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Carceral jaguar geographies along the US/México border and the case for border abolition

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ABSTRACT

Jaguars carry deep cultural and spiritual significance throughout the Americas, from sports mascots to their associations with Indigenous deities to their veneration as a vulnerable and charismatic megafauna. Though thought to be extinct in the US for much of the twentieth century, they maintain a small but powerful presence along the US/México border region. The continued viability of these jaguar populations is severely threatened by the border walls that the US government has been working to erect since the early 2000s. By examining the entanglements between jaguar and border geographies on the one hand, and racially disposable migrants, Indigenous peoples, and racial capitalism on the other, this article argues that carceral configurations of nation-state borders, conservation, and immigration enforcement are incompatible with liberatory notions of human and nonhuman survival. It poses border abolition that takes seriously the nonhuman, vis-à-vis jaguars, is essential to making abolition geographies and ecologies within and beyond the US/México borderlands.

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This article explores the entwined fates of jaguars (*pantera onca*), racially disposable migrants, Indigenous peoples, and ecological relationships within, transiting, and transecting the US/México borderlands. By exploring the materiality of jaguar geographies and the human-jaguar relations of border geographies, this article calls for rethinking dominant approaches to immigration reform, national security, and environmental conservation in ways that take seriously nonhuman materiality and ecologies. To this end, this article builds a case for border abolition, or the radical transformation, reimagining, and remaking of the capitalist, racist, colonial, and speciesist social relations that necessitate and reproduce borders and border ecologies.

The concept of jaguar geographies refers to the spatial characteristics and relationships of jaguars. For the sake of this article, this includes their range; population dynamics; how they move through and inhabit space; their relationships with their environments and ecosystems; and their spatialised relationships with other human and nonhuman species. Jaguar geographies operate across different scales, from individuals, to regional units, to the overall population. One key aspect of jaguar geographies is that within their range, jaguars are often classified as keystone species, meaning that despite their relatively small populations, they have a disproportionately large impact on their ecosystems and the biodiversity therein (Kelly 2019). Because of the highly visible

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ways in which border infrastructure can affect jaguars through things like uncrossable walls and fences, charting these impacts across jaguar geographies renders visible the broader socioenvironmental relationships produced through borders and how jaguars' fates entwine with those of racially disposable migrants and Indigenous peoples.

Jaguar geographies expose multiple dimensions of the carcerality of borders, both for the migrants and Indigenous peoples and nations they overtly aim to exclude and contain, as well as the nonhuman species and environments they divide and transect. Important geographical particularities characterise the relationships between humans and jaguars across the species' range, such as different governance regimes or regional variations in jaguar behaviours. This article focuses specifically on jaguars and their geographies within the US/México border region. The carceral relationships bound up within the border and borderlands take on important geographical particularities when approached from either side of the border. This article focuses primarily on the US nation-state's approach to borders, not because México does not employ similar policies to similar ends, but because of the need for specificity in detailing carceral geographies and the political milieus within which they are produced.

That border enforcement has a detrimental impact on jaguars despite jaguars being the target of various state protections reveals the contradictory character of borders and their carceral logics. Impacts to jaguars, other nonhuman species, and the environment appear as incidental side effects of increasingly draconian immigration control efforts. For instance, fortifying the physical barriers between the two countries to deter unsanctioned migrations has fractured ecosystems and habitats of numerous species. However, a closer examination of the geographical relationships between jaguars, racially disposable migrants, Indigenous peoples, and dominant border logics exposes the ways in which race and environment get mutually constituted within the state's logics (Miyake 2021). This raises questions about state-led forms of conservation and immigration policy, as well as the racial capitalist and settler colonial nation-state altogether.

For this article, racially disposable migrants are humans who enter a nation-state across borders or ports of entry, who are marked through various forms of racial differentiation as being outside the nation-state's policies and discourses of desirability. This disposability is conjoined to racism – what Gilmore (2007) explains as “the state-sanctioned or extralegal production and exploitation of group-differentiated vulnerability to premature death” (28). This disposability in turn ensures migrants' precariousness and therefore exploitability within or outside of the US, particularly for the demands of racial capitalism and empire. Their precariousness is maintained through ideologies and practices that reflect the fungibility, disposability, and killability of migrants through labour exploitation, policing, and deterrence mechanisms. Policing at and beyond the border leads to capture, detention, murder, and deportation in ways that maintain and manage migrants as docile and surplus populations. Walls, fences, and rugged terrain force migrants to attempt crossing the borderlands in remote deserts where exposure, dehydration, and long journeys serve as spaces of both deterrence and death dealing. These mechanisms for sustaining migrant disposability similarly affect jaguars and other nonhuman species, connecting their fates to migrants', but also revealing convergences and potentials for solidarities in rejecting the carceral relationalities of borders.

Migrant disposability is fundamentally linked to labour exploitation under racial capitalism. This is the idea that race is neither resultant from, nor epiphenomenal to the development of capitalism, but precedes it and evolved alongside it; and that race is a structure and “material force” bound to forms of slavery, genocide, exclusion, dispossession, and other forms of group differentiated domination and premature death requisite for capital accumulation (Hall 1980; Robinson (1983) 2000; Gilmore 2007). Racial capitalism depends on the environment's and nonhuman species' exploitation and extraction through modes of geographical and species differentiation and valuation that make possible primitive accumulation and production. In the US, racial capitalism further depends on strategies of settler colonialism to dispossess Indigenous people and alienate land and resources for primitive accumulation.

