable alternative to the market and neoprotectionism, but its application in the global South depends on an openness to deal with preexisting problems, such as the degree of dependence of certain populations and glaring discrepancies between the rights and capacities of different actors involved in conservation projects. Collins *et al.* (2021) demonstrate that market-driven conservation projects implemented in the global South exacerbate colonial legacies, increasing rather than reducing economic and social inequalities existing in the contexts where conservation is at stake, emphasizing the need for this shift. In Latin America, environmental destruction and labor exploitation often go hand in hand (Alimonda, 2011); coloniality is also about nature. Thus, convivial conservation, oriented towards socio-environmental justice, should incorporate an effectively decolonial perspective on conservation, in which other ways of knowing and perceiving human and non-human natures are seen as a foundational part of planning and implementing conservation policies. This would mean placing historical reparations, which appear as one of the concrete actions in the original proposal, at the center of the perspective, even theoretically, of convivial conservation applied to the global South. In Brazil, we need to push for a greater connection between conservation policies and struggles for territorial rights led by indigenous peoples, traditional populations, and other local communities. In the current context, where even the need to conserve

what remains of the planet's biodiversity is being questioned, participatory ideals of conservation are not sufficient for just conservation in Latin America. In the continent of inequality and diversity, conservation needs to be convivial *and* decolonial to consider the needs of the most vulnerable populations. Brazilian territory encompasses an enormous cultural and biological diversity, marked by histories of violence that often intersect or are intersected by conservation processes. Rural populations have low human development index scores and historically have little social and political participation in power structures. The application of convivial conservation to a Brazilian context can thus contribute to dismantling what is considered usual in conservation policies, the dynamics of protectionist centralization, or, to a lesser extent, market-driven dynamics, which typically result in elites capturing the benefits of conservation.

In another sense, in a megadiverse country like Brazil, endowed with a relatively broad institutional environmental infrastructure and a highly qualified scientific body – recognizing the difficulties faced in the last decade – there are countless practices already carried out that could serve as convivial conservation laboratories. Some examples are: the implementation of large ecological corridor projects; the maintenance of preservation areas in a huge number of Indigenous Territories united around movements for indigenous rights and autonomy; the application of projects related to human-fauna coexistence that give a central place to the perspective of local populations beyond the borders of protected areas, such as, for example, the Onças do Iguaçu Project (Marchini *et al*., 2021). An analysis of the proximities and distances of these practices in relation to convivial conservation could be a good future research path.

## *Ackowledgements*

The CONVIVA Project is part of the "Transformations for Sustainability" (T2S) program, which aims to contribute to the restructuring of sustainability research by placing social sciences at the center of interdisciplinary research. The knowledge produced in the context of the program aligns with societal expectations and is therefore available for use by scientists, managers, and decision-makers in their efforts to promote changes towards a more sustainable world. We are immensely grateful to Belmont Forum, FAPESP (#2018/50038-8), and their advisors, as well as the Norface Network, for kindly funding the CONVIVA Project. KMPMBF acknowledges CNPq for the Research Productivity Fellowship (#303940/2021-2). LTS acknowledges FAPESP for the postdoctoral fellowship (#2019/01325-7).

## *References*

Adams, W. M. *Against Extinction*: the story of conservation. London: Earthscan, 2004.

Adams, W. M.; Hutton, J. *People, parks and poverty*: political ecology and biodiversity conservation. Conservation and Society, 5(2), 147-183, 2007.

Adams W. M. Conservation from above: globalising care for nature. *In*: Brightman, M.; Lewis J. (Eds) *The anthropology of sustainability*: beyond development and progress. New York: Springer, 2017.

Alimonda, H. La colonialidad de la naturaleza. Una aproximación a la ecología política latinoamericana. *In*: Alimonda,

H (Org). *La naturaleza colonizada*: ecología política e minería en América Latina. Buenos Aires: CLACSO, 2011.

Almeida, M. B.; Cunha, M. C. Global Environmental-Changes and TraditionalPopulations. *In*: Hogan, D. J.; Tolmasquim, M. (Orgs.). *Human dimension of global environmental changes*: brazilian perspectives. Rio de Janeiro: Academia Brasileira de Ciência, 2001.

