Diabolic Caminos in the Desert and Cat Fights on the Río: A Posthumanist Political Ecology of Boundary Enforcement in the United States–Mexico Borderlands

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This article makes the case for addressing nonhumans as actors in geopolitical processes such as boundary making and enforcement. The challenge of this line of argumentation is to account for nonhumans as actors without enacting dualistic ontologies that locate the natural and social in separate realms. To address this methodological challenge, I present a posthumanist political ecology. I elaborate my argument and methodological approach in relation to my research on the environmental dimensions of U.S. border security. Specifically, I examine how deserts, rivers, Tamaulipan Thornscrub, and cats inflect, disrupt, and obstruct the daily practices of boundary enforcement, leading state actors to call for more funding, infrastructure, boots on the ground, and surveillance technology. As my research illustrates, taking nonhumans seriously as actors alters explanations for the escalation of U.S. enforcement strategies. Key Words: boundary enforcement, political ecology, posthumanism, relational ontologies, U.S.–Mexico border.

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Este artículo explica las razones por las que seres no humanos deben considerarse actores de algunos procesos geopolíticos, tales como el trazado y control estricto de fronteras. El reto de esta línea de argumentación es tomar en cuenta a entes no humanos como actores sin erigir ontologías dualistas que coloquen lo natural y lo social en reinos separados. Para abocar este reto metodológico yo hago la presentación de una ecología política poshumanista. Mi argumento y enfoque metodológico los elaboro en relación con mi investigación sobre las dimensiones ambientales de la seguridad fronteriza de los EE.UU. Específicamente, examino el modo como el desierto, los ríos, el monte espinoso de Tamaulipas y los felinos infringen, perturban y obstaculizan las prácticas diarias de control del límite, lo cual lleva a los actores estatales a reclamar más fondos, infraestructura, más guardias de a pie y tecnología de vigilancia. Como lo ilustra mi investigación, considerar seriamente a los no humanos como actores altera las explicaciones que se esgrimen sobre la escalada de estrategias de control de los EE.UU. Palabras clave: control fronterizo, ecología política, posthumanismo, ontologías relacionales, frontera de EE.UU.–México.

This article makes the case for addressing nonhumans as actors in (geo)political processes; actors whose properties, energies, and potentialities matter tremendously to political outcomes (Robbins 2003; Hobson 2007). To this end, I present a methodological approach that allows me to demonstrate how and why boundary enforcement is a “more-than-human” endeavor (Whatmore 2002). In so doing, I contribute to recent calls to develop “a broader conceptualization of how the ‘political’ is constituted” (Hobson 2007, 251; see also England 2003; Flint 2003). This move promises to enable new and more complex explanations for “how (and therefore why) geopower is actually practiced” (Thrift 2000, 380; see also Dalby 2007).
The challenge of this line of argumentation is to account for nonhumans “without resorting to the idea that [they] exist ‘in themselves’” (Castree 2003, 208). Addressing this dilemma is especially problematic if the nonhumans in question are conventionally understood as belonging to the ontological realm of nature as opposed to society. I take up this methodological challenge by putting political ecology into conversation with posthumanist thinking to address two primary concerns: accounting for nonhumans as political actors and (re)conceptualizing agency.

To elaborate this argument and methodological approach, I engage my research on the political ecology of U.S. border security. Specifically, I present two scenarios from fieldwork in national wildlife refuges located along the southern border of Arizona and Texas. I turn first to southern Arizona to address the question of who counts as an actor in border security operations. I do so by highlighting the ways in which the Sonora Desert inflects, disrupts, and obstructs the daily practices of boundary enforcement, thereby compelling state actors to call for more funding, infrastructure, boots on the ground, and technology. I then move to south Texas and address the question of agency by showing how two small felines gathered with other actors in ways that compelled the Border Patrol to change border security operations. As these scenarios suggest, taking nonhumans seriously as actors alters explanations for the escalation of U.S. enforcement strategies.

Before I turn to the borderlands, I outline my methodological approach to a posthumanist political ecology. I then provide the empirical context for my case studies and outline U.S. boundary enforcement strategies in the last fifteen years. In my concluding section, I address the explanatory and political advantages this methodological approach offers to the study of boundary enforcement.

From Methods to Methodology

In 2003, I began conducting research on the environmental dimensions of boundary making in the U.S.–Mexico borderlands, with a focus on how border security articulates with conservation goals in protected areas in the Arizona and Texas borderlands. Such questions are extremely important, as over 40 percent of lands along the southern U.S. border are federally designated as National Forests, National Parks, National Monuments, National Wildlife Refuges, and Tribal reserves. Of the total 1,954-mile boundary between the United States and Mexico, about 820 linear miles fall within federally owned or managed lands (U.S. Government Accountability Office [GAO] 2004, 4; see Figure 1).

The analysis presented here draws from fieldwork with a heterogeneous group of actors at select sites and times as researcher and participant observer. I conducted semistructured interviews and field visits with...
managers of border-protected areas as well as Border Patrol officials who deal directly with federal lands and land managers.\textsuperscript{1} Given the wide array of protected area designations, each with its own legal framework and bureaucratic culture, I restricted my field research to national wildlife refuges, managed by the U.S. Fish and Wildlife Service, an agency within the Department of the Interior.

To complement this research, I interviewed staff in nongovernmental organizations (NGOs) whose work centers on conservation in borderland environments (Frontera Audubon, Defenders of Wildlife, Center for Biological Diversity) as well as human rights (La Unión del Pueblo Entero, Coalición de Derechos Humanos). In addition, I conducted interviews, attended meetings, and did volunteer work with humanitarian groups offering aid to undocumented migrants (Humane Borders, No More Deaths, Samaritans). These groups operate in public lands in southern Arizona. In short, interviewing and spending time in the field with multiple groups allowed me to triangulate data and understand the issues from a variety of perspectives.

My efforts to initiate ethnographic research on how public land managers negotiate border security operations were stymied by government officials, however, who sought to restrict public knowledge about the ongoing and potential conflicts between enforcement operations and environmental protection in federally designated public lands. Hence, I developed an alternative method through my collaborative work with No More Deaths (NMD), a group that provides direct assistance to undocumented migrants traveling in and around Buenos Aires National Wildlife Refuge and Coronado National Forest in southern Arizona. In my role as volunteer and ethnographer, I was able to directly observe a range of actors from different government agencies going about their daily tasks, which both complimented and contradicted data gained through interviews with government employees.\textsuperscript{2}

At the same time, and somewhat unexpectedly, experiences with NMD prompted me to shift from asking how border security impacts borderland environments to examining how nonhuman actors—plants, animals, and biophysical processes—are constitutive of boundary making. Indeed, hiking heavily used migrant trails to search for individuals in distress and leave water bottles at the height of summer, when temperatures regularly reach 110 to 115\textdegree{}F, demonstrated at the deepest and most corporeal levels how the Sonora Desert plays a part in making and contesting the political boundary. The sheer vastness of the landscape around NMD’s Arivaca camp (Figure 2), with its rolling hills, deep arroyos, and knotted groupings of mesquite trees and prickly pear cactus, make it virtually impossible to spot undocumented migrants, whether in distress or traveling in groups of thirty. If it is rare for NMD’s volunteers to come across migrants while on active trails, what does this say about U.S. Border Patrol agents, who we

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{landscape.png}
\caption{Landscape south of No More Deaths’ Arivaca Camp. Photo by Peter Ragan.}
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rarely encountered outside their air-conditioned sport utility vehicles? Such experiences compelled me to re-think how political ecology conceptualizes the agency of nonhumans.

