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Enclosing Ecology?

Land Conservation and Environmental Statecraft in Chile

A thesis submitted in partial satisfaction
of the requirements for the degree Master of Arts
in Geography

by

Clare Marie Beer

2017

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ABSTRACT OF THE THESIS

Enclosing Ecology?

Land Conservation and Environmental Statecraft in Chile

by

Clare Marie Beer

Master of Arts in Geography

University of California, Los Angeles, 2017

Professor Eric Stewart Sheppard, Chair

This thesis examines the rise of private protected areas in Chile and their relationship to the state's public protected areas network. Public and private approaches are conceptualized through the framework of nature-capital-state relations, which integrates insights from geographical political economy of nature and capitalist state theory. Though state monopoly of conservation planning has been undercut in recent decades by a variety of non-state actors designing their own interventions, conservation decision-making at the global level is still predominantly influenced by national governments and state-based agencies. Using public land conservation as a lens, I develop the concept of 'environmental statecraft' to explain how and why states manage their territorial environments to strategic effect. I draw on archival and historical evidence to argue

that land protection in Chile is aimed at reproducing state interests as much as, if not more than, advancing biodiversity outcomes. Ultimately, I suggest that private protected areas emerged in response to the state's conservation logics and behavior. By framing public land conservation as a practice of environmental statecraft, this thesis calls attention to the need to theorize the state in relation to nature, and specifically to see nature as both constitutive and consequential of the state and state power.

The thesis of Clare Marie Beer is approved.

Stephen Bell

Susanna B. Hecht

Eric Stewart Sheppard, Committee Chair

University of California, Los Angeles

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	vi
CHAPTER 1. Introduction.....	1
CHAPTER 2. Conceptualizing Nature, Capital, and the State.....	6
Nature-Capital Relations: Geographical Political Economy of Nature.....	8
State-Society Relations: Capitalist State Theory.....	21
Assembling Nature-Capital-State Relations.....	30
CHAPTER 3. Toward a Theory of Environmental Statecraft.....	40
Operationalizing Nature-Capital-State Relations.....	40
Theorizing Environmental Statecraft.....	43
Land Conservation and the Capitalist State.....	55
Land Conservation as Environmental Statecraft.....	57
CHAPTER 4. Land Conservation and the Chilean State.....	61
Enclosing Ecology? The Rise of Private Protected Areas.....	63
A Brief History of State Conservation Behavior.....	73
Chilean Land Conservation as Environmental Statecraft.....	84
Chapter 5. Conclusion.....	86
APPENDIX.....	90
BIBLIOGRAPHY.....	98

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CHAPTER 1. Introduction

Land-based biodiversity conservation is considered a best practice for mitigating the negative effects of anthropogenic land-use and land cover change, such as species loss, land degradation, and natural resource depletion (United Nations, 1992). This thesis conceptualizes such negative effects as a function of nature-capital dynamics. The biophysical world is a rich source of inputs for the capitalist mode of production, which rapidly consumes these inputs to maximize the accumulation of surplus value; over time, intensifying processes of capital accumulation destabilize ecosystems and the inputs they supply. Yet state dynamics are also important for conceptualizing these negative effects since, historically, national states have intervened to manage the worst environmental consequences of nature-capital interactions, including gazetted protected areas. Protected areas are described by the International Union for Conservation of Nature (2013) as “clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values” (p. 8). This definition is widely accepted, and used in global governing documents like the U.N. Convention on Biological Diversity. Such protected areas cover roughly one-tenth of the world’s terrestrial surface, equivalent to the size of South America.

Private protected areas constitute a growing proportion of the world’s conservation lands, yet are underreported in the World Database on Protected Areas and largely unacknowledged by the international community.¹ Moreover, “they are also often effectively ignored by governments and not included within national or eco-regional planning” (International Union for Conservation of Nature, 2013, p. 32), either because governments lack the capacity to track private protected

¹ The World Database on Protected Areas is a global biodiversity dataset maintained by the U.N. Environment Program–World Conservation Monitoring Center (UNEP–WCWC).

areas, or owners lack the willingness to share information freely. In Chile, private protected areas (PPAs) have existed since the early 1990s, but have struggled to gain recognition and legitimacy from the state. For over twenty-five years, PPAs had no legal protections, financial incentives, coordinating mechanisms, or basic management standards. The minimum criteria for operating a private protected area consisted of owners declaring their existence, in the absence of any means to verify owners' claims or the authenticity of their projects. It was only in June 2016 that the Chilean Congress passed a conservation easement law codifying the conservation objectives of PPA owners into a legally binding commitment. While this improves the long-term security of private conservation in Chile, there is still an urgent need to integrate PPAs into the national protected areas network.

PPAs have proliferated in Chile despite their prolonged de facto status, amounting to what I call a 'PPA boom.' As many as 600 private protected areas dot the rural landscape, vastly outnumbering the 101 public protected areas managed by the government. These PPAs are incredibly diverse; they include tracts as small as a residential backyard, as well as the world's largest private protected area, and their organizing principles range from small-scale stewardship, to eco-philanthropy (Jones, 2012), and even for-profit business. Two examples unique to the Chilean context are 'conservation communities' and 'eco-real estate conservation,' which mix real estate and recreational development with community management practices oriented toward biodiversity protection (Sepúlveda, 2003). Conservation communities are similar to easement areas in that both acquire land for conservation through private, collective land purchase. The reasons for practicing conservation vary across communities, but none is overtly profit motivated. Eco-real estate conservation, by contrast, *is* driven by profit motives. Real estate development firms finance the operation of on-site conservation areas, justifying a price

increase on homes sold (Sepúlveda, 2003). The increment is advertised as a ‘nature value,’ designed to attract eco-conscious consumers. These are just two of many types of private conservation in Chile, illustrating some of the motivations catalyzing PPA growth. I describe the disjuncture between proliferation of PPAs and the long-term lack of institutional recognition of them as a regulatory puzzle. The purpose of this thesis is to address two questions generally overlooked in discussions about PPAs, namely: what is the role of the state in this puzzle, and how does private conservation fit into a wider history of Chilean conservation practice?

In asking these questions, I invoke Davidson and Frickel (2004), who insist that too little is known about the specific interests driving “state environmental (in)activity” (p. 487). To answer these questions, I develop three points: first, I argue that public- and private-sector conservation initiatives are produced through the mutual entanglements of nature, capital, and the state. Therefore, it is necessary to situate analysis of these initiatives within a tripartite framework of nature-capital-state relations. Second, I operationalize this framework by developing a theory of ‘environmental statecraft,’ which positions the environment and environmental politics “inside, and in relation to” (Ioris, 2015, p. 168) a theory of the state. Land conservation is emblematic of environmental statecraft because it simultaneously expresses and expands state power. Third, I deploy my conceptualization of nature-capital-state relations and environmental statecraft to examine the rise of private protected areas in Chile and their relationship to the state’s public protected areas network. Drawing on archival and historical evidence, I show that land conservation is aimed at strategically reproducing state interests, with surprising consequences for biodiversity outcomes and non-state alternatives to biodiversity protection. Chile is a compelling case to analyze this relationship because of how its development experience as a natural resource-based commodities exporter has shaped the

trajectory of its land-use and land protection practices. Yet while these arguments are derived from this particular case, it is my hope that they inform our understanding of the more general phenomenon of the constitutive relationship between land conservation and environmental statecraft.

My argument begins in chapter two, where I articulate the theoretical basis upon which nature, capital, and the state interrelate by reviewing the literatures on geographical political economy of nature and capitalist state theory. These literatures emerge from the paradigms of nature-capital and state-society relations, which have been pivotal for interpreting historical change within a Marxist tradition. Yet they have had little to say to one another, despite their multiple points of overlap. I argue that these paradigms must be brought together in order to understand the Chilean state's position relative to the PPA boom. The resulting framework, nature-capital-state relations, extends Bob Jessop's strategic-relational approach, emphasizing the state's strategic and selective mediation of what Marx called metabolism (*Stoffwechsel*).

The nature-capital-state relations framework is operationalized in chapter three through a proposed theory of 'environmental statecraft,' which offers an explanation of *how* nature, capital, and the state mutually engage. Nature and the state are presented as dialectical coevals, each coming into being through the other, with forces of capital transforming their co-evolution. Environmental statecraft challenges the more orthodox foundations of capitalist state theory by foregrounding, rather than marginalizing, the role of nature in political statecraft. In the final section of this chapter, I argue that land conservation is a form of environmental statecraft that strategically balances the state's political-economic commitment to develop the natural environment with its managerial duty to protect the natural environment. In this view, conservation interventions are selectively deployed to express and expand state power.

In chapter four, I apply the conceptual framework developed in chapter one and the theoretical approach outlined in chapter two to the regulatory puzzle of PPAs in Chile. Drawing on archival and historical evidence, I argue that the PPA boom is symptomatic of how the Chilean state rationalizes its own conservation behavior. The public protected areas network has been managed as a function of the national economy instead of an exception to it, leading to a number of policy failures and system flaws. Rather than having evolved autonomously and without precedent, PPAs evolved in reaction to the government's approach to land conservation as environmental statecraft.

CHAPTER 2. Conceptualizing Nature, Capital, and the State

Geographers are interested in the relationship between nature and society, and the complexities that stem from their mutual interaction. These complexities take on new meaning in the context of global climate change, and in circulating discourses of environmental sustainability and biodiversity protection. Marx referred to the exchange between nature and society as ‘metabolism’ (*Stoffwechsel*) and it remains an important concept for describing “how humans transform the world and themselves, creating history in relation to the conditions of life” (Clark & Foster, 2010, p. 126). Though social and ecological forces constitute metabolism, it is the state that often commands how these forces are measured, allocated, and regulated. Major socio-ecological systems, such as agriculture, energy, natural disaster management, water, and waste treatment rely on the organizing capacities of the modern state to function smoothly. The state is always involved in nature-society metabolism; therefore it is important to explore how and why the state mediates metabolic processes and to what effect. In this thesis, I use the case of land-based biodiversity conservation to argue for a more integrated understanding of the relationship between nature, capital, and the state.