Settler colonialism is a persistent structure and ongoing process in which settlers remain in place and establish sovereign claims to territory by eliminating, erasing, and displacing Indigenous peoples from the land and their relationships. Among other factors, this occurs through policing and genocide; settler education and language; erosion of self-determination; commodification and rendering of Indigenous peoples superfluous to racial capitalism; and the exploitation of forced and imported labour to settle land and make it a productive resource for capitalism (Arvin, Tuck, and Morrill 2013; Simpson 2017). It is one of the primary objectives of borders and territoriality in the US, and as such, the US/México border transects Indigenous communities such as the Carrizo/ Comecrudo, Cocopah, Kickapoo, Kumeyaay, Tohono O'odham, and Yaqui peoples and territories.

Jaguars, their geographies, and other relations of land and environment might be understood as bound up within the processes of settler colonialism through Potawatomi scholar Kyle Powys Whyte's (2018) notion of ecology as:

an ecological system, of interacting humans, nonhuman beings (animals, plants, etc.) and entities (spiritual, inanimate, etc.), and landscapes (climate regions, boreal zones, etc.) that are conceptualized and operate purposefully to facilitate a collective's (such as Indigenous people) adaptation to changes. Ecologies here are understood in terms of their makeup of qualities of relationships ... The settlers' aspirations are to transform Indigenous homelands into settler homelands ... By seeking to establish their own homelands, settler populations are working to create their own ecologies out of the ecologies of Indigenous peoples. (133–134)

Foregrounding settler colonialism as the unsettling of Indigenous ecologies reveals the intentionality behind borders to not only curtail unsanctioned transits of migrants, but also to produce new borderland ecologies through anti-relational relationships that necessitate the elimination of Indigenous peoples and geographies and make possible racial capitalism. Recognising Indigenous peoples, jaguars, and nonhuman species and entities are bound to ecological relationships entwined within the production and transits of migrants opens possibilities for locating ideas of justice and solidarity within an ontology of decolonisation.

A growing body of scholarship interrogates the interdependences between racial capitalism and settler colonialism (e.g. Walia 2013; Goldstein 2017). Harsha Walia (2013) and Chickasaw scholar Jodi Byrd (2011) explain that the interrelated violence of racial capitalism, imperialism, colonialism, empire, and settler colonialism produce displacement and coerced migration. Byrd (2011) situates such migrants within the framework of arrivant, borrowed "from African Caribbean poet Kamu Brathwaite to signify those people forced into the Americas through the violence of European and Anglo-American colonialism and imperialism around the globe" (xix). These conjunctures – of arrivants, Indigenous peoples, land, and nonhuman species – form the basis for the state's hardening of national borders on the one hand, and the need to interrogate the mapping of arrivants within native lands and ecological relations, as well as forced proximities between Indigenous peoples and arrivants on the other. Walia (2013) explains:

Migrants, many once Indigenous to their own lands, but often displaced due to Orientalist crusading and corporate plundering, are thrown into capitalism's pool of labor and, in a cruel twist, violently inserted into the political economy of genocide: stolen labor on stolen land. (126)

Uncritical consideration of these conjunctures, and the complicated relationships between the imperial and colonial state, arrivants, Indigenous peoples, and nonhuman species can also lead to the reproduction of settler colonialism through acts of resistance to border, capitalist, and anti-immigrant domination (Melamed 2015; Walia 2013). However, extending Byrd in recognising the importance of these conjunctures reveals possibilities for decolonial and abolitionist politics based in building relationships accountable to Indigenous and nonhuman ecologies, and undoing the carceral geographies that sustain settler colonialism and settler ecologies. Jaguars provide a key entry point for thinking expansively about these conjunctures toward decolonial and abolitionist ends.

Carceral geographies represent spatial and social forms of partition, differentiation, punishment, abandonment, and death. Borders, both geographical and relationally, are carceral in that they partition and segregate, mark as inside or outside, and facilitate accumulation through regional

differentiation in policies around production, labour, and environment. They also render citizenship and settler colonial relations meaningful. Demarcating places for nonhuman species and environmental conservation or exploitation – though sometimes coterminous – is an essential function of carceral geographies. The negation of carceral geographies is found in the making of abolition geographies, which Gilmore (2017) explains as:

how and to what end people make freedom provisionally, imperatively, as they imagine *home* against the dis-integrating grind of partition and repartition through which racial capitalism perpetuates the means of its own valorization. Abolition geography and the methods adequate to it (for making, finding, and understanding) elaborate the spatial-which is to say the human-environment processes – of Du Bois's and Davis's abolition democracy ...

Put another way, abolition geography requires challenging the normative presumption that territory and liberation are at once alienable and exclusive – that they should be partitionable by sales, documents, or walls. (238)

For Du Bois (1935) and Davis (2005), the making of abolition democracy, particularly as it relates to slavery and incarceration, is “not only, or not even primarily, about abolition as a negative process of tearing down, but it is also about building up, about creating new institutions” (Davis 2005, 73). Making abolition geographies is to build new human-nonhuman and human-environment relations that negate carceral geographies of borders and death-dealing, making them unthinkable because of the abundance of alternatives; it is to render carcerality obsolete.