In what follows, I build on such insights to present a methodological approach for addressing nonhumans as political actors in (geo)political processes. A *more-than-human* methodology, I argue, promises to animate and enliven the study of boundary making and enforcement and enable different explanations for how and why such processes play out. To this end, my approach enriches methodological thinking in political ecology with posthumanist conceptualizing of agency.

**Toward a Posthumanist Political Ecology**

Since its inception as an analytical framework, political ecology has highlighted the extent to which "all socio-political projects are ecological projects and vice versa" (Harvey 1996, 174). The refusal to separate the political from the ecological has allowed political ecologists to provide vivid accounts of how everyday environmental practices and politico-economic relations articulate to remake the world (Fairhead and Leach 1996; Bassett and Zuëli 2000; for an extended bibliography see Robbins 2004; Neumann 2005). Although working with eclectic and individually tailored approaches, political ecologists are united in their framing of human and nonhuman communities as contingent constructions that emerge from continuous interaction (Zimmerer 1996; Schroeder 1999; Carney 2001; Robbins 2001, 2007; Rocheleau and Roth 2007). Hence, political ecologists excel at narrating the politics and ecologies of everyday life in ways that allow "non-human actors to play an important political role in explanation" (Robbins 2003, 643).

Questions linger, however, as to how nonhumans—as biophysical entities and processes—are to be conceptualized (Hobson 2007). Are they understood as components of the ecological systems over which humans struggle to assert control? Or, are nonhumans "subjects whose ecology, behavior and welfare are an implicit part of the uneven social and economic outcomes" (Hobson 2007, 255)? To address these questions and their many methodological implications, I turn to posthumanist theory, which offers sustained thinking on how the sociopolitical is constituted and consequently who counts as a political actor and how agency is enacted.

I use the term *posthumanism* to signal a diverse body of work seeking to move beyond the nature–culture divide, which has played such a prominent role in geography (Wolch and Emel 1998; Philo and Wilbert 2000; Whatmore 2002; Haraway 2003, 2008; Hinchliffe et al. 2005; Braun 2008). Broadly speaking, such work advances a *relational ontological* approach framing the human and nonhuman as mutually constituted in and through social relations (Castree 2003; Hobson 2007). A relational approach refuses to treat the human as an ontological given, the privileged if not the only actor of consequence. Haraway's (2003, 4) work on companion species, for instance, enacts a relational ontology through stories of "co-habitation, co-evolution, and embodied cross-species sociality" between people and dogs. In such tales, "the partners do not preexist their relating; all that is, is the fruit of becoming with" (Haraway 2008, 17, emphasis added). From this perspective, *sociality*—socio-political relations—is understood as constituted in and through encounter and association between what Haraway (2008, 5) calls "ordinary knotted beings" that "gather up those who respond to them into unpredictable kinds of 'we.'"

The goal of such work is to "refuse the choice between word and world by fleshing out a different conception of fabric-action" (Whatmore 2002, 3). In Latour's (2000, 113) words, the "we" of society "has to be composed, made up, constructed, established, maintained, and assembled." Concepts like network, assemblage, or collective are used as analytical tools for visualizing how unique and historically contingent associations between entities—humans, animals, plants, machines, devices like maps or diagrams, and other things—gather in ways that stabilize a particular socio-political order. Analyzing how such associations knot together is a method for including "the creative presence of nonhuman creatures in the fabric of social life and register[ing] their part in our accounts of the world" (Whatmore 2002, 35–36).

Accounting for how such diverse entities participate in constituting the socio-political requires cutting agency "loose from its traditional human orbit" (Barad 2003, 826). Rather than framing agency as the product of conscious intention, which restricts it to the imaginary figure of an all-knowing human, posthumanist theory frames all actors as "imbued with the capacity for affect—the capacity to be acted upon, and the capacity to act" (Braun 2004, 1354). A posthumanist conceptualization of agency, then, encompasses "the capacity to act with the coming together of things that is a necessary and prior condition for any action to occur, including the actions of humans" (Braun 2008, 671). From this perspective, agency implies *doing-in-relation*,

**Diabolic Caminos in the Desert and Cat Fights on the Río**

321
the outcome of association (Whatmore 2002; Latour 2005). How emergent associations achieve durability in time and space is the subject of empirical analysis, wherein attention focuses on the relations and practices that bring them into being (Whatmore 2002; Hinchliffe et al. 2005; Latour 2005; Haraway 2008).

Rethinking sociality along these lines necessitates a performative understanding of how the world comes into being (Campbell 1992; Butler 1993). From this perspective, it is the repetition of everyday discourses and practices regulated by social norms—performances—that produce the now (Thrift 2000). Here, the everyday signals an ontological perspective and mode of inquiry framing the socio-political as constituted “at the sites of doings and sayings, events and orders” (Jones, Woodward, and Marston 2007, 267). A performative approach attends to embodied practices, doings, and actions, becoming rather than being (Whatmore 2002; Barad 2003).

To account more fully for the performances of animals and plants in such an approach, Whatmore (2002) built on feminist theorizations of corporeality. By considering the flesh of things, Whatmore (2002) called attention to corporeal differentiation, the particular dispositions and characteristics of specific bodies. Such capacities, Whatmore (2002, 37) argued, are “complicated, but neither originated nor erased, by the various ways in which they may be enmeshed in the categorical and practical orderings of people.” In other words, bodies are understood not only as effects of historically contingent practices and regulatory norms but also as active agents in the workings of power (Barad 2003; see also Longhurst 2001; Bakker and Bridge 2006). The task, then, is to attend to the diverse properties, energies, potentialities, affects, and affordances that flow among all kinds of embodied actors and “through which each takes and holds (and changes) shape” (Whatmore 2002, 119).