Foregrounding the state in nature-society analysis prompts the reconsideration of existing theoretical paradigms. Within the context of Marxist approaches, the paradigms of nature-capital relations and state-society relations have been influential for explaining historical change. On the one hand, nature-capital scholarship examines the range of outcomes provoked by capitalism’s engagements with nature and nature’s engagements with capitalism. Questions of the economy and ecological crisis are foremost, and while the state plays an implicit part in these, it is rarely the object of primary concern. On the other hand, state-society scholarship examines the negotiation process, and transitory distribution of influence and authority, between state

institutions and civil society groups. These accounts pay little attention to questions of nature, yet their insights on how the state produces and delegates power have obvious consequences for the environment. Notwithstanding the importance of their contributions, either the state or nature is obscured when one or the other of these paradigms is deployed. This is problematic, however, given that both the state and nature are fundamentally important to current trajectories of historical change.

To address this impasse, I propose the alternative framework of ‘nature-capital-state relations,’ which integrates both paradigms into one recognizing the importance of the state in metabolic production. This framework is necessary for understanding land conservation in Chile, the empirical case grounding this thesis, because both public and private protected areas depend on the messy and mutual entanglements of nature, capital, and the state to protect critical habitats and improve biodiversity outcomes. I argue that PPAs are best understood through the lens of nature-capital-state relations since their increasing popularity is linked to the state’s conservation agenda, and because they have introduced new forces of capital into the management of domestic biodiversity. Before an analytic of nature-capital-state relations can be constructed, its theoretical groundwork must be laid. In this chapter, I draw together two domains that are in many ways complementary, but remain estranged: geographical political economy of nature and capitalist state theory. In section two, I review the literature on geographical political economy of nature showing how it defines and explains the nature-capital relationship. In section three, I review the literature on capitalist state theory showing how it defines and explains the state-society relationship. Both paradigms are critiqued in section four, where I also argue for a higher-order understanding of state-environment studies that accounts for dynamics of nature, capital, and the state simultaneously.

Nature-Capital Relations: Geographical Political Economy of Nature

The political economy of nature has been variously theorized, but two general categories can be identified: a-geographical theories and geographical theories. A-geographical theories are based on the guiding assumptions and principles of neoclassical economics (Spash, 1995), which treat nature as “a tabula rasa or neutral ‘backdrop’” (Castree, 2008a, p. 133) upon which economic forces act. This approach advances the idea that the economy is needed to transform nature-in-the-wild into natural resources. Natural resources are ‘the nature that capital can see’ (Robertson, 2006), as they represent the wider biophysical activities rendered invisible or invaluable to the production process. Yet these representations do little more than reduce nature to commodities whose use-value is equivalent to exchange-value, subject to the volatility of global supply stocks and pricing cycles. This is a limited and perfunctory assessment of nature’s relationship to capitalism.

Geographical theories place nature in a far less passive role, investigating how biophysical systems both affect and are affected by geographical political economy. Sheppard (2011) defines geographical political economy in contradistinction to the 18th and 19th century British political economy of Thomas Malthus, David Ricardo, and Adam Smith, describing it instead as “a geographical critique and extension of Marx’s theory of capitalism and uneven development” (p. 320). Taking a geographical approach to the political economy of nature means placing nature in direct relation to the economic processes that have co-evolved with it (Sheppard, 2011). Materiality, scale, and geographical difference are considered serious co-factors shaping political-economic outcomes; and a relational interpretation of nature and capital challenges the idea that the economy is somehow independent of, or separate from, the biophysical elements underwriting its development.

Literature on the geographical political economy of nature emerges from geography's broader tradition of critical political economy, inspired especially by 'the two Karls' (Walker, 2013), Marx and Polanyi. One general conclusion of this line of inquiry is that nature and capitalism co-exist on complex and frequently contradictory terms: nature is transformed *by* but also transforming *of* capital accumulation (Heynen, McCarthy, Prudham, & Robbins, 2007). While the biophysical world contains a rich source of inputs that are transformed into economic value through human labor, it is far from a tabula rasa. Instead, "nature talks back" (Robbins, 2008, p. 209), affecting the production process in unforeseen and sometimes adverse ways. Additionally, this literature finds that the capitalist mode of production limits the kinds of engagements humans have with the non-human world (Millar & Mitchell, 2015).² Lastly, in neoliberalizing economies, nature is enrolled in circuits of production and consumption through interlocking and intensifying processes of commodification (Castree, 2003; Prudham, 2009), enclosure (Bridge, 2007; Corson & MacDonald, 2012a), and marketization (Daily, 1997; Kareiva, Tallis, Ricketts, Daily, & Polasky, 2011). The geographical political economy of nature literature links these processes to the uneven distribution of access to and control over nature across space and time. In the following sub-sections, three research areas are reviewed: the production and value of capitalist nature, ecological Marxism, and neoliberalizing nature.

The production and value of capitalist nature

Nature occupies an important position within Marxist thought.³ Marx argued that humans

² For a recent critique of capitalist relations with the non-human world, see Collard, Dempsey, and Sundberg (2015). They reject the basis upon which capitalist society interacts with nature, and insist that human and planetary welfare in the Anthropocene require more systemic, multispecies thinking.

³ Scholars have long debated the merits and specifications of Marx's philosophy of nature. Some argue that Marx's theory of historical materialism challenges conventional treatment of nature and society because it locates humans *within* nature, rather than separate from it (Braun, 2009). Yet others claim that it does not do enough to fully overcome the nature-society dualism. A recent body of literature emerging from geography and known as 'new materialism,' maintains that Marxian accounts, including the 'production of nature' thesis (Smith, 2008), still rely

make themselves by making their world (Henderson, 2009). The basic premise of historical materialism is that labor binds us to nature and one another, and these relationships provide the conditions that drive historical and social change.⁴ Society progresses by renovating the dominant mode of production to better meet the social needs of people. All modes of production transform nature in order to acquire the material necessities of life.

Henderson (2009) observes that workers in capitalist regimes “are doing a *kind* of thing (nature imposed) they would do anyway. Yet under capitalism, this compulsion is mediated by capitalists, who compel workers to sell their labor power *as the primary vehicle through which to engage with nature*” (p. 269, emphasis in the original). Humans’ transformation of nature assumes a specific and unique form in capitalist regimes, which Neil Smith (2008) argues is the exchange-value relation. For Smith, human interactions with capitalist nature have become less defined by the logic of use-value – that is, the fulfillment of basic needs in general – and more defined by the logic of exchange-value – that is, profit. Consequently, capitalist nature is alienated from human society and more easily dominated by it.

Smith (2008) interprets the nature-capital relationship through his ‘production of nature’ thesis, positing that nature is increasingly produced through capitalist social relations. Fundamental to his thesis is the differentiation between ‘first nature’ and ‘second nature.’ First nature connotes the original and primordial version of nature that appears to exist on earth as if God-given. Second nature describes “a human world appearing as if it were nature” (Cresswell, 2013, p. 133), such as an agricultural landscape. The bucolic scenes of farm life falsely portray

too heavily on categories, which impair full elimination of the dualism. New materialists, including Latour and Whatmore, propose that investigations into materiality, de-centered agency, and hybrids more effectively resolve the division between nature and society (Bakker & Bridge, 2006).

⁴ Historical materialism is a theory of history developed by Marx in conjunction with Friedrich Engels and articulated in the ‘Preface’ to *A contribution to the critique of political economy* (Marx, 1859/1970).

an ecosystem governed by the laws of nature, when in fact growing conditions are socially produced using human techniques of labor and capital. The ‘production of nature’ thesis casts nature-capital relations in new light by claiming that capitalism not only develops greater capacity to control and appropriate nature, it also eventually creates nature outright. The quality of first nature diminishes over time as “nature is progressively produced from within and as part of the so-called second nature” (Smith, 2008, p. 77). Humans produce second nature through direct manipulation of the conditions of life (e.g. bioengineering), or by indirect manipulation of what we think nature is (e.g. nature as a social construction). Increasingly, these new forms of nature serve an exchange-value role in social life.

The value of capitalist nature is derived from the commodification process. Commodities do not exist inherently unto themselves, but must be assigned this status via “a process where qualitatively distinct things are rendered equivalent and saleable through the medium of money” (Castree, 2003, p. 278). Commodification significantly reshapes “the human-environment relationship and the political economy of regions and landscapes” (Liverman, 2004, p. 734), making it an important research theme for geographers who see it as the primary mechanism by which nature becomes part of the economy.

Marx argued that commodification emerged in the transition from mercantilist accumulation to capitalist accumulation (Prudham, 2009). In the first stage of capitalism’s money-capital circuit, money is used as capital to make commodities that will be sold for more money-capital. The model $M - C - M'$ illustrates this, where M is money, C is commodity and M' is money increased by surplus value. Driven to reproduce and accelerate the transformation of money-capital into more money-capital ($M - M'$), capitalists expand the commodification process across time and space through two distinct means. They *stretch* commodity production

by developing new markets and consumer bases, and they *deepen* commodification by bundling nature into new configurations of sellable goods and services (Prudham, 2009).

Yet nature can never be fully commodified. Its dynamic and unpredictable ecologies prevent it from becoming entirely subordinate to market control and, moreover, it is not produced exclusively for sale. Unlike other commodities that exist to be bought and sold in markets, nature has life and utility apart from its commodity forms. Polanyi (1944/2001) expressed this peculiarity in his analysis of market economies by referring to land and labor as ‘fictitious commodities.’ Noting the special role each plays in the smooth functioning of industry, Polanyi (1944/2001) accepted that land and labor must be represented in markets, but observed, “the postulate that anything that is bought and sold must have been produced for sale is emphatically untrue in regard to them. In other words, according to the empirical definition of a commodity they are not commodities” (p. 75). Land and labor cannot be neatly reduced to exchange-value, or perfectly commodified, because they possess an inherent worth and liveliness that exceed capitalist economic expression.

Polanyi’s claim about land can be taken as a proxy for nature more broadly, and highlights the problematic conversion of nature into economic exchange-value. Nature comprises the physical environment in which society exists, meaning that it will always be more complex and unruly than fully commensurate, fully rationalized, market goods. The fictitiousness of land and labor as commodities undermines the assumption that markets self-regulate “because self-regulation implies that all production is for sale on the market” (Polanyi, 1944/2001, p. 72) and “no arrangement or behavior should be allowed to exist that might prevent the actual functioning of the market” (Polanyi, 1944/2001, p. 76). While land and labor routinely violate the principle of self-regulation, market economies operate as if land and labor were two types of commodities

like all others. Polanyi argued that ignoring these ‘commodity fictions’ leads to a series of unintended consequences provoking social and ecological catastrophe: “to allow the market mechanism to be the sole director of the fate of human beings and their natural environment indeed, even of the amount and use of purchasing power, would result in the demolition of society” (Polanyi, 1944/2001, p. 76).⁵

Marx’s value theory offers a slightly different approach to understanding the value of capitalist nature that Robertson and Wainwright (2013) see as better suited than Polanyi’s.⁶ For them, Polanyi’s thesis introduces “two sorts of value in capitalism – one created through labor power, the other inherent in nature – which then commits us to an untenable ontological position in which nature is irreducibly different from humanity” (p. 902). Marx avoids reifying this dualism in his value theory by viewing nature and humanity as relationally constituted.⁷

Capitalist value is created through human labor, “itself a metabolic relation between nature and society” (Robertson & Wainwright, 2013, p. 895), producing wealth by binding human skill and ingenuity to the material assets of the biophysical world.