Working through ideas of carceral and abolition geographies, and drawing on political ecology methods, this article expands the growing literature on abolition ecologies. Heynen and Ybarra (2021) express the urgent need for abolition ecologies scholarship that recognises the entanglements in the relationships between humans, nonhumans, and land through settler colonialism, white supremacy, and racial capitalism. This article brings abolition ecologies to bear upon human-nonhuman entanglements through an exploration of jaguar geographies and ecological systems in the US/México borderlands, and thinking about how these abolition geographies necessarily situate nonhuman species, racially disposable migrants, and Indigenous populations in critical conversation for both theoretical explication and praxis. Toward these ends, this article also expands border and carceral studies through post-humanist and political ecological analyses that foreground nonhuman actors in the production of border processes (Sundberg 2011; Smart and Smart 2012). For example, Cunningham (2012) uses political- and border-ecology as central analytics for understanding the mapping of borders and their impacts onto still-existing ecologies and environments. This article extends this work to think about how such impacts reflect the expansion of the carceral state and carceral geographies beyond the human, and therefore, offer alternative ways of understanding what it means to make abolition geographies that negate the carcerality of borders.

This article further draws on the insights and interventions from the growing scholarship in animal geographies (e.g. Collard and Gillespie 2017; Philo and Wilbert 2000; Hovorka, McCubbin, and Patter 2021). It examines entanglements between both precarious human and jaguar populations, and jaguar and border geographies in all their messiness. Collard (2012) explains that the concept of geographical entanglement, “with its implied images of tangled objects, is meant to invoke the materiality of these spaces of coexistence and of the myriad entities that constitute them” (24). Collard continues by explaining that spaces “are not bounded and demarcated by humans alone”, but rather, practices such as nation-state bordering “and other species’ spatial practices entangle with each other in complex and precarious ways” (37). Carceral border geographies assert control over jaguars and migrants, yet jaguar geographies push back in that jaguars’ habitats and movements transcend borders, and their presence within the borderlands potentially stymies expansion of border infrastructures as in the case of lawsuits like those discussed in the conclusion of this article. Scholarship in this vein needs to centre the lived and embodied experiences of animals and human-animal encounters to avoid relegating them to an artifact of human or human-environment geographies (Philo and Wilbert 2000; Collard and Gillespie 2017). This article incorporates existing studies on jaguars’ lives, being, and geographies to illustrate the material ways in which borders

and carceral geographies are entangled with jaguar geographies. However, the underlying aim of this work is to explore how this materiality comes to bear on the affective human-jaguar relationships that “move, incite, elicit and excite” (Latimer and Miele 2013) – through the richness of jaguar embodiments – to emphasise the necessity for a more precise notion of decolonial and abolitionist approaches to the carceral state’s projects of bordering that takes seriously our nonhuman kin and environments.

This article’s methodology builds a case for an expansive understanding of border abolition as one approach to undertaking research-action by relating the racialized carcerality of borders (Hester 2015) to the materiality and geographies of jaguars. This approach points to the need for rearticulating human-nonhuman and human-environment relationalities within the borderlands by considering what Pugliese (2021) describes as “eco-genocide unleashed on Indigenous communities and their more-than-human relations” (9) enacted by border walls. This article employs biological, ecological, and conservationist literatures to develop an understanding of jaguar geographies bound up within the processes of bordering. This article argues that dominant carceral configurations of nation-state borders, conservation, and immigration policy are incompatible with the survival of racially disposable migrants, Indigenous peoples, nonhuman species, and environments. It does this by turning instead to the making of abolition geographies vis-à-vis the abolition of borders.

Border abolition is the process of reconstituting community, environment, ecologies, and sovereignty against the anti-relational carcerality of borders that works by tearing apart human-nonhuman-environmental relationships. Border abolition stands in contradistinction to the neoliberal, libertarian, statist, or precarious notion of “open borders;” and the radical, and often anarchist notions of “no borders” that demands the revolutionary dissolution of states and the social relations of domination and exploitation they entail (Bauder 2014; Gill 2020). Open border ideologies are typically couched in logics of free trade or the like (Bauder 2014), but don’t challenge the persistence of the nation-state or structures of exclusive citizenship, racial capitalism, and settler colonialism. Border abolition is in a similar vein to, and not mutually exclusive from no borders (Gill 2020), which recognises that working toward freedom begins from the existing material and political conditions of domination – racial capitalism and settler colonialism. It understands the importance of both the revolutionary undercurrents of radically reconceptualizing the logics underlying borders, conservation, and capitalist nation-states; as well as nonreformist reforms, or small victories and everyday practices that forge a path toward liberation and decolonisation without reinforcing or reproducing carcerality and domination (cf. Gilmore 2007). Border abolition takes seriously the need to abolish citizenship and imperialism, and to render migration a natural, if not complicated, process accountable to mutually sustaining relationships between different populations and their environments.

The remainder of this article discusses the relationships between humans and jaguars and the lessons jaguars can teach about border abolition and making abolition geographies. The first section explores human-jaguar relationalities to shed light on the entwined fates of humans and jaguars along the US/México border. The three subsequent sections look to multiple aspects of jaguar geographies – their habitats, ecosystems, and conservation, respectively – to illustrate the complex ways in which jaguars, their environments, and other nonhuman species are bound to carceral border logics. The penultimate section on carceral conservation rethinks what is meant by conservation when considering human-jaguar entanglements. The article concludes with an argument against the logics of borders beyond walls, and the need for abolitionist practices that radically reimagine and remake socioenvironmental relations.

