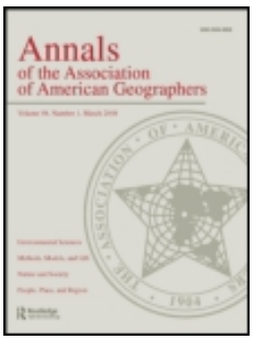

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Border Crossings: New Geographies of Protection and Production in the Galápagos Islands

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The Galápagos Islands, Ecuador, have been managed as a fortress of conservation since the late 1950s. Well-maintained borders separate the Galápagos National Park (GNP) and inhabited areas as incommensurable spaces of natural (protected) and human (productive) life. In recent years, ecological, political, and economic crises have challenged this separation and stimulated shifts in the socioecological thought that underlies conservation management. In this article, we draw on the insights of border studies and of studies that recognize the hybrid and collective nature of conservation to trace the discursive and material exchanges that traffic the GNP border. The goal is to resituate the contribution of borders in nature conservation: from borders as technologies that fix space for protection to borders as sites of lively encounters with the potential to transform conservation theory and practice. *Key Words: agricultural production, borders, islands, lively encounters, nature conservation.*

位于厄瓜多尔的加拉巴戈 (巨龟) 群岛, 自 1950 年晚期开始, 便被经营成为保育的要塞。维护良好的边界, 将加拉巴戈国家公园 (GNP) 与居住区域隔开, 成为 (保育的) 自然与 (生产的) 人类生活不可兼容的两造空间。近年来, 生态、政治与经济危机, 挑战了此般分隔, 并触发了以保育管理为基础的社会生态思想的转变。我们于本文中, 运用边界研究以及确认保育的混杂与集体本质的研究洞见, 追溯在 GNP 边界往来的论述及物质交换。研究目的在于将边界的贡献重新置放于自然保育之中: 从边界作为修补保育空间的技术, 到边界作为具有改变保育理论及实践潜能的活跃接触场域。 *关键词: 农业生产, 疆界, 岛屿, 活跃的接触, 自然保育。*

Las Islas Galápagos, en Ecuador, han sido manejadas como una fortaleza de la conservación desde finales de los años 1950. Límites bien mantenidos separan el Parque Nacional Galápagos (PNG) de las áreas habitadas, como espacios inconmensurables de vida natural (protegida) y humana (productiva). En años recientes, las crisis ecológicas, políticas y económicas han puesto a prueba esta separación y estimulado cambios en el pensamiento socioecológico que subraya la administración conservacionista. En este artículo, buscamos apoyo en las perspicacias de los estudios de fronteras, y de estudios que reconocen la naturaleza híbrida y colectiva de la conservación, para trazar los intercambios discursivos y materiales que hacen curso a través del límite PNG. El objetivo es re-situar la contribución que prestan los límites en la conservación de la naturaleza: de los límites como tecnologías que fijan espacio para la protección, hasta límites como sitios de encuentros vitales con el potencial de transformar la teoría y la práctica de la conservación. *Palabras clave: producción agrícola, límites, islas, encuentros vitales, conservación de la naturaleza.*

"Good fences," the saying goes, "make good neighbors." Fences, along with walls, daily patrols, and vegetation clearing, are examples of boundary-making practices that distinguish things being "north" or "south" of the border, belonging "here" or "there," of being "mine" or "yours," and "human" or "natural" (e.g., Paasi 1998; Sparke 2005; Braun 2008a). Protected areas and parks, spaces imagined as remnants of nature within a human-altered matrix, exemplify this (b)ordering. Conservation policies for protected areas and parks often rely on "fortress-style" conservation that fixes socio-natural orders of nation, illegality, and privilege (e.g., Neumann 1998; Peluso and Lund 2011) through strict borders. But these borders are not static; they can and do "leak." People, commodities, animals, microbes, and other things cross borders and are entangled in a variety of natural, technological, and cultural relationships that disrupt temporal and spatial orders. Many scholars and conservation practitioners now recognize how humans and nonhumans, crossing between protected and unprotected spaces, challenge the fixity of territorial identities and the hierarchies that structure access to resources (e.g., King and Wilcox 2008; Sundberg 2010; Johnson et al. 2011; Sletto 2011). Others also emphasize that it is just as important to "ecologize" politics and human activity, to recognize the role of nonhumans in the assemblage of territories, human

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agency, and intentionality (e.g., Mitchell 2002; Latour 2004; Hinchliffe et al. 2012).

Whereas the bio-political dimensions of conservation (b)ordering are, clearly, a topic deeply engaged by scholars, less attention is paid to how borders and border crossings feed back to conservation theory and practice. The expanding literature on borders is helpful here. Borders express and shape the constitution of worlds: Borders are not exceptional but part of a much larger whole of dependencies. Borders are continuously being made through lively, continuous encounters (Haraway 2008) and the circulation of narratives (Behar 2003; Johnson et al. 2011). They need to be acted on, narrated, and performed to continue to be meaningful (cf. Butler 2004). In this continuous performativity lies the possibility for slippages in how borders are socially and materially constructed and experienced (Hyndman 2010), which allows for new and established epistemologies to confuse spatial and temporal distinctions (cf. Braun 1997). As such, borders ground epistemological shifts; difference and contingency are most evident and graspable at borders (Escobar 2008; Mignolo 2012). Borders also transform the worlds that shape them, sometimes in astonishing ways. Borders are continuously making or doing work, enhancing social frictions and hierarchies that allow access to desired spaces for some but not all (Rumford 2006; Coleman 2007).

Conservation borders may be intentionally set up and enforced to differentiate between spaces of protection and production, but borders also participate in the reorganization of those very spaces (cf. Braun 2008b; Hinchliffe et al. 2012). Borders change the form and function of things (e.g., by preventing or endorsing movement) and in the process, borders change, too (e.g., the meaning, composition, and function of a border can change as it limits or increases access). Through these changes, borders contribute back to the political projects that made them possible, while also challenging hegemonic practices of spatial differentiation. Thus, borders are also grounds of ethical practice: They are sites where the articulation of different worlds, networks, and assemblages becomes evident, and their asymmetries and differences available for intervention (Blaser 2010).