The theories of Smith, Polanyi and Marx contribute to a wider Marxian analysis of nature-capital relations, explaining how nature is transformed into value-bearing objects in the commodity form. Value coagulates in these commodities and accumulates through their market exchange. While land and labor may not be true commodities, they are nevertheless “bought and

⁵ Catastrophe is but one-half of Polanyi’s ‘double movement’ thesis, the other of which describes how societies meet catastrophe head-on, through both radical and reactionary measures, to “resist the pernicious effect of a market-controlled economy” (Polanyi, 1944/2001, p. 80).

⁶ Marx defined value as socially necessary direct and indirect labor required per unit of commodity produced. Per Harvey (1982/2006), “value theory comes to reflect and embody the essential social relations that lie at the heart of the capitalist mode of production” (p. 15).

⁷ In *Economic and Philosophic Manuscripts of 1844*, Marx (1844/1959) writes, “Man *lives* on nature – means that nature is *his* body, with which he must remain in continuous interchange if he is not to die. That man’s physical and spiritual life is linked to nature means simply that nature is linked to itself, for man is a part of nature” (p. 31, emphasis in the original).

sold everyday” (Robertson & Wainwright, 2013, p. 902) in order to produce other commodities and increase surplus capital. The production and value of capitalist nature are derived foremost from human labor, and shaped by processes of commodification and marketization, which frame nature in terms of exchange-value and through the money form.

Ecological Marxism

Ecological Marxism emerged in response to the debates about environmental catastrophism in mid-20th century America and it remains a primary way Marxists engage with the political economy of nature (Benton, 1996). In the late 1960s, scholarship in human ecology took an abruptly political turn, publicizing important concerns about the state of the global environment in landmark texts such as Paul Ehrlich’s (1968) *The Population Bomb* and the Club of Rome’s (Meadows & Club of Rome, 1972) *Limits to Growth*. Marxist scholars were quick to criticize this turn as elitist, reactionary and problematically Malthusian, but they did not disagree with its underlying anxieties about environmental collapse. Benton (1996) remarked that environmental catastrophism evoked “the Marxian view of capitalism as its own grave digger. What the working class had so far failed to achieve might now be brought about by the rebellion of nature itself” (p. 8).

In critiquing environmental catastrophism, ecological Marxists have sought to incorporate ecology into the theoretical framework of historical materialism in order to show the links between environmental degradation and capitalist development (Benton, 1989). They argue that the structural cause of environmental degradation under capitalism is the drive to produce as much surplus value as possible. Economakis and Papalexioiu (2016) write,

Production for the sake of production – aiming at exchange values and not use-values production, for the maximum extraction of surplus value – inherently leads not only to the over-exploitation of labor power, but also to the rapid depletion of natural resources and global pollution, putting the ecosystem in great risk (Liodakis 2011, 89). From this

point of view, the capitalist system historically tends to undermine the whole ecosystem.
(p. 39)

What these authors point to is a sort of ‘destruction of nature’ thesis, not too dissimilar from Smith’s ‘production of nature’ thesis, positing that the imperatives of capitalist development provoke unintended consequences for the environment that radically alter human-environment relationships. Both nature’s production and destruction under capitalism are precipitated by the ‘commodity fiction’ Polanyi references: nature exceeds capitalist relations in the sense that it can never be fully commodified or marketized, yet at the same time the real subsumption of nature to capitalist relations has dramatic and lasting effects on global ecosystems. The ecological Marxism literature problematizes environmental crisis as an unintended consequence of capitalism, and emphasizes the ecological limits to exponential economic growth.

James O’Connor (1988, 1991, 1998) revolutionized the field by merging nature with crisis theory to identify a new contradiction of capital accumulation. O’Connor suggested that in addition to the first contradiction of capitalism explained by Marx in *Capital* – that crisis results from the tendency of the rate of surplus value to fall in capitalist societies, causing wealth and income disparities that trigger decreased consumer demand and declining rates of profit – there is a second, so-called ‘ecological,’ contradiction. This refers to the tendency of capitalism to destroy its own conditions of production, especially external nature, which also provokes crisis. John Bellamy Foster (1992) calls Marx’s first contradiction “the absolute general law of capitalist accumulation,” and O’Connor’s second contradiction “the absolute general law of environmental degradation under capitalism” (p. 77-78). In Foster’s (1992) words, the second contradiction involves “the amassing of wealth at one pole and the accumulation of conditions of resource-depletion, pollution, species and habitat destruction, urban congestion, overpopulation

and a deteriorating sociological life-environment (in short, degraded “conditions of production” at the other” (p. 78-79).

Whereas Marx’s first contradiction results in a crisis of overproduction and over-accumulation, O’Connor argues that the second contradiction arises from the opposite scenario of underproduction and stalled accumulation (Altvater, 2004).⁸ Underproduction causes turnover time in the commodity circuit to slow, impeding the rate of accumulation, and triggering momentary crisis. The second contradiction of capital threatens the survival of the productive system, while also prompting fixes allowing the system to “weather crises and to resolve them in capital’s favor” (O’Connor, 1998, p. 167). While epistemologically very different, environmental economics (Elbasha & Roe, 1996; Tybout, 1972) identifies a related problem to O’Connor’s second contradiction in the form of negative externalities: that is, when firms discount the full costs of commodity production by deferring uncounted environmental costs to third parties. These externalities are labeled as inefficient market failures, but are not related back to the capitalist system or its tendency toward crisis. By contrast, ecological Marxists consider the artificial discounting of environmental costs and the degradation that results to be a structural consequence of the metabolic relationship between nature and capitalism (cf. Foster, 1999 for a conversation on 'metabolic rift').

Ecological Marxism theorizes nature-capital relations more directly than any other sub-genre of Marxist thought. Known for ‘greening’ Marxism (Benton, 1996), this literature examines capitalism’s inherent tendency to destroy nature and calls into question the ideological assumption that capital accumulation is limitless. In this vein, ecological Marxists agree with the ecological catastrophists: there *are* limits to growth. Yet whereas the catastrophists understand

⁸ Underproduction occurs when the costs to reproduce the biophysical conditions of production increase. Two causes of this are growing scarcity of natural inputs and exhaustion of existing resource stocks.

the limits to growth in terms of human population and the food supply, ecological Marxists understand the limits to growth in terms of capitalist production. Capitalism is organized to degrade the environmental conditions it needs to expand, contradicting its own long-term stability, as well the stability of the environment overall.

Neoliberalizing Nature

Much ink has been spilled in an effort to understand the current hegemonic regime of neoliberal capitalism and its effects on society, but less attention has been paid to neoliberal capitalism's environmental implications. Scholarship on neoliberalizing nature has emerged in recent decades to fill his gap, reshaping how geographers conceptualize human-environment relationships. Neoliberalizing nature is distinguished from other geographical approaches to economy-environment analysis by its focus on environmental governance and environmental processes in the age of neoliberalism.

The first task of this literature is to clarify what is meant by 'neoliberalism.' No longer a neologism exactly, defining 'neoliberalism' is nevertheless difficult, given its 'catch-all' (Tecklin, Bauer, & Prieto, 2011) use to classify any number of phenomena loosely affiliated with the promotion of 'freer' markets. Geographers define neoliberalism as a variegated, uneven and ongoing process (Brenner, Peck, & Theodore, 2010) with no teleology or pre-given end state (Peck, 2004). To capture neoliberalism's unfolding and unfinished qualities, words like 'neoliberalization' and 'neoliberalizing' are often used in its place. Real-world instantiations of neoliberalism – what Brenner & Theodore (2002) call 'actually existing neoliberalism' – are historically and geographically contingent, yet present across them are signs of an underlying 'metalogic' (Peck & Tickell, 2002).

Neoliberal nature explores a number of frontiers, including: the capitalization of biophysical resources via strategies of commodification (Bakker, 2005; Robertson, 2004, 2006), marketization (Bakker, 2002; Mansfield, 2004; Young & Keil, 2007) and privatization (McCarthy, 2004, 2005); the role of private property and enclosure in defining use-rights to nature (Bridge, 2007; Mansfield, 2007; Swyngedouw, 2005); the impact of neoliberal reforms on multi-scalar environmental governance and policymaking (Bulkeley, 2005; Liverman, 2004); and possibilities for contesting the neoliberalization of nature (Correia, 2007; St. Martin, 2005; Wolford, 2005). McCarthy and Prudham (2004) argue that neoliberalism is a necessarily *environmental* project, replete with environmental logics and repercussions. As with classical liberalism, neoliberalism employs Lockean proprietorial logics to determine how the non-human world should be managed and who may lawfully lay claim to it.

Theorization of neoliberal nature is inspired by Marxian political economy, specifically the institutional economic geography of Polanyi and the French regulation school. It is generally “unsympathetic” (Castree, 2008a, p. 132) to the ideology of neoliberalism, but nevertheless interested in how neoliberalism governs nature. One way is through a series of rationally justified environmental fixes intended to overcome the internal and external pressures threatening the capitalist system. The signature fix premises that environmental stewardship is maximized not through state-driven regulation, but through market-based solutions commoditizing the environment as either a cost or a benefit. McAfee (1999) refers to this as ‘selling nature to save it’: environmental crises can be solved through the win-win-win combination of economic growth, economic efficiency, and environmental sustainability (Bakker, 2010). Examples of win-win-win policies include payment for ecosystem services,

RED/D+⁹, carbon trading, tax and offset programs, and eco-tourism. These incentivize climate change adaptation or mitigation, while also offering opportunities for private profit.¹⁰ Yet critics point out that they are also entangled in a complicated set of politics regarding land dispossession, territorial sovereignty, economic equity, and ecological and social justice that inhibit or even negate their effectiveness (Bumpus & Liverman, 2008; Gupta, Lovbrand, Turnhout, & Vijge, 2012; McAfee, 2012; Muradian, Corbera, Pascual, Kosoy, & May, 2010; West & Carrier, 2004).

