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Amazonian conservation across archipelagos of Indigenous territories

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Abstract

Indigenous stewardship is essential to the conservation of biocultural diversity, yet conventional conservation models often treat Indigenous territories (ITs) as homogeneous or isolated units. We propose that archipelagos of Indigenous territories (AITs), clusters of ITs that span geographies but are connected through shared cultural or political ties maintained by Indigenous nations, are crucial for understanding and enhancing conservation strategies that recognize the complexity of Indigenous stewardship. We classified 3572 ITs in the Amazon into 4 categories—single or multiple nations with either singular IT or AIT—to assess their spatial heterogeneity, governance, and conservation potential. We then assessed species richness, carbon stocks, and pressures across these different categories. To examine how AITs can enhance biocultural conservation efforts, we conducted a case study of the Cofán Nation in Ecuador. AITs covered 45% of the Amazonian land area and had higher species richness and carbon stocks than single IT configurations. However, AITs faced greater pressures from development and extractive activities. In the case study, the Cofán AIT was shaped by colonization and land titling challenges, but their community-driven governance, cross-territorial collaboration, and adaptive responses—such as comanagement agreements and resisting extractive activities—enhanced their ecological and cultural resilience amid growing development pressures. Our findings suggest that AITs facilitate the exchange of resources, knowledge, and cultural practices, which strengthens social connectivity, reinforces governance structures, and enables adaptive management across ITs, thereby enhancing biocultural resilience across discontinuous spaces. This work advocates for a paradigm shift in conservation planning and practice that recognizes the vital role of AITs in sustaining Amazonian ecosystems and Indigenous lifeways, particularly in the face of increasing pressures.

KEYWORDS

Amazon, archipelagos, connectivity, conservation, Indigenous peoples, Indigenous territories, response diversity

INTRODUCTION

Indigenous stewardship is essential to the conservation of global biocultural diversity (Artelle et al., 2019; Estrada et al., 2022; Fa et al., 2020; Garnett et al., 2018; Heller et al., 2023; O'Bryan et al., 2021; see Kunming–Montreal Global Biodiversity Framework in CBD [2022]). Across Amazonia, for example, Indigenous territories (ITs) encompass over 27% of the region (RAISG, 2022a) and are stewarded in ways that preserve forest cover, protect biodiversity, and maintain carbon stocks (Duarte et al., 2023; Qin et al., 2023; Sze et al., 2022; Walker et al., 2020). Knowledge of and relations between Indigenous peoples and their territories are threatened by colonization (see Appendix S1), driven by state-led agrarian reform, land titling initiatives, infrastructure development, and extractive industries, such as oil extraction and mining (Lapola et al., 2023; Lu et al., 2010; Tang & Gavin, 2016; Erazo 2013; Scheidel et al. 2023). Colonization fragments and limits the extent of ITs, disrupting ecological process and biocultural relations (i.e., the interconnected relationships between Indigenous peoples and their territories that maintain stewardship practices [Correia, 2023; Perz et al., 2012; Silva-Junior et al., 2023; Whyte, 2018]).

Despite the importance of Indigenous stewardship to conservation, little scholarly attention has been paid to the spatial and temporal heterogeneity of ITs. These areas are frequently treated as homogeneous spatial and cultural units and, explicitly or implicitly, seen as discrete, singular patches of land belonging to a specific Indigenous ethnicity or nationality (e.g., Gullison & Hardner, 2018; Le Tourneau, 2015). However, not all nationalities steward continuous land holdings. Many maintain cultural and political connections that span geographies and ecosystems across multiple ITs, what we call archipelagos of Indigenous territories (AITs).

The term *archipelago* signifies clusters of island-like patches of land with some degree of connection and collective integrity that can vary in size, spatial distribution, connectivity, and governance (Roberts & Stephens, 2023). Archipelagos bring attention to two related processes: the dynamics of connection based on diverse mobilities, exchanges, and influences among what appear as spatially discontinuous places (islands) and the spatiotemporal form (e.g., distribution of species, communities, and other assemblages) produced by these dynamics. Therefore, it is necessary to take into account both the characteristics of islands and their within-archipelago relations. We built on island relationality theory (e.g., Pugh, 2018), which emphasizes the properties of mobility, networks, and assemblages in characterizing the heterogeneity and connectivity that sustain the integrity of AITs in the Amazon.

Relational thinking is often absent in debates about the design of conservation areas, but it has the potential to enrich and expand conservation planning. For example, a key debate in the field compares the value of a single large (SL) or several small (SS) areas (i.e., SLOSS) (e.g., Wintle et al., 2019). Intact, large, and spatially contiguous lands are often prioritized for conservation and lauded as necessary for positive conservation outcomes (Watson et al., 2018). This view stems from long-standing research on the optimal size of conservation areas, which favors the idea that these areas need to be vast (i.e., thousands to tens of thousands of square kilometers) to maintain ecological functioning, sustain viable animal populations, maximize carbon storage, and promote resilience to future changes (Laurance et al., 2011). Although conservation policies tend to prioritize large landscapes (Fahrig et al., 2022), ultimately, different configurations perform differently for different purposes. Large areas may better support species with large ranges, whereas small areas are critical stepping-stones in human-dominated regions (Riva & Fahrig, 2022). Rather than focusing on size or measures of pristineness to inform conservation planning, a relational approach takes into account connectivity among areas of diverse types and sizes, large and small. The emphasis is on noticing the flows and exchanges of social and ecological topographies that foster collective integrity (Chandler & Pugh, 2020; Stratford et al., 2011), which can enhance planning for metapopulation persistence, landscape supplementation, and resource availability for many forest species (Arroyo-Rodríguez et al., 2020).

We examined AITs as vital examples of biocultural relationality that offer insights into how conservation design can support resilience in the face of a potential tipping point in the Amazon (e.g., transitioning from a rainforest to a savanna or open-canopy forest [Flores et al., 2024]). AITs often incorporate ITs of various sizes and integrate ecological and social dimensions to enhance conservation outcomes. Ecologically, connectivity between ITs can enhance population viability, especially for large mammals, and support resilience by spreading the effects of disturbances and facilitating recovery (Biggs et al., 2012; Fletcher et al., 2016). Socially, connectivity among ITs can strengthen adaptive capacity and governance opportunities through information sharing, access to resources, and collaboration (Brondizio et al., 2009), which in turn can enhance social integrity and continuance. In Amazonia, heterogenous archipelagic relations connecting ecological, social, and political processes across discontinuous space continually make and remake Indigenous territorialities (Lu et al., 2017). Ethnohistoric evidence supports this view. Precolonial Andean communities used dispersed land holdings to create social and political bonds, or "vertical archipelagos" (Murra, 1972), that increased ecological diversity through reciprocity and redistribution, helped sustain food supplies, and preserved economic self-sufficiency. The enduring importance of such connections to Indigenous societies, and their contemporary manifestations and processes, merits investigation given their potential to support biocultural resilience in the Andes–Amazon region (Mayer, 2002).

We used spatial data analyses to describe the heterogeneity and extent of ITs across Amazonia and documented whether a single or multiple Indigenous nations controlled one or more ITs and how such configurations correlate with conservation outcomes and potential. "Thinking with the archipelago" (Pugh, 2013, p. 9), we considered whether conservation planning should take into account the spatial distribution, size, connectivity, and governance of Amazonian AITs, and the importance of heterogeneity within AITs in promoting Amazonian social and ecological resilience and adaptability to change.

We also used our long-term research with the Cofán Nation in Ecuador to examine how AITs might help sustain rainforest ecosystems, including biological diversity and Indigenous lifeways. We examined how AITs emerge from and continue to be threatened by external pressures, such as extractivism and colonization, but are bolstered by efforts to foster connectivity, community-driven governance, and stewardship. We also examined how Cofán communities exhibit response diversity, theorized as a means of promoting biocultural resilience.

METHODS

We used publicly available spatial data of Amazonian ITs from the Amazonian Georeferenced Socio-Environmental Information Network (RAISG is its acronym in Portuguese) (RAISG, 2022a) to describe the heterogeneity and extent of ITs across Amazonia and assess how IT configurations correlate with conservation urgency and potential, ranging from immediate needs to long-term stewardship.

Like RAISG, we adopted the umbrella term *IT*. The term *IT* has been used since the 1990s to legally and cartographically protect the land rights of Indigenous peoples in the Americas (Offen, 2003), where territory and property are assumed commensurable and supportive of Indigenous land claim processes (Anthias, 2021; Correia, 2019; Wainwright & Bryan, 2009). We used ITs to represent lands occupied and utilized by Indigenous peoples, including officially titled lands and areas claimed based on ancestral ties.