Here, we use the term *border crossings* to flag how the exchanges of life, things, and ideas have the potential to reorganize the practices and ethics of protection and production. We turn to the Galápagos National Park (GNP) in Ecuador, an exemplary site of fortress conservation where new formulations of protection and production are taking root, to examine the role of border crossings in conservation thought and practice. The border of the GNP is a historically contingent site from which conservation expertise develops and is put into practice—a case where the local "speaks" about the situated dynamics of conservation theory (Yeh 2009). Conservation borders in Galápagos divide the archipelago into natural or working landscapes. People, organisms, and ideas cross the border regularly, sometimes changing the natures of the borderlands, and reveal the potential for new ways of negotiating the difference between production and protection. This article examines how border crossings leak back to the managing institution, the GNP Service (GNPS), influencing management actions and park–farmland relations. As we demonstrate, conservation epistemic shifts involve a reevaluation of what constitutes the spaces of nature and work in Galápagos. Such shifts are a reflection of the leakiness of borders, embodied by border crossings that introduce uncertainty in the dominant idea of a "good" border. Yet, not all crossings are equal or stimulate a recognizable response. Bordering and rebordering work through asymmetric relations of power. Both the relations of power and conjuncture shape the range of possibilities for redefining the border.

In Galápagos, park boundaries are built up and broken down in interviews, policies, and daily practices, in relation to agrarian histories, conservation efforts, and sustainability imperatives.[1] This dynamic rebordering diffracts the dominant duality of protection–production space. To examine the value relations that articulate park and inhabited spaces, we draw on over 120 interviews conducted over five months between 2007 and 2012, in three islands of Galápagos: Santa Cruz, Cristóbal, and Isabela. Our team visited during the months of May, June, and July, with three principal researchers and two or three research assistants per visit—all of whom speak Spanish (native speakers or advanced fluency) but are not native to the islands. We interviewed twenty-two park employees; thirty-five governmental and nongovernmental organization (NGO) representatives (e.g., the Galápagos governance board, elected officials, employees of the Charles Darwin Science Station, environmental and sustainable development organizations); and sixty-five local residents (intermediaries, fisherfolk, and farmers) in work, home, market, and leisure spaces. We used semistructured questionnaires on the history of conservation and settlement on the islands, conducted open-ended interviews on the challenges and opportunities confronting residents of the islands, conducted life histories with five farmers, and reviewed literature produced by the GNP and local government.

Most interviews took place in Santa Cruz Island, home to the majority of residents and park managers,

followed by Cristóbal and Isabela Islands. Some interviews were short; others went on for several hours. This divide between qualitatively rich and qualitatively thin interviews did not fall along class, ethnic, or occupational lines. Many scientists, park managers, and public servants engaged with us enthusiastically as our conversation reflected heightened interest in understanding the multiple social dimensions of conservation landscapes. Interviews with fisherfolk and farmers were sometimes short and awkward, and the interviews became more like surveys, with brief responses to each question. In other cases, the interviews turned into day-long conversations where farmers led us on tours through their property and shared memories, visions, and meals. Although we cannot offer an a priori structural explanation for these different interview experiences, we do know that residents of the Galápagos—whether scientists, government officials, local teachers, conservationists, farmers, or fishers—have thought deeply about the future of the islands and have strongly held opinions. They have also been interviewed before—some repeatedly—and some showed visible irritation at being asked for their stories again.

Our team also engaged in participant observation. We joined rangers during border perimeter walks when possible, allowing ourselves an experience of walking the border as a ranger would.[2] These walks afforded a still-constrained but more open window onto the relations of border thinking. We also sought to experience everyday living in the islands. We shopped regularly at the weekly market in town, running into several people we had interviewed. We enrolled our children in local schools and attended meetings on citizen affairs. None of this work enabled us to feel like "insiders" but provided insight into the excesses of meaning that concentrate around the park's many borders.

The article is organized as follows. First, we situate conservation (b)ordering in Galápagos according to how residents in Galápagos perceive it. Although these stories derive from subject positions that are not mutually exclusive or fixed (e.g., scientists, officials, farmers), they point to the trajectories of the GNP border as a site of meaning-making. The subsequent two sections outline shifts in the established protection–production dichotomy in the islands in the last decade, and trace examples of how border crossings leak back to and complicate the dichotomy. We conclude with an analysis of how borders and border crossings speak back to conservation theory and practice and, more broadly, to nature–society studies.

(B)ordering the Galápagos National Park

The Galápagos Islands have developed multiple associations with the rest of the world (Grenier 2007, 2012). In the mid-1880s, it was the site of sugarcane plantations and mining activities run by mainland entrepreneurs. In the mid-1940s and 1950s, the Ecuadorian government encouraged migration and settlement in the archipelago. In 1973, Galápagos finally became the twenty-second province of Ecuador, following a long struggle over local resource control between Galapagueño families and national economic elites lobbying to annex the archipelago to mainland provinces. The islands are also connected to histories of global migration: Over the last 200 years, Norwegian, Russian, German, North American, and Ecuadorian migrants, to name the most salient, attracted by natural beauty, hope for a better life, and economic prosperity, have sought to make the islands home. Today, their descendants inhabit urban and rural zones on four islands: Santa Cruz (the tourism and park management hub of the archipelago), San Cristóbal (the administrative capital), Isabela (also a hotspot of ecotourism but not of human settlement), and Floreana (one of the original human settlements in the archipelago but sparsely populated).

In the late 1950s, further global and national articulations transformed Galápagos into a space of conservation. In 1959, the Ecuadorian government, responding to increasing international concern over the fate of the islands, created the GNP to protect the unique combination of endemic species and rare environments on the islands. The GNP encloses 97 percent of the archipelago's land mass, 8,000 km^2, as a protected space unavailable for human consumption except through park-approved nature-tourism projects. The remaining, adjacent 3 percent of land, now home to approximately 25,000 people across four islands, is assigned for human habitation, resource use, and economic production (Figure 1).