Human-jaguar relationalities

Jaguars are particularly suited to revealing carceral relationships because of their longstanding cultural significance throughout the Americas (Saunders 1998), which elevates their cultural value over other nonhuman species. Jaguars’ deep cultural and spiritual role within human imaginaries endures

them as “charismatic megafauna” (Lorimer 2007) within violent hierarchies of value that underpin racial capitalism and settler colonialism (Collard and Dempsey 2017). Jaguars are one among many charismatic, highly recognisable species – especially those larger animals, or megafauna – that serve as icons and a point of affective and sympathetic connection between humans and broader conservation efforts (Saunders 1998; Lorimer 2007). Nonhuman species’ charisma is a multiply determined factor that endears them to humans (Lorimer 2007). In the case of jaguars, these characteristics include their large size, hunting prowess, ferocity, position as a top predator, elusiveness, and perceived beauty – especially that of cubs. Under paternalistic conservation regimes, where humans exert control to achieve specific conservation outcomes, these differences dictate how conservation priorities and efforts manifest across both species and geographies.

Jaguars’ reputation as stealthy, agile, and vicious hunters, combined with their elusiveness and crepuscularity (most active at dusk and dawn), enshrouds them in a mystique that has produced diverse imaginings across space, time, and human cultures. This is bolstered by their vicious ability to stalk, take down, and kill prey of all sizes, from water to land to canopy (Seymour 1989). This reputation provides a basis for the myriad symbolisms, representations, and iconographies attached to them, ranging from deities and spirits, to warriors, shamans, car brands, and sports teams (Saunders 1998; Sugiyama et al. 2014). Jaguars have taken on complex significance within the distinct socioecological milieus of different historically and geographically situated contexts and cultures spanning thousands of years (Saunders 1998). Beyond mere signification, jaguars have also been linguistically equated to humans, as deities and creators, and as human hybrids, or were-jaguars (Kohn 2013). Furthermore, at least one burial site at Teotihuacan dating to approximately CE 250, revealed human manipulation, captivity, management, and importation of jaguars from their typical lowland habitats into the Mexican highlands (Sugiyama et al. 2014), suggesting that their historical significance extended beyond iconography to actual human-jaguar interactions.

The “constructed nature” of their symbolism is situated within disparate systems of classification, representation, and formation of group identity, even as similarities and continuities emerge from ethnohistoric data (Saunders 1998). The particularities of these systems of representation and signification are couched in worldviews about not just jaguars, but broader relationships between humans, nonhumans, history, and environments that aren’t necessarily ruptured, but which evolve and carry traces of past meanings into the future (Woodward and McHugh 2017). Importantly, the shifting nature of these relationships, and the socioecological dynamics they signify, leave open the possibilities for the development of new relationships and worldviews that unsettle the givenness and seemingly “natural” materiality of currently dominant socioecological systems (Woodward and McHugh 2017). Contemporary human-jaguar relationships are marked by ideologies surrounding the mastery and capitalist exploitation (e.g. the hunting of jaguars for pets, poaching, and fur trade), as well as through paternalistic conservation regimes (e.g. habitat preserves and endangered species classification).

But what sorts of alternatives might serious recognition of jaguars’ materiality, symbolic, and key-stone significance hold for imagining different human, nonhuman, and environment relationalities? What might that bring to the entwined forms of carceral borders, migration control, and conservation areas? Jaguars present an interesting opening to these possibilities and futurities through recognition of how their materiality and contemporary symbolism as charismatic megafauna are entwined within the carceral state, racial capitalism, and settler colonialism. Appealing to their fictive and material being makes imagining a different world that resists existing systems of domination more readily accessible, not only through jaguars, but through what they represent about our nonhuman kin. These worldviews do not emerge from nothingness but build upon rich histories of signification while remaining attuned to contemporary human-jaguar and human-environment relationalities.

In imagining what might be, it is important to remember that dominant human-jaguar relationalities are neither exclusive nor natural but emerged through geographical histories of contested processes of settler colonial displacement and elimination of Indigenous peoples and knowledge

systems. These processes require subsuming, co-opting, and erasing competing relationalities, such as those present in various Indigenous Mesoamerican worldviews and other contemporary ecological approaches. Yet, the ongoing persistence and proliferation of competing relationalities, worldviews, ecologies, and traditions of resistance potentially challenge and unsettle the dominance of racial capitalism, settler colonialism, and their attendant ecologies. For instance, Whyte (2018) discusses the diverse Anishinaabe intellectual traditions and relationalities of human-nonhuman-collectivity, rooted in interdependence, reciprocal responsibilities, and a notion of migration – of Indigenous peoples, racially disposable migrants, and nonhuman kin – rooted in constant transformation and change. If jaguars can open space for considering such alternative human-nonhuman and human-environment geographical relationalities, then making space for jaguars must be rooted in worldviews that consider all their entangled relationships, and not just conservation for the sake of reproducing existing racial capitalist, settler colonial, and environmentally destructive social relations.

Habitat geographies

Fossil records indicate that jaguars' historical range, or the areas they inhabited or through which they moved, encompassed much of the subtropical and tropical zones of the Americas, corresponding to what is now central Argentina through much of the southern half of the US (Seymour 1989). By the end of the twentieth century, their range, and with it their populations, shrank considerably due to habitat loss; however, they can still be found in jungles, forests, marshes, mountains, and deserts spanning the northern tip of Argentina through México, with occasional sightings in the southwest US (Boydston and López González 2005). Both their range and population distributions within their range serve as indicators of the health of their overall population in terms of long-term survival and genetic diversity (Roques et al. 2016). Habitat loss that contributes to the shrinkage of jaguar range and populations is not uniform across space and is a direct product of the social and environmental relationalities and demands of settler colonial and racial capitalist modes of production throughout their range.