To synthesize, then, a posthumanist political ecology refuses to treat nonhuman nature as the thing over which humans struggle and instead builds on and enacts a relational approach in which all bodies are participants in constituting the world. A relational perspective accounts for the materiality and physicality of bodies while emphasizing that their properties and capacities are historically contingent and geographically situated outcomes of association, relations between things (Haraway 2003, 2008; Whatmore 2002; Bakker and Bridge 2006). Such an approach promises to animate and enliven the study of boundary making by attending to (1) the properties and capacities of the many embodied beings that bring the world into being, (2) everyday practices and doings-in-relation, and (3) specific sites of politics-in-action.

Enacting a relational ontology, however, presents a set of challenges related to the politics of representation (Latour 2004, 2005; Hinchliffe et al. 2005). How to write about what nonhumans are doing when they do not speak or act in the way we assume humans do? Posthumanist thinking attempts to address this question. Latour (2004), for instance, argued that privileging speech as the sole property of humans assumes an a priori human–nonhuman ontology, making it impossible to consider nonhumans as actors. Instead, Latour (2004) pointed out, all expression is mediated through instruments or mechanisms. Hence, all actors can be said to leave traces, whether these take the form of texts, oral narratives, footprints, or feces (Hinchliffe et al. 2005). Landscapes, for instance, tell stories through specific configurations of vegetation, soil types, and myriad other traces that can be interpreted and represented through various scientific practices and translations (Latour 1999). The notion of traces transcends humanist understandings of talk and text as the only mechanisms through which politics can be registered (Philo 2005).

In what follows, I bring this posthumanist methodological approach to bear on the politics of boundary enforcement in the U.S.–Mexico borderlands. Specifically, I follow actors, study their capacity to affect and act, and analyze how associations between actors stabilize and achieve durability—or not—in time and space. I use the term collective to refer to such associations-in-the-making. Studying collectives involves researching the traces created in the process of group formation (Latour 2005). To provide the context in which my analysis takes place, I begin by briefly introducing boundary enforcement policies since the mid-1990s with a specific emphasis on the place of nature. I then turn to my case studies in the Arizona and Texas borderlands. My goal is to demonstrate how nonhumans (re)configure the everyday encounters and negotiations that constitute boundary enforcement in ways that compel alternative explanations for how and why geopower is practiced at the U.S. southern border.

**Enlivening Boundary Enforcement in the U.S.–Mexico Borderlands**

From the mid- to late twentieth century, the political division between the United States and Mexico “shifted
from a border, a zone of gradual transition, to a boundary, a stark line of demarcation” (Nevins 2002, 147). Moves to harden this boundary in the late 1980s culminated in the Southwest Border Enforcement Strategy, initiated in 1994 (U.S. Immigration and Naturalization Service [INS] 1996; U.S. GAO 2001). The goal of the southwest strategy was to “regain control of major entry corridors along the border that for too long have been controlled by illegal immigrants and [drug] smugglers” (U.S. INS 1996, 3). The strategy was organized around the idea of “prevention through deterrence,” the aim of which was to “make it so difficult and so costly to enter [the U.S.] illegally that fewer individuals even try” (U.S. INS 1996, 3; U.S. GAO 1999, 3). To this end, the policy intended to “close off the routes most frequently used by smugglers and illegal aliens and to shift traffic to areas that are more remote and difficult to cross illegally” (U.S. INS 1996, 3, emphasis added). To shift traffic away from historically popular crossing points like San Diego, California, the southwest strategy called for new “force-multipliers,” including remote video systems, infrared night scopes, stadium lighting, and motion-detecting sensors as well as landscape-altering infrastructure such as fencing (Nevins 2002; Bach 2005).

Outside of urban areas, INS officials calculated, “natural barriers such as rivers, mountains, and the harsh terrain of the desert” would serve as “deterrents to illegal entry” (U.S. GAO 2001, 24). As former INS Commissioner Doris Meissner later recalled, INS officials assumed that if they closed down urban crossing points, then “geography would do the rest” (cited in Cornelius 2005, 779). Meissner also stated that the “geography itself in these very tough places in the mountains and desert should be a deterrent in and of itself” (cited in Nevins 2002, 236, n. 129). Moreover, INS officials reasoned that Border Patrol agents would achieve a “tactical advantage” in apprehending those who did attempt to cross through remote and difficult terrain (U.S. INS 1996, 3). As such narratives suggest, the southwest strategy treats rivers, mountains, and deserts as objects of geopolitical calculation and instruments of enforcement.

The southwest strategy has been successful in shifting the geographies of border crossings (Cornelius 2001, 2005; Nevins 2002). Before the strategy, the San Diego Border Patrol Sector accounted for over 40 percent of the total number of apprehensions along the southwestern border (Latin America Working Group [LAWG] 2005). By 1999, the San Diego Sector accounted for only 9 percent of total apprehensions, whereas apprehensions increased to 31 percent in the Tucson Sector, which maps onto the Sonora Desert (see Figure 3). In 2004, the Tucson Sector made 43 percent of total apprehensions.

The resulting shift in border traffic led to an increase in the number of border crossers who have died attempting to enter the United States without authorization (Cornelius 2001, 2005; U.S. GAO 2001, 2006; Hing 2004; Nevins 2006, 2008; Rubio-Goldsmith et al. 2006). The number of deaths doubled between 1995 and 2005, reaching an all-time high of 472 deaths in Fiscal Year (FY) 2005 (U.S. GAO 2006). In the Tucson Sector, there was a 75 percent increase in migrant deaths between 1990 and 2003 (U.S. GAO 2006, 4). In 1998, the Tucson Sector reported 11 deaths; in 2005, the number had increased to 216 (U.S. GAO 2006). The Coalición de Derechos Humanos (2009) estimates that 5,000 bodies have been recovered from the southern U.S. borderlands.

The deterrence function ascribed to nature has not been lost on scholars (Cornelius 2001, 2005; Nevins 2002, 2008; Hing 2004; Akers Chacón and Davis 2006). A recent study by the Binational Migration Institute at the University of Arizona concluded that the increase in deaths in the Tucson Sector is the “inevitable result of the ‘funnel effect’ created by the U.S. government’s ‘prevention through deterrence’ immigration control policies” (Rubio-Goldsmith et al. 2006, 64). Few researchers, however, have examined how nonhuman nature might inflect the politics of boundary enforcement in other ways. This is an important consideration, given the present (re)configuration of the borderlands.

Constituting Socionatural Landscapes in Southern Arizona and Texas

With some important exceptions, including the San Diego, California, area and the McAllen–Brownsville corridor in the south Texas Rio Grande Valley, borderland environments fit government officials’ characterizations as “remote,” “tough,” and “harsh” (U.S. INS 1996; U.S. GAO 2001; Hing 2004). Rather than intrinsic qualities of nature, however, I argue that border landscapes have been brought into being as such. Shifting associations of humans and nonhumans have (re)configured the borderlands with particular attributes and specific socionatural communities. Here, I outline relevant historico-geographical processes that have constituted the Arizona and Texas borderlands as remote and harsh. The following two sections trace how these landscapes matter to the daily practices of boundary enforcement.
Since time immemorial, indigenous communities have made their homes in the lands now divided by the political boundary between the United States and Mexico (Bahre 1991; Webster, McBrinn, and Carrera 2008). Such communities varied considerably and engaged in a range of practices that produced regionally specific socionatural (re)configurations. Beginning in the fifteenth century, Spanish explorers initiated processes of colonization, fundamentally transforming indigenous forms of sociality by introducing a wide range of nonhumans such as diseases, plants, and animals, as well as attempting to force indigenous communities into nucleated settlements (Menchaca 2001; Anderson 2005).