Market-based environmental solutions are rooted in the neoliberalizing principle of ‘natural capital,’ which is defined as the flow of “materials, energy and information” (Costanza et al., 1997, p. 254) that biogeophysical processes provide to human society. Natural capital is not dissimilar from the Marxian principle of metabolism (*Stoffwechsel*) in that it describes the human-environment relationship as symbiotic and material, but it departs drastically by ignoring the role of human labor and failing to overcome the problem of human/non-human duality. Furthermore, natural capital economizes these flows as calculable ‘services’ created by the environment in isolation of humans, but for their benefit. Ecosystem services are designed to convert nature into fungible commodity units bearing the value of nature to the economy. While ecosystem services have impacted human perception of the work nature does, critics argue that the economic valuation of nature is insufficient because markets cannot capture the true scope of nature’s activities. Only a fraction of these activities can be readily and predictably standardized into a tradable commodity form. The materiality of air, running water, and other ‘unruly’ forms

⁹ REDD+ is an acronym for the U.N. global program “Reducing Emissions from Deforestation and Forest Degradation.” It monetizes the value of carbon stored in forests and pays landowners not to deforest. The plus sign represents additional objectives beyond anti-deforestation, including diversified forms of social and economic development. See <http://www.un-redd.org/aboutredd> for more information.

¹⁰ Importantly, each of these strategies is featured in the Chilean PPA model.

of nature complicate efforts to parse it into a suite of ecosystem services (Bakker, 2003; Bakker & Bridge, 2006; Ranganathan, 2015). These observations are important in the neoliberalizing nature scholarship because they show that nature is not only *shaped by* neoliberal capitalism, nature also *shapes* neoliberal capitalism through the limits and subversions it presents.

The research on neoliberalizing nature utilizes insights and methods from political ecology, generating grounded and empirically rich explanations derived from individual case studies. Castree (2006), however, argues that a case-based approach is too disparate and lacks “conceptual specification” (p. 1). He criticizes this research for its fuzzy treatment of neoliberalism, and notes the difficulty of conducting comparative analysis when the object of analysis (neoliberalism) manifests neither as an ideal-type, nor uniformly. Castree’s observation highlights the challenge of theorizing putatively general phenomena like neoliberalism. There is a need to balance the identification of context-specific articulations of neoliberalism on the one hand, with the determination of general criteria and commonalities holding them together on the other. Bakker (2009, 2010) responds that what Castree interprets as empirically scattered is instead the hallmark of rigorous research on complex concepts. For Bakker, this research has attempted to move past analytical abstraction even if it has produced a set of heterogeneous accounts. Though she agrees that there is need for more synthetic thinking about nature’s neoliberalization, she argues that this mirrors the wider discipline’s need to be more analytically exacting in its treatment of the categories ‘nature’ and ‘neoliberalism.’¹¹

To summarize, the literature on neoliberalizing nature works to understand the multiple

¹¹ There is a third pole to this debate: contrary to Castree’s claim that neoliberalizing nature is insufficiently analytical, Larner (2007) writes that it is too analytically narrow. By making neoliberalism responsible for all negative effects of changing human-environment relationships, the full complexity of what may be happening gets discounted or obscured. Larner argues that the literature reifies neoliberalism as inevitable, uncontestable, and monolithic – thus ruling out other explanations existing apart from or outside neoliberalism – even as she accepts its powerful effects on the natural world.

ways neoliberal capitalism and the environment act on each other. Using a largely Marxian framework, scholars show how nature-capital relations have shifted due to neoliberal economic restructuring, and intensifying processes of commodification, privatization, and marketization. Together, the sub-genres of neoliberalizing nature, ecological Marxism, and the production and value of capitalist nature theorize the geographical political economy of nature. While nature and capital are necessary inputs in metabolism (*Stoffwechsel*), they are not sufficient conditions for metabolic exchange. Without the state, metabolism lacks an organizing agent to regulate and administer its various functions. The next section examines the state and its relationship to society.

State-Society Relations: Capitalist State Theory

The state plays a crucial part in nature-society metabolism, with many of the rules and regulations governing metabolic interactions formulated and enforced by the state.¹² Thus I turn to conceptualizations of ‘the state,’ with a focus on capitalist state theory. Geographers’ inquiries about the state should be distinguished from those of political scientists and international relations scholars who generally start from the Westphalian ideal of sovereignty, which gives states the *a priori* right to power, without probing deeper. Geographers have made significant contributions to state theory, rendering nuanced accounts of the relationship between sovereignty, territoriality and space. They understand the state as a spatially derived scale of political legitimacy, underscoring “the importance of space within many state projects, especially those of policing, law, and governing space itself” (Cox, 2008, p. 89).

Early discussion of the state in geography was pioneered by Friedrich Ratzel, who likened the state to a natural organism (Painter, 2005). Ratzel’s *lebensraum* thesis explains

¹² Examples of metabolic interactions include air quality, water distribution, and energy production.

geopolitics in Darwinian terms, with stronger states acting on the impulse to expand into neighboring space through conquest of weaker states that shrink or disappear (Cresswell, 2013). Due to the lamentable association of Ratzel's state theory with Nazi Germany's territorial expansionism, geographers' discussion of state power curtailed until the 1970s when David Harvey reintroduced Marxist political economy to the discipline, identifying the state as a necessary element of the capitalist mode of production (Harvey, 1976). The post-structural turn in geography, as in anthropology and sociology, prompted critiques of Marxism's economism and the role of the state in extra-economic issues like race and gender (Cox, 2008). More recently, geographers have been influenced by Foucault's concept of governmentality to investigate the more decentered and diffuse aspects of state power (Corbridge, Williams, Srivastava, & Veron, 2005). In what follows, I review several key debates within state theory, which geographers have extensively engaged with, including: what is 'the state'; how does it function; and what is its relationship to society? Lastly, the state will be framed as a terrain of relational selectivity using Jessop's strategic-relational approach.

What is 'the state?'

Taking the state seriously begins by acknowledging that its meaning and purpose are highly differentiated across space and time, so treating it as a 'nomothetic entity' (Davidson & Frickel, 2004) reducible to a single general theory is both problematic and impossible. 'The state' as a concept is rather elusive, despite its omnipresence in the modern world system. Capitalist state theory attempts nonetheless to explain the necessary conditions of statehood. Three historical definitions of 'the state' have inspired contemporary thinking. Weber (1968) argues that the state is characterized by legitimacy, territoriality and threat of violence. Organizationally, it is comprised of "a more or less coherent matrix of institutions" (Painter,

2006, p. 756) managed by a strong administrative bureaucracy. Hegel (1821/2008) defines the state in more idealized terms as an inherently rational entity embodying ethical ideals and acting as the guardian of moral life. The purpose of the state, for Hegel, is to actualize reason (Ioris, 2015). Finally, the Westphalian definition of the state centers on territorial sovereignty, a principle dictating that states have ultimate authority over the people and land contained in their territory. Each state controls its internal affairs and borders without risk of interference from other states or external actors. The international state system, founded through the Treaty of Westphalia in 1648, remains a prominent feature of contemporary statehood (Kuus & Agnew, 2008).

These historical definitions continue to influence more modern accounts of what the state looks like. For example, Weber's influence is apparent in the common, though problematic, understanding of the state as a thing or object. The state is defined by the "collection of agencies and regulatory instruments" (Ioris, 2015, p. 168) vesting it with the right to perform operations on, and on behalf of, the body politic. This instrumental assessment likens the state to a 'power container' (Giddens, 1985), separate from and existing 'above' other spheres of the social world like family and community (Peck, 2004). While this understanding does not intentionally spatialize the state and state power, Ferguson and Gupta (2002) have argued that it nevertheless relies on two "taken-for-granted spatial and scalar images" (p. 982): verticality and encompassment. Consequently, these images impart a naturalized superiority of the state over other forces without justifying why. Abrams (1988) was among the first to critique the state-as-thing, arguing that to objectify the state theoretically and empirically is to present it as a seemingly sure reality when in fact it is "a spurious object of sociological concern" (Abrams, 1988, p. 63).

Alternatively, Abrams defines the state as an ideological construct or representation. Against Marxist state theories scrutinizing the material reality and concrete structure of the ‘state system,’ Abrams (1988) argues that studies should focus instead on the ‘state-idea,’ that is the “projected, purveyed and variously believed in” (p. 82) symbols constituting the state as a social artifact. Summarizing Abrams’ argument, Marston (2004) writes, “as the idea of the state has a significant reality – political, social and otherwise – it is the responsibility of state theorists to show how this idea is constituted, communicated and imposed” (p. 3). Resulting explanations reverse the lines of causality to conclude that the state is not the *source* of power but one of its *effects*. Drawing heavily on Foucault, Mitchell (1999) argues that discipline and government coalesce in the form of the state, producing a structural effect wherein the state appears to stand apart from other entities of daily life, such as the economy and society. ‘State effects’ are produced through continual processes of representation, meaning that the reality of the state is firmly dependent on the practices that conjure it into being. These include everyday and mundane practices of nationalism, subjectification and political subject-making (Billig, 1995; Kuus & Agnew, 2008).

A third definition of the state is as a social relation. In classical Marxist state theory, the state is an epiphenomenon of class conflict, a parasitic institution playing no key role in economic reproduction (Jessop, 1990). Neo-Marxist state theory moves beyond this interpretation to consider process and form over historical materialism (Clark & Dear, 1984). Popularized by Nicos Poulantzas, Joachim Hirsch and Bob Jessop, neo-Marxist state theory characterizes the state as “the condensation of a relationship of forces between classes and class fractions” (Poulantzas, 1980, p. 132). Here, the state is neither a bundle of institutions nor a set of ideologies; it is a complex of structures and strategies reflecting the balance of political power

across social groups, and the negotiation of antagonisms between them (Lefebvre, 2009). Poulantzas (1980) critiqued definitions of the state as either a thing or subject, writing, “Regarded as a *Thing*, in the manner of the old instrumentalist conception, the State is a passive, or even neutral, tool which is so completely manipulated by one class or fraction that it is divested of any autonomy whatsoever” (p. 129). He continues, “Conceived as a *Subject*, the State enjoys an absolute autonomy that refers to its will as the supposedly rationalizing instance of civil society” (Poulantzas, 1980, p. 129). Both the state-as-thing and state-as-subject arguments frame the state monolithically, whole unto itself, and are therefore unable to explain the internal contradictions that constantly challenge its unity. The state-as-relationship argument, by contrast, describes a state that is contested, heterogeneous, uneven and processual (Painter, 2006). These negate the appearance of the state as a unified “bloc without cracks of any kind” (Poulantzas, 1980, p. 131), suggesting instead that division and struggle are its very essence.