In the context of the northern México border region, impacts to habitat availability originally took shape through commercial ranching (Rosas-Rosas and Valdez 2010) – the *ranchero* and “frontier” settler mentalities brought Indigenous elimination, private property enclosures, poaching, and state-led management of nonhuman species deemed a threat or nuisance through policies and deliberate habitat destruction. Commercial ranching is particularly devastating to jaguar habitats because it utilises large tracts of land that frequently coincide with jaguar habitats, rendering them largely uninhabitable, while ranchers are notorious for killing jaguars near their ranches due to their potential predation on livestock (Cavalcanti et al. 2010; Rosas-Rosas and Valdez 2010).

Between the 1960s and 1990s, researchers and conservationists believed that jaguars were locally extinct within the US. However, starting in 1995, people began documenting jaguars' return to the US states of Arizona, New México, and Texas (Boydston and López González 2005). According to the US Fish and Wildlife Service (2014a), no female jaguars or breeding pairs have been identified in the US since 1963. Researchers believe that the US population is comprised of only presumably non-breeding male jaguars dispersing from the larger populations in north-western México. This may be in part due to sex differentiated jaguar habitat fragmentation, whereby female jaguars exhibit a greater aversion to things like roads, border barriers, agricultural land uses, and certain types of land cover, and therefore have a smaller range than their male counterparts (Boydston and López González 2005). Despite not contributing directly to population increases, dispersing male jaguars may play an important role in shaping the extent and geographical dynamics of jaguars as a species by establishing buffer regions for the core reproductive populations and contributing to overall range expansion (US Fish and Wildlife Service 2014b).

Jaguar range and population geographies are thus highly sensitive to habitat quality and configurations. The geographical configurations of potential habitat areas are significant since

factors like fragmentation and disconnected habitats can lead to decreases in range and population (McCain and Childs 2008). Habitat fragmentation occurs when environmental changes impede or sever connectivity between previously contiguous habitat areas. This fractures jaguar populations, reducing the overall effective populations and genetic variability within those populations, and increases risk of local or total extinction (De Angelo, Paviolo, and Di Bitetti 2011; Roques et al. 2016). While the establishment of conservation areas can be beneficial to jaguar populations, habitat connectivity appears to be one of the most important prerequisites for maintaining healthy breeding populations (De Angelo, Paviolo, and Di Bitetti 2011), and thus for re-establishing jaguar populations within the borderlands.

Borders reconfigure jaguar geographies primarily by altering the physical characteristics of their habitats. In the more remote areas along the US/México border, changes to the built environment take shape in things like access roads, border barriers, and changes in the topography and surface water flows. These impacts disrupt jaguar habitats and mobilities, negatively affecting their populations on both sides of the border, and potentially dividing their populations and reducing or eliminating the possibilities for jaguars to re-establish breeding populations in the US (McCain and Childs 2008). The scale and extent of existing and proposed border infrastructure threatens to severely limit jaguar mobilities, posing a major hurdle to the already diminished populations in expanding and re-establishing territories within the border region, making them particularly vulnerable to changes in habitat suitability, connectivity, and fragmentation. The construction of border infrastructure reshapes the ways that jaguars inhabit the border region. It requires clearing vegetation and grading the land in a wide zone on either side of the border, creating large open spaces that jaguars tend to avoid (Boydston and López González 2005). It also entails loud and polluting vehicle traffic, machinery, and human presence, which deter the shy jaguars as well. In turn, these changes to jaguar habitats' liveability forces jaguars to migrate to other areas, dramatically altering their geographies, and thus chances for survival.

Ecosystem geographies

Related to jaguars' habitat geographies are their geographical relationships to their ecosystems. Jaguars are quite adaptable to different biomes and ecosystems, but they still require suitable prey. Therefore, environmental changes that reshape prey distribution patterns will similarly affect jaguar distributions. As the largest felid in the Americas, jaguars are an apex predator rivalled only by their slightly smaller cousin, the cougar (*Puma concolor*, also, mountain lion or puma). Their diet may include fish and reptiles in aquatic spaces; birds and monkeys in the tree canopy; or rodents and other small mammals, armadillos, deer, and livestock in terrestrial landscapes (Hayward 2016). They prefer habitats with dense vegetative cover, especially near water or marshes to assist in their hunting of prey (Cullen et al. 2013). As jaguars are opportunistic predators, their diets reflect the conditions of their environments. They adapt their diets based on the availability of prey and the hunting conditions of the biophysical landscape (Hayward 2016). Jaguars only consume meat (obligate carnivores), preferably from live prey, so their survival within a particular area depends on the ecosystem's ability to sustain prey species.

Jaguars' diets contribute to their vital role as keystone species whose ecosystem impacts are disproportionate relative to their population. Their opportunistic predation helps keep other animals' populations in check. This has a ripple effect across the ecosystem by preventing prey species' populations from growing unchecked, minimising the likelihood of those species overgrazing and altering vegetative growth patterns. This in turn could have broad environmental consequences for things like surface water retention, flooding, erosion, and wind patterns. The habitation patterns of Jaguars depend on their environments, but jaguars indirectly shape the habitability of their environments for other species as well. Jaguar geographies, therefore, are intimately connected to their diet, the geographies of prey species, and ecosystems in general.