Further national and transnational measures enhanced the (b)ordering of the GNP as responses to a series of perceived conservation crises (González et al. 2008). In 1978, the United Nations Educational, Scientific and Cultural Organization (UNESCO) designated Galápagos as the first World Natural Heritage Site, which reinforced the nature–society othering process. In 1998, a Special Law established biosecurity measures to prevent or slow down the increasingly evident movement of nonhumans from mainland Ecuador to the islands to preserve the difference between human and natural spaces (Ospina 2006). Between 2001

Figure 1. The Galápagos Islands. Map by Amanda Henley. (Color figure available online.)

and 2007, the Global Environment Fund and other partners invested over US$43 million in the Control of Invasive Species in the Galápagos Archipelago project to eradicate introduced species (Gardener, Atkinson, and Rentería 2010). Nearly US$1 million has been invested in native plant species restoration and, between 2001 and 2007, twenty-nine eradication projects targeting twenty-three different nonnative species within the GNP were carried out, with varied levels of success (Gardener, Atkinson, and Rentería 2010). As in other parts of the world, channeling large amounts of funds for conservation while neglecting or discouraging local economic development has pitted those focused on preserving habitats and species against those concerned with socioeconomic improvement in the islands (Nicholls 2004; Bassett 2009; Quiroga 2009). In 2007, Ecuador's President Rafael Correa declared the archipelago "at risk" and UNESCO added Galápagos to its list of Sites "In Danger" due to these tensions—measures that were lifted in 2010.

This (b)ordering of spaces of production and protection has observable effects, although they are rarely as neat as official discourse presumes. In some places on the islands, the physical boundary between park and inhabited areas is highly visible. Fences, barbed wire, checkpoints, and continued clearing of vegetation that encloses uninhabited and expropriated areas deemed ecologically fragile are faithfully maintained by park rangers and cited by rangers and residents alike as fundamental to determining how life is lived in Galápagos. According to park rangers and scientists, such enclosure is responsible for preserving many valuable native species living within the park—this is good (b)ordering practice. Park authorities refer to inhabited spaces as "a source of problems" and position the border as a privileged mechanism for containing these problems. One of the key problems they identify is the illicit resource extraction and introduction of nonnative species committed by local residents. In other places on the islands, however, the border is not that easily discernible, such as where the park abuts sparsely settled rural spaces. Protected areas and the surrounding rural spaces often look very similar, sharing vegetation composition and ecological zones, although they represent different forms of use. Native and introduced species also problematize space distinctions; they disperse across borders without regard for their social and political meanings and pollute the categories of protected versus work spaces. Sometimes the park ranger force is so limited that borders cannot be maintained on a regular basis and the local vegetation, native and introduced, overtakes the border in ways that neither farmers nor rangers desire.

Within this framework of protection and threatening spillover effects, the GNP and inhabited areas become particular epistemological spaces. Within its borders, the park is an "enduring coincidence of species and spaces of wildlife" (Whatmore and Thorne 1998, 435), the space where emblematic native and endemic species live, from the giant Galápagos tortoises, scalesia and miconia forests, to finches and mockingbirds documented by Darwin in his historic visit in 1835. Rural areas, on the other hand, are often described by rangers and residents through a dual perspective: as a repository of local memories and nostalgia for the days when early colonists survived from the land against great odds and also as a space of work, primarily agriculture and livestock, albeit one with a low population density. This dual perspective is historically situated. When the park was established in 1959, it shaped the identity of the rural area through a multitude of "conservation enclosures" (Kelly 2011). First, the park imposed restrictions on specific spaces of subsistence, dictating where hunting, raising animals, and resource collection could take place. Older residents remember with nostalgia how easy it was to collect lobster and Sally Lightfoot crabs; now the park prohibits such practices. Giant tortoises roaming freely throughout the land were widely consumed; now this is illegal. Settlers also brought domestic pigs and cows and raised them in communal pastures, but many of these

areas are now part of the park. Before the park was created, hunters had free rein to chase and kill wild pigs and cows, selling the meat and fat locally and to visitors.

Park rangers and rural residents illustrate the ambiguities and contradictions of living in a park–inhabited space divide. All park authorities are Galápagos natives or residents. Many grew up in areas now abutting the park and have fond childhood memories of living a healthy and clean life with nature. Although their families are still park neighbors who work the land, many expressed concern over the "lack of conservation attitude" among some residents, including members of their own families.[3] As such, rangers recognize themselves as both conservation agents and subjects; the park, and its border, where park and work meet, is a site where they negotiate their park and nonpark lives. For rural residents, living with protected nature as a neighbor is also described in contradictory ways. Some residents not working for the GNP, for example, liken themselves to endangered species because human well-being on the islands is perceived as secondary to preserving native biodiversity (Gardener, Atkinson, and Rentería 2010). Park borders (fences, barbed wire, control booths, etc.) remind them of the ordered distribution of resources in the islands. For others, it is increasingly about recognizing themselves as new kinds of agrarian subjects—a few even describe themselves as "farmers who conserve." In this sense, the Galápagos brings together distinct "lived epistemic spaces" (Stoler 2009), riddled with both confidence and existential doubt about the order, content, and boundaries of protected and rural space, and anxieties over what seem to be simultaneously supportive and contradictory categories: nature and work. For rangers and rural residents, these distinct spaces hail individual and collective commitments and attachments. Their associated subjectivities (e.g., ranger, manager, farmer) are part and parcel of the "spatial imperative" (Probyn 2003) of living in and with areas divided for either nature or humans.

Whereas the space of nature and the space of work are historically seen as mutually exclusive, today, park rangers and residents are expressing a different way of living together. Some conservation advocates increasingly emphasize the need for alternative ways of imagining conservation practice in the islands (Watkins and Cruz 2007; Gardener and Grenier 2011). Park authorities and rural residents appear to be negotiating antagonistic memories with visions of a collective future epitomized in the increasingly visible sentiment, placed on public benches and official banners throughout town, of "*Galápagos eres tu*" (Galápagos is you). According to the director of the GNP in 2009, agricultural spaces need to be known differently: The Park must promote "an environmentally conscious Galapagueño community" that internalizes restrictions on the ecological footprints of its members and conserves threatened species: "they, too, are the Park" (Wolford, Lu, and Valdivia 2013). Rural lands abutting the GNP are increasingly seen as offering potential solutions, rather than problems, for protected spaces. In other words, parks and surrounding rural areas are interdependent (Halfacree 2006; West, Igoe, and Brockington 2006) and attention to how their structures and functions articulate is fundamental to negotiating the spatial imperatives of protected and transformed natures.

As park rangers and residents suggest, living with protected areas is a way of thinking and being (Fletcher 2010) within and between spaces of protection and production. Borders are not simply internalized; humans (and nonhumans) negotiate, resist, accommodate, and cross borders in ways that disrupt the modernist compulsion for order and reflect the economies of borderland spaces. In the next section, we explore these aspects of contextualized exchange of knowledge, imagination, bodies, and practice of nature conservation.