The socionatural transformations brought about by Spanish colonialism, the establishment of the political boundary in 1848, and ensuing acts of dispossession were significantly furthered throughout the twentieth century, as land along the border with Mexico was brought under federal jurisdiction (Annerino 1999). This history has resulted in the creation of vast, uninhabited areas along the political boundary, historically marked by nothing more than the Rio Grande River or a rusty barbed wire fence stretching over desert sands, rocky riverbeds, and mountain slopes.

Today, over 40 percent of U.S. borderland environments are federally owned or managed lands (U.S. GAO 2004; see Figure 1). In Arizona, more than 85 percent of land along the border and 62 percent of land area within 100 miles is federally owned or held in trust for Native American nations (Defenders of Wildlife 2006; see Figure 3). Texas encompasses over 50 percent of the remaining border if measured in linear miles, although federal lands are said to represent a mere 230 linear miles (U.S. Geological Survey [USGS] 2001). Much of this is concentrated in the Rio Grande Valley in south Texas. Although the mandates governing federal lands vary, most limit landscape alterations. Some protected area designations such as national parks and national wildlife refuges prohibit humanhabitation therein and include strict regulations on roads and infrastructure, such as lighting and fencing. This is particularly the case in national wildlife refuges and designated wilderness areas, where legislation restricts access to existing roads and prohibits off-road travel.

In sum, historico-geographical processes of dispossession and protected area legislation have produced vast areas where nonhumans are the dominant characters. Although such processes have not produced the particular living beings and specific attributes constituting
these landscapes (as in climate and geology), their overall arrangement has been (re)configured. In the following two sections, I address how the diverse properties, energies, potentialities, effects, and affordances of such biophysical features and living beings come to matter to the everyday practices of boundary enforcement. In doing so, I have three empirical goals to support my theoretical points about who counts as an actor and how agency is enacted. First, examples from both Arizona and Texas seek to embody and enliven a landscape that has been instrumentalized as a tool of enforcement or naturalized as the cause of rising numbers of migrant deaths. Second, the case study in Arizona serves to highlight the specific ways in which nonhumans matter to deaths. Second, the case study in Arizona serves to highlight the specific ways in which nonhumans matter to deaths. Third, my analysis of cat fights in south Texas shows boundary making to be the outcome of collective performances, associations between a variety of actors, living and inert.

“Nature Trumps Border Seal”9

Although the INS assumed that borderland environments would serve as a deterrent, unauthorized border traffic continued apace but shifted to federal lands (see Figure 3). Indeed, the characteristics of federal lands in Arizona and Texas drew border crossers whose passage was blocked in urban areas. In this section, I illustrate how everyday encounters and negotiations in national wildlife refuges (re)configure border politics. Specifically, I focus on the ways in which the Sonora Desert inflects, disrupts, and obstructs boundary enforcement measures in Cabeza Prieta National Wildlife Refuge, Arizona.

Estimates of the number of individuals entering the United States through federal lands vary greatly. Moreover, apprehension data are calculated in relation to Border Patrol sector rather than land type. The Department of the Interior, which oversees much of the public land along the border, estimates that the number of people apprehended on its lands in Arizona increased from 512 in 1997 to 113,480 in 2000 (U.S. GAO 2004). In Cabeza Prieta National Wildlife Refuge, land managers estimate that 1,000 undocumented immigrants cross through its lands each week (U.S. GAO 2004). Officials at Buenos Aires National Wildlife Refuge estimate that between 20,000 and 30,000 individuals attempted to enter the United States through the refuge in the past year, down from an estimated 200,000 to 300,000 per year in the mid-2000s (U.S. Fish and Wildlife Service [FWS] 2007; Franchine 2009). In the Rio Grande Valley, refuge law enforcement and Border Patrol officials calculate that 60 percent of those individuals apprehended in the Border Patrol’s Rio Grande Valley Sector (formerly the McAllen Sector) were located in refuge lands. According to this measure, of the 108,000 individuals apprehended in the sector in FY 2001, about 65,000 were in refuge lands.

A law enforcement officer for a Texas national wildlife refuge pointed out why the refuges are attractive entry points:

If you want to engage in subversive activities, which is [sic] narcotics, smuggling, you want to avoid being seen. And, a lot of these areas are attractive because they're remote, they're hard to watch, and hard to access by law enforcement, by traditional law enforcement means; um, your potential for witnessing by the community is minimalized [sic], and you can relatively, you know, [in] most areas, conduct your activities without ever being seen or caught. What makes the refuge and the national parks attractive to go to [for recreation] also makes it attractive to conduct smuggling.

In a similar fashion, a flyer entitled “Safety Precautions” offered to visitors at Buenos Aires National Wildlife Refuge warning them of the possibility of encountering undocumented migrants suggests that the same attributes making the refuge attractive to nature lovers—“grasslands, open spaces, wildlife and water”—make it “an ideal point for illegal entry into the United States” (U.S. FWS n.d.).

Diabolic Caminos in the Desert

Although federal lands might be ideal—if dangerous—points of entry for undocumented migrants, these landscapes create challenges for the Border Patrol. In southwestern Arizona, Barry M. Goldwater Gunnery Range, Cabeza Prieta National Wildlife Refuge, and Organ Pipe Cactus National Monument encompass approximately 4,100 square miles of desolate desert lands (Annerino 1999; see Figure 4). Here, the historico-geographical processes described earlier have created a relatively inaccessible landscape due to the paucity of roads through the vast desert. In this area, the Sonora Desert is characterized by basin and range formations, sand dunes, and ancient lava flows; creosote bushes and the occasional saguaro are all that might dot the landscape for miles. Bighorn sheep, Sonoran pronghorn, and mountain lions roam these desert lands, along with smaller creatures like the ubiquitous cottontail and antelope jack rabbits, coyotes, Gambel’s quail, and numerous venomous creatures.
including diamondback rattlesnakes (Broyles 2003). Temperatures regularly reach between 105 and 120°F in summer, and it is extremely cold on winter nights. Water is only available seasonally or in water tanks provided for the Sonoran pronghorn, on the endangered species list in the United States.