Despite their adaptability to different ecosystems, jaguars have struggled to maintain populations in areas with more direct human influences and urban development (Cullen et al. 2013). This contrasts with the cougar, which has maintained a much more resilient presence in many periurban spaces, perhaps because of their greater flexibility in their diets for small prey that have adapted well to habitats most dramatically influenced by humans (De Angelo, Paviolo, and Di Bitetti 2011; Vickers et al. 2015). As with cougars, jaguars' diet and predation habits sometimes lead to conflicts with humans, especially along the rural interfaces between jaguars' range and human agricultural settlements (cf. Collard 2012). These spaces of "encounter" result in entanglements between humans and jaguars that generate new spatial configurations of security, belonging, control, and affect (cf. Collard 2012). Jaguars' presence in human occupied spaces and their predation on livestock has led to confrontations and state interventions, both of which typically involve managing population movements or eliminating individual animals to prevent economic losses (Rosas-Rosas and Valdez 2010; Kelly 2019). Furthermore, the presence of jaguars near potential development sites, such as along the US/México border, can lead to conflicts over the incompatibility of those land uses with jaguar habitats, as in lawsuits against the government for its plans to construct border walls.

Border enforcement activities and infrastructure like roads, utility installations, lights, and surveillance equipment all potentially disrupt ecosystems, and therefore habitat suitability jaguars. This includes direct changes in the physical environment, and indirect alterations to the rhythms and patterns of daily life. For instance, geotechnical grading and impermeable walls can reshape hydrological processes like water retention and runoff patterns, leading to erosion, flooding, and changes to surface water sources. Jaguars depend on scattered seasonal rain for both hunting and hydration, so these changes can disrupt seasonal migration patterns, vegetation growth, and prey availability. Similarly, the clear cutting of vegetation and the establishment of roads and migrant trails on either side of the border can create clearings that fragment hunting grounds and destroy burrows used by prey. These clearings also potentially disrupt threatened species of plants and provide openings for non-native vegetation to take root, further altering the delicate ecosystems. Floodlights and 24-hour vehicle traffic can disrupt sleep and hunting patterns of jaguars and their prey, upending the general character of borderland ecosystems.

One of the most dramatic ecological impacts of border infrastructure and enforcement activities is the shift of migrant border crossings and border patrol activities from urban to remote areas, which are far more treacherous to migrants and fragile in terms of susceptibility to environmental change. Many of these remote areas coincide with protected public lands and biodiversity hot spots that serve as habitats for threatened flora and fauna (Greenwald et al. 2017). By redirecting migration and policing activities to remote locations nominally earmarked for environmental and biodiversity conservation, the state effectively sacrifices these environments and the nonhuman species that inhabit them to the inevitable impacts of traffic such as soil compaction and erosion, and various forms of human waste (Cunningham 2012; Sundberg 2008). These shifts in migration patterns also create new spaces of migrant death due to the extreme conditions and difficulty for humans to navigate the remote terrain.

Conservation geographies

Highlighting these shifts in ecosystem geographies has been a recurring tactic for scientists and biodiversity organisations opposed to additional border walls for years (Greenwald et al. 2017). The preceding discussion of jaguar habitat and ecosystem geographies makes clear that jaguars' range, mobilities, diet, habitats, and ecosystems are mutually constituted by human sociality. Human-non-human relationalities are wildly uneven along divergent and convergent forms of difference and domination, a web within which jaguars are entangled. Yet jaguars' enduring cultural significance and the institutionalisation of conservationism demonstrate that jaguars' presence is consequential to human sociality and constitutive of broader aspects of human-environment relationalities. At the

same time, dominant forms of state-led conservation, including habitat preserve areas and criminalisation of harms to animals or their habitats, tends to reproduce the carceral state as a necessary capture of the nonhuman within racial capitalist and settler colonial state making through enclosures, exclusions, and criminalisation.

Current conservation efforts in the US and México include endangered species classifications, national parks, conservation areas, a binational jaguar preserve, studies charting probable transit corridors and suitable habitat areas, partnerships with ranchers, and policies criminalising poaching and trade (US Fish and Wildlife Service 2018). These efforts potentially allow jaguars and their ecosystems to survive, and perhaps increase the likelihood for them to begin repopulating. However, their efficacy in the borderlands is not yet clearly established or understood, due in part to the difficulty of assessing populations and density (King and Wilcox 2008).

Within conservation and biodiversity discourses, jaguars are frequently targeted as an umbrella or surrogate species, where protection or conservation efforts targeting the umbrella species indirectly benefits biodiversity or the habitats of many other co-occurring species (Thornton et al. 2016). Umbrella species can make powerful flagships for broad conservation efforts because their precariousness and charisma evoke public sympathy and compassion. They garner support for protecting the flagship or umbrella species, which has the effect of capturing other delicate and overlapping species and ecosystems through the conservation efforts (Caro and O'Doherty 1999). Umbrella and flagship classifications relate to the keystone designation but focus less on the ecosystemic impacts of keystones and more on the quality and relationships of their habitats and their affective power. The small numbers of jaguars present in the US/México borderlands diminish their keystone role on an ecosystemic level since there are simply too few jaguars in that region to widely impact the rest of the ecosystem. Yet their small numbers ironically make them more powerful as an umbrella or flagship species since their impacts multiply across their ecosystems through increased conservation efforts.

Borderland jaguars are interestingly situated as an umbrella species, not just for nonhuman biodiversity, but also for the racially disposable migrant populations and Indigenous peoples entwined with jaguars and borderland ecologies. Protecting jaguar habitats from the incursions of border infrastructure also potentially protects migrants from the state-sanctioned and extra-legal violence entailed in border militarisation and from the cementing of border relations on Indigenous peoples and geographies. As a flagship species for marketing biodiversity and conservation efforts in the US/México borderlands, jaguars play a significant role in garnering attention for both establishing protected lands, and the conflicts surrounding the expansion of US border infrastructure. They've featured in lawsuits related to conservation, including their classification and protection as endangered species and the designation of critical jaguar habitat areas, as well as in the other media and legal campaigns such as those to stop the construction of former President Trump's border wall (Center for Biological Diversity 2020).