Arruda, R. *"Populações tradicionais" e a proteção dos recursos naturais em unidades de conservação*. Ambiente & Sociedade, 5, 79-92, 1999.

ASCEMA — Associação Nacional dos Servidores da Carreira de Especialista em Meio Ambiente. Cronologia de um desastre anunciado: ações do governo Bolsonaro para desmontar as políticas do meio ambiente no Brasil ASCEMA Nacional. 2021. Disponível em: http://www.ascemanacional.org.br/wp-content/uploads/2020/09/Dossie_Meio-Ambiente_Governo-Bolsonaro_Ingle%CC%82s_04-set-2020-1.pdf Acesso em: jan. 2022

Beck, S.; Jasanoff, S.; Stirling, A.; Polzin, C. The governance of sociotechnical transformations to sustainability. *Current Opinion in Environmental Sustainability*, 49, 143-152, 2021. doi: 10.1016/j.cosust.2021.04.010

Bennett, N.; Roth, R.; Klain, S.; Chan, K.; Christie, P.; Clark, D.; Cullman, G. Conservation social science: understanding and integrating human dimensions to improve conservation. *Biological Conservation*, 205, 93-108, 2017.

Blackmore, C.; van Bommel, S.; Bruin, A.; de Vries, J.; Westberg, L.; Powell, N.; Foster, N.; Learning for transformation of water governance: reflections on design from the Climate Change Adaptation and Water Governance (CADWAGO) project. *Water,* 8, 2016. doi: 10.3390/w8110510

Borras Jr. S. M.; Hall, R.; Scoones, I.; White, B.; Wolford, W. Towards a better understanding of global land grabbing: an editorial introduction. *The Journal of Peasant Studies*, 38(2), 209-216, 2011. doi: 10.1080/03066150.2011.559005

Borrini-Feyerabend, G. *Collaborative management of protected areas*: tailoring the approach to the context. IUCN: Gland (Swtzerland), 1996.

Brand, U. "Transformation" as a new critical orthodoxy. The strategic use of the term "transformation" does not prevent multiple crises. *Gaia*, 25(1), 23-27, 2016.

Brito, F. *Corredores ecológicos*: uma estratégia integradora na gestão de ecossistemas. Florianópolis: Editora da UFSC, 2006.

Brockington, D.; Duffy, R.; Igoe, J. *Nature unbound*: conservation, capitalism and the Future of Protected Areas. London: EarthScan, 2008.

Bruntland. Nosso Futuro Comum (Relatório Brundtland). Comissão Mundial sobre o Meio Ambiente e Desenvolvimento. Rio de Janeiro: Editora da Fundação Getulio Vargas, 1987.

Büscher, B.; Sulivan, S.; Neves, K.; Igoe, J. Towards a *Synthesized Critique of Neoliberal Conserva*tion. *Capitalism, Nature, Socialism* 23(2), 4-30, 2012. doi: 10.1080/10455752.2012.674149

Büscher, B.; Fletcher, R.; Brockington, D.; Sandbrook, C.; Adams, W.; Campbell, L.; Shanker, K.; Half-Earth or whole earth? Radical ideas for conservation, and their implications. *Oryx*, 51(3), 407-410, 2017. doi: 10.1017/S0030605316001228

Büscher, B.; Fletcher, R.; Brockington, D.; Sandbrook, C.; Adams, B.; Campbell, L.; Corson, C.; Dressler, W.; Duffy, R.; Gray, N.; Holmes, G.; Kelly, A.; Lunstrum, E.; Ramutsundela, M.; Shanker, K. Doing whole earth justice: a reply to cafaro. *Oryx*, 51(3), 401, 2017. doi: 10.1017/S0030605317000278

Büscher, B.; Fletcher, R. Towards convivial conservation. *Conservation and Society*, 17, 283, 2019.

Büscher, B.; Fletcher, R. *The Conservation revolution*: radical ideas for saving nature beyond the anthropocene. London: Verso Books, 2020.

Büscher, B. *The truth about nature*: environmentalism in the era of post-truth politics and platform capitalism. Oakland: University of California Press, 2021.

Cafaro, P. Expanding parks, reducing human numbers, and preserving all the wild nature we can: a superior alternative to embracing the anthropocene era. *In*: Wuerthner, G.; Crist, E.; Butler, T. (Eds) *Keeping the wild*: against the domesti-

cation of earth. New York: Island Press, 2014.