Terminology varies across the region, reflecting country-specific histories of negotiating Indigenous rights with the state (RAISG, 2016). For example, RAISG incorporates each of the following as ITs: "Territorio Indígena Originario Campesino" (Indigenous and native campesino territory) in Bolivia, "Tierra Indígena" (Indigenous land) in Brazil, "Resguardo Indígena" (Indigenous reserve) in Colombia, "Tierra Comunitaria" (communal land) in Ecuador, and "Comunidad Nativa" (native community) in Peru. It is important to note that although this database is the most comprehensive documentation of IT in Amazonia, it may not include all Indigenous peoples, territories, or lands.

The RAISG database includes information on the ethnicity of Indigenous peoples living in an IT. We adopted the term *nation* to better reflect the political and cultural realities in Ecuador, where our case study is based. In Ecuador, *Indigenous nation* stands in for a political project of sovereignty and self-determination in which land is affirmed as homeland or territory and Indigenous peoples are politically recognized as living a "historical process" of liberation rather than as anachronistic remnants (Almeida, 1979). Although the term was originally mobilized to stake economic and political demands, ethnicity was later incorporated (Becker, 2011), emphasizing that Indigenous nations are "a people with a common language, a common culture, a common territory and common economic ties" (Pacari, 1984, p. 115). Today, *Indigenous nation* is used to represent peoples with distinct ethnic identities, often with unique languages, cultural practices, and a shared history.

We prepared and refined the RAISG IT database to ensure accuracy and relevance for our analyses. First, we focused on ITs in the biogeographic region of the Amazon because it provides an ecologically coherent framework for understanding the distribution and management of ITs and excludes smaller Andean communities with incomplete ethnicity data (RAISG, 2022b). Then we removed 359 campesino areas in Peru because their statuses as ITs were unclear due to lack of ethnicity information. We also removed 30 areas from other countries because they did not have ethnicity data.

We individually examined and removed all instances of overlapping ITs (187) to ensure data accuracy (e.g., area calculations). Some overlapping decisions were based on official recognition (e.g., maintaining the entire officially recognized ITs and cropping unrecognized ITs). Other instances required removing areas, such as the Cuyabeno-Imuya Intangible Zone in Ecuador, which overlaps several ITs. Finally, we cleaned (i.e., merged) ITs that have been expanded or have pending or proposed expansions. For instance, we assessed 464 areas in Peru labeled *ampliación* (expansion) and combined them with the original IT of the same name. Similar steps were taken for 7 extension areas in Guyana, 29 *demandado* (claimed) areas in Bolivia, and one area in Brazil. This method avoided incorrectly categorizing these areas as archipelagos. Finally, we removed 2 areas in Venezuela that were marine areas.

This cleaning process left us with 3572 ITs. We then standardized the spelling of each nation or ethnicity (e.g., changing Chimane or Chimanes to Tsimane) and the order (alphabetical) and separation method (commas) for multiple ethnicities within the same IT. This process left us with 381 Indigenous nations.

We classified the configuration of these 3572 ITs across 381 Indigenous nations into 4 categories. The first 2 categories were associated with archipelagos: one nation with an AIT (1-AIT) (e.g., the Cofán have rights to 13 ITs in Colombia and Ecuador) and multiple nations with one AIT (M-AIT) (e.g., the Wapishana and the Macuxi share rights to 15 ITs in Brazil). The second 2 were associated with single territories: a single nation with a single IT (1-1IT) and multiple nations with a single IT (M-1IT) (e.g., the Territorio Indígena Multiétnico in Bolivia).

ITs within an AIT are not necessarily geographically dispersed. They can be spatially proximate, sharing common borders but having separate titles, governing bodies, tenure regimes, or other characteristics. Unlike natural archipelagos where the matrix between islands is water, the matrix between ITs in an AIT can consist of diverse land uses, such as forests, agriculture, roads, extractive industries, and urban areas.

Open access data were used to analyze patterns of biodiversity, forest cover, and pressures on ITs. Land-use maps of Amazonia (MapBiomas, 2022) were used to examine the percentage of IT forest cover and deforestation within 10 km of each IT (i.e., forested area divided by land area excluding rivers and lakes). We used 10 km because this distance is commonly used in Amazonian protected areas and research (examples in West [2024]). Biodiversity data (IUCN, 2021) were used to determine the average species richness (i.e., the number of different species) in each IT for amphibians, birds, and mammals. We used a tightly focused analysis as opposed to examining beta diversity or species–area relationships due to data limitations (i.e., raster data with a count of the number of species potentially occurring in each grid cell) and because categories were often intermixed in the same landscape (Fahrig et al., 2022). We examined tree species richness separately (ter Steege et al., 2023). In terms of carbon, we calculated the total manageable aboveground and soil carbon stock (Noon et al., 2022) for each IT. We assessed pressures via a weighted index of ongoing or in-process activities associated with oil, mining, roads, agriculture, and hydroelectric dams (RAISG, 2020). Spatial data on protected areas (RAISG, 2022c) were used to assess overlap with ITs and AITs. Analyses were conducted in R (R Core Team, 2023). These data sources, although some of the best available, have their limitations and none are comprehensive. For example, ITs are not fully documented, pressures causing landscape change are often too rapid to capture, and gaps exist in each of the maps.

The case study in the Ecuadorian Amazon was informed by our longitudinal research in partnership with the Cofán Nation. We used it as an example of our experiences in the region. Beginning in 2000, F.L. led research among the Cofán of Zábalo for 5 months, incorporating ethnography with demographic,

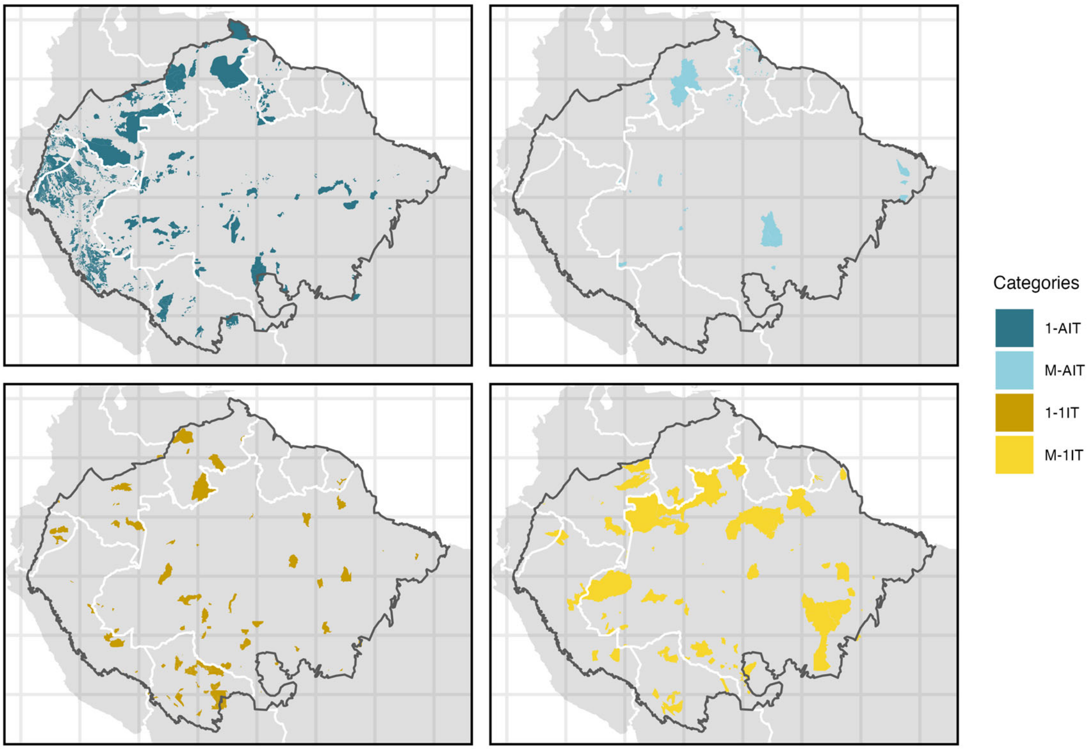

FIGURE 1 Location of the 4 categories of Indigenous territories (ITs) in the Amazon's biogeographic region (AIT, archipelago of indigenous territories; 1-AIT, one nation with an AIT; M-AIT, multiple nations with an AIT; 1-1IT, single nation with a single IT; M-1IT, multiple nations with a single IT; light gray, South America; white outline, country borders; dark outline, biogeographic limit).

household economic, land use, and agricultural data collection. In 2002–2003, G.V. interviewed members of the Cofán community of Dureno for a comparative study on how the oil industry shapes Indigenous daily lives in the northern Ecuadorian Amazon. Since 2015, M.E. has worked in Zábalo conducting a mix of ethnographic research, participatory mapping, and ecological surveys. Since 2021, J.C. and M.E. have examined social and ecological resilience in Zábalo and Sinangoe (among other ITs) through structured surveys, camera trap studies, key-informant interviews, and other methods. These diverse methods and perspectives inform the case study on the Cofán across time, although data from these research projects were not used in this paper.