Carceral conservation

A potential issue with contemporary conservation regimes is their relationships with the carceral state. Borderland jaguar conservation and the enclosures around both conservation areas and the nation-state, function as what Mei-Singh (2016) describes as carceral conservation. In the borderlands, this works by confining "nature" to designated areas, and criminalising people, primarily racially disposable migrants and Indigenous peoples who transgress those areas. Ray (2010) expresses similar ideas about conservation to immigrants through the concept of the "ecological other", situating migrants as constantly on the move *through place*, and therefore suggesting they "cannot fit any place-centered conception of ecological legitimacy" (718). Lorimer (2015) also describes the "violent and iniquitous practices of 'fortress conservation' in which marginal people are often evicted and subsequently excluded from common land", which they argue are rooted in the "modern Nature-Society binary to establish and police fixed and ranked territories for Nature"

(163). Together, these scholars paint a picture of dominant conservation strategies in the US premised on the notion of a “wilderness” or “pristine nature” that is inviolable by human populations (Ray 2010) – those racially differentiated by their value to the white supremacist, settler colonial nation-state and racial capitalism. Jaguar conservation efforts also include anti-poaching and trade agreements beyond the US and Mexico, which don’t necessarily deter takings (US Fish and Wildlife Service 2018) but do result in additional forms of surveillance and criminalisation of people, particularly along racial, ethnic, and national lines.

On the other side of this equation lies the ways in which conservation also enacts carceral relationships upon nonhuman species, ecosystems, and environments. One of the most explicit examples of this is detailed by Hawkins and Paxton (2019) in their study of fences erected to “protect” a conservation area from predatory feral cats in central Australia. The very nature of establishing boundaries across the land, as well as boundaries between acceptable and unacceptable species is a carceral relationship of segregation and conservation. As Biermann and Mansfield (2014) explains about this speciesist social differentiation, “Conservation science is built upon distinctions between life forms, as it is these distinctions that constitute biodiversity and therefore must be defended and maintained” (258). Though well-intentioned, such interventions selectively dictate what and how nonhuman species may thrive and what the resulting ecosystems might look like. The carcerality of these forms of conservation establish hierarchies of value whereby the demands of the state and capital trump threatened species while furthering the projects of exclusion and death that govern other forms of life – human and otherwise – and the socio-ecological relations that might displace and unsettle these existing orders.

Conservation areas are themselves constraining in how they limit what species get protected and where. They produce environmentally differentiated space by demarcating certain environments and species for conservation, only to expand extractive and destructive practices elsewhere. This means only those lands marked for conservation might provide suitable habitats for those entities being conserved since the assumption is that other unprotected lands are available for land uses more productive of profits. In the case of the northern jaguar populations, these efforts are also inherently constrained by competing demands for land and environmental resources driven by border enforcement, urban development, and commercial agriculture, because the interface zones between human activities and conservation areas – if there are even distinctions between them – encroach into jaguar habitats and make them less habitable for the shy creatures (Cullen et al. 2013).

Conservation areas can also be understood as a form of carcerality and containment that capitalism requires to contain less-than-human forms of surplus that don’t actively produce value. Inhospitable segments of jaguar habitats like some of those along the US/México border can be set aside by the state as designated “wildlife” zones. These areas are generally unprofitable environmental resources – surpluses needing to be managed and converted to some sort of value. In some instances, this might manifest in ecotourism, or other state sanctioned activities like oil drilling or mineral extraction, as in the case of Bears Ears National Monument in Utah, USA, where former President Trump reshaped the Monument’s lands to open the formerly protected lands to oil drilling. In other instances, the presence of conservation spaces satiates liberal environmentalist demands, generating political capacity or meeting government regulations, which in turn allows other spaces to be openly exploited (Smith 2007). In yet other instances, economic productivity is facilitated by the state’s development of policies and private partnerships with agricultural landholders and ranchers as quasi-conservation measures (Rosas-Rosas and Valdez 2010). These aim to make competing land uses “compatible” by reducing incidences of poaching or habitat incursions, yet thus far have not shown evidence of increasing jaguar populations, perhaps because of the unsuitability of interface zones between humans and jaguars as liveable habitats (Cullen et al. 2013; Coronel-Arellano et al. 2018). Jaguars and their ecosystems remain essential to the broader sustainability of life and environment on regional and transnational scales, yet capital demands its own sustainability, which requires carceral forms of containment, commodification, and control.

It is important that some existing ecological conservation efforts might be considered carceral relationalities because this allows for a broader conceptualisation of alternate modes of both conservation and liberation beyond those which presently dominate. Conservation regimes that intend to accommodate and sustain ecological exploitation, racial capitalism, and settler colonialism are the types of reforms targeted under liberal environmentalisms that only further entrench existing socioenvironmental relations, and therefore can never fully undo the carcerality of borders or dominant modes of conservation. While individual species might be made to thrive in specific ecosystems, this selective conservation is quite different from the “conservation” of broader ecosystems and the guarding against mass extinctions of those species not captured under these rubrics.