Cafaro, P.; Butler, T.; Crist, E.; Cryer, P.; Dinerstein, E.; Kopnina, H.; Noss, R.; Piccolo, J.; Taylor, B.; Vynne, C.; Washington, H. 'If we want a whole earth, nature needs half: a response to büscher. *Oryx*, 51(3), 400, 2017. doi: 10.1017/S0030605317000072

Castelli, P. G.; Wilkinson, J. Conhecimento tradicional, inovação e direitos de proteção. *Estudos Sociedade e Agricultura*, 19, 89-112, 2002.

Collins, Y. A.; Maguire-Rajpaul, V.; Krauss, J. E.; Asiyanbi, A.; Jiménez, A.; Mabele, M. B.; Alexander-Owen, M. Plotting the coloniality of conservation. *Journal of Political Ecology*, 28(1), 2021. doi: 10.2458/jpe.4683

Comandulli, C. S.; Alexandrino, E. R. Ciência cidadã: aproximando pessoas, transformando realidades. *In*: Vicente, N. M.; Sperber, C. F.; Carneiro, M. A. *Dia D do Rio Doce*: um olhar científico sobre o maior desastre socioambiental do Brasil. Lavras: UFLA, 2021.

Crist, E.; Kopnina, H.; Cafaro, P.; Gray, J.; Ripple, W.; Safina, C.; Davis, J.; DellaSala, D.; Noss. R.; Washington, H. Rolston, H.; Taylor, B.; Orilowska, e.; Heister, A. Lynn, W.; Piccolo, J. Protecting Half the Planet and Transforming Human Systems Are Complementary Goals. Frontiers in Conservation Science, 2, 2021. doi: 10.3389/fcosc.2021.761292

Crutzen, P. J.; Stoermer, E. The "anthropocene". *IGBP News-letter*, 41, 17-18, 2000.

Cunha, M. C.; Magalhães, S. B.; Adams, C. *Povos tradicionais e biodiversidade no Brasil*: contribuições dos povos indígenas, quilombolas e comunidades tradicionais para a biodiversidade, políticas e ameaças. São Paulo: SBPC, 2021.

Dardot, P.; Laval, C. *A nova razão do mundo*: ensaio sobre a sociedade neoliberal. São Paulo: Editora Boitempo, 2016.

Dawson, N. M.; Coolsaet, B.; Sterling, E.; Loveridge, R.; Gross-Camp,N.; Wongbusarakum, S.; Sangha, K.; Scherl, L.; Phuong Phan, H.; Zafra-Calvo, N.; Lavey W.; Byakagaba, P.; Idrobo, C.; Chenet, A.; Bennett, N.; Mansourian, S.; Rosado-May, F. J. The role of Indigenous peoples and local communities in effective and equitable conservation. *Ecology and Society,* 26(3), 19, 2021. doi: 10.5751/ES-12625-260319

Deutsch, S. Populist authoritarian neoliberalism in Brazil: making sense of Bolsonaro's anti-environment agenda. *Journal of Political Ecology*, 28(1), 1-22, 2021. doi: 10.2458/jpe.2994

Dickman, A. J. Complexities of conflict: the importance of considering social factors for effectively resolving human-wildlife conflict. *Animal Conservation*, 13, 458-466, 2010. doi: 10.1111/j.1469-1795.2010.00368.x

Diegues, A. C. *O mito moderno da natureza intocada*. São Paulo: Hucitec, 1996.

Dumora, C. Viver e sobreviver numa Área de Proteção Ambiental: o caso da pequena agricultura familiar em uma das comunidades rurais da APA de Guaraqueçaba. *Desenvolvimento e Meio Ambiente*, 14, 47-67, 2006. doi: 10.5380/dma.v14i0.9643

Escobar, A. Territórios da diferença: a ontologia política dos direitos ao território. *Desenvolvimento e Meio Ambiente* 35, 89-100, 2015. doi: 10.5380/dma.v35i0.43540

Feola, G. Societal transformation in response to global environmentalchange: a review ofemergingconcepts. *Ambio* 44, 376-390, 2015.