RESULTS

General patterns of ITs in Amazonia

Of the 381 Indigenous nations or ethnicities, 129 (34%) had rights to 2 or more distinct territories. Of the 3572 ITs identified, 3264 were spatially related within 116 1-AIT and 101 were related within 16 M-AIT (total 132 AITs across the Amazon represented by 129 nations). Ninety-nine ITs were classified as 1-1IT (i.e., 99 nationalities had only 1 IT each), and 108 were within M-1IT (see Appendix S2). The majority of AITs were located in the western Amazon (Figure 1), where Amazonian countries have distinct colonization histories and titling processes.

In terms of land area, ITs covered approximately 30% of the Amazon biome, roughly 2.2 million km^2. Of this land area, 45.22% (nearly 1 million km^2) corresponded to AITs. In terms of size, individual IT within an archipelago were small (median: 38 km^2 for 1-AIT and 143 km^2 for M-AIT), whereas the median area of AITs combined was significantly larger (median: 2431 km^2 for 1-AIT and 4835 km^2 for M-AIT). Thus, AITs were therefore significantly larger than the individual ITs they encompassed (Appendix S2). The average size of protected areas (all categories) in the Amazon was 3052 km^2 (median size 620 km^2) (Appendix S3). The AITs overlapped with 10.41% of protected areas (ITs overlapped with 21.43% of protected areas in total).

Carbon storage paralleled land area: 46.54% of IT carbon stock was in AITs (Figure 2). Species richness (i.e., average number of amphibian, mammal, and bird species in an IT) was significantly higher for 1-AIT and M-AIT than single ITs (1-1IT and M-1IT) (Figure 3a). The trend was similar for tree species diversity: species richness for 1-AIT was significantly higher than 1-1IT and M-1IT but lower for M-AIT (Appendix S4). Primary forest cover in each IT was lower and more variable than in 1-AIT (Figure 3b). Forest cover surrounding 1-AIT was also lower than that for other categories. In line with these forest cover results, 1-AIT were under the most pressure from oil, mining, roads, agriculture, and hydroelectric projects (Figure 4).

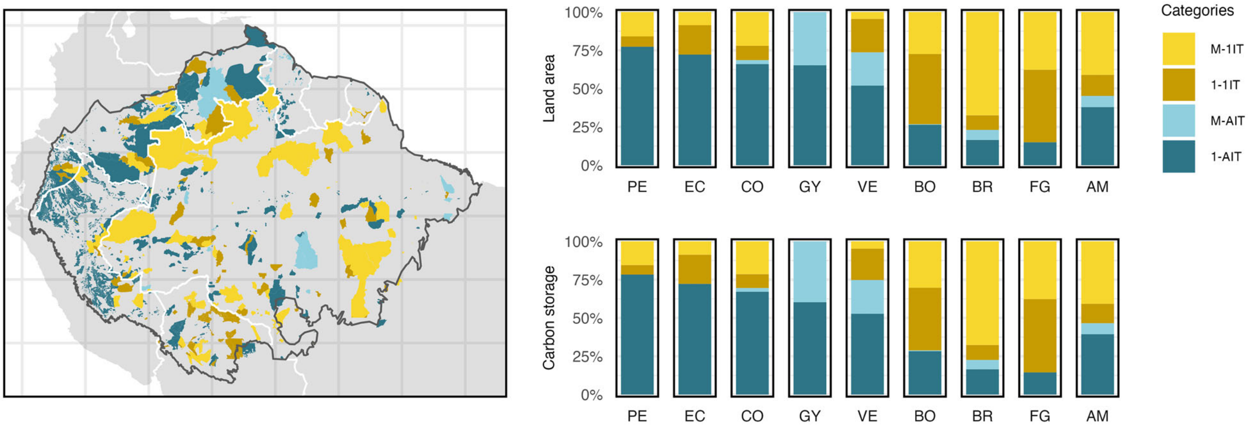

FIGURE 2 Locations of Indigenous territories by category (defined in the legend of Figure 1) and the percentage of land area and carbon storage (aboveground and in soil [Noon et al., 2022]) each territory encompasses by country or region (PE, Peru; EC, Ecuador; CO, Colombia; GY, Guyana; VE, Venezuela; BO, Bolivia; BR, Brazil; FR, French Guyana; AM, Amazon region).

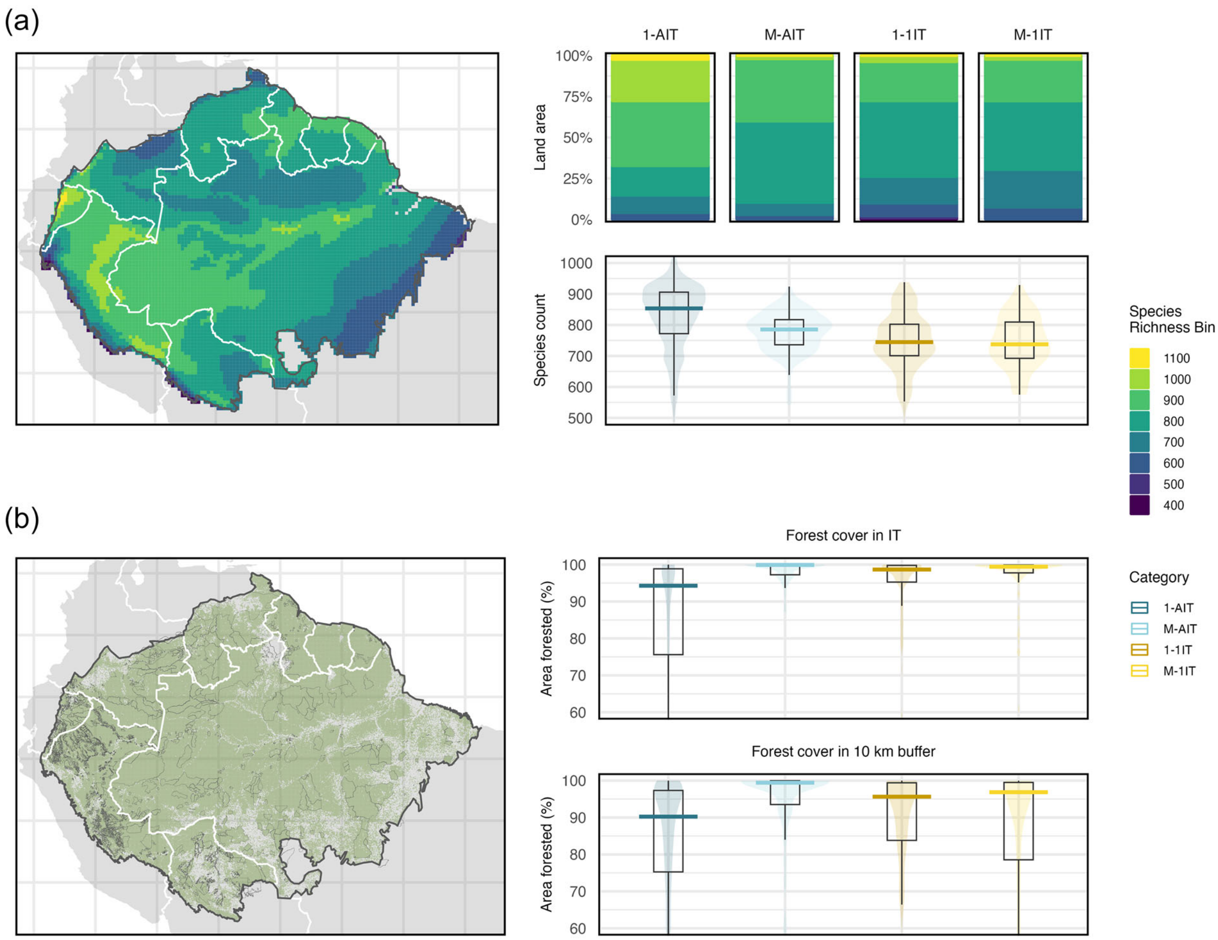

FIGURE 3 (a) Species richness (birds, amphibians, and mammals) and percentage of each Indigenous territory (IT) land area hosting a binned number of species and the average number of species predicted to occur in each IT category (defined in the legend of Figure 1) (IUCN, 2021) and (b) forest cover (green) and percentage of forest cover in each IT category and within a 10-km area around each IT (MapBiomas, 2022) (horizontal bars, median).