At the heart of state theory is a single, yet difficult, question: what is the state? This raises a series of other questions, leaving little room for consensus among scholars. Both Jessop (1982, 1990) and Poulantzas (1980) insist that there is no *one* definition of the state, nor should there be. Instead of striving to produce a general concept specifying “once and for all the abstract, formal characteristics of the state” (Jessop, 1990, p. 340), state theorists should gradually develop understandings that move between the conceptual and the concrete to reconcile differences between the state-in-theory and the state-in-practice. This kind of movement will always produce multiple and conflicting accounts, which is appropriate given that states never have just one form and their forms change over time. The challenge for researchers is to hold these multiple definitions of the state in tension together without losing coherence.

The nature of state power

The capitalist state is comprised of three elements: a form, a set of core functions, and an apparatus. Borrowing from Clark and Dear (1984), ‘form’ refers to the ties between capitalist social relations and the state; ‘function’ refers to the vital tasks the state performs to reproduce the capitalist system; and ‘apparatus’ refers to the organizational structure by which state power is exercised. Clark and Dear (1984) claim that by analyzing the configuration of form-function-apparatus, “vital clues as to the state’s agenda, power and bureaucratic design” (p. ix) are revealed. A major research question for state theorists is how and where the state derives its power. While a full exploration of this question is beyond the scope of this chapter, I contrast Michael Mann’s state-centered approach with Marxian society-centered approaches to show how state power is produced through different articulations of form-function-apparatus.

Mann (1993, 2003) argues that the state does not depend on the consent of the social groups it governs to derive power. Rather, state power is derived autonomously from its geographical form as a bounded place or arena. The state is power-filled and powerful because of its “unique ability to provide a *territorially centralized* form of organization” (Mann, 2003, p. 53, emphasis in the original) for society and its activities. For Mann, the socio-spatial capacities of the state are greater than those of civil society. Civil society groups, “therefore, entrust power resources to state elites which they are incapable of fully recovering” (Mann, 2003, p. 63) in exchange for the coordination and regulation they necessarily require. These capacities make the state an indispensable manager of capitalist production and the social and ecological crises it engenders (Gandy, 1999). This state-centered approach to state power articulates the relationship between form-function-apparatus as follows: the state apparatus is autonomously powerful, irrespective of its relationship to society, and this affects the various functions it performs. The influence of Weberian and Westphalian definitions of the state is evident here, given Mann’s

emphasis on state power being largely bureaucratic and coterminous with bounded territory.¹³

Marxist approaches take a society-centered view of state power, arguing that the state is a social relationship whose form reflects the class struggle between opposing social forces within society (Jessop, 2008; Poulantzas, 1980). State power derives from class dynamics of economic relations and exploitation, and the state's functions and apparatus are designed to facilitate accumulation and mediate class conflict. Despite their differences with Mann's state-centered approach, Marxist approaches also operate within an implicitly Westphalian imaginary because the state is still conceptualized as a bounded sovereign. Neo-Marxists moved this approach in a slightly different direction beginning in the 1970s, arguing that classical Marxist state theory relies too heavily on the base-superstructure thesis, positioning the state as "a mere political instrument set up and controlled by capital" (Jessop, 1982, p. 140). The form-derivation debate, which unfolded in the Marxist German-language literature, showed how the economic and political spheres of the state are separate in contemporary capitalism (Holloway & Picciotto, 1978), meaning that the state apparatus does *not* simply follow the will of capital. Neo-Marxists still agree that state functions directly support capitalist competition and "influence the reproduction of class domination as a whole" (Jessop, 1982, p. 101), but the state apparatus has authority to intervene and discipline using its own autonomous power.

Competing theories of the state offer competing accounts of how the state's form-function-apparatus is configured. Analyzing this tripartite relationship is useful for determining how and where states derive their power. While state theory is certainly deeper and more complex than the two examples described above, these examples address questions that are

¹³ Mann could be accused of having fallen into the 'territorial trap' (Agnew, 1994) because of how he conflates the state and state power with fixed units of sovereign space. According to Agnew (1994), the dominant and "singularly territorial representation of space" (p. 72) no longer captures the circumstances of our contemporary world, where power, politics, information, culture, and finance circulate through globalizing networks (not merely within state-based institutional hierarchies), creating novel spatialities of political-territorial relations in their wake.

indicative of the wider literature: what does the state do and how does it do it; where does the state's authority come from; and what is the relationship between the state and society? Each articulation of the nature of state power reveals a set of ontological assumptions about the state, including whether it is epiphenomenal of capital (capital-theoretical) or class rule (class-theoretical); whether it is completely autonomous from society and constraining of all political actors regardless of class standing; and whether the state system is based more on structure or agency (Jessop, 1990).

The strategic-relational approach

Jessop's strategic-relational approach (SRA) is perhaps the most well known neo-Marxist theory of the state. The SRA links the structure of the state to the ways political strategies are pursued, asking why some interests are disproportionately represented over others in the public arena of politics. Drawing heavily on Poulantzas' definition of the state as a social relationship, Jessop's SRA envisions the state as a reflection of the balance of power between competing class fractions intent on achieving their interests (Jessop, 1990, 2008). Yet written into its institutional form is a bias making the state "more open to some types of political strategy than others" (Jessop, 1990, p. 260). Rather than serving as a neutral or level playing field, the state is a selective terrain awarding unequal opportunities to different political agendas and the class fractions supporting them.

Under the SRA, the state is a strategic relation: its form influences what goals are pursued and how official functions are performed, while the apparatus 'crystallizes' the hegemony of the dominant classes (Poulantzas, 1980). Which groups and strategies emerge victorious from the struggles for political legitimacy are contingent upon an 'unstable equilibrium of compromise' brokered by the power bloc and its supporting and dissenting classes (Jessop, 1990). As a

society-centered approach, power is not and cannot be directly exercised by the state (Jessop, 2008). The real guardians of state power are the social forces – politicians, state bureaucrats and other members of political society – operating in particular roles and at particular scales of the government system who “activate specific powers and state capacities inscribed in particular institutions and agencies (Jessop, 2008, p. 37) in their own favor. A relationally selective state serves as both a unity mechanism and site of contestation for the public it represents; these opposing roles produce contradiction, what Poulantzas (1980) calls “the very stuff of the state” (p. 132).

Jessop’s strategic-relational approach conceptualizes the relationship between structure and agency, placing the state in the middle as “a site of strategy development” (Whitehead, Jones, & Jones, 2007, p. 44). Like a lot of capitalist state theory, the SRA was developed without clear ties to empirical circumstances. Yet with the help of regulation theory, a branch of critical political economy emerging out of Europe, the SRA has been applied to a number of historically- and geographically-specific cases of capitalist development. Regulation theory “focuses on the changing combinations of economic and *extra-economic* institutions and practices that help to secure, if only temporarily and always in specific economic spaces, a certain stability and predictability in accumulation” (Jessop & Sum, 2006, p. 4, emphasis in the original). Moving beyond a purely economic understanding of accumulation regimes, regulation theorists study how these regimes ascend, are reified and stabilized, through various forms of social regulation like collective identity, discursive ideology, and behavioral norms. Regulation theory bridges political economy with state theory by attending to the socio-spatial implications of capital accumulation (Jessop, Brenner, & Jones, 2008, p. 395).

In closing, one final debate within capitalist state theory bears mentioning. Recent waves

of globalization, especially neoliberal forms, have impacted the relationship between states and society, prompting some to declare the ‘end of the nation-state’ (Ohmae, 1995). New arrangements of power and decision-making authority at sub- and supranational levels are interpreted as direct threats to the survival of the international state system. Geographers generally reject this argument, noting that it ignores the simultaneous emergence of ‘new state spaces’ (Brenner, 2004), re-regulation and other innovations of statehood spurred by economic and geopolitical change. They argue that the spatial dynamics of globalizing capitalism have bestowed new importance on the global and local scales, but have not eroded the overall necessity of the national scale (Sheppard, 2002): rather than withering or coming to an end, state territoriality is merely being re-scaled (Brenner, 1999). Capitalist state theory argues that territoriality is fundamental to human practices of social organization with the nation-state being its dominant political form of expression (Sack, 1986; Taylor, 2003).

Thus far, I have reviewed two paradigms: nature-capital relations and state-society relations. While these have been pivotal to Marxian theories of historical change, both neglect important dynamics shaping current trajectories of historical change. In the final section of this chapter, I critique these paradigms and suggest a new way of synthesizing them.

Assembling Nature-Capital-State Relations

In general, the nature-capital literature does not adequately address the role of the state, and the state-society literature does not adequately address the role of the environment. Consequently, neither paradigm can adequately account for the phenomenon of private land conservation in Chile, since doing so requires careful consideration of the state *and* the environment. What is needed is an analytic that conceptualizes the state and the environment simultaneously, and the purpose of this section is to envision what that would look like. I begin

by arguing that these paradigms treat nature and the state as separate, self-contained spheres, and describe why this is problematic. Then I introduce the alternative framework of ‘nature-capital-state relations,’ as one way in which these paradigms could be integrated into a single explanatory device.

Geographical political economy of nature explores the nature-capital relationship and its implications for ecological and economic systems, but it falls short of clearly articulating the role of the state in constituting nature-capital engagements. Without this specification, nature is assumed to somehow organically find its way into the hands of capital, and together they circulate freely in self-regulating markets. This is an ironic problem of the literature, given Polanyi’s influence on it, yet too little attention is paid to why the state matters in nature-capital affairs (McCarthy, 2007).¹⁴ The circulation of capital and commodities is embedded in social relationships and political institutions that depend on the state to exist. Without the state’s routine involvement in natural resource allocation, environmental regulation, and market stabilization, the nature-capital relationship would be significantly altered.¹⁵

My critique should not be taken to mean that the state is absent from nature-capital analysis, but it does dispute how the state is portrayed as an environmental player. Three depictions are common: in the first, the state is seen as an ‘ecological Leviathan’ (Whitehead, 2008) reflexively enforcing environmental standards in a top-down manner. In the second, the state is an offloading agent devolving environmental responsibilities to non-state actors through

¹⁴ Polanyi’s most cited ideas (the double movement and social embeddedness) suggest that the state must act to ameliorate the excesses of hyper-commodification, including of nature. Ironically, his claims about the state have not inspired deeper investigation into its role regulating nature-capital relations. Yet Polanyi’s vision of capitalist market economies leaves room for this work, which is arguably long overdue.