Ferreira, L. C. Dimensões humanas da biodiversidade: mudanças sociais e conflitos em torno de áreas protegidas no Vale do Ribeira, SP, Brasil. *Ambiente & Sociedade*, 7(1), 47-66, 2004.

Fletcher, R; Büscher, B. Conservation basic income: a non-market mechanism to support convivial conservation. *Biological Conservation*, 244, 2020. doi: 10.1016/j.biocon.2020.108520

Foster, J. B. *A ecologia de Marx*: materialismo e natureza. Rio de janeiro: Civilização Brasileira, 2000.

Franco, J. A. The concept of biodiversity and the history of conservation biology: from wilderness preservation to biodiversity conservation. *História,* 32(2), 2013.

Franco, J. A.; Schittini, G.; Braz, V. S. História da conservação da natureza e das áreas protegidas: panorama geral. *Historia*, Rio Grande, 6(2), 233-270, 2015.

Funtowicz, S.; Ravetz, J. Post-normal science and extended peer communities in the face of environmental challenges. *Saúde Manguinhos*, 4 (2), 219-230, 1997.

Gerhardt, C. *"Eu seria péssima para estar na sua banca"*: pesquisadores e suas controvérsias sobre conflitos em áreas protegidas. Curitiba: Appris, 2016.

Graciano, M.; Abdala, K. Santos, L.; Almeida, L. Efetividades do Programa Bolsa Verde no Assentamento Canudos em Goiás: uma análise da segurança alimentar e da preservação ambiental. *Interações*, 19(1), 2018. doi: 10.20435/inter.v19i1.1403

Grandia, L. Between Bolivar and bureaucracy: the mesoamerican biological corridor. *Conservation and Society*, 5(4), 478-503, 2007.

Hadorn, G. H.; Hoffmann-Riem, H.; Biber-Klemm, S.; Grossenbacher-Mansuy, W.; Joye, D.; Pohl, C.; Wiesmann, U.; Zemp, E. Handbook of Transdisciplinary Research. Dordrecht: Springer, 2008.

Hayashi, C. Política Nacional de Meio Ambiente - Lei 6938/81 e outros mecanismos de gestão e desenvolvimento sustentável no Brasil. *Desenvolvimento e Gestão*, 18(2), 228-236, 2015

Hettinger, N. Valuing naturalness in the "anthropocene": now more than ever. *In*: Wuerthner, G.; Crist, E.; Butler, T. (Eds) *Keeping the wild*: against the domestication of earth. New York: Island Press, 2014.

Holdren, J. P. *Addressing societal and scientific challenges through citizen science and crowdsourcing*. Washington: Office of Science and Technology Policy, 2015.

Holmes, G. Markets, nature, neoliberalism, and conservation through private protected areas in southern Chile. *Environment and Planning*. 47, 850-866, 2015. doi: 10.1068/a140194p

ICCA — Territories and areas conserved by indigenous peoples and local communities Consortium. 2021. *Territories of life: 2021 Report*. ICCA Consortium: worldwide.

Igoe, J.; Brockington, D. Neoliberal conservation: a brief introduction. *Conservation & Society*, 5(4), 432-449, 2007.

IPAM — Instituto de Pesquisa Ambiental da Amazônia. *REDD no Brasil*: um enfoque amazônico: fundamentos, critérios e estruturas institucionais para um regime nacional de Redução de Emissões por Desmatamento e Degradação Florestal – REDD Brasília: CGEE, 2012.

IPBES — The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. IPBES secretariat, Bonn, Germany, 1148 p., 2019.

IUCN — International Union for Conservation of Nature. *Red list of thretened Species*. 1989. Disponível em: https://www.iucnredlist.org/resources/grid

IUCN — International Union for Conservation of Nature. *Twelth general assembly*. Kinshasa, Zaire. 1975. Disponível em: https://www.iucn.org/sites/default/files/2022-05/ns-sp-044.pdf

Jasanoff, S. *States of knowledge*: the co-production of science and social order. London: Routledge, 2004

Kareiva, P.; Marvier, M. Conservation for the people. *Scientific American*, 297, 50-57, 2007.

Kareiva, P.; Lalasz, R.; Marvier, M. Conservation in the anthropocene: beyond solitude and fragility. *Breakthrough Journal*, 2, 2012.