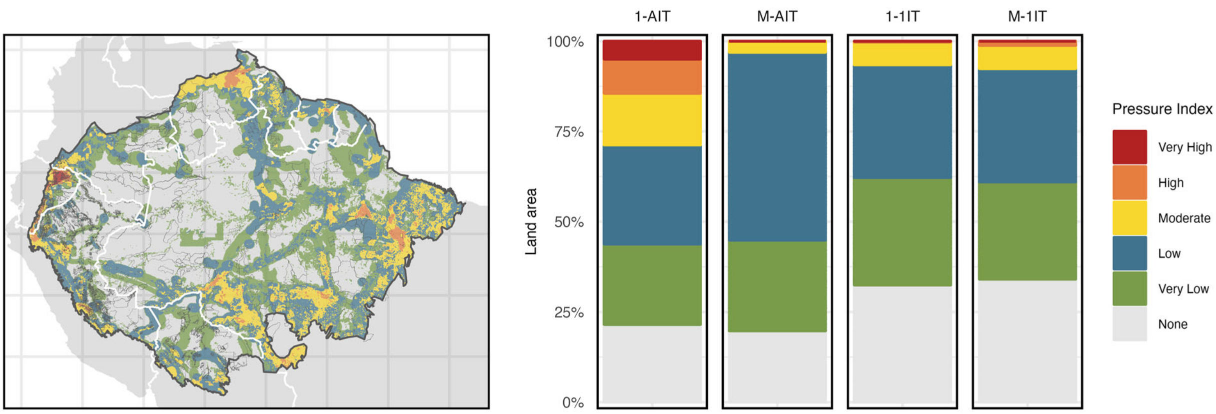

FIGURE 4 Indigenous territories (ITs) with a combined pressure index from oil, mining, roads, agriculture, and hydroelectric projects (RAISG, 2020) and the percentage of land area under different levels of pressure for each IT category (defined in the legend of Figure 1). Appendix S5 contains a map of the pressure index cropped to IT.

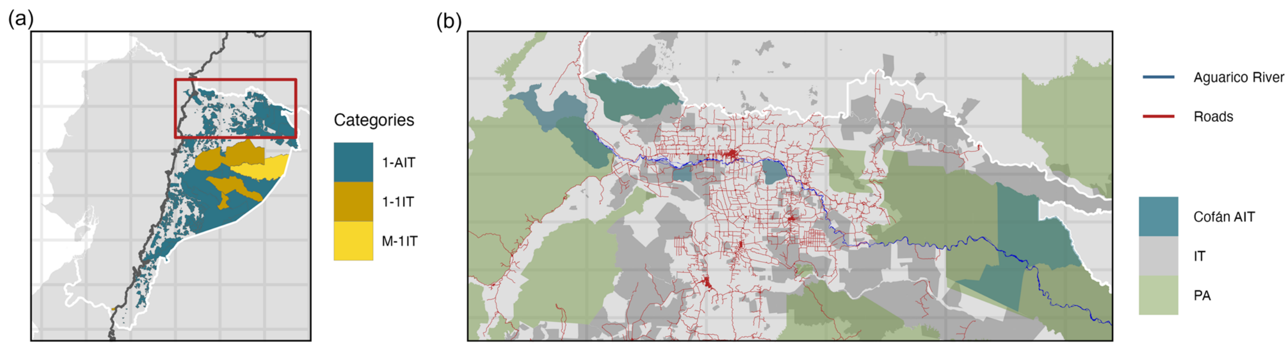

FIGURE 5 (a) Categories of Indigenous territories (ITs) (defined in the legend of Figure 1) in the Ecuadorian Amazon and (b) the Cofán archipelago of Indigenous territories (AITs) and other ITs and protected areas (PAs) in the study region.

Thus, AITs had high conservation value but were under more pressure.

Case study of Cofán nation

Cofán experiences in Ecuador shared similarities with broader regional trends, highlighting the impact of historical and ongoing colonial processes in the Amazon. Like other Indigenous Amazonians, Cofán ancestral territory and population were expansive prior to European contact, encompassing nearly 20,000 people living across more than 3 million ha (Borman, 1996). European diseases decimated the Cofán population, and the discovery of crude oil reserves and the opening of a new road in 1972 devastated their lands and lifeways (Lu et al., 2017), attracting settlers to colonize and transform the region (Southgate et al., 2009).

Despite violent and disruptive colonization processes, the Cofán successfully reclaimed land and maintained social relations across their communities. They currently have rights to 7 ITs covering approximately 270,000 ha in Ecuador (Figure 5; Table 1). The size of each IT within the Cofán AIT varied, ranging from 345 ha to nearly 143,000 ha, as did their governance arrangements, which were shaped by internal decision-making processes and various state policies.

Dureno and Duvuno were the first Cofán ITs to receive land titles in the late 1970s (Borman et al., 2007). As part of this process, they adopted a communal title model to protect their land rights and maintained internal norms and institutions to manage land use. However, these structures evolved over time. For example, Duvuno (5887 ha) was subdivided into family parcels for subsistence and economic purposes (Galarza, 2013). Some families rented their subdivisions to outsiders, resulting in rapid, agricultural-driven deforestation (Figure 6b). Dureno (9495 ha), in contrast, remained largely forested but was surrounded by roads and oil operations (Figure 6a). Dureno residents established a small reserve area (*Reserva Mundae*) to support animal reproduction, but the community could not exclude outsiders from hunting (Borman et al., 2007). These pressures led the community to abandon management of the reserve, and subsistence activities have been limited because animal populations are overexploited (Borman et al., 2007). Thus, Dureno represented an IT that was relatively small and isolated with little potential to support robust animal populations.

Responding to transformative changes in Dureno, several Cofán residents formally established the territory of Zábalo

TABLE 1 Characteristics of the Cofán archipelago of Indigenous territories (AIT).

Cofán territory	Area (ha)[a]	Species richness[b]	Forest (%)[c]	Forest within 10 km[d]
Zábalo	142,923	884	99.96	99.24
Dureno	9495	913	93.96	32.22
Duvuno	5887	957	74.85	41.31
Sinangoe	30,917	860	98.75	82.39
Río Cofanes	30,790	774	99.92	93.05
Bermejo	55,451	846	99.60	85.98
Avie	345	908	91.78	74.98

[a]The total AIT size is 275,808 ha (mean 39,401, median 30,790).
[b]Average number of species found in a Cofán territory.
[c]Percentage of Cofán territory's land area covered in forest.
[d]Percentage of a 10-km area around the Cofán territory covered in forest.