Spatialized Narratives of Action: Protection and Production at the Borderlands

A World of Opposites: The 97 Versus 3 Percent Problem

The division of archipelago governance into 97 percent of the landmass as park and 3 percent for human use is a dominant spatial narrative in Galápagos. Park and inhabited areas are lived epistemic spaces and their borders embody and prefigure anxieties over spatial orders and crossings. According to park managers and scientists, the rural space abutting the park is particularly threatening. Farmland contributes to environmental degradation both because of what farmers do (e.g., plant invasive species and hire illegal migrants), and because of what they do not do (e.g., eradicate invasive species and produce sufficient food to satisfy local demand). Moving and working along the park–farmland border, like park rangers and residents do, is a way of cognitively and physically sedimenting knowledges about protection and production spaces (cf. Turnbull 2007). The quotations that follow, drawn from three different conversations during perimeter walks of the border with rangers in the Terrestrial Control Division, illustrate examples of spatialized

narratives—notions of belonging, transgression, and neighborliness—in relation to the borderlands. These narratives, along with the discussion in the following section, hint not just at the difficulty of truly separating park and inhabited land but, more important, at the productive potential of border crossings, of the possibility that some production is good for protection and vice versa:

> We have problems with the 3 percent. We oversee seventy-five kilometers of park perimeter, the border between the park and inhabited areas. People try to break through the limit to throw trash or let their animals in, or take wood. The people that work in [perimeter] Control aren't always viewed well by the community, but we are Galapagueños too. . . . In 1997, during one of our walks we found an encampment of sea cucumber fishers in Isabela. We fought and someone suffered internal injuries as a result. (Interview, 8 July 2009)

> People make roads and bring in trucks to take wood, like quinine, avocado, cedar. Farmers provide vehicle access at the border between the farm and the park. Many who extract wood have contracts with the park to extract introduced, not native, wood. They follow a procedure: They identify the sector where trees will be extracted, how many, and submit their request to the park. . . . They pay to take the wood out. . . . Once we received a tip that a guy was extracting wood without permission. He had built a road to transport wood. We fined him and confiscated the saw and wood. . . . Some people in the nearby town saw me at a party and said they would hurt me if they saw me again because of this. I left the party to avoid conflict. . . . I am from here, I grew up here, my father has a farm here. How am I not going to show up in town? (Interview, 29 June 2009)

> Sometimes there are problems with the 3 percent. But not now, and not here . . . we need to have good relations. We ask for permission to use their trails like we are doing now, it makes our work easier. . . . We do not disturb their land. They know we are doing our work. We have our area and they have theirs. (Interview, 17 May 2012)

These three quotes suggest that histories of separation are always simultaneously histories of connection. Residents also narrated everyday experiences living with, against, and amidst the park's management schemes. A resident of San Cristóbal recalls that the park took land he had planted with cedar, citrus, and avocado trees, significant sources of income that he lost because protected species "need a lot of land." The park compensated him for his land by providing land elsewhere, but not for the labor and capital invested.[4] To harvest the wood and fruits he had planted, he had to request permission from the GNP and pay for extracting these resources. In Santa Cruz, older settlers talked about feeling powerless to counter land confiscations initiated by the park. A sixty-nine-year-old cattle rancher who arrived in the mid-1950s explained that early settlers had self-organized to determine the most equitable distribution of land, so that each one would have access to schools, town services, and water sources, as well as ample land to work further away from the town center. Echoing Scott's (1998) reading of state spatial interventions, the GNP consolidated and disassembled these spaces, effectively reducing private landholdings and enlarging protected areas. In another instance, a fifty-seven-year-old woman from San Cristobal recalled how the park encroached on her land over the years: She noticed that with annual clearings of the GNP by rangers, the stakes that defined the border seemed to encroach on her land. When she compared her current farm boundaries with the original title of the land she found that the park had indeed appropriated some of her farm over the years. Rural residents, too, make territorial reconfigurations of their own. In the early days of the park, individuals moved boundary markers to stake claims over planted forests of Spanish cedar and citrus groves, highly priced endemic hardwood species such as matasarno, or habitats for wild game.

An Emerging Companion Practice: Break Down the Limits

Other narratives circulating in Galápagos, themselves fraught with tensions, challenge spatial purity or separation. The 2007 "at risk" declaration by both President Correa and UNESCO, and political instability in the mainland that distanced national control over local decision making, became a moment to put into practice what the park director at the time called a "*visión desde adentro*"—a vision from within—that "breaks down the imaginary boundaries of the park." A new (b)ordering, a sort of "companionship" (Haraway 2008) centered on reorganizing the rural, became central to this new vision.

Crucial to implementing a companion vision within the rural areas is the 2005 Management Plan. Defined by a ranger in 2008 as "a conceptual change," the plan was assembled via several networks coming together in Galápagos: The language and structure was defined by the local Galápagos government, the GNP, and the Charles Darwin Station (CDS), and funding was provided by the U.S. Agency for International Development (USAID), the Inter-American Development

Bank (IAD), and the Spanish Agency for International Cooperation (AECI). The goal was to outline an integrative approach toward shared and adaptive management of park and inhabited areas (GNP 2005, 16). The new epistemic direction emphasizing complex systems is not surprising; one of the most influential actors in the redrawing of park management is the AECI, an agency dedicated to fomenting principles of resilience in conservation. AECI has a long-standing relationship with the GNP and leading rangers have placed great trust in the agency: "Araucaria [AECI] came with a vision that broke our limited views on park management . . . they made us realize that things needed to change" (Interview, 3 June 2008). As the Head of the Management Division described, adaptive management involves new ways of knowing park–rural relations:

> Monitoring is important but we need to understand the reasons behind doing it: it is about determining ecological functions in their totality. . . . It is a different way of working altogether, and it hard to understand this from within and outside the park . . . we want to work where the problems generate, beyond the legal limits of the park. (Interview, 7 July 2009)

The 346-page plan is an archive tracing management trajectories and anxieties: It collects a history of how the plan came to completion; worries over the risk of the spread of invasive species, increasing human population, and lack of integration with local communities; historicizes how anxieties over natural patrimony have changed according to human-induced changes since the creation of the park; and identifies ways to tame these anxieties. As the plan states, "It is paradoxical that *the park does not have a more active presence in the agricultural area*" (GNP 2005, 69), given that these spaces are a historical source of invasive species where native ecosystems are at most risk. The plan marks the emergence of a different ontology of conservation, shifting the emphasis from human absence or presence to the function of a park-and-rural totality. According to park managers, the companionship approach supports the emergence of an "island culture" of belonging grounded in territorial identification and pride in living in the islands, the operation of a strong socioeconomic system based on the principle of a common good, and the conservation of ecological integrity (GNP 2005, 92).