Kiwango, A.; Mabele, M. Why the convivial conservation vision needs complementing to be a viable alternative for conservation in the global south. *Conservation and Society* 20(2), 179-189, 2022

Kopnina, H.; Washington, H.; Gray, J.; Taylor, B. The 'future of conservation' debate: defending ecocentrism and the nature needs half movement. *Conservation Biology*, 217, 140-148, 2018. doi: 10.1016/j.biocon.2017.10.016

Kothari, A.; Camillb,P.; Brown, J. Conservation as if people also mattered: policy and practice of community-based conservation. *Conservation and Society,* 11(1), 1-15, 2013.

Krauss, J. E. Decolonizing, conviviality and convivial conservation: towards a convivial SDG 15, life on land? *Journal of Political Ecology*, 28(1), 2021.

Kuhn, T. *A estrutura das revoluções científicas*. São Paulo: Perspectiva, 2009.

Las Canta, L. El faloceno: redefinir el antropoceno desde una mirada ecofeminista. *Ecologia Política*, 53, 26-33, 2017.

Lima, P.; Franco, J. A. As RPPNs como estratégia para a conservação da biodiversidade: o caso da Chapada dos Veadeiros. *Sociedade & Natureza*, 26(1),113-125, 2014.

Locke, H. Nature needs (at least) half: a necessary new agenda for protected areas. *In*: Wuerthner G.; Crist, E.; Butler T. (Eds) *Protecting the wild*. Washigton: Island Press, 2015.

Machado, C. A.; Cava, B. Um estudo preliminar sobre o encontro entre a copesquisa e os science studies. *Revista Brasileira de História da Ciência*, 6(2), 221-231, 2013.

Manfredo, M.; Vaske, J. *Human Dimensions of wildlife management*: basic concepts. Washington DC: Island Press, 1995.

Marchini, S; Ferraz, K. B.; Foster, V.; Reginato, T.; Kotz, A.; Barros, Y.; Zimmermann, A. Macdonald, D. planning for human-wildlife coexistence: conceptual framework, workshop process, and a model for transdisciplinary collaboration. *Frontiers in Conservation Science*, 2, 2021. doi: 10.3389/fcosc.2021.752953

Marin, A.; Ely, A.; van Zwanenberg, P. Co-design with alignedand non-aligned knowledge partners: implications for research and coproduction of sustainable food systems. *Current Opinion in Environmental Sustainability*, 20, 93-98, 2016. doi: 10.1016/j.cosust.2016.09.003

Marris, E. *Rambunctious garden*: saving nature in a post-wild world. New York: Bloomsbury, 2011.

Marvier, M. New Conservation is true conservation, *Conservation Biology,* 28(1), 1-3, 2014. doi: 10.1111/cobi.12206

Massarella, K.; Nygren, A.; Fletcher, F.; Büscher, B.; Kiwango, W.; Komi, S.; Krauss, J.; Mabele, M.; McIntuff, A.; Sandroni, L. Alagona, P.; Brockington, D.; Coates, R.; Duffy, R.; Ferraz, K. M.; Koot, S.; Marchini, S.; Percequillo, A. Transformation beyond conservation: how critical social science can contribute to a radical new agenda in biodiversity conservation. *Current Opinion in Environmental Sustainability*, 49, 7987, 2021. doi: 10.1016/j.cosust.2021.03.005

McAfee, K. Selling Nature to save It? Biodiversity and green developmentalism. *Environment and Planning D: Society and Space*, 17(2), 133-154, 1999. doi: 10.1068/d170133

McCauley, D. J. Fool's gold in the catskill mountains: thinking critically about the ecosystem services paradigm. *In*: Wuerthner G.; Crist, E.; Butler T. (Eds) *Protecting the wild*. Washigton: Island Press, 2015.

Meine, C.; Soulé, M.; Noss, R. "A mission-driven discipline": the growth of conservation biology. *Conservation Biology*, 20(3), 631-651, 2006.

Metzger, J. P. O que é ecologia das paisagens? *Biota Neotropica*, 1(1), 2001.