¹⁵ One reason why the state remains under-emphasized in the geographical political economy of nature is that, for geographers, critical interrogation of the environment has been “hampered by the wider discipline’s flirtation with environmental determinism and colonialist discourses” (Jonas, While, & Gibbs, 2011, p. 284). Geographers, therefore, have not fully engaged with questions of nature and the state for fear of resurrecting past debates that have since been identified as culturally tone deaf and ethically circumspect.

privatization and public-private partnerships. In the third, the state is overtly under-capacitated and only capable of assuming minimal environmental responsibilities.

The ecological Leviathan argument is characteristic of Keynesian-era policymaking when environmental problems were framed as unintended consequences of the wider economy. State environmental management was largely reactionary, defined in terms of ecological risk mitigation and disaster control (Ioris, 2014). The devolution argument reflects more contemporary patterns of neoliberalization, where environmental regulatory duties have been restructured and reassigned “in ways that tend to enhance private and corporate authority” (Heynen et al., 2007, p. 6) over responsibilities formerly monopolized by the state.¹⁶ Finally, the argument of an under-capacitated environmental state is typically applied in developing or post-colonial contexts where previous baseline or models of strong state-driven resource management are lacking, such as in Bolivia (cf. Perreault, 2005). According to this line of thinking, states with thin histories of institutional capacity are more likely to embrace blatantly weak environmental agendas.

While these three depictions acknowledge that political decision-making affects how nature and natural resources are governed, they collectively discount – or miss altogether – the state’s indispensable role in organizing nature-society metabolism. Yet without the stewardship of states, major metabolic systems such as agriculture, biodiversity conservation, energy, land-use planning, natural disaster management, pollution abatement, water, and waste treatment would not function smoothly. These are socio-ecological or socio-natural systems because of their hybrid conditions as “part social/part natural” (Swyngedouw, 1999, p. 445), and the novel ways in which they unite society and nature. Missing from most analyses of nature-capital

¹⁶ Some scholars regard the adoption of neoliberal policies that cede decision-making control to non-state or quasi-state actors as the fundamental transformation of *government* to *governance* (Himley, 2008; Robertson, 2007).

relations is acknowledgement of the state's mediating role in metabolism, which includes but goes well beyond the duties of governing nature and natural resources.

Not only do states intervene in metabolic relationships, such as those between “farmers and fields, developers and soil, cities and water” (Robbins, 2008, p. 212), states also shapes metabolic processes in vital ways. For example, by issuing agricultural subsidies to growers of some commodities but not others, by requiring environmental impact assessments for development and infrastructure projects, and through environmental legislation like the United States' Clean Air, Clean Water, and Endangered Species Acts, states leverage their power and influence to affect how metabolic exchange between nature and society is produced. What's more, the literature on nature-capital analysis overlooks why states benefit from intervening in metabolic exchange and the contested forms state intervention takes. Simply measuring the increase or decrease of state presence in the environmental realm, as these depictions do, renders a dualistic and instrumental assessment that treats nature as an adjunct to the state, reducing their engagement to the technocratic activities of governance and regulation.

Asking how the state mediates metabolic exchange requires prior acknowledgement that it is equipped to do so. Weberian and neo-Weberian explanations are useful for grasping this. They argue that the state's “relative monopoly on administrative resources, technical expertise, bureaucratic intelligence and institutional influence” (Whitehead, 2008, p. 415) gives it unique capacity to manage the nature-society interface better than any other executive body. A number of administrative assets, like specialized institutions and a civilian workforce, enable the state to organize metabolic exchange and also handle the ecological problems and risks that sometimes result. In addition to possessing these features, the state serves as a centralized arbiter of environmental conflict with the authority to discipline bad actors and direct resource use in ways

that prioritize the common good (Johnston, 1996). In short, the sophistication and far-reaching effects of the modern state apparatus position it to effectively manage the complexities of nature and environmental change.

While Weberian state theory is useful for seeing the state as an effective socio-ecological manager, it is less capable of describing how and why the state mediates metabolic relationships. Whitehead et al. (2007) suggest this is because Weberian accounts tend to construct a state that exists apart from nature, “conjured up as a pre-given entity with little understanding of the ways in which state formation has been informed by an ongoing historical interaction between political and ecological processes” (p. 40). By describing a state that is relatively autonomous from society and capitalist class interests, Weberian state theory effectively describes a state that is also autonomous from nature. We need another way to explain the state’s role in mediating metabolism that does not separate nature into its own sphere.

Neo-Marxist state theory is a better lens for studying how the state mediates nature-capital relations because it neither explicitly separates the state from nature, nor suggests that nature is singularly controlled by capital. Instead, neo-Marxist state theory presents a relatively autonomous state apparatus that pursues strategies according to “the different and competing needs of different class interests” (Whitehead et al., 2007, p. 44), while nevertheless remaining loyal to the capitalist system within which it developed. Though neo-Marxism is considered “eco-light” (While et al., 2010, p. 78) because it rarely engages with nature, its discussion of state formation and consolidation, and the production of power, are highly consequential to the geographical political economy of nature.

In particular, Jessop’s SRA advances a set of theoretical premises that have important

implications for interpreting state environmental behavior.¹⁷ Primary among these implications is that the state's management of socio-ecological systems exemplifies its strategically selective tendencies. This is the case because environmental management is a product of the political process and therefore not politically neutral. It exists in delicate balance with the state's other priorities, including its economic commitments and the civic and class demands of society as a whole. The state must consider these circumstances when making environmental decisions, and due to the political pressure exerted by competing priorities, the resulting environmental decisions may have more to do with strategy and compromise than with resolving problems at all costs. While in theory the state acts as an impartial judge in socio-ecological disputes (Johnston, 1996), in practice adjudication of these disputes is often unduly influenced by the uneven distribution of power within the state apparatus favoring some interests and goals over others (Poulantzas, 1980).

Bringing Jessop's strategic-relational approach into conversation with the geographical political economy of nature is one way to rectify the limitation of the nature-capital and state-society paradigms. By integrating these paradigms into a single conceptual framework, historical change is seen as the result of systematic interactions between nature, capital, society and the state – not just of one or a combination of these forces. This produces a more robust understanding of metabolism, and how humans manufacture the conditions of life. The 'nature-capital-state-relations' framework foregrounds the role of the state in exchanges *between* and *across* nature, capital and society; its tripartite configuration avoids the restrictiveness of simple either/or binaries by expanding inquiry to include the multiple and intermediary connectivities in play. Adding a third pole to the framework is not meant to instantly resolve the problem of

¹⁷ Yet very few scholars have attempted to apply Jessop's SRA to state-environment matters (see Ioris, 2012 for one exception).

binary thinking, but rather to allow for the sustained and simultaneous consideration of nature as a socio-political space, of capital as a factor of metabolism, and of the state as an ecological actor.

That ‘society’ has been dropped from the proposed framework should not be taken to mean that it has disappeared completely. Indeed, the agency and impact of social groups on environmental decision-making is significant and any attempt to ignore this would be remiss.¹⁸ Instead of subsuming civil society outright, this new framework adopts a strategic-relational approach that sees the state as a form-determined social relation reflecting the balance of unity and division between different social groups (Jessop, 1990, 2008). These groups are the power brokers and interlocutor of the state, possessing agency to directly shape state action and behavior. Even when not implicated outright, society retains a meaningful presence with the framework of nature-capital-state relations.

On the other hand, the state is not presumed to be the sole actor enabling and limiting either the biophysical world and biophysical processes, or capitalism and capitalist transformation. Presuming this would only fetishize the state and grant it more supremacy than it otherwise deserves. Yet in this framework, the state is prioritized as the political object of concern because of its historically influential role in addressing global environmental problems. As Gandy (1999) observes, “the necessary administrative and legislative changes required to modify relations between society and nature have been largely left to government institutions” (p. 60). Leveraging its unique bureaucratic and sovereignty powers, the state fulfills a number of important environmental duties that private actors, non-governmental and inter-governmental organizations are unable or unwilling to execute. These include a suite of attempts to improve

¹⁸ The impact of the American grassroots environmental movement on federal environmental legislation and regulation should be taken as clear evidence of this point.

environmental conditions: enforcement of industrial regulation and green policy, management of toxicity and sanitation, disease prevention, implementation of biodiversity and emissions reduction targets, and negotiation of multinational agreements on climate change. While government solutions constitute only a portion of the efforts required to manage the global environment, these contributions are indispensable.

The state is a centralized organizing body possessing unparalleled authority to motivate and impose collective environmental action. This is the case not only because it derives political power from commanding territorial space (Mann, 2003), but also because it serves as guardian of the law. Aside from the capitalist marketplace, law is the principal means through which nature is socially represented, and imbued with meaning and value. The state is responsible for promoting these representations, meanings, and values by demanding obedience to and compliance with the law (Delaney, 2001, 2003), as well as shaping it. Although a cadre of prominent activists, organizations, and civil society groups have in recent decades challenged the state's monopolization of environmental discourse and policy-making, the state remains a leading player in environmental politics (Davidson & Frickel, 2004; Duit, Feindt, & Meadowcroft, 2016; Whitehead, Jones, & Jones, 2006).

Nature-capital-state relations can be used to assess the capitalist state's role as an ecological actor. Bearing in mind the strategic and selective qualities emphasized by Jessop's SRA approach, a number of useful conclusions emerge. First, because state power is often exercised to disproportionately favor the dominant classes (Jessop, 2008), state environmental policies cannot be analyzed in isolation of class-based power relations. These relations shape public opinion and decision-making about how to manage the environment, resulting in policies

that affect diverse populations in deeply uneven ways.¹⁹

Second, the contradictory signature of the capitalist state form spills over into public efforts to resolve ecological crises. A strategic-relational view holds that the capitalist state is enmeshed in contradiction, due to its dual function as both “a factor of cohesion and a locus of dispute” (Ioris, 2012, p. 127). This contradiction germinates in state responses to environmental problems like land degradation, biodiversity loss, and global warming that paradoxically protect some portions of the biophysical world from destruction while openly sacrificing or jeopardizing others (Castree, 2008a).