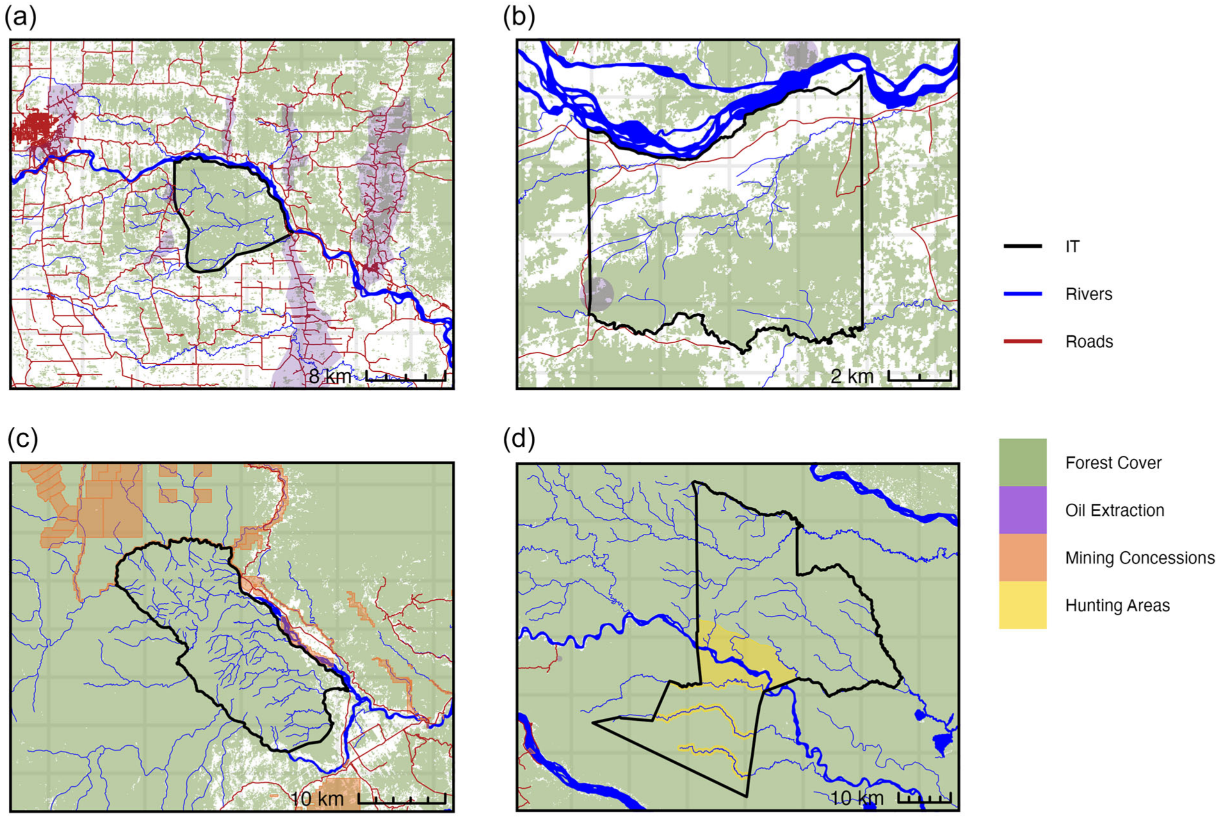

FIGURE 6 Cofán Indigenous territories (ITs) demonstrating diverse threats to their land and livelihoods and responses: (a) Dureno IT is surrounded by roads and oil operations but maintains high forest cover, (b) Duvuno IT deforestation is related to renting land divided into lots, (c) 52 mining concessions were canceled surrounding Sinangoe IT in 2018 due to community legal actions, and (d) adaptive management is applied in Zábalo IT, including diverse subsistence rules in specified regions.

(about 150 km downriver from Dureno) in 1981. Zábalo is far from roads and the colonization frontier, which allowed residents to practice their preferred lifestyle. In 1991, the Cuyabeno Wildlife Reserve extended its boundaries to include Zábalo (Holland et al., 2017), at which point the Cofán successfully negotiated a comanagement agreement with the Ministry of Environment (MAE) in 1992. During this time, the Cofán of Zábalo strengthened their *tsampima coiraye*, a form of caretaking that relies on deep ecological knowledge and communal decision-making (Esbach et al., 2024). Practices of care in Zábalo that we observed included the creation of reserve areas (Figure 6d) and limits to the number and seasons specific animals can be hunted (CCZ, 2008).

With these 3 ITs, the Cofán AIT began to take shape due to the need for larger scale governance. As a result, the Indigenous Federation of the Cofán Nationality of Ecuador

(FEINCE is the Spanish acronym) was legalized in 2001 to represent all Cofán territories in Ecuador, revitalize cultural values, conserve and defend Cofán land, and reclaim tenure rights (Mendoza & Robles-Pillco, 2016). Drawing from Zabálo's strategy focused on comanagement as an opportunity to secure a larger land base, the Cofán successfully established 2 more ITs, Sinangoe and Bermejo, through comanagement agreements. Bermejo completely overlaps with the Cofán Bermejo Ecological Reserve, created in 2002, and Sinangoe partially overlaps with the Cayambe Coca Ecological Reserve, created in 1970.

The resurgence of the Cofán nation and creation of its AIT occurred amid rapid and intense social–ecological change. Each Cofán territory was affected by intensifying development pressures, yet the pressure that each Cofán IT confronts was distinct (Figures 5 & 6). The Cofán AIT was in the region of the Amazon with the greatest development pressures, caused by the cumulative effects of oil, mining, agricultural industries, hydroelectric dams, and a dense network of roads (Figure 4). Despite these pressures, the Cofán AIT had high species richness (i.e., species richness for Cofán IT [Table 1] was higher than 1-AIT median of 843 [Figure 3a]), intact forests, and features vital to biodiversity conservation (Table 1).

DISCUSSION

Our study reveals the significance of AITs in the Amazon. They constituted 45% of Amazonian IT land area and 14% of the Amazon's biogeographic region (nearly 1 million km^2). Despite the relatively small size of individual ITs within AITs, their collective area often surpassed traditional IT configurations (i.e., 1-1IT and M-1IT). Moreover, although AITs harbored high species richness, they faced greater pressures from infrastructure and extractive industries, underscoring the importance of their stewardship to both Indigenous peoples and broader conservation agendas across Amazonia.

Our use of the concept of AIT emphasized the heterogeneity of ITs in the Amazon. Our analysis of IT spatial characteristics and within-AIT heterogeneity in the Cofán AIT case demonstrated this complexity because individual ITs varied in size, tenure regime, forest cover, and pressures (Table 1). Thus, a single Indigenous nation's archipelago can encompass diverse ITs, underscoring the importance of a more nuanced understanding of disparate values, aspirations, and concerns when exploring conservation opportunities. As a conceptual model, AITs support these efforts by drawing attention to processes that have fragmented a nation's ancestral territory, connections that may exist among ITs, and dynamics in governance (e.g., governance by the Indigenous nation across ITs or by leadership within an individual IT).

The Cofán AIT highlights a range of adaptive responses to cope with distinct challenges (i.e., response diversity [Leslie & McCabe, 2013]), enabled by strong connections that promote the sharing of knowledge, perspectives, and strategies through existing social and cultural networks across the AIT. Early examples of such processes include pursuing comanagement agreements to secure rights to large land areas; establishing partnerships with international organizations to demonstrate the conservation importance of these areas; and resisting extractive industries that threatened lands and livelihoods. As discussed above, Dureno residents established Zábalo through a comanagement agreement after their small IT was isolated by roads, colonization, and oil extraction activities (Borman et al., 2007). This agreement secured a large land base within Cuyabeno Wildlife Reserve. Such strategies were later employed to secure agreements for larger areas of land in Sinangoe and Bermejo, facilitated by strong AIT-level governance through FEINCE. In these cases, FEINCE led negotiations with the state and coordinated international support to further demonstrate the conservation importance of these areas through biological inventories led by the Field Museum of Chicago for Sinangoe and Bermejo (Pitman et al., 2002), Dureno (Borman et al., 2007), Zábalo (Alverson et al., 2008), and Rio Cofanes (Vriesendorp et al., 2009).

Strategies to resist extractive industries also spread across the Cofán AIT. Given their familiarity with oil extraction activities, Cofán people from Dureno quickly responded to unpermitted seismic surveys that began in 1991 in Zábalo. When the national oil company prepared to drill 2 exploratory wells in 1993, Zábalo residents seized the sites and forced a negotiation. As a result, the wells were closed, and a presidential decree created intangible zones prohibiting future oil activities in the lower part of Cuyabeno (Alverson et al., 2008). Following tactics learned in Zábalo, Dureno residents stopped oil workers from entering Dureno in 1998, demanding the closure of a well (Acción Ecológica, 1998). In 2018, Cofán people in Sinangoe resisted mining activities surrounding their IT, effectively canceling 52 mining concessions and later establishing precedent for free, prior, and informed consent (FPIC) in Ecuador's Constitutional Court (Brown, 2022).

These acts of resistance also became forms of connectivity across the Cofán AIT. For example, the park guard system that functioned across the AIT was managed by FEINCE and the Foundation for the Survival of the Cofán People (FSC for its acronym in Spanish), which provided technical and financial support for the Cofán guard system. This system unified Cofán men and women from each IT to work together as guards to care for the entire AIT. Guards were trained in Quito in patrolling, documenting, and monitoring methodologies and certified by MAE. They combined these skills with their forest knowledge to successfully protect the Cofán AIT from colonization, resource extraction, and other threats. The program strengthened IT connectivity as guards from different communities shared knowledge, practices, and stories, even marrying and moving across territories. Such connectivity created a shared sense of Cofán ethnicity that spanned the AIT.

Although AITs offer certain opportunities, governance across multiple ITs presents significant challenges. Thus, although 34% of Indigenous nations have recovered rights to 2 or more ITs, their ancestral land base has been fragmented and, in many cases, social relations have been simultaneously weakened, limiting the sharing of knowledge and resistance strategies. This challenge often manifests as internal divisions among Indigenous organizations and coalitions. Such divisions can undermine cohesive governance at the AIT level, which is crucial for maintaining connectivity and response diversity. Without strong governance, these internal divisions can further limit the potential for effective knowledge sharing and collective resistance strategies, potentially leading to negative conservation outcomes.

For example, the governance of Cofán AIT, through organizations such as FEINCE and FSC, has notably declined. Initially, FEINCE dissolved and evolved into NOA'IKE in 2014, both of which faced challenges in establishing strong leadership and securing adequate funding, resulting in support for only a limited range of activities within specific ITs (Mendoza & Robles-Pillco, 2016). Concurrently, FSC has had difficulties maintaining financial support. Despite achieving significant conservation successes, many funders are unable to sustain support indefinitely. This weakening of these key AIT-level organizations has led to Cofán ITs increasingly making decisions independently, often without input that could be offered by the broader AIT framework.