Milano, M. Unidades de conservação: técnica, lei e ética para a conservação da biodiversidade. *In*: Benjamin, A. (Org.). *Direito ambiental das áreas protegidas*: o regime jurídico das unidades de conservação. Rio de Janeiro: Forense Universitária, 2001.

Minteer, B.; Pyne, S. Writing on stone, writing in the wind. *In*: Minteer, B.; Pyne, S. (Eds.). *After preservation*: saving american nature in the age of humans. Chicago: Chicago University Press, 2015.

Mittermeier, R.; Fonseca, G.; Rylands, A.; Brandon, K. Uma breve história da conservação da biodiversidade no Brasil. *Mega diversidade*, 1(1), 14-21, 2005.

Moore, J. The capitalocene, part I: on the nature and origins of our ecological crisis, *The Journal of Peasant Studie*s, 44(3), 594-630, 2017. doi: 10.1080/03066150.2016.1235036

Mulale, K.; Matema, C.; Funda, X.; Slater-Jones, S.; Njovu, D.; Kangueehi, G.; Hay, D.; Crookes, V; Breen, C. M. *Community-based natural resource management in Southern Africa*: an introduction. Bloomington: AuthorHouse, 2013.

Nodari, R.; Nodari, E.; Franco, J. A. Uso e conservação da biodiversidade: as duas faces da moeda. *Journal of Social, Technological and Environmental Science*, 5(3), 11-16, 2016.

Nunes, M.; Costa, M.; Lustosa, M. A conservação da biodiversidade no Brasil: uma visão a partir de áreas protegidas. *Economia Política do Desenvolvimento*, 4(11), 21-42, 2011.

O'Brien, K.; Sygna, L. *Responding to climate change: the*

*three spheres of transformation proceedings of transformation in a changing climate*. University of Oslo, p. 16-23, 2013.

O'Brien, K. Global environmental change II: from adaptation to deliberate transformation. *Progress in Human Geography*, 36(5), 2012. doi: 10.1177/0309132511425767

Ojeda, D. Green pretexts: Ecotourism, neoliberal conservation and land grabbing in Tayrona National Natural Park, Colombia. *The Journal of Peasant Studies*, 39(2), 357-375, 2012. doi: 10.1080/03066150.2012.658777

Patterson, J.; Schulz, K.; Vervoort, J.; Van Der Hel, S.; Sethi, M.; Barau, A. Exploring the governance and politics of transformations towards sustainability. *Environ Innov Soc Transitions*, 24, 1-16, 2017. doi: 10.1016/j.eist.2016.09.001

Pearce, F. *The new wild: why invasive species will be nature's salvation*. Boston: Beacon Press, 2015.

Peluso, N. L. The Politics of Specificity and Generalisation in Conservation Matters. *Conservation & Society*, 1, 61-4, 2003.

Peluso, N. L. What's nature got to do with it? A situated historical perspective on socio-natural commodities. *Development and Change*, 43, 2012. doi: 10.1111/j.1467-7660.2012.01755.x

Penna-Firme, R. Direitos socioambientais, conservação neoliberal da natureza e agricultores no Parque Estadual da Pedra Branca, RJ. *PerCursos*, 19(39), 50-76, 2018. doi: 10.5965/1984724619392018050

Pereira, L.; Frantzeskaki, N.; Hebinck, A.; Charli-Joseph, L.; Drimie, S.; Dyer, M.; Eakin, H.; Transformative spaces in the making: key lessons from nine cases in the Global South. *Sustainability Science*, 15, 161-178, 2020. doi: 10.1007/s11625-019-00749-x

Pinto, G. E.; Pires, A.; Georges, M. R. O antropoceno e a mudança climática: a percepção e a consciência dos brasileiros segundo a pesquisa IBOPE. *Desenvolvimento & Meio Ambiente*, 54, 1-25, 2020. doi: 10.5380/dma.v54i0.67833

Portilho, F.; Lima, G. Sociologia ambiental: formação, dilemas e perspectivas. *Revista Teoria & Sociedade*, 7, 2001.

Rajão, R.; Nobre, A. D.; Cunha, E.; Duarte, T.; Marcolino, C.; Soares-Filho, B.; Sparovek, G.; The riskof fake controversies for Brazilianenvironmental policies. *Biological Conservation*, 26, 2022. doi: 10.1016/j.biocon.2021.109447

Roggero, G. Notes on framing and re-inventing co-research. *Ephemera: theory & politics in organization*, 14(3), 493-513, 2014.