Although Title 8 U.S. Code Section 1357(1)(3) entitles the Border Patrol authority to access all land “within a reasonable distance of the border” ( Memorandum of Understanding 2001), roads are limited in this section of southwestern Arizona. This presents problems for Border Patrol agents. In Cabeza Prieta National Wildlife Refuge, as land managers with the FWS explained, “there’s only three roads essentially that allow travel . . . through the wilderness areas”; “so, logistically speaking, it is a hard place to patrol.” Consequently, said a patrol officer, Border Patrol agents policing Cabeza Prieta National Wildlife Refuge are not “able to get down to the border.” The only road to the border is the Camino del Diablo—the Devil’s Highway—named to evoke the extreme hardships suffered by European explorers and migrants traveling this ancient route across the Sonora Desert from the 1540s to the California gold rush (Annerino 1999; Urrea 2004). Today, the 130-mile camino is one of the few roads in southwest Arizona.

In many areas, however, the camino does not actually reach the line dividing the United States from Mexico. A Border Patrol officer explained why:

The Camino del Diablo runs east and west and it parallels the border in a sense. However, in some places it is 3 miles from the line; some places it is right on the border, some places it’s 6 miles, sometimes it’s 12 miles, just depending. So what it does, if you don’t have an access road on the border, let’s say they have 12 miles—cross-border illicit activity has 12 miles—to cross before you ever intersect it. You’re not cutting it at the primary place where you should be.

Moreover, traveling along the Camino del Diablo is a feat in and of itself. Agents from the Border Patrol’s Wellton and Ajo Stations in the Yuma and Tucson Sector, respectively, might spend two to four hours of their eight-hour shift just bumping along the camino to reach the political boundary. “Just the vastness of the desert out there,” remarked a Border Patrol officer from the Wellton Station, “It’s just amazing that we can catch anybody!” What this means in practice is that Border Patrol agents end up driving off-road if they are pursuing a lead or following intelligence about the location of undocumented migrants or drug smugglers. They also create shortcuts to get from one road to another.
A report to Congress underscored how Arizona borderland environments as presently (re)configured inflect the daily practices of boundary enforcement in crucial ways. “The remoteness of many Federal lands,” the report suggested, means that federal land managers and law enforcement officers “face situations where they are at personal risk and must deal with overwhelming odds” (U.S. Department of the Interior et al. 2002, 3). Due to the long distances and rugged terrain, the report added, “timely assistance” or “back-up” is not always possible. In southwestern Arizona, the sheer vastness of the desert lands and limited access mean that law enforcement agents who travel alone or in pairs face many potential risks. This vulnerability was made abundantly clear when a Mexican drug smuggler chased by Mexican police killed Chris Eggle, a park ranger at Organ Pipe Cactus National Monument (Fialka 2003). Although nothing prevented them from crossing the line, the Mexican smugglers’ truck got stuck in “moon dust”—the vernacular term for desert soils reduced to a fine powdery substance by repeated compaction. Trapped by moon dust, the smugglers engaged Mexican police in a gunfight. As Eggle approached one of the smugglers to make an arrest, he was shot dead with an AK-47.

Although Congress is concerned about the risks to federal agents, the Sonora Desert presents even more dangers to undocumented migrants who travel without weaponry or vehicles full of iced water bottles. At the western boundary of the Border Patrol’s Yuma Sector, it is about nineteen miles from the border to Interstate Highway 8; on the eastern boundary, it is seventy-nine miles—if you walk in a straight line, that is. “But nobody walks in a straight line,” said a Border Patrol officer; “Well, you could, but you can’t in this area ’cause of the mountains; you have to go around, go east and west.” In the summer, he said, it takes border crossers “anywhere from four to five days to reach the interstate; you can’t carry enough water. . . . But we still have people making it; they’re not in very good shape when they get to the highway.” In the summer, human beings need at least two gallons of water per day to survive, making it physically impossible to carry enough water over these long distances (Urrea 2004).

In addition, the landscape in Arizona’s southwestern corner includes few if any markers that might direct the journey. In May 2001, the inexperienced guide for a group of twenty-six undocumented migrants got lost in Cabeza Prieta National Wildlife Refuge. The men wandered about the desert, climbing mountains in an attempt to orient themselves; over the course of five days, fourteen of the men succumbed to hyperthermia, a horribly gruesome death (Urrea 2004). Another five stumbled on the camino and were found by a Border Patrol agent, who then initiated a search for the others.

In sum, as briefly illustrated here, the desolate desert and its diabolic camino are significant players in the politics of boundary enforcement, even as the desert’s specific properties are framed here as “always and already an ongoing historicity” (Barad 2003, 821). The INS might have enlisted the desert as an ally in their enforcement efforts, but, as my research shows, the properties of this so-called natural barrier constitute enforcement practices in ways that transcend its framing as an object of geopolitical calculation and instrument of political objectives. Rather than providing a tactical advantage, as the INS assumed, the desert’s vastness, climate, vegetation, and topography hinder and even endanger not only undocumented migrants drawn by the lack of infrastructure but also law enforcement personnel. As I briefly detail next, these conditions led to efforts to give the Border Patrol increased access to public land.

The ABCs of Boundary Enforcement

After nearly a decade of increasing apprehensions and an alarming rise in the number of migrant deaths in the Tucson Sector, the Arizona Border Control Initiative (ABCI) was announced in March 2004, promising to gain operational control over the “weakest spot in our border” by enlisting additional “boots on the ground” and adding new technology (U.S. Immigration and Customs Enforcement 2004; Carroll 2005). Funds were provided for remote video cameras, electronic ground sensors, and unmanned aerial vehicles—“like those used by Israel to monitor the Gaza Strip,” one journalist dryly noted (Marek 2004).

Arizona journalists later revealed that the ABCI was an explicit attempt to give the Border Patrol increased access to—and therefore control over—Cabeza Prieta National Wildlife Refuge and Organ Pipe Cactus National Monument by permitting new roads, off-road travel, unlimited access for motorcycles and all-terrain vehicles, horse patrols, and back-country camps (Dykinga, Annerino, and Broyles 2004; Slattery 2004; Tobin and Marizco 2004). Although state and federal legislation prohibits these activities and all federal agencies are subject to these regulations, the Border Patrol insisted that off-road travel is necessary to pursue smugglers and undocumented migrants. Likewise, back-country camps were needed, an officer suggested, to place agents “right smack in the middle” of the activity,
without having to spend time and resources traveling to and from their patrol stations. Ultimately, the ABCI created mechanisms for agreements to bypass federal environmental legislation intended to minimize human impacts in protected areas, thereby allowing the Border Patrol to build new roads, travel off-road, set up camps in the wilderness, and add enforcement personnel (Defenders of Wildlife 2006).