Other examples include Indigenous guards (*Guardia Indígena*) that currently operate in Sinangoe and Dureno but under different methodologies and visions than in the past. Dureno guards fight against the national oil company, despite internal conflicts regarding oil extraction within the IT, which might have been mediated earlier through NOA'IKE. In Duvuno, a lack of economic alternatives and a strong conservation vision led to the IT being divided into 42 lots (Galarza, 2013). This in turn facilitated timber harvesting and renting for agricultural activities (e.g., planting malanga [*Xanthosoma sagittifolium*]), resulting in increasing deforestation (i.e., forest cover decreased from 83% in 2018 to 75% in 2022). Stronger AIT-level governance may have enabled alternatives that supported conservation agendas, especially because Duvuno leadership may not have had connections to such organizations.

The diverse responses and the contexts in which they were developed in the Cofán AIT contributed to our understanding of how Indigenous territorial decision-making operates in the Amazon, revealing a range of actions that reflect resistance to external pressures and the proactive management of their lands and resources. For instance, Duvuno's communal decision to engage in renting land for economic opportunities contrasts with Sinangoe's stance against mining, underscoring their efforts to maintain territorial integrity for continued biocultural practices. A mural in Sinangoe broadcasts this view: "*nuestro territorio, nuestra decisión*" (our territory, our decision), affirming their collective ethos. As Alexandra Narvaez, Cofán land defender and long-time collaborator, explains:

> As a Cofán person, I express my individual self-determination by deciding where and how I live my life. In our territory, we organize ourselves to make communal decisions. As a nationality, we also make collective decisions, but we are not united by our organization currently. We need to recover our organization, NOA'IKE, because it was formed by a decision of all the communities based on this right that corresponds to our self-determination as Cofán people, based on our way of wanting to live, of creating our laws, regulations, mandates, and thoughts of our grandparents. We may be independent in terms of how we think, but we are Cofán no matter where the territory is located, and we must unite to organize ourselves better.

Narvaez's perspective on self-determination transcends conventional political discourse, aligning with broader Indigenous-led efforts toward place-based practices of social–ecological regeneration: a reconnection "with homelands, cultural practices, and communities" centered on "reclaiming, restoring, and regenerating homeland relationships" (Corntassel & Bryce, 2012, p. 153; Coulthard & Simpson, 2016). Indigenous self-determination shifts the narrative from one of seeking state approval to one that engages in daily, place-based practices rooted in stewardship as a form of sovereignty. In this way, the Cofán navigate and shape their futures through a dialectic of confronting numerous imposed limitations and turning to each community's (or the nation's) inherent strengths, presenting a dynamic form of self-determination that is as much about regeneration and resilience as it is about political sovereignty.

Indigenous relations across archipelagoes emphasize connectivity, response diversity, and the importance of dialogical social and processual spaces (Dawson et al., 2021). This understanding of AITs opens new avenues for rethinking conservation practice, foregrounding Indigenous stewardship and care across complex, interconnected landscapes (see also Wildcat, 2013; Whyte et al., 2016; Zent & Zent, 2022). The AIT concept also dovetails with other conservation approaches, including mosaic-based conservation (e.g., Rosenthal et al., 2012), other effective area-based conservation measures (OECMs), and areas of conservation and sustainable use (ACUS for its acronym in Spanish, which are designated by local governments in Ecuador). The connectivity within an AIT provides an operational model for how these approaches can link islands together—be it through ecological corridors, shared cultural practices, or governance mechanisms. Incorporating AITs within such frameworks would offer an avenue for greater recognition and support for Indigenous rights and governance and support more nuanced, effective, and resilient conservation strategies.

The call for more direct funding to Indigenous peoples, as underscored by the $1.7 billion Indigenous Peoples and Local Communities Forest Tenure Pledge (UNFCCC, 2023), brings to light the potential of AITs as a vital level of governance for channeling support. This model addresses the limitations of engaging solely with high-level Indigenous federations—who may represent the land interests of Indigenous communities but not have a direct land base or be encumbered by political struggles—by offering a focused means of supporting specific nations across multiple ITs. Such funding could strengthen AIT governance. In this context, the Cofán have a unique opportunity to bolster connections across Colombia, overcoming the divisions imposed by political boundaries and armed conflict in this frontier region. By enhancing these connections, there is potential to unify more ITs under the AIT framework, fostering greater cohesion and collaborative governance.

We highlight a potential advantage of engaging with AITs as a means to amplify conservation impacts through the strengthening of inter-IT connections. A holistic AIT approach helps ensure broader support and prevent the gradual loss of biodiversity in smaller, often-overlooked ITs (e.g., Dureno, Duvuno). Our focus on AITs does not advocate for a shift away from the titling of large, Indigenous land areas or rematriation of land—these efforts are necessary and just. Instead, we bring attention to the importance of AITs to both conservation and Indigenous survivance goals (Deloria, 1969) and to push back on the assumed inevitability of Indigenous assimilation or disappearance in smaller and discontinuous territories. Thus, it is imperative to understand AIT relational dynamics and their socioecological significance. Acknowledging the conservation value of AITs, even very small ITs and AITs, will be necessary for stemming biodiversity loss. Each IT in an AIT embodies the variability, dynamism, innovation, and learning that enable AITs to function.

Our analysis of AITs elicits new questions, approaches, and opportunities for future insights. Understanding the dynamics of AITs—from the processes that give rise to their establishment to their implications for Indigenous Amazonian cultural resilience—is even more urgent given that this trend of multiple, discrete, culturally connected ITs is likely to continue. Despite the importance of Indigenous stewardship of AITs to conservation, the rate of titling and the size of individual ITs in Amazonia have decreased rapidly since 2000 (RAISG, 2016). The spread of development activities has generated increased political and economic opposition to protecting large areas of Indigenous land (Qin et al., 2023; Stocks, 2005). Our findings underscore the importance of aligning conservation planning efforts with goals of Indigenous self-determination—specifically, identifying common interests that address historical and ongoing inequities and positioning Indigenous aspirations at the forefront of conservation strategies. Sustained transdisciplinary scholarship conducted in partnership with Indigenous peoples should further examine the processes and patterns through which biocultural resilience can be fostered among heterogeneous ITs and Indigenous nations. The future of Amazonia and many of the world's most threatened systems requires shifting conservation strategies to support biocultural practices of territory making and relationality within heterogenous ITs. Targeted and comparative research is needed to understand the role of dynamic biocultural relations within AITs and their effect on the connections between integrity and well-being of biodiversity and human well-being.

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REFERENCES

Acción Ecológica. (1998). *Ecuador: The Cofans' successful action against an oil well*. Oilwatch. https://www.wrm.org.uy/bulletin-articles/ecuador-the-cofans-successful-action-against-an-oil-well

Almeida, I. (1979). Consideraciones sobre la nacionalidad kechua. In I. Almeida, R. Rivas, J. Pereira, R. Moya, F. Jara, & J. Haidar (Eds.), *Lengua y Cultura en elEcuador* (pp. 11–48). Instituto Otavaleño de Antropología.

Alverson, W. S., Vriesendorp, C., del Campo, A., Moskovits, D. K., Stotz, D. F., Donayre, M. G., & Borbor, L. A. (2008). *Ecuador-Perú: Cuyabeno-Güeppi. Rapid Biological and Social Inventories Report 20*. The Field Museum.

Anthias, P. (2021). Rethinking territory and property in indigenous land claims. *Geoforum*, *119*, 268–278.

Arroyo-Rodríguez, V., Fahrig, L., Tabarelli, M., Watling, J. I., Tischendorf, L., Benchimol, M., Cazetta, E., Faria, D., Leal, I. R., Melo, F. P., & Morante-Filho, J. C. (2020). Designing optimal human-modified landscapes for forest biodiversity conservation. *Ecology Letters*, *23*(9), 1404–1420.

Artelle, K. A., Zurba, M., Bhattacharyya, J., Chan, D. E., Brown, K., Housty, J., & Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation*, *240*, Article 108284.

Becker, M. (2011). Indigenous movements from oppressed nationalities to an ethno-nationalist discourse. In C. Hunefeldt & L. Zamosc (Eds.), *Ethnicity from various angles and through varied lenses: Yesterday's today in Latin America* (pp. 192–208). Sussex.

Biggs, R., Schlüter, M., Biggs, D., Bohensky, E. L., BurnSilver, S., Cundill, G., Dakos, V., Daw, T. M., Evans, L. S., Kotschy, K., & Leitch, A. M. (2012). Toward principles for enhancing the resilience of ecosystem services. *Annual Review of Environment and Resources*, *37*, 421–448.