The plan seeks to build socioecological resilience (Folke et al. 2002; Plieninger and Bieling 2012) in park–rural borderlands in which changes and disturbances are dealt with without altering the essential characteristics (e.g., function, structure, feedbacks, identity) of the system in question. As such, the plan advocates adaptive comanagement where multiple stakeholders collaborate to foster flexibility, social capacity, and constant improvement. For the head of the management division, the plan calls for a shift of the "imaginary boundaries" between rural and protected areas:

> Before 2005, all management plans said that the park works from and for the ninety-seven percent. . . . If on the outside there were rats, pests, weeds, the park did not have an opinion, it did not help, did not participate, did not invite others to talk about these issues. When we were successful with the control of invasive species, farmers had no idea how to control them. . . . Our institutional vision was: they are not park. Now you hear: the park has no limits. The limits don't exist. To do this, we need a new structure, not the park hierarchy but a park that talks with and listens to the community. (Interview, 3 June 2008)

The epistemic shift on the "rural problem," from neglected to intervened space, marks a new direction of park action, which coincides with ongoing debates about production, improvement, and sustainability around the world (Leach 2008). It is one thing, however, to talk about breaking down imaginary boundaries, and it is another to turn this into a reality. A dual ontology looms over this emerging "good" border: It is easy to see the advantage of bringing farmland into park management as long as the goal is still to maintain the two as separate spaces. In this conception, one side of the border, the park, already knows the best pathways for their synthesis. Despite the excitement about potential interventions in rural spaces, the park has no legal jurisdiction there and must work closely with local residents and property owners, which has introduced ambiguities into the park–rural companionship. New kinds of border crossings are emerging from these shifts in conservation thought and practice—what Blaser (2010) called a proliferation of border dialogues—and all have the potential to disrupt existing and emerging conservation thought. Next we elaborate on these border crossings and their potential for formulating new protection–production dialectics.

A Proliferation of Border Crossings

Lively Leaks: Border Encounters

Spatialized narratives of action illustrate the lived epistemes of protection and work, but the physical border also speaks of transformative encounters. In 2008 and 2009, while walking a segment of the boundary

between the GNP and agricultural zones in Santa Cruz, we saw the border littered with cow droppings, suggesting that introduced animals cross park–rural boundaries on a regular basis. The rangers categorized these transgressions as "common" and imposing no serious threat to the park. Sometimes, the GNP authorities allow cattle to graze elephant grass on the park side of the border to help neighbors in need. A similar walk on Isabela in 2007, on the other hand, illustrates a different dynamic. Here, our team encountered the skeletal remains of a cow that had been recently shot, about twenty meters from the boundary. The skull had a small bullet hole right above the eyes, the size of an index finger. The ranger explained that these were the remains of animals that committed "repeat offenses." Although park–rural boundaries are meant to convey similar spatial meanings throughout the archipelago, the border encounters described suggest that epistemic spaces are negotiated and lived differently in each island and at different moments.

Another type of border encounter illustrates a different ethic of border crossing. In 2012, we joined rangers from the Terrestrial Control division of the GNP on their walk along the border in Santa Cruz. Rotating teams of rangers walk along different segments of the border regularly. The goal on this day was to make the border, a three- to ten-foot-wide path that runs over rocks and hard-packed dirt across the various ecological gradients of the island, more visible. At one particular point on the border, the two sides were fairly easy to distinguish: Native vegetation dominated the park and pastures dominated the inhabited areas. Wooden posts cemented into the ground, painted green and white and numbered consecutively, signaled the division between the two. Wearing medical masks and waterproof jackets to avoid poisoning, the rangers used low-pressure backpack sprayers to cover the foliage that creeps onto the border path with a fine mist of herbicide. Halfway into our walk and sweating profusely in our jackets, we crested the top of a steep hill, about 200 meters high, and looked back over the route just taken. The park border appeared as a line through the green vegetation (Figure 2)—a vision of separation that echoed the neat lines drawn on the park's ubiquitous territorial maps.

On our descent from our observation point on the hill we encountered a giant tortoise, one of the islands' most famous endemic species (Figure 3). Proving that borders are ambiguous sites of lively encounters and negotiation (Anzaldúa 1987; Rosaldo 1993), this tortoise sat on the border path, apparently crossing between park and farmland without attention to herbicides, rangers, or wire fences. Its nearby feces told a story of habitual border crossing: Close inspection revealed dozens of guava seeds, one of the hardest to control invasive plant species on the archipelago. Unfazed by this seeming transgression of a native species carrying an invasive one across the border, the ranger stood on the side and explained that fruit from guava trees from both sides of the border is a favored food source for tortoises. The tacit approval of a protected species in an unprotected space and of its transgressive behavior highlights the ambiguities of (b)ordering. The presence of tortoises on farms is a sign that the tortoise population is doing fine. No sign of tortoises (or their feces) at the border would be a concern for the park—although for some farmers tortoises are nuisances because they ruin family gardens. The narratives of border-crossing grazers thus illustrate a dual ethics at play in the management of nonhuman mobilities: Tortoises are natural transgressors with the right to cross even as they hijack spatial purification; cattle, on the other hand, are tolerated or, in the worst case, eliminated for being out of place.

Borderlands of Reciprocity: Orange Groves and Shade-Grown Coffee

Other border crossings illustrate the complexities of borderless companionship. With more than 25,000 people living in the archipelago and more than 180,000 tourists a year, Galápagos has a strong local demand for basic agricultural products. Local agriculture only satisfies about 10 percent of the demand on the islands, however, a result of restrictions in access to inputs and labor, enforced by the Special Law that limits the amount and variety of local production (Luz 2009). Under these conditions, the agricultural zone has become a space of work with low productivity and high outmigration—according to a park ranger, a place where farmers gather, not produce.[5] The Director of Terrestrial Control at the CDS, the main scientific organization on the islands, added that farmers "don't factor in their salaries; they put themselves up as capital, and get some pocket money and produce for subsistence." As a result, "Galápagos' supply of terrestrial food will never meet the demand" (Interview, 11 July 2011). Given the historical tensions between farmers and park rangers, one might imagine that outmigration from rural areas would be seen as favorable. But rangers and conservation scientists alike argue that when residents sell or, worse, do not work their land, the rural space becomes fragmented, which limits successful management of invasive species and exacerbates food

Figure 2. Northwestern border between the Galápagos National Park (right) and farmland (left) in Santa Cruz can be distinguished on the right side. The top of a border marker is visible on the bottom left of the frame. Photo by Gabriela Valdivia. (Color figure available online.)

insecurity. Park rangers thus increasingly argued that not only must the rural be maintained; it must be improved to become a vital economic sector supporting the local population. According to the representative of the CDS cited earlier, agricultural production is not necessarily the opposite of conservation. Instead, "an active farm is preferable to an abandoned one" because it implies a stable management that signifies control and even eradication of undesirable introduced species that could spill into protected areas.