Although government officials rationalized the ABCI in terms of migrant safety and gaining operational control of the border, my research leads me to argue that the initiative stemmed from the specific ways in which the desert as presently configured constitutes daily operations. In other words, the initiative was compelled by lively encounters and negotiations with nonhuman actors whose particular properties matter tremendously to the everyday practices of boundary enforcement. As such, the ABCI is a concrete example of how boundary enforcement operations are constituted in relation to nonhumans, not simply as recalcitrant entities that thwart human projects but as always and already participants in socio-political relations.

And yet, this case study is not meant to suggest that the desert is a lone actor, for this would be to simply map humanist conceptions of agency onto nonhumans. In the next section, I explicitly address this issue and elaborate on why rethinking agency matters to understanding how geopower is practiced. I do so by entering into the fray, this time in the Rio Grande Valley of south Texas.

**Cat Fights on the Río**

In the mid-1990s, apprehensions in the Border Patrol’s McAllen Sector (now the Rio Grande Valley Sector) began to rise, reaching 18 percent of the national total by 1997, or 243,793 of 1,368,707 (LAWG 2005). At that time, the sector began developing plans for Operation Rio Grande, a component of the Southwest Border Enforcement Strategy (U.S. INS 1996; see Figure 5). The project proposed installing about fifty miles of stadium-style lights along the riverbank, eight miles of fencing in urban centers, and eight boat ramps;

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**Figure 5.** Border Patrol operations in the Lower Rio Grande Valley, Texas. Cartography by Eric Leinberger.
mowing brush at the river’s edge; improving roads; and installing remote video surveillance systems (Crystal and Glitzenstein 1999; U.S. Department of Justice 1999). The project’s prime target was the brush on the riverbanks, which provides ideal cover for undocumented migrants. An assistant sector chief was cited as saying, “There’s just so much vegetation. If you can’t eliminate it, at least you can illuminate it” (Katz 1997). To this day, Border Patrol officials are fond of explaining that the lights take “the darkness away from the criminal element.”

What the lights might do to nocturnal wildlife was not their concern, however. And yet, the Border Patrol soon came to discover that the brush is constituted in relation to other actors who gather to ensure its well-being. In what follows, I analyze how the brush, its feline inhabitants, and their human allies challenged the Border Patrol’s authority and altered the practices of boundary enforcement in the Rio Grande Valley. My goal is to illustrate how reframing agency in terms of doing-in-relation enables me to trace how nonhumans shape (geo)political processes.

Illuminating the Brush

Although the Border Patrol proposed some mowing on the river’s banks, federal legislation restricts them from eliminating much of the brush because it grows within the boundaries of the South Texas National Wildlife Refuge Complex, which includes Santa Ana National Wildlife Refuge, Laguna Atascosa National Wildlife Refuge, and the Lower Rio Grande Valley National Wildlife Refuge, encompassing approximately 178,000 acres and including more than 130 tracts extending along 275 river miles of the Rio Grande River (Figure 6). Given that approximately 95 percent of the region’s brush vegetation—Tamaulipan Thornscrub—has been cleared for urbanization and agriculture, the U.S. FWS and supporting NGOs have been working for the last two decades to create a 260,000-acre contiguous wildlife corridor on the banks of the Rio Grande River to protect and restore this habitat. Tamaulipan Thornscrub is home to approximately eighteen species listed by the federal government as threatened and endangered (U.S. FWS 1997c, 8). Two small felines, the ocelot and jaguarundi, are included on the list. With its jaguar-like coloring and markings, large eyes, and small frame (three feet, nine inches), the ocelot has come to represent the valley’s most charismatic (mini)fauna. Studies of the cats’ behavior and disposition suggest that they are nocturnal and prefer “extremely dense, impenetrable brush thickets for traveling and breeding” (U.S. FWS 1997c, 26). As the cats move about in search of prey, which consists of nocturnal rodents, they will seek out densely vegetated corridors, even when doing so adds distance to their journeys (Grigione and Mrykalo 2004).

Because the Border Patrol was prohibited from eliminating brush, they aimed to illuminate it. Given that much of the land on the lower Rio Grande is managed by FWS, the Border Patrol sector’s chief patrol agent wrote them on 20 June 1997 regarding the proposal to install “stadium style lights directed at the floodway of the Rio Grande” (U.S. Border Patrol 1997).
The letter was forwarded to the appropriate individual, who replied on 25 June 1997 that the FWS was concerned about the “potential effects [of the proposed lights] on the endangered ocelot and jaguarundi” (U.S. FWS 1997a). The letter explained that the two cats are nocturnal and the FWS works to maintain a densely vegetated travel corridor so they can travel and hunt at night. If the Border Patrol’s proposal was not altered to avoid adversely affecting the cats, the letter indicated, the agency would be required to enter into formal consultation with the FWS as required by Section Seven of the Endangered Species Act (ESA).

This letter exchange between the Border Patrol and the FWS is significant in (at least) two ways. First, it suggests that the Border Patrol did not appear to understand the institutional network in which they were embedded, which includes procedures they are required to follow as a federal agency proposing an action on a federally designated National Wildlife Refuge with endangered species. Another letter from the FWS to the McAllen Sector’s Chief Patrol Agent dated 8 September 1997 supports this hypothesis. Here, the Chief is informed that “activities which involve Refuge lands must be coordinated with the Refuge Manager prior to such activity” (U.S. FWS 1997b). In short, the agency was blind to the network of institutions and legal mandates acting in association with Tamaulipan Thornscrub to ensure the livelihood and well-being of the many non-human creatures making it their home.

Second, the letters bring to light the privileged position of the ocelot and jaguarundi in south Texas, now the northernmost extent of their hemispheric range. Only about 100 ocelots inhabit the southern United States; of these, thirty to forty inhabit Laguna Atascosa National Wildlife Refuge, and others make their home in brushland elsewhere. In south Texas, a jaguarundi sighting has not been confirmed since one was found dead along a roadway in 1986, although unconfirmed sightings were reported in 1988 and 1998 (Gee 1997; Schiller 1997a; U.S. Department of Homeland Security [DHS] 2004). Their status as endangered under the ESA compels a wide range of actors into action, however, including numerous legislative acts and treaties, land managers, plants and animals, environmentalists, scientists, nature enthusiasts, cameras to document the nocturnal activities of ocelot and jaguarundi, and a land acquisition program funded by the federal government and private NGOs. In sum, the cats are constituted in relation to a group of actors that gather in ways to protect habitat; indeed, they cannot be understood outside of it. I call this assemblage of heterogeneous actors the south Texas Thornscrub collective.

In naming this collective, however, I do not wish to imply that it is a fixed entity in time and place; rather, I use the term as an analytical device to hold the range of actors compelled into action at specific moments.