Borman, R. B. (1996). Survival in a hostile world: Culture change and missionary influence among the Cofán people of Ecuador, 1954-1994. *Missiology: An International Review*, *24*(2), 185–200.

Borman, R. B., Vriesendorp, C., Alverson, W. S., Moskovits, D. K., Stotz, D. F., & del Campo, A. (2007). *Ecuador: Territorio Cofán Dureno. Rapid Biological Inventories Report 19*. The Field Museum.

Brondizio, E. S., & Le Tourneau, F.-M. (2016). Environmental governance for all. *Science*, *352*(6291), 1272–1273.

Brondizio, E. S., Ostrom, E., & Young, O. R. (2009). Connectivity and the governance of multilevel social-ecological systems: The role of social capital. *Annual Review of Environment and Resources*, *34*, 253–278.

Brown, K. (2022). *Ecuador's top court rules for stronger land rights for Indigenous communities*. Mongabay. https://news.mongabay.com/2022/02/ecuadors-top-court-rules-for-stronger-land-rights-for-indigenous-communities/?mc_cid=6381ff0eb5&mc_eid=de3ebf80da

Centro Cofán Zábalo (CCZ). (2008). *Plan de manejo comunitario del Centro Cofán Zábalo: Reserva de Producción Faunística Cuyabeno*. Author.

Chandler, D., & Pugh, J. (2020). Islands of relationality and resilience: The shifting stakes of the Anthropocene. *Area*, *52*(1), 65–72.

Convention on Biological Diversity (CBD). (2022). *Kunming-Montreal Global Biodiversity Framework* (CBD/COP/DEC/15/4). Author.

Corntassel, J., & Bryce, C. (2012). Practicing sustainable self-determination: Indigenous approaches to cultural restoration and revitalization. *The Brown Journal of World Affairs*, *18*(2), 151–162.

Correia, J. E. (2019). Unsettling territory. *Journal of Latin American Geography*, *18*(1), 11–37.

Correia, J. E. (2023). *Disrupting the patrón: Indigenous land rights and the fight for environmental justice in Paraguay's Chaco*. University of California Press.

Coulthard, G., & Simpson, L. B. (2016). Grounded normativity/place-based solidarity. *American Quarterly*, *68*(2), 249–255.

Dawson, N. M., Coolsaet, B., Sterling, E. J., Loveridge, R., Gross-Camp, N. D., Wongbusarakum, S., Sangha, K. K., Scherl, L. M., Phuong Phan, H., Zafra-Calvo, N., & Lavey, W. G. (2021). The role of Indigenous peoples and local communities in effective and equitable conservation. *Ecology and Society*, *26*(3), Article 19.

Deloria, V. (1969). *Custer died for your sins: An Indian manifesto*. Macmillan.

Duarte, D. P., Peres, C. A., Perdomo, E. F. C., Guizar-Coutiño, A., & Nelson, B. W. (2023). Reducing natural vegetation loss in Amazonia critically depends on the formal recognition of indigenous lands. *Biological Conservation*, *279*, Article 109936.

Erazo, J. S. (2013). *Governing indigenous territories: Enacting sovereignty in the Ecuadorian Amazon*. Duke University Press.

Esbach, M. S., Lu, F., Silva, N. L., & Quenama, F. B. (2024). Conservation and care: Cofán lessons for stewarding abundance in Amazonia. *Human Ecology*. https://doi.org/10.1007/s10745-024-00532-2

Estrada, A., Garber, P. A., Gouveia, S., Fernández-Llamazares, Á., Ascensão, F., Fuentes, A., Garnett, S. T., Shaffer, C., Bicca-Marques, J., Fa, J. E., & Hockings, K. (2022). Global importance of Indigenous peoples, their lands, and knowledge systems for saving the world's primates from extinction. *Science Advances*, *8*(31), Article eabn2927.

Fa, J. E., Watson, J. E., Leiper, I., Potapov, P., Evans, T. D., Burgess, N. D., Molnár, Z., Fernández-Llamazares, Á., Duncan, T., Wang, S., & Austin, B. J. (2020). Importance of Indigenous Peoples' lands for the conservation of intact forest landscapes. *Frontiers in Ecology and the Environment*, *18*, 135–140.

Fahrig, L., Watling, J. I., Arnillas, C. A., Arroyo-Rodríguez, V., Jörger-Hickfang, T., Müller, J., Pereira, H. M., Riva, F., Rösch, V., Seibold, S., & Tscharntke, T. (2022). Resolving the SLOSS dilemma for biodiversity conservation: A research agenda. *Biological Reviews*, *97*(1), 99–114.

Fletcher, R. J., Burrell, N. S., Reichert, B. E., Vasudev, D., & Austin, J. D. (2016). Divergent perspectives on landscape connectivity reveal consistent effects from genes to communities. *Current Landscape Ecology Reports*, *1*, 67–79.

Flores, B. M., Montoya, E., Sakschewski, B., Nascimento, N., Staal, A., Betts, R. A., Levis, C., Lapola, D. M., Esquível-Muelbert, A., Jakovac, C., Nobre, C. A., Oliveira, R. S., Borma, L. S., Nian, D., Boers, N., Hecht, S. B., ter Steege, H., Arieira, J., Lucas, I., … Hirota, M. (2024). Critical transitions in the Amazon forest system. *Nature*, *626*(7999), 555–564.

Galarza, P. S. (2013). *Mapeo biocultural para la comunidad Duvuno de la nacionalidad Cofán*. USAID, FIENCE, and The Nature Conservancy. https://pdf.usaid.gov/pdf_docs/PA00JJV1.pdf

Garnett, S. T., Burgess, N. D., Fa, J. E., Fernández-Llamazares, Á., Molnár, Z., Robinson, C. J., Watson, J. E., Zander, K. K., Austin, B., Brondizio, E. S., & Collier, N. F. (2018). A spatial overview of the global importance of Indigenous lands for conservation. *Nature Sustainability*, *1*, 369–374.

Gullison, R. E., & Hardner, J. (2018). Progress and challenges in consolidating the management of Amazonian protected areas and indigenous territories. *Conservation Biology*, *32*(5), 1020–1030.

Heller, N. E., McManus Chauvin, K., Skybrook, D., & Barnosky, A. D. (2023). Including stewardship in ecosystem health assessment. *Nature Sustainability*, *6*, 731–741.

Holland, M. B., Jones, K. W., Naughton-Treves, L., Freire, J.-L., Morales, M., & Suárez, L. (2017). Titling land to conserve forests: The case of Cuyabeno Reserve in Ecuador. *Global Environmental Change*, *44*, 27–38.

International Union for Conservation of Nature (IUCN). (2021). *IUCN Red List version 2021-3 Species Richness*. https://www.iucnredlist.org

Lapola, D. M., Pinho, P., Barlow, J., Aragão, L. E., Berenguer, E., Carmenta, R., Liddy, H. M., Seixas, H., Silva, C. V., Silva-Junior, C. H., & Alencar, A. A. (2023). The drivers and impacts of Amazon forest degradation. *Science*, *379*(6630), Article eabp8622.

Laurance, W. F., Camargo, J. L., Luizão, R. C., Laurance, S. G., Pimm, S. L., Bruna, E. M., Stouffer, P. C., Williamson, G. B., Benítez-Malvido, J., Vasconcelos, H. L., & Van Houtan, K. S. (2011). The fate of Amazonian forest fragments: A 32-year investigation. *Biological Conservation*, *144*(1), 56–67.

Leslie, P., & McCabe, J. T. (2013). Response diversity and resilience in social-ecological systems. *Current Anthropology*, *54*(2), 114–144.

Le Tourneau, F. M. (2015). The sustainability challenges of indigenous territories in Brazil's Amazonia. *Current Opinion in Environmental Sustainability*, *14*, 213–220.

Lu, F., Gray, C., Bilsborrow, R. E., Mena, C. F., Erlien, C. M., Bremner, J., Barbieri, A., & Walsh, S. J. (2010). Contrasting colonist and Indigenous impacts on Amazonian Forests. *Conservation Biology*, *24*(3), 881–885.

Lu, F., Valdivia, G., & Silva, N. L. (2017). *Oil, revolution, and Indigenous citizenship in Ecuadorian Amazon*. Palgrave.

MapBiomas. (2022). *Collection 4 of the annual land use land cover maps of Amazonía*. https://mapbiomas.org

Mayer, E. (2002). *The articulated peasant: Household economies in the Andes*. Westview Press.

Mendoza, R., & Robles-Pillco, J. (2016). Fortalecimiento organizativo de la NOA'IKE. In J. Robles-Pillco (Ed.), *ICAA, Consorcio Paisajes Indígenas en la Amazonía de Ecuador* (pp. 47-65). The Nature Conservancy.