Third, as guarantor of the right to private property, the state facilitates society’s alienation from nature (Whitehead et al., 2007). Harvey (2006) argues that the state promotes private landownership in order to “preserve the sanctity of private property in general,” including the “means of production from which capital derives its own legal standing and legitimacy” (p. 360). Thus, landed property plays an outsized role in encouraging capitalist development. Private enclosure collapses collective tenure arrangements by restricting access to land and its multiple ‘affordances’ (Li, 2014). Those with formal rights maintain their connection to nature, while those without formal rights become alienated from it. Yet, as Marx asserts in *The Poverty of Philosophy*, even property owners become estranged from nature under capitalism: “Rent, instead of binding man to Nature, merely bound the exploitation of the land to competition” (as cited in Harvey, 2006, p. 361). Through its own interest in fomenting capital accumulation by promoting and regulating private property, the state contributes to these processes of alienation.

¹⁹ The environmental justice and environmental racism literatures (Bullard, 1994; Cole & Foster, 2001; Pulido, 2000; Walker, 2009) explore how environmental benefits and burdens are distributed inequitably along pre-existing axes of social difference, such as race, class, and gender. Poor and non-white communities are at higher risk of exposure to hazards and dangerous environmental conditions; they are routinely denied access to and decision-making authority over environmental resources; and they have fewer opportunities to experience natural amenities like beaches, parks and outdoor recreation.

The framework of nature-capital-state relations refutes two assumptions in mainstream accounts of state-environment studies: first, that the environment is merely an extra-economic feature of capital production and, second, that the basis of engagement between the state and nature is techno-managerial and extends no further than governance and regulation. By challenging existing conceptualizations of nature and the state, this framework strives for a more nuanced and dialectical understanding of nature in/and the state. In the next chapter, I specify exactly how nature-capital-state relations can be used to understand the practice of land conservation.

CHAPTER 3. Toward a Theory of Environmental Statecraft

In the previous chapter, I argued for a new way of explaining historical change that does not replicate the binary paradigms of nature-capital or state-society relations. Neither of these articulates state-environment interactions directly, so they cannot be used to understand the regulatory puzzle of Chile's private protected areas. I then proposed a conceptual intervention integrating both paradigms into a single framework of nature-capital-state relations, and reviewed why this is a more accurate analytic of metabolism (*Stoffwechsel*). The innovating feature of nature-capital-state relations is that it allows for the simultaneous consideration of the state and nature by combining theoretical insights from strategic-relational state theory and the geographical political economy of nature.

In this chapter, I operationalize nature-capital-state relations through the theory of 'environmental statecraft.' Environmental statecraft describes how and why states manage the biophysical world to strategic effect. While this is only one aspect of the relationship between states and the environment, it is an especially profound one that has had far-reaching effects on the history and welfare of global environments. Section two is devoted to giving environmental statecraft greater theoretical attention. In developing this idea, I argue that it is conceptually and politically necessary to see the environment as both *constitutive* and *consequential* of the state and state power. Environmental statecraft is then deployed in section three to assess land-based biodiversity conservation. I explore how public land conservation is emblematic of environmental statecraft, and why this matters for conservation practice on-the-ground. Lastly, I close the chapter with a brief reflection on the significance of environmental statecraft for state-environment studies.

Operationalizing Nature-Capital-State Relations

Within Western intellectual history, nature and the state have been problematized in relative isolation of one another (Whitehead et al., 2006). This is partly the result of the influence of Cartesian philosophy and the scientific revolution on knowledge production in the West; each has inspired the drawing of ontological and spatial distinctions between spaces of nature and spaces of the state. Such divisions are visible in early analyses of civilized society, where young political states were said to have emerged from the uncivilized ‘state of nature’ (Hobbes, 1986; Locke, 1980; Rousseau, 1950). Political philosophers described the state of nature as a pre-governmental condition of existence ruled by the anarchic and innate tendencies of nature and mankind. They argued that political statehood would replace the laws of nature with laws of order and justice legitimated by a rational and organized public authority. Separating the state from nature catalyzed a series of conceptual and epistemological differences between the social and natural sciences that have yet to be fully reconciled.

These theoretical and spatial divisions between nature and the state pertain to the wider dualism of nature-society, which geographers have extensively critiqued as artificial and unfit to deal with the present circumstances of unprecedented environmental change (Braun & Castree, 1998; Cronon, 1996; Moore, 2015; Smith, 2008). As part of their critique, geographers recognize the need to critically reassess the relationship between nature and the state through theory. While the framework of nature-capital-state relations is meant to inspire a more systematic way of understanding metabolism by studying the interactions between nature, capital, and the state – rather than studying just one of two of these in isolation – the framework does not offer a theoretical explanation of how these forces interrelate. I argue that theorizing this interrelation is necessary for dealing with the empirical puzzle of Chile’s PPAs, and that political ecology provides key insights informing such a theory.

Perhaps more than any other sub-discipline within geography, political ecology is dedicated to challenging the dualism separating nature from political society. It does this by articulating the overlap of ecology and politics, showing the inevitably ecological dimensions of politics and the inherently political aspects of ecology (Robbins, 2012). Political ecology is a genre of thought as much as a method of inquiry. Its analytical tools link environmental problems like resource scarcity and land degradation to the social dynamics underpinning uneven power relations (Greenberg & Park, 1994; Peet & Watts, 2004). Seeking to dismantle narrow and perfunctory accounts of socio-ecological conditions or change, political ecologists explain events such as famine and deforestation by building comprehensive ‘chains of explanation’ (Blaikie & Brookfield, 1987). Beginning with the local environment and land manager, and scaling out from there, these chains address complexity as the product of multiple factors – political, economic, ecological, human-driven, and non-human-driven – compounding on top of one another.

Despite having “restored ‘politics’ to understandings of society and environment” (Braun, 2008, p. 194), political ecologists generally do not scrutinize the state as an independent analytical category. To be clear, political-ecological scholarship frequently features the state in discussions of resource management (Kosek, 2006), ecological crisis (Fairhead & Leach, 1998), and the bureaucratic dimensions of environmental policy (Mosse, 2003), but it rarely reflects on what the state itself is and why this matters for the non-human world. Geographer Morgan Robertson (2015) argues that the focus on local resource users has “kept political ecology circling state theory and political geography but rarely fully engaging with it” (p. 458). One consequence is that resulting representations of the state are rather narrow. The state commonly comes off as either a passive handmaid of capital, or a unified and menacing ecological Leviathan (Robbins, 2003). Yet neither of these representations fares well in our present context;

growing concern about climate change and ecological security necessitates a more nuanced picture of the state, explicitly acknowledging its strengths *and* weaknesses as an environmental manager.

Recently, political ecologists have written about the need to theorize the state in processes of capitalist environmental governance, both because nature plays an intimate role in the ideology and execution of state projects, and because state management agendas shape environmental outcomes (Ioris, 2015; Robbins, 2008; Robertson, 2015). Ioris (2015), for example, tasks political ecologists with developing three areas within state-environment research: “the organization and configuration of the state, the motivations and rationality of environmental responses, and the possibilities and limitations of state interventions” (p. 173). The nature-capital-state relations framework developed in chapter one provides a conceptual avenue for achieving this by taking state theory seriously, and importing it into a schema for understanding socio-ecological conditions and change. Still missing from this framework, however, is a theoretical argument about *how* nature, capital, and the state sit in relation to one another. In what follows, I seek to demonstrate that ‘environmental statecraft’ operationalizes the framework at a theoretical level.

Theorizing Environmental Statecraft

Scholars have used the phrase ‘environmental statecraft’ in reference to a number of phenomena, but in the context of this project it is defined as the collective practices through which governments organize and manage socio-ecological processes (agriculture, energy, water, and waste management, among others) in ways that simultaneously express and expand state power.²⁰ Phrased differently, environmental statecraft describes nature’s role in political

²⁰ In developing the idea of ‘environmental statecraft,’ I do not intend to lay original claim to it. Others before me have deployed it, including Eric Nost and Collin Higgins who organized a paper session entitled, ‘Environmental

statecraft and, conversely, how “the state is consolidated, and constituted, in relation to nature” (Harris, 2012, p. 28). This conceptualization is informed by political ecology to the extent that it relates ecology, or nature, to politics through the state apparatus – a vantage point too seldom considered. It also signals how the framework of nature-capital-state relations is mobilized. Rather than treating nature and the state as conceptual isolates that interact out of bureaucratic necessity but share no mutual stakes or interests, environmental statecraft theorizes them dialectically: nature exists ‘inside’ the state apparatus, while the state exists ‘inside’ nature, each coming into being through the other. A theory of environmental statecraft declares the state and nature to be fully imbricated, with capital acting as an essential force tying them together and influencing how they co-evolve. If metabolism (*Stoffwechsel*) describes the processes linking nature with society, and these processes are articulated through different political-economic regimes and change over time, then the state and capital fundamentally shape metabolic operations by stabilizing, regulating, and transforming them. Again, environmental statecraft is not meant to offer a single and all-encompassing theory of the state-environment relationship, but rather to emphasize the political-economic dimensions that so profoundly shape it.

The practices of environmental statecraft are varied, and include administrative, economic, legal, extra-legal, and technical actions that govern nature while also helping produce or increase state power. Multiple examples help illustrate this. First, states have historically utilized the environment to their own geopolitical advantage. Especially in the context of ongoing imperial expansionism, occupying powers seek to pacify and subjugate their host sites by exploiting the biology and ecology of foreign environments (Adams, 2003; Grove, 1995).

One compelling illustration of this is historian Alfred Crosby’s (1986) book *Ecological*

Statecraft: Situating the State in Environmental Governance’ at the 2016 Dimensions of Political Ecology Conference. In this thesis, I adopt the idea with the intent to advance a line of argument about the nature of state-environment relations that I find promising.

imperialism, which argues that Europe succeeded as a global imperial power in part through the transfer of biological agents, like flora, fauna, human bodies, and germs, that quickly propagated and spread in the New World. Crosby's thesis shows that state-building projects are rooted as much in biology and ecology as they are in military power and political governance. Other environmental tactics used by states to gain power or favor include conducting military and paramilitary violence in jungles, deserts, and other strategic landscapes (Gregory, 2016), as well as expanding definitions of sovereign territory to include vertical geographies of the atmosphere and the underground (Adey, 2010; Elden, 2013). Thinking about the territorial environment as three-dimensional, with aerial and subterranean articulations, effectively re-spatializes geopolitics as a set of relationships that do not only play out 'on the ground.'