These critiques are not meant to denounce flagship designations as a mode of cultural discourse, taking lands out of exploitative uses, nor ecological interrogation into prioritisation of conservation efforts. Rather, they intend to critique the structures underlying those efforts when they promote carceral, paternalistic, colonial, and racial capitalist modes of state intervention. Articulating an abolitionist world view that negates these forms of dominance is not about “fixing” conservation *per se*, but rather, breaking down and remaking the structures of dominance that create the need for conservationist relationalities as we currently understand them. If abolishing borders seems unthinkable, then part of the work of abolition is establishing the understandings and political formations that make *not* abolishing them seem unthinkable (cf. Gilmore 2017). This might look like policy changes or public-private initiatives, but more likely, it will involve efforts beyond the reach of the state or capitalistic property regimes since by its very nature, unsettling borders is antagonistic to the capitalist settler state requiring much work and community building to develop new social relations and make abolition geographies attendant to Indigenous self-determined sovereignty and ecological systems.

Conclusion

The lawsuits against former President Trump to stop the construction of additional walls along the US/México border helped inspire this article. Jaguars and other threatened or endangered species featured in some of these lawsuits because of the negative impact additional walls would have on their ecosystems, but also because the Trump administration used executive powers to override the environmental policies nominally designed to force consideration of those impacts before construction could occur (“Sierra Club v. Trump” 2020). These lawsuits demonstrated the entanglements between human and nonhuman species in how efforts to punish and exclude migrants could have far-reaching impacts. However, the underlying motivation behind many of these lawsuits was to stop the wall construction, not to undo the relationships the wall enshrined.

These conflicts, as framed by some elected officials, are not about the question of border enforcement and militarisation as naturalised facts of national security or the racialized criminalisation delineating “good” from “bad” migrants (cf. Escobar 2016; Pelosi, Cuellar, and Saenz 2019). Rather, the focus of these discourses is the methods of implementation – physical barriers versus other modes of surveillance and policing – that would universally have deleterious consequences for migrants and nonhuman species. Through liberal discourses of environmental protection and being “pro-immigrant”, the carceral state vaguely recognises its destructive warpath and seeks to resolve this situation and absolve itself through what Yusoff (2018), *vis-à-vis* Tuck and Yang, describes as “moves to innocence” (as quoted in Yusoff, 26) that simply reinforce racist and speciesist relationships of coloniality, extraction, surveillance, and exclusion. This is to say, while walls and other physical infrastructure are the manifestations of borders that most directly impact jaguars and other nonhuman species, stopping the expansion of walls is important, but certainly shouldn’t be seen as an end unto itself.

One of the issues these lawsuits and political posturing illustrate is the instrumentalism of nonhuman kin through a liberal environmentalism that fails to recognise or address underlying structures

of dominance. Calarco (2008) cautions that even when a politics seems to take a stance emphasising the significance of nonhumans, it may in fact be bound up within a philosophical human-animal distinction that reproduces an anthropocentric approach to politics. Recognising this as a settler and capitalist ecology that actively seeks to displace alternative ecologies requires pushing back against an anthropocentrism that relegates nonhuman kin to secondary or identitarian sites of liberation.

Foregrounding nonhuman species and environments in the work of border abolition conveys an ontological expansiveness, which demands recognition of their entwined fates with racially disposable migrants and Indigenous peoples. This is a rejection of the notion that the nonhuman is *also* affected by border infrastructure, and instead posits that the carceral state actively requires negative impacts to nonhuman species on the one hand, and paternalistic approaches to conservation on the other as constitutive logics and material relations. Focusing on the entanglements and encounters between racially disposable human and nonhuman populations at the critical site of the US/México borderlands reveals moments of “surprise, shock, rupture and non-sovereignty [that] are momentary destabilizations where borders are shifted, exposed, crossed, made, unmade and undermined” (Wilson 2017, 456). This mode and site of analysis reveals possibilities for imagining and working toward the transgression, destabilisation, transformation, and abolition of dominant and dominating borderland relationalities.

This discussion reminds us that these contradictions within the state are productive of new racial and environmental meanings, relationalities, and geographies potentially in the vision of abolition, but only when changes run deeply. For instance, some elected officials have called for the “abolition” or dismantling of the US Immigrant and Customs Enforcement (ICE) (Diaz 2018) and decriminalisation of migration (Dickerson 2019), perhaps as a direct response to the Trump administration’s fascist and xenophobic policies. It’s unlikely these politicians use the concept of abolition as described in this article and are instead referring to the reorganisation or reconfiguration of ICE or border and immigration enforcement under a different rubric toward similar carceral ends. Therefore, wariness is certainly justified in considering these calls to dismantle ICE and for “more humane” border enforcement, both because they remain explicitly against the idea of border abolition. But perhaps more importantly, as Du Bois (1935) and Davis (2005) emphasise, dismantling institutions of unfreedom, such as ICE, requires radical forms of abolition democracy. Undoing the articulated social relations of “societies structured in dominance” (Hall 1980) is manifested through the dissolution and rendering obsolete of dominant border logics, which necessarily and simultaneously imagines and works toward alternative ecological relationships and life-sustaining infrastructures. Failure to heed Du Bois’s, Davis’s, and Gilmore’s arguments for building up and not only tearing down can result in the state developing new and perhaps more pernicious infrastructures in the wake of the old.

In concrete terms, this means getting rid of things like borders, not just to reshape the landscape and make habitats more liveable, but to unravel the racial, colonial, and environmental dominance they enshrine. It means promoting different “common senses” about human relationships with our surroundings and nonhuman kin. It means unravelling the grip of capitalist land relations in any way possible, even if only iteratively through small changes that don’t reproduce structures of dominance. It means building supportive, non-carceral community relationships that drown out the anti-relational pressures that currently abound and developing mutual aid and community security without borders or police. This is what’s meant by abolishing borders and making abolition geographies, and jaguars provide one opening for understanding and enacting praxis that aims to do just that.

Disclosure statement

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