Park intervention in rural areas has developed slowly. The park can intervene beyond its physical limits to enhance natural value, if it is in coordination with other institutions that can put the land to work, such as national government entities like the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP), local government, and even NGOs. But according to the Special Law of Galápagos, the GNPS does not produce, it protects. If the park produces, underscored a ranger, it risks losing its position as protector. The GNP can provide inputs and knowledge—it can accompany production—but rangers cannot directly produce. Through these entangled webs of positionality within the protection–production context, the park has sought to craft a park–rural companionship through two agricultural production projects: shade-grown coffee paired with an endemic tree, scalesia, and a soon-to-start project to introduce orange groves at the park–rural boundaries. Both projects seek to encourage reciprocity among actors portrayed as having incommensurable objectives. Scalesia shaded coffee, for example, would support the local economy by producing a strong agricultural commodity coming from Galápagos while restoring native scalesia forests. By 2012, thirty-seven farmers in Santa Cruz enthusiastically banked on the appeal of the Galápagos label giving value to the production of 50 hectares of scalesia-shaded coffee, *Café de Conservación* (Conservation Coffee), with backing by NGOs such as Wild Aid, Conservation International (CI), and the local grassroots organization the Foundation for the Alternative Sustainable Development of Galápagos (FUNDAR). These organizations provided the coffee plants and secured coffee experts to provide knowledge for starting plantations within individual farms, and the GNP provided native scalesia seedlings harvested from within its boundaries.

Scalesia-shaded coffee has not worked evenly for all, however. In 2011, FUNDAR and CI identified some farmers who were seeing success in their agroforestry project (Ortiz and Henderson 2011); for others, the coffee plants did not produce berries until the scalesia was cut down. In Santa Cruz, one farmer was convinced by his son, a park ranger, to use scalesia for shade—"it is the best thing to protect what we have," his son said—but after a few years, the father did not see the expected results. He saw the scalesia interfering in the

Figure 3. Tortoise encountered at the northwestern border between the Galápagos National Park and farmland, Santa Cruz Island. Photo by Gabriela Valdivia. (Color figure available online.)

production process so he cut the trees down, replacing them with banana, a more popular (although not endemic) shade plant. In 2012, dead scalesia trunks stood among the berry-loaded coffee plants, poignant illustrations of the tensions between production and protection as farmers and park officials attempt to bring a park vision into rural spaces.

The second project, orange groves, focuses on the rural–park boundary and will be carried out in coordination with MAGAP. Instead of creating borders that resemble a brown zone of dead matter through herbicide spraying, the orange grove project encourages a living border of protection through the production of a commodity with high local demand. As a ranger described, this is a conceptual innovation in the control of invasive species: "We are a park who supports production." Rangers recognize that invasive plants grow inside and outside of the park and reproduce cycles of invasibility (Robbins 2004) as they recontaminate each side of the border. The orange groves would become a living buffer of production that slows down this cycle and occupies potential spaces of guava and blackberry. Investment in the production of oranges would also reduce the amount of herbicide used to control invasive species.

Park rangers in the Resources Division see their role as getting "the passive farming community" interested in innovative production projects that both turn them into active market agents and support the control of invasive species. Park–rural companionship depends on this reciprocity. Extension agents from MAGAP generally agree with the idea that agricultural production is low but emphasize that introducing one or two key commodities cannot solve the problem. Rather,

MAGAP argues that rural producers need technological interventions to overcome restrictions to production. Both park rangers and MAGAP agents point to the disconnect between rural production and urban markets and to the low productivity mentality among farmers that developed under these conditions as problems, but they do not identify the structural conditions that limit access to inputs and resources, and thus market-oriented production, in the name of conservation. A farming couple from the highlands of San Cristobal drove this point home when they shared their experiences with conservation policy. Mandarins and oranges sometimes rot on the ground, for example, because their market price is not high enough to cover the cost of hiring labor and producing without chemical inputs, as mandated by the Special Law. They prefer giving away the produce. Other farmers echoed similar sentiments: It is too much work to maintain a farm for such small monetary return, children and parents see no money in agriculture, and agriculture is only for subsistence. As a canton-level government representative put it in July 2011, farmers are now used to the "feeling of low productivity" and to the fact that "help might not come." Moreover, some of the more lucrative agricultural products (e.g., potatoes, tomatoes, and peppers) often compete with mainland imports whose subsidized transportation costs bring down food prices in the Galápagos market (Zapata 2009). Indeed, the local farmers' market in Santa Cruz is saturated with bagged products imported from the mainland and by resident intermediaries instead of farmers. In Isabela and San Cristóbal, which are less connected with the mainland, more farmers participate in local markets, although the latter are significantly smaller and more irregular than in Santa Cruz.

Making Natural Space Within the Matrix of Production

A declining agricultural workforce, the destabilization and restructuring of rural communities, market liberalization, and smaller state production subsidies have introduced other forms of thinking about production in Galápagos. Alternative modes of production (e.g., organic agriculture and agroecology) and "nonconsumptive" commodities (e.g., ecotourism and leisure travel; Nicholls 2004) are now part of this rural reimagination. From saving rural values to preserving farms as heritage landscapes, rural spaces are being reconceived as having desirable values of ethical living, beauty, and reconnection with nature, a reimagination of lived space that challenges the classic sectoral vision of farming as an exclusively productive enterprise (Lowe, Buller, and Ward 2002, 14). Although rural spaces do not feature prominently in brochures and advertisements for Galápagos—agriculture is a hard sell in "pristine" island settings—farmers are increasingly investing in this push to reenvision the rural. Eco-lodges and tourism farms that offer a native nature experience are increasingly popular.