Lights, Action, Cat Power

The cats became even more important in shaping the politics of boundary enforcement in south Texas after the INS held a closed-door meeting with government officials three weeks into Operation Rio Grande in mid-September 1997. Immediately afterward, Texas Republican Senators Kay Bailey Hutchison and Phil Gramm wrote a letter to then Secretary of the Interior Bruce Babbitt complaining about what they called an “outrageous” situation. Specifically, the senators were upset about the FWS’s suggestion “that the use of bright lights as part of the Border Patrol’s new Operation Rio Grande may be disturbing endangered nocturnal ocelot and jaguarundi cats” (Hutchison and Gramm 1997). “As concerned as we are about endangered species of animals, we are even more concerned about an endangered generation of children in America,” one in four of whom, according to the senators, had been offered illegal drugs from Mexico in the past year (Hutchison and Gramm 1997). In voicing their objections to the cats’ privileged position in the south Texas Thornscrub collective, the senators enrolled children and drugs into a contingent gathering of actors working to enforce the boundary, which I call the boundary enforcement collective, but children and drugs failed to make a difference to border politics the way the cats did.

For months, local papers carried articles about what one journalist called “a cat fight between two federal bureaucracies” (Katz 1997). Meanwhile, the FWS continued its informal discussions with the Border Patrol, which involved field visits to negotiate the actual position of stadium lights to prevent them from shining directly onto refuge tracts in the wildlife corridor (Gee 1997). Informed of the federal regulations it was required to follow, the INS issued a draft Biological Assessment (BA) in September 1998 and a Draft Environmental Assessment in October. The assessment concluded, “because of the close cooperation between the USBP and FWS in determining the project actions in general and the location and direction of the lighting in particular and because FWS has final review over these actions, the project is not likely to significantly adversely affect any listed species addressed in this BA” (U.S. Department of Justice 1999 E-27).
The INS’s conclusions were not satisfactory to south Texas environmental NGOs, however, whose members had worked with the FWS for two decades to raise political and financial support to extend the existing refuges and create a wildlife corridor on the banks of the Río Grande. Members of the south Texas Thornscrub collective moved to increase its strength by enlisting the support of immigrant rights organizations, concerned that undocumented migrants were simply being pushed into “more dangerous terrain to the east and west of the operation” (Schiller 1997b). This unusual assemblage came together to address then INS Commissioner Meissner; their letter stated that the draft Environmental Assessment “is grossly inadequate” (U.S. Department of Justice 1999). When the groups received no response, the Sierra Club, Frontera Audubon, and Defenders of Wildlife sent a sixty-day notice of intent to sue the INS and the Corps of Engineers in March 1999 over violations of the National Environmental Protection Act (NEPA) and the ESA (Crystal and Glitzenstein 1999). In February 2000, the environmental groups filed their lawsuit in federal court.

In suing the INS, these groups followed a U.S. trend in using litigation to force federal agencies to comply with their own mandates. By enlisting the minuitia of federal regulations, expensive lawyers in Washington, DC, and the vagaries of the courts, the south Texas Thornscrub collective enlarged its network, thereby increasing its strength relative to the boundary enforcement collective. In a settlement reached with the Department of Justice in September 2000, the Border Patrol agreed to enter into formal consultation with the FWS and complete an Environmental Impact Statement, which is a much more rigorous process required by the ESA (Meyer Glitzenstein & Crystal 2010). Members of the south Texas Thornscrub collective represented the agreement as a victory. As Defenders of Wildlife’s vice president for law stated, the federal government “has finally admitted that it is fully bound by environmental laws” (Schoch 2000). Senator Hutchison, in contrast, reacted negatively: “I cannot imagine a group that would value the habitats of a nocturnal ocelot over keeping drugs out of our country that are preying on our children” (Schoch 2000).

In sum, the cats and their existent and professed need for dense brush and the cover of darkness came to matter tremendously to the politics of boundary enforcement; indeed, the furtive felines as presently configured are part of a collective that compelled the Border Patrol to change its operational plans. Tracing how and why the cats came to affect everyday practices—not as individuals but as embodied beings who gather in association with others—suggests that agency is a doing-in-relation, a collective enactment rather than an individual attribute or intention.

How does this framing of agency account for power asymmetries between different collectives with differing ideas about how best to live together? This is a crucial question, for after the tragic events of 11 September 2001 (hereafter 9/11), the strength of the south Texas Thornscrub collective was challenged, its durability tested. In what follows, I explore this question to critically examine the political import and efficacy of relational ontologies for understanding how geopower is practiced and political boundaries enforced.

Cat Power in Question

In the immediate post-9/11 context, terrorism, immigration, and border security were continuously conflated, leading to the creation of the DHS in 2002 (Payan 2006). In this politically charged context, the threat of terrorist attacks was used to justify new enforcement measures along the border. Gaining “operational control” of the border, however, has required the ever-shifting boundary enforcement collective to enlist new allies. One such ally is the Real ID Act, which President Bush signed in March 2005. According to Republican Congressman James Sensenbrenner, the Real ID Act “is aimed at preventing another 9/11-type attack by disrupting terrorist travel and bolstering our border security” (U.S. House of Representatives Committee on the Judiciary 2005). Attached to this act is a provision giving the DHS secretary “the ability to waive laws necessary to complete border fences and roads to improve national security” (U.S. House of Representatives Committee on the Judiciary 2005). The provision exempts the DHS from all federal, state, tribal, and municipal laws (Nuñez-Neto and Garcia 2007). No other law in U.S. history has given a federal agency the ability to so completely and unilaterally sidestep federal legislation (Mumme 2006).

The provision was included at the instigation of California politician Duncan Hunter and others frustrated by unique collectives of human and nonhuman actors working to thwart construction of the last three miles of the triple border fence in San Diego, California. In 2004, for instance, Customs and Border Protection’s application to complete the last three miles of fencing was rejected on the grounds that it was detrimental to the Tijuana River National Estuarine Research and Reserve (Mumme 2006; Nuñez-Neto and Garcia 2007). After
passage of the Real ID Act, DHS Secretary Michael Chertoff promptly invoked the provision to complete the fencing project by waiving the NEPA, ESA, Federal Water Pollution Control Act, National Historic Preservation Act, Migratory Bird Treaty Act, Clean Air Act, and many other regulations (Nuñez-Neto and Garcia 2007). Chertoff invoked the act again in 2007 (Nijhuis 2007) and twice in 2008 to build border fencing authorized by Congress in the 2006 Secure Fence Act (U.S. DHS 2008).

Although lawmakers connect the Real ID Act with fighting terrorism, I argue that the provision granting waiver authority stems from the obstacles facing boundary enforcement collectives as they confronted nature-inclusive collectives in the borderlands. Without federal environmental legislation to contest the actions of the boundary enforcement collective, the strength and durability of nature-inclusive collectives is severely limited. Indeed, emergent collectives such as No Border Wall, which opposes the construction of border walls in south Texas, are unable to build effective networks that include endangered species, as the Thornscrub collective did in the late 1990s.