Murra, J. (1972). *El control vertical de un máximo de pisos ecológicos en las sociedades andinas*. Instituto de Estudios Peruanos.

Noon, M. L., Goldstein, A., Ledezma, J. C., Roehrdanz, P. R., Cook-Patton, S. C., Spawn-Lee, S. A., Wright, T. M., Gonzalez-Roglich, M., Hole, D. G., Rockström, J., & Turner, W. R. (2022). Mapping the irrecoverable carbon in Earth's ecosystems. *Nature Sustainability*, *5*(1), 37–46.

O'Bryan, C. J., Garnett, S. T., Fa, J. E., Leiper, I., Rehbein, J. A., Fernández-Llamazares, Á., Jackson, M. V., Jonas, H. D., Brondizio, E. S., Burgess, N. D., & Robinson, C. J. (2021). The importance of Indigenous Peoples' lands for the conservation of terrestrial mammals. *Conservation Biology*, *35*, 1002–1008.

Offen, K. H. (2003). The territorial turn: Making black territories in Pacific Colombia. *Journal of Latin American Geography*, *2*, 43–73.

Pacari, N. (1984). Las culturas nacionales en el estado multinacional ecuatoriano. *Cultura: Revista del Banco Central del Ecuador*, *6*(18a), 113–123.

Perz, S. G., Shenkin, A., Barnes, G., Cabrera, L., Carvalho, L. A., & Castillo, J. (2012). Connectivity and resilience: A multidimensional analysis of infrastructure impacts in the Southwestern Amazon. *Social Indicators Research*, *106*, 259–285.

Pitman, N., Moskovits, D. K., Alverson, W. S., & Borman, R. B. (2002). *Ecuador: Serranías Cofán–Bermejo, Sinangoe. Rapid Biological Inventories Report 3*. The Field Museum.

Pugh, J. (2013). Island movements: Thinking with the archipelago. *Island Studies Journal*, *8*, 9–24.

Pugh, J. (2018). Relationality and island studies in the Anthropocene. *Island Studies Journal*, *13*(2), 93–111.

Qin, Y., Xiao, X., Liu, F., de Sa e Silva, F., Shimabukuro, Y., Arai, E., & Fearnside, P. M. (2023). Forest conservation in Indigenous territories and protected areas in the Brazilian Amazon. *Nature Sustainability*, *6*, 295–305.

R Core Team. (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

RAISG. (2016). *Cartografía de la dinámica de reconocimiento de TI de la Amazonía*. https://www.amazoniasocioambiental.org

RAISG. (2020). *Amazonia under pressure*. Amazon Network of Socio-Environmental Information. https://www.amazoniasocioambiental.org

RAISG. (2022a). *Indigenous territories*. Amazon Network of Socio-Environmental Information. https://www.amazoniasocioambiental.org

RAISG. (2022b). *Amazon biogeographic limit*. Amazon Network of Socio-Environmental Information. https://www.amazoniasocioambiental.org

RAISG. (2022c). *Protected areas*. Amazon Network of Socio-Environmental Information. https://www.amazoniasocioambiental.org

Riva, F., & Fahrig, L. (2022). The disproportionately high value of small patches for biodiversity conservation. *Conservation Letters*, *15*, Article e12881.

Roberts, B. R., & Stephens, M. A. (2023). Archipelagic thinking: The insular, the archipelago, and the borderwaters—A conversation. *Journal of Transnational American Studies*, *14*(1). https://doi.org/10.5070/T814160727

Rosenthal, A., Stutzman, H., & Forsyth, A. (2012). Creating mosaic-based conservation corridors to respond to major threats in the amazon headwaters. *Ecological Restoration*, *30*(4), 296–299.

Scheidel, A., Fernández-Llamazares, Á., Bara, A. H., Del Bene, D., David-Chavez, D. M., Fanari, E., Garba, I., Hanaček, K., Liu, J., Martínez-Alier, J., & Navas, G. (2023). Global impacts of extractive and industrial development projects on Indigenous Peoples' lifeways, lands, and rights. *Science Advances*, *9*, Article eade9557.

Silva-Junior, C. H. L., Silva, F. B., Arisi, B. M., Mataveli, G., Pessôa, A. C., Carvalho, N. S., Reis, J. B., Silva Júnior, A. R., Motta, N. A., e Silva, P. V. M., & Ribeiro, F. D. (2023). Brazilian Amazon Indigenous territories under deforestation pressure. *Scientific Reports*, *13*, Article 5851.

Southgate, D., Wasserstrom, R., & Reider, S. (2009). *Oil development, deforestation, and indigenous populations in the Ecuadorian Amazon*. Paper presented at the Latin American Studies Association, Rio de Janeiro, Brazil.

Stocks, A. (2005). Too much for too few: Problems of Indigenous land rights in Latin America. *Annual Review of Anthropology*, *34*(1), 85–104.

Stratford, E., Baldacchino, G., McMahon, E., Farbotko, C., & Harwood, A. (2011). Envisioning the archipelago. *Island Studies Journal*, *6*(2), 113–130.

Sze, J. S., Carrasco, L. R., Childs, D., & Edwards, D. P. (2022). Reduced deforestation and degradation in Indigenous Lands pan-tropically. *Nature Sustainability*, *5*, 123–130.

Tang, R., & Gavin, M. C. (2016). A classification of threats to traditional ecological knowledge and conservation responses. *Conservation and Society*, *14*(1), 57–70.

Ter Steege, H., Pitman, N. C., Do Amaral, I. L., de Souza Coelho, L., de Almeida Matos, F. D., de Andrade Lima Filho, D., Salomão, R. P., Wittmann, F., Castilho, C. V., Guevara, J. E., Veiga Carim, M. J., Phillips, O. L., Magnusson, W. E., Sabatier, D., Revilla, J. D. C., Molino, J. F., Irume, M. V., Martins, M. P., da Silva Guimarães, J. R., … Melgaço, K. (2023). Mapping density, diversity and species-richness of the Amazon tree flora. *Communications Biology*, *6*(1), Article 1130.

United Nations Framework Convention on Climate Change (UNFCCC). (2023). *COP26 IPLC Forest Tenure Joint Donor Statement*. https://ukcop26.org/cop26-iplc-forest-tenure-joint-donor-statement/

Vriesendorp, C., Alverson, W. S., Campo, A., Stotz, D. F., Moskovits, D. K., Fuentes, S., Coronel, T., & Anderson, E. P. (2009). *Ecuador: Cabeceras Cofanes-Chingual. Rapid Biological and Social Inventories Report 21*. The Field Museum.

Wainwright, J., & Bryan, J. (2009). Cartography, territory, property: Postcolonial reflections on indigenous counter-mapping in Nicaragua and Belize. *Cultural Geographies*, *16*(2), 153–178.

Walker, W. S., Gorelik, S. R., Baccini, A., Aragon-Osejo, J. L., Josse, C., Meyer, C., Macedo, M. N., Augusto, C., Rios, S., Katan, T., & de Souza, A. A. (2020). The role of forest conversion, degradation, and disturbance in the carbon dynamics of Amazon indigenous territories and protected areas. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(6), 30156–3025.

Watson, J. E., Evans, T., Venter, O., Williams, B., Tulloch, A., Stewart, C., Thompson, I., Ray, J. C., Murray, K., Salazar, A., & McAlpine, C. (2018). The exceptional value of intact forest ecosystems. *Nature Ecology and Evolution*, *2*(4), 599–610.

West, T. A. (2024). Formal designation of Brazilian indigenous lands linked to small but consistent reductions in deforestation. *Ecological Economics*, *218*, Article 108093.

Whyte, K. (2018). Settler colonialism, ecology, and environmental injustice. *Environment and Society*, *9*(1), 125–144.

Whyte, K. P., Brewer, J. P., II, & Johnson, J. T. (2016). Weaving Indigenous science, protocols and sustainability science. *Sustainability Science*, *11*, 25–32.

Wildcat, D. R. (2013). Introduction: Climate change and indigenous peoples of the USA. In J. K. Maldonado, B. Colombi, & R. Pandya (Eds.), *Climate change and Indigenous Peoples in the United States: Impacts, experiences and actions* (pp. 1–7). Springer International Publishing.

Wintle, B. A., Kujala, H., Whitehead, A., Cameron, A., Veloz, S., Kukkala, A., Moilanen, A., Gordon, A., Lentini, P. E., Cadenhead, N. C., & Bekessy, S. A. (2019). Global synthesis of conservation studies reveals the importance of small habitat patches for biodiversity. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(3), 909–914.

Zent, E., & Zent, S. (2022). Love sustains life: Jkyo jkwainï and allied strategies in caring for the Earth. *Journal of Ethnobiology*, *42*(1), 86–104.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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