The community of Cascajo, on the western side of Santa Cruz, is often mentioned by GNP and MAGAP representatives as a case worthy of emulation in the rural space. Cascajo is on the dry side of the island, where thin soils, rolling hills and slopes between 5 percent and 25 percent grade, and rocky outcrops are common. Homesteaders arriving in the 1970s settled on this less desirable side of the island, inspired by the news that land was available in Galápagos. The family of Rolando Loyola, a farmer in his mid-fifties, was among these settlers. The Loyola family came from the province of Loja, Ecuador, like many others in Cascajo. Among island residents, Lojanos are seen as possessing a strong work ethic—they formed agrarian associations and managed to establish significant production in a more organized and successful fashion than other groups. As other Lojanos did, the Loyolas cut down the scalesia and guayabillo native forests; established pastures and fields of corn, sugarcane, and vegetables; and raised cattle and pigs. Today, Loyola still has cattle and is part of a Lojano growers' association with seventeen members, which produces tomatoes, peppers, and cucumbers in a set of greenhouses for the local market and the tourism sector.

The Lojanos, as they are still commonly known despite having been Galápagos residents for more than forty years, stand out as having a productivist sense of place—the sort that GNP and MAGAP wish for the agricultural sector. Loyola is no exception. He plans to intensify his cattle business, to increase the number of cattle he has per hectare to make more efficient use of space and capital. He is a strong proponent of a "light" system of confined feeding arrangements that balance the well-being of cattle—so that the cows remain happy throughout their lives, as Loyola put it—and capture a steady profit. He estimates achieving this outcome when he is able to have between five and fifteen cattle per hectare, which represents a substantial increase from his current one head per hectare. Loyola's cattle business is often described by farmers, extension agents, and park rangers as a success story.

Loyola's cattle-business vision stands in contrast to (although it actually directly supports) his other dream project: ecotourism. On the south side of the road

leading to the western edge of Santa Cruz is a large vinyl sign that reads "Loyola Lodge." The sign stands at the entrance to a winding, uphill road that eventually leads to the entrance of the Loyola residence. At 300 meters above sea level, the Loyola residence has a south-facing patio with a breathtaking view, an expanse of varying green tones gradually falling away into the ocean. Despite its pristine appearance, this site was one of the first places where Loyola put to work his productivist vision forty years ago. Today, he is attempting to restore 80 hectares of untouched, semidry transition forest. Loyola describes this as a project to "return things to their natural state," where the practices that define rurality (e.g., raising animals, cultivating crops, cutting down the vegetation) are replaced by restoration and eradication of introduced species. For almost eight years, he has employed workers to remove corn fields and pasture and maintain the grounds; purchased and applied herbicides to get rid of introduced species such as elephant grass, lantana, and blackberry; enlarged and made accessible natural lava tunnels; and carved out trails throughout the farm, leveling some areas, placing gravel to maintain trails, and lining them with rocks. He also expanded a small pond that provided water for irrigation, transforming the surrounding gardens of corn, watermelons, and vegetables into landscapes of native species. Galápagos ducks use the pond and two rafts are anchored to a Spanish cedar, next to a native glorybower that Loyola allowed to sprout again as part of his restoration effort. A short walk from the pond, Loyola has improved a trail with wood railings so that tourist groups can safely hike; the trail borders the edge of a small crater and Loyola carefully points out vegetation-covered rocky settings where Galápagos petrels nest. These conservation efforts are not cheap: Loyola estimates that it cost him around $20,000 a year, over the past five years, an expense that not many farmers on the islands can afford. When asked why others are not transforming their land as he is, Loyola responded that "you have to have a passion for nature" and not everyone can go back to the way things were:

> A few people, a handful, do have the right resources: the lava tunnels, ponds, nice lookout spots high above. . . . Some have the tunnels but their *fincas* are flat. Others have tortoises and build ponds so the tortoises come back. Our main drawback is that we don't have tortoises, we don't have that resource in this area. Tortoises don't like too many rocks. But it costs money to bring back things, to not produce. And when you know how much you have to pay to maintain a natural state, you don't want to do it. (Interview, 11 July 2012)

Ironically, when Loyola first bought his farm, he thought the land had only marginal value. The slopes make for poor pastures and the thin, nitrogen- and phosphorous-poor, rocky soils are not suitable for intensive agriculture—land is more valuable on the east side of the island, where Loyola raises his cattle. With a growing tourism economy, however, Loyola's land has gained new value. He is visited by entrepreneurs who wish to build large hotels on this land, but Loyola is not interested in selling, at least for now:

> The reason why I am doing all this work, making it natural, is that this is the best option for my children. They don't want to do agriculture; young people are not interested in breaking their backs on these soils. Their future is in other things. This farm gives them the possibility to manage something different, something they appreciate and enjoy. My daughters have asked me not to sell this place but to care for it, so they can manage it. (Interview, 11 July 2012)

Loyola does the same labor the GNPS does within the legal bounds of the park, applying the same species-centered vision and practices: control and eradication of targeted introduced species and the restoration and management of specific native species. While walking through a transitional forest restoration area, Loyola's vision of protection is clear: He points out each species present within one of his restoration areas: guayabillos, scalesia, chala, how they vary in growth rates, which ones are preferred by finches and mockingbirds for nesting, and, thus, which are a good investment in the short term to re-create a transitional forest worth visiting. Park managers and scientists of the CDS recognize the value of Loyola's work. The main botanist at the CDS in 2011 described Loyola Lodge as the only piece of remnant transitional forest left in the agricultural zone that is still functioning, still getting recruitment and dispersal and establishing seed banks. Halfway through a tour of his land, Loyola stops at a maize field to discuss his plans to turn it into a guayabillo and scalesia forest, using a mental map of how things looked when he cleared the space thirty-five years ago. Later on, from a lookout point, a massive concrete two-story building about forty-five minutes from the house, the physical rural–park border seems undistinguishable between Loyola's land and the park.

Maintaining a space of conservation within the rural matrix is a complex balancing act of spatial exclusions and internal borders. On the one hand, domestic animals such as donkeys and cows, which support work, thwart restoration plans. If given the

chance, these grazers will chew on scalesia seedlings or eat the bark of mature scalesia, so Loyola installed wire fences to enclose these animals and prevent them from crossing into conservation spaces. On the other hand, restoring natural spaces is only possible because of agricultural work. Loyola Lodge is financed by Loyola's successful cattle business—the sale and resale of live cattle and meat. Loyola is using a "land sparing" ethic (cf. Waggoner 1996; Green et al. 2005); intensifying efforts in his cattle business, via confined feeding lots, to increase production efficiency and capture greater revenues, which in turn are invested in his ecotourism efforts. In addition, the greenhouses next to the house will produce food for tourists who choose to stay at the lodge, either at the campsites next to the lookout or at the small cabanas built next to the pond.