Sandroni, L. T.; Carneiro, M. J. Biodiversity Conservation in the Brazilian Social Sciences: a sytematic review from 1992 to 2010. *Ambiente &Sociedade*, 19, 2016. doi: 10.1590/1809-4422ASOC130181V1932016

Sandbrook, C.; Adams, W. M.; Büscher, B.; Vira, B. Social research and biodiversity conservation. *Conservation Biology*, 27, 1487-1490, 2013. doi: 10.1111/cobi.12141

Santilli, J. *Socioambientalismo e novos direitos*: proteção jurídica à diversidade biológica e cultural. São Paulo: Editora Petrópolis, Instituto Socioambiental e Instituto Internacional de Educação do Brasil, 2005.

Schneidewind, U.; Augenstein, K. Three schools of transformation thinking. The impact of ideas, institutions, and technological innovation on transformation processes. *Gaia*, 25(2), 88-93, 2016.

Scoones, I.; Stirling, A.; Abrol, D.; Atela, J.; Charli-Joseph, L.; Eakin, H.; Ely, A.; Olsson, P.; Pereira, L.; Priya, R.; Zwanenberg, P.; Yang, L. Transformations to sustainability: combining structural, systemic and enabling approaches. *Current Opinion in Environmental Sustainability*, 42, 65-75, 2020. doi: 10.1016/j.cosust.2019.12.004

Stark, S.; Biber-Freudenberger, L.; Dietz, T.; Escobar, N.; Förster, J. J.; Henderson, J.; Laibach, L.; Börner, J. Sustainability implications of transformation pathways for the bioeconomy. *Sustainable Production and Consumption*, 29, 215-227, 2022. doi: 10.1016/j.spc.2021.10.011

Sutherland, W.; Pullin A. S.; Dolman P. M.; Knight T. M. The need for evidence based conservation. *Trends in Ecology and Evolution*, 19, 6, 2004.

Svampa, M. *Las fronteras del neoextractivismo em America Latina*: conflictos socioambientales, giro ecoterritorial y nuevas dependencias. Quito: Bielefeld UniversityPress, 2019.

Taddei, R.; Hidalgo, C. Antropología posnormal. Cuadernos de antropología social, 43, 21-32, 2016.

Tagliari, M.; Moreira, V.; Peroni, N. Análise de programas de pagamento por serviços ambientais no sul do Brasil: identificando estratégias para a conservação da araucária angustifolia. *Desenvolvimento e Meio Ambiente*, 50, 216-233, 2019.

Temper, L.; Walter, M.; Rodriguez, I.; Kothari, A; Turhan, E. A perspective on radical transformations to sustainability: resistances, movements and alternatives. *Sustainability Science*, 13, 747-764, 2018. doi: 10.1007/s11625-018-0543-8

Turnhout, E.; Metze, T. A. P.; Wyborn, C.; Klenk, N.; Louder, E. The politics of co-production: participation, power, and transformation. *Current Opinion in Environmental Sustainability*, 42, 15-21, 2020. doi: 10.1016/j.cosust.2019.11.009

Vaccaro, I.; Beltran, O.; Paquet, P. A. Political ecology and conservation policies: some theoretical genealogies. *Journal of Political Ecology*, 20(20), 255-272, 2013. doi: 10.2458/v20i1.21748

Wilshusen, P. R.; Brechin, S.; Fortwangler, C.; West, P. Reinventing a square wheel: critique of a resurgent "protection paradigm" in international biodiversity conservation. *Society and Natural Resources*, 15, 17-40, 2002.

Wilson, E. O. *Half-earth*: our planet's fight for life. London: Liferight Publishing, 2016.

Wuerthner, G.; Crist, E.; Butler, T. (Eds.). *Protecting the wild*: parks and wilderness, the foundation for conservation. London: Island Press, 2015.

Zurita, M. L.; Thomsen, D.; Holbrook, N.; Smith, T.; Lyth, A.; Munro P.; Bruin, A.; Global water governance and climate change: identifying innovative arrangements for adaptive transformation. *Water*, 10(29), 2018. doi: 10.3390/w10010029