Yet, adding the waiver to their arsenal does not produce a clean slate onto which boundary enforcement collectives can project and operationalize exclusionary territorial strategies. This is also to say that the borderlands have not been emptied of the many humans and nonhumans constituting it. Hence, boundary enforcement collectives continue to come up against nature-inclusive collectives that obstruct and challenge their presumed authority to dictate life, livelihood, and well-being in the borderlands. This is especially the case in the Rio Grande Valley where new gatherings are forming with the río as an intimate and embodied being that connects rather than divides families, cultures, and economies (Blumenthal 2008). These heterogeneous ensembles are slowly chiseling away at the linkages holding the boundary enforcement collective together and fostering its powerful veneer of solidity (Miller and Dinan 2007; Taylor and Gomez 2008).

Concluding Discussion: Methodologies for a Posthumanist Political Ecology

Addressing nonhumans as actors allows me to tell different and more complex stories about the politics of boundary enforcement, stories rooted in daily practices involving lively encounters between embodied beings at specific sites of action. As shown here, the vast Sonora Desert of diabolic terrain and the Rio Grande Valley of thorny scrub and elusive ocelots constitute boundary enforcement in ways that matter tremendously to political outcomes.

Whereas boundary enforcement officials call on terrorist threats or migrant deaths to justify the escalation of enforcement measures, and geographers point to the nexus of geo-economic and security forces, my research shows how heterogeneous and contingent nature-inclusive collectives have compelled the INS and then DHS to enlist a range of new allies into their networks to enforce the boundary and make it durable. Indeed, I argue that the waiver provision and the 700 miles of fencing are outcomes of everyday encounters and negotiations with collectives that knot together in ways that are for some ways of living together and not others (after Haraway 2008).

As the stories elaborated here suggest, accounting for nonhumans in the politics of boundary making is much more than an additive exercise. Doing so requires nothing less than reconfiguring agency, being and becoming in a world where politics is conventionally registered through talk, text, and intentionality (Philo 2005). Indeed, critical to posthumanist political ecologies is a relational conception of sociality: all beings—deserts, Border Patrol agents, felines, environmentalists—are treated as constituted in and through socio-political relations. From this perspective, those classified as nonhumans—whether living or inert—cannot be backdrops to (geo)political affairs but are integral to and constitutive of them. Accordingly, agency is reframed as collective performance, rather than the product of individual intention.

Following from these crucial insights, who or what acts and how becomes a question of empirical investigation (Latour 2005). Rather than call on external forces operating at national or global scales—as in nativism or neoliberalism—to explain historically contingent socioeconomic and political ecological formations, a posthumanist political ecology follows embodied actors. Such an approach stays close to the particularities of bodies at the sites in which specific practices and associations constitute and make possible such logics or imperatives in time and space (Mitchell 2002; Latour 2005; Marston, Jones, and Woodward 2005).

Ultimately, posthumanist political ecologies necessitate new, creative methods to cultivate “the ability to address nonhumans as colleagues in the process of producing knowledge that makes new knowledge possible” (Hinchliffe et al. 2005, 253). The analysis presented here, for instance, was made possible by corporeal encounters with the Sonora Desert, which pushed me to
feel and comprehend the desert in new and unexamined ways. Finding innovative ways to think with and through encounters such as this will contribute to the humbling, yet illuminating process of acknowledging humans to be the intimately connected, intradependent, indeed coevolved beings that we are. At stake is the emergence of a new, more collaborative and therefore accountable ecological politics.

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Notes

1. I interviewed land managers in six national wildlife refuges in Texas and Arizona, including the Lower Rio Grande Valley National Wildlife Refuge (established in 1979), Santa Ana National Wildlife Refuge (established in 1943), and Laguna Atascosa National Wildlife Refuge (established in 1946) in Texas; and in Arizona, Buenos Aires National Wildlife Refuge (established in 1985), Cabeza Prieta National Wildlife Refuge (established in 1939), and San Bernardino National Wildlife Refuge (established in 1982). To ensure anonymity and confidentiality, I use “land manager” regardless of actual position or provide only the name of the state in which they are located.

2. NMD “is an organization whose mission is to end death and suffering on the U.S./Mexico border through civil initiative” (No More Deaths 2009). Between 2005 and 2009, I spent a total of eight weeks at NMD’s camp in Arivaca. I also spent approximately two weeks at NMD’s Nogales project, which collaborated with the Sonora State Commission for Attention to Migrants to meet deportation buses and provide returned migrants with food, water, and basic first aid twenty-four hours a day. Given that my primary research is not centered on the experiences of migrants, I remained in the role of volunteer when interacting with migrants and followed NMD’s protocols. Although experiences related to me in such encounters necessarily inform the analysis presented here, I do not include the voices of border crossers. For detailed accounts of how migrants experience border crossings, see the excellent work by Nevins (2008) and Urrea (2004).

3. My use of the term posthumanism alludes to scholarship exploring nonhuman agency and challenging anthropocentrism on ontological and epistemological levels. Due to space constraints, I primarily reference authors with a strong presence in geography.

4. Although I borrow the term collective from Latour (2005), I use it in a slightly different way. For Latour (2004, 59, 238), the collective alludes to the “progressive composition of the common world” that includes humans and nonhumans. Latour distinguishes the collective from the term society, which is assumed to consist of humans only. My use of the term collective more closely resembles the way others use network or assemblage.


6. Researchers express ambivalence about Border Patrol apprehension data because they measure number of apprehensions rather than people and, therefore, cannot account for the fact that some individuals are apprehended multiple times (Cornelius 2005). Researchers for the Congressional Research Service caution against using the data to correlate increases or decreases in apprehensions with border enforcement measures (Nuñez-Neto and Garcia 2007). Although the Government Accountability Office (1999, 2001, 2006) repeatedly called on the INS to improve its data collection and evaluation mechanisms, these are the only data available and therefore are widely used as an indication of broad trends.

7. Crossing the U.S.–Mexico boundary without authorization has always been hazardous (U.S. GAO 2006), but the U.S. Border Patrol did not systematically compile statistics on migrant deaths until 1998 (Cornelius 2001).

8. The USGS map is dated 2001 and therefore might be out of date. For instance, the 2001 USGS map of the entire U.S.–Mexico border indicates that federal and tribal lands represent 648 linear miles, yet a 2004 U.S. GAO study indicated that 820 miles are in federal and tribal lands. Recent years have seen increased interest in border-protected areas and therefore new calculations of lands along the border, but Texas has not been in the spotlight; thus, new data are not available.


11. I use the term nature-inclusive to refer to those collectives in which human actors work to support the well-being
of nonhuman living beings. The term is problematic, however, in that it presumes an ontological split between humans/nonhumans.

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