Loyola Lodge, although not the norm, highlights important aspects of the articulations between protection and work. Loyola connects the two because he has access to the resources for livelihood diversification and profit generation—he is not a subsistence farmer. Linking production and protection will most likely increase tourism in rural and urban spaces and consolidate the accumulation of capital among those who are better situated to capture it. As Loyola and other farmers involved in rural tourism emphasize, agro-tourism pays well but is not going to displace other work in rural areas. The synthesis of protection and production at the border is coconstituted with domination and exploitation elsewhere, such as the emergence of more intensive cattle-raising elsewhere, far from ecotourism's consumptive eyes so as to make production appear unconnected to protection (Meletis and Campbell 2007). It also depends on tourists appreciating the value of this border crossing.

Conclusions

Traditional park management territorializes difference, "fetishizing a particular spatial arrangement and ignoring ongoing processes of spatial production, negotiation, and contestation" (Sparke 2005, xiv). As a traditional park, the GNP is a space of protection dominated by endemic and native vegetation, and the rural is a space of work. Border crossings—leakages—between these two lived epistemic spaces challenge this territorialization. Introduced species such as guava, elder, lantana, and blackberry have overtaken more than 30,000 hectares of the Park. Endemic warbler finches and carpenter bees ignore fences on the park–rural boundary and pollinate the introduced passionfruit, blackberry, and guava on either side, thus reproducing their presence on both sides. The Galápagos finches that inspired theories of evolution enter vegetable greenhouses in the rural areas to playfully pick the flowers of cucumber plants, and farmers expertly aim small stones at them, complaining about how much the devilish nature of these birds will cost them. Farmers abandon production systems to restore original natural assets for tourist consumption within the matrix of the rural. In between fixity and fluidity, borders both separate and articulate worlds.

Our analysis captures how borders, as sites of exchange, encounter, and distinction, stimulate new mappings of conservation theory and practice. When tortoises, cattle, and humans cross the border, multiple networks and worlds cross with them that tie together farms, government, GNP, science, and tourism into an assemblage of production and protection. There is more to this seeming protection–production companionship than meets the eye and that could easily be missed without close attention to leakages, excess, and normalized transgressions. The mixing of protection and production at the borderlands is not a resolution of nature versus work (White 1995) but a continued exchange of different formulations of value. A leap of faith takes place at the border as protection and production projects are brought closer and mixed with the goal of building a common ground between opposing epistemes. These projects might build good relations and a sense of interconnectedness through which to transcend problems of invasive species and dwindling productivity but, as in any exchange, asymmetrical relations within structures of power guide the valuation of border crossings.

Highlighting the asymmetries, uncertainties, and frictions between protection and production spaces is not to declare attempts at conservation management a failure. (B)ordering and rebordering are the conditions of possibility for alternative organizations of conservation space. Our goal is to demonstrate how borders facilitate knowing conservation differently. Although we can point to adaptive management of complex systems (Folke et al. 2005) or reflexive approaches to conservation (Leach 2008) as worthwhile conservation–production companionship approaches, these do not guarantee transcending power configurations, apparent incommensurability, or smoothing out the challenges of working with spatial fixity and fluidity. Inherent to these approaches are normative understandings of management targets and technologies that define what counts as a field of intervention

and what is left out (e.g., what constitutes a system to protect, how to measure its resilience and diversity, which processes count as internal or external). If conservation–production companionship is the goal, the lively excesses of (b)ordering we write about here, in the nature of management and the nature managed, must be recognized as immanent to the construction of companionship and reciprocity across difference. Too often, these excesses are bracketed—for example, categorized as problems, transgressions, or noise to be ignored or eliminated—so that particular visions of system resilience and functioning are privileged. We suggest that, in Galápagos, the transitions in conservation theory and practice, from a fortress of protection to conservation without limits, occur through the excess of human–nonhuman exchanges that unsettle—however briefly—the common sense that sustains the nature–society hierarchies and boundaries inherent to conservation logic. At a time when fortress conservation is regaining momentum around the world and forms of community-based management conservation are questioned (Adams and Hutton 2007; Oldekop et al. 2010), border crossings such as the ones described here are worth examining and recognizing.

Rethinking conservation philosophy and practice is nothing new. Shifting perspectives on nature–work relationships in protected areas have been examined as an effect of institutional change and tenure arrangements (e.g., Agrawal 2005; Ostrom and Nagendra 2006), as an outcome of failures of management (Agrawal and Gibson 1999) and of the marketization of nature conservation (e.g., Robertson 2006; Buscher 2009; Brockington and Duffy 2010). We turned to the asymmetrical exchanges between spaces of nature and work—border crossings—to examine how rethinking conservation happens; that is, how production and protection are practiced and conceptualized differently as a response to a crisis of conservation. Breaking down the problematic divide between protection and production, while maintaining the integrity of both, is a difficult task. It involves a multiepistemic approach that sits on the struggle between a horizon of unified and directed socioecological resilience and the plural lived and astonishing dimensions of place. Although the Galápagos Islands can be seen as too unique or too small to contribute to theory, the islands play an outsized role in the world of conservation, highlighting the challenges and potential benefits of rethinking borders. This is a place where border crossings matter and are leading to innovative articulations of protection and production in conservation areas.

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Notes

1. Our research is an exercise in border work, too: We call attention to some borders; draw the boundaries around what constitutes ambiguities, failures, and new directions in border making in Galápagos; and enhance views that might not be shared by all the people interviewed.
2. We conducted two park perimeter walks in 2007, one in 2008, two in 2009, one in 2011, and one in 2012.
3. See Lu, Valdivia, and Wolford (2013) for an analysis of park ranger and resident positionalities in Galápagos.
4. A cedar forest takes approximately twenty to thirty years to mature and become economically exploitable.
5. Despite the view that farmers are passive producers, the ethic of production is strong among some farmers. Farmers over the age of seventy, for example, continue to devise new production strategies, such as water catchment technologies, light mechanization, experimentation with different shade plants, or offering value-added products such as pulp for juices and herbal remedies.

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