Second, spectacular infrastructure projects, like river damming and oil pipelining, spatially rearrange nature in order to harness its ecosystem services, while also demonstrating "the strength of the modern state as a techno-economic power" (Mitchell, 2002, p. 21). Third, mundane and bureaucratic government activities like cadastral mapping, resource stock cataloguing, and environmental monitoring produce knowledge about nature in ways that politically benefit the state. Geographic technologies generate vital data about the biophysical contents of state space (Shah, 2012), rendering the internal environment 'knowable' through measurement, and concentrating environmental knowledge in the hands of state agencies that control when and how to share it. Finally, the state expresses its responsibility for managing socio-ecological interests both through reactive interventionism following natural disasters and crises (Ioris, 2014), and through more proactive interventionism promoting ecological stewardship and protection (Whitehead et al., 2007). Collectively, practices of environmental statecraft are coordinated at multiple scales of the state ranging from the municipal, to the

provincial and federal, at times transcending national boundaries to manifest supra-nationally. Regardless of scale, these practices are always coupled with the strategic intent to (re)inscribe states' material and discursive authority.

Capital's role in influencing state-environment relations is crucial. Environmental statecraft describes how state power is extended or reinforced through strategic engagements with the environment, yet these engagements are often prompted by political-economic concerns or have explicitly political-economic implications. As was discussed in chapter one, strategic-relational state theory argues that state power derives from class-based dynamics of economic relations, and state functions directly support capital accumulation. One way the state supports accumulation is by mediating metabolic exchange in ways that benefit capital, such as privatizing water distribution or charging ranchers below-market fees to graze livestock on federal lands, effectively subsidizing the ranching industry. The interests of capital are tightly interwoven with the interests of capitalist states, affecting how and why states relate to nature.

Environmental statecraft challenges the more orthodox foundations of state theory, which characterize the environment as secondary or adjunct to state formation and consolidation processes (Davidson & Frickel, 2004; Ioris, 2014), by showing how the environment directly constitutes both processes. This is illustrated in Asher and Ojeda's (2009) analysis of changes to the Colombian Constitution in 1991 that reworked Colombians' relationship to the environment. Through *ordenamiento territorial*, a territorial zoning policy, the government sought to reorganize the culturally and economically 'backward' Pacific lowlands region, a collection of political-administrative units called departments, into a contiguous ecological zone known for biodiversity conservation and sustainable economic development. To pull this peripheral region back into the central orbit of the state apparatus, officials leveraged the lowlands' ecological

distinctiveness in their policy strategies, identifying nature as “a target of development and a means of capital accumulation” (Asher & Ojeda, 2009, p. 294). In this respect, a range of non-human entities such as rivers, mangroves, tropical forests, wildlife, and genetic material were reimagined as distinctly Colombian, and key to the country’s sustainable and economically prosperous future. *Ordenamiento territorial* vested the state with ultimate authority to manage and exploit these natural resources through various techniques of mapping, cataloguing, and zoning. Asher and Ojeda (2009) argue,

State power is constituted *through* these practices of order and control. We understand the Colombian state, not as an outside eye, but as part of an ordering process in which the ordering agent – the state – and what needs to be ordered – nature – emerge simultaneously. It is in this sense that we understand states and nature as *continually emerging realities* (Whitehead et al., 2007) and as realities that heavily rely on each other for their existence. (Asher & Ojeda, 2009, pp. 300–301, emphasis in the original)

Although the Colombian state’s interventions in the Pacific lowlands region are not framed in terms of environmental statecraft by the authors, they nevertheless exemplify the operative principle behind this theory: namely, nature shapes and is shaped by the state.

One tangible way nature matters for statecraft is through the production of national territory. Political geographers study territorialization through the psychological behavior of territoriality, a distinctly spatial “strategy to control people and things by controlling area” (Sack, 1986, p. 5). States make sovereign claims on space through calculative tactics like cartography and boundary marking that grant or deny access to space by specific groups. Territorialization requires that nature be partitioned; yet political geographers tend to disaggregate nature from their analyses of territory, seeing territory as inseparable “from a definite human will and purpose” (Gottman, 1973, p. 5), and therefore not the same as space other “physical, inanimate phenomena” (Gottman, 1973, p. 5). They argue that humans’ territorial behavior is purely social and for that reason unmotivated by the environmental conditions it takes place in.

Privileging the social in definitions of political territory was meant to distinguish the study of human territoriality from ethology and its postulates regarding animals' territorial instincts (cf. Sack, 1986). Yet this perspective obscures nature's full role in the construction of political space. While territory is certainly more than the sum of its biophysical attributes, these attributes have historically affected why and where political actors draw boundaries and control space. Environmental factors, such as the presence of exploitable natural resources, access to valuable freshwater, marine, or terrestrial assets, and existence of natural boundaries such as rivers, mountains, and shorelines, have influenced the territorial interests and ambitions of states since the colonial era (Grove, 1995). Moreover, in the words of Roderick Neumann (2004), "the process of mapping, bounding, containing, and controlling nature and citizenry are what make a state a state. States come into *being* through these claims and the assertion of control over territory, resources, and people" (p. 202). This process that Neumann describes is referred to by Vandergeest and Peluso (1995) as 'internal territorialization.' They frame state territory explicitly in relation to nature, defining internal territorialization as a natural resource control strategy that expresses and expands state power by "establishing control over natural resources and the people who use them" (Vandergeest & Peluso, 1995, p. 385). These claims support the idea of environmental statecraft by suggesting that the role of the environment should be taken more seriously in theories of state territoriality and territorialization: rather than existing separate from the logics of statecraft, the environment itself is a key terrain over which states declare their sovereign right to rule.

Beyond delimiting boundaries and informing in a geographical sense where the state begins and ends, the territorial environment serves as a tool and target of state dominance. This aspect of environmental statecraft is best articulated by James Scott (1998, 2009), who has

written about the historical role of nature in the ‘state-making projects’ of legibility and simplification. Scott argues that statecraft is as much an exercise in leveraging the geography of a political territory, as it is an exercise in controlling it. Early statehood, according to Scott (2009), was highly dependent on agro-ecological conditions because political power and wealth accumulation were secured through the production of food to sustain a growing populace, which required access to arable land and concentrated manpower. States used coercive techniques of social control and the military to sedentarize mobile and itinerant populations into agrarian communities located in geographically favorable environments, such as valley floors and near major waterways; and they deployed technology and engineering expertise to conquer remote, mountainous or otherwise disagreeable landscapes for settlement and mass cultivation. Together, these tactics enhanced state capacity by making “the terrain, its products, and its workforce more legible – and hence manipulable – from above and from the center” (Scott, 1998, p. 2). While Scott’s arguments are made from a deeply historical perspective, their insight into the role of nature in/and the state remains relevant today. States’ ability to secure political power and wealth accumulation continues to be measured by the degree to which they develop and control their territorial environments (Harris, 2012; Whitehead et al., 2007).

Vandergeest and Peluso (1995) include an important detail in their discussion of internal territorialization that is crucial for understanding how the state is conceptualized in a theory of environmental statecraft. They recognize that state territorialization in general, and state strategies of natural resource control in particular, are never fully hegemonic or stable. On the contrary, both are routinely undermined by the resource users who disregard or resist the state’s goals, and by the diverse and sometimes divergent mandates of state agencies that make these goals harder to achieve. Such challenges, posed from within as well as outside the state

apparatus, indicate that the state is not a coherent, unitary, or inevitable authority whose power exists *a priori* and uncontested.

Environmental statecraft theorizes the state in similar terms to Vandergeest and Peluso's (1995), but adds two important modifications. First, it takes a strategic-relational approach to the state, understanding it as a heterogeneous assemblage of actors and interests that reflect the balance of power between different segments of society (Jessop, 1990; Poulantzas, 1980). Practices of environmental statecraft emerge "via the interactions and negotiated consent of many different actors" (Bridge & Perreault, 2009, p. 483), and are spatially and temporally contingent because they depend on how power is distributed in particular contexts and shifts over time. Second, environmental statecraft can never be fully hegemonic or stable because biophysical processes themselves routinely constrain states' attempts to control the environment. Natural disasters, the onset of climate change, and other instances of nature's unpredictable yet powerful materiality make states' goals harder to achieve. Whereas Jessop's SRA and Vandergeest and Peluso's internal territorialization argue that the state and state power are shaped by social agency, a theory of environmental statecraft adds that the state and state power are also shaped by biophysical agency. Bearing these modifications in mind, environmental statecraft is not meant to be a grand theory predicting the pre-given command of states over nature, but a strategic-relational formulation of how states and nature co-exist together and are transformed by forces of capital.

Environmental statecraft shares roots with several other approaches linking nature, capital, and the state. These include environmental governance, ecological modernization, and eco-state restructuring.²¹ Though a full review of each is beyond the scope of this chapter, I

²¹ There is a case to be made that environmental governmentality, or environmentality, should also be included in this list. It is reduced here as a footnote in the interest of speeding my primary argument along. Refer to the

briefly summarize them to make the larger point that environmental statecraft is distinct enough that it should be considered alongside these.

First, the environmental governance literature applies governance analysis to the non-human world in order to understand the ‘institutional superstructure’ regulating how and by whom nature should be used (Bakker & Bridge, 2008).²² In geography, environmental governance signifies the move away from state-centric forms of environmental management, toward non-state and market-based forms promoted by post-Fordist and increasingly neoliberal regulatory restructuring (Himley, 2008). Geographers have studied the effects of neoliberal policies on environmental governance, finding that they change nature-society interactions in fundamental ways, such as “defining property and forming markets for resources and environments where none had previously existed” (Bridge & Perreault, 2009, p. 487). The transfer of decision-making authority to non-state organizations and institutions has precipitated new and “hybrid governing arrangements which operate in network terms” (Bulkeley, 2005, p. 876) between and across multiple scales of political and legal jurisdiction. While some scholars recognize these arrangements as having ushered in a new era of global-scale environmental governance “in which state actors are not necessarily the only or most significant participants” (Bulkeley, 2005, p. 877), others working in the neo-Marxist tradition understand these arrangements to be new expressions of re-regulation that nevertheless maintain states’ position within the power geometry of environmental management (Bakker, 2003; Bridge & Jonas, 2002;

following for rigorous summaries of this approach, which describes the modern governance of socio-ecological systems using Foucault’s analysis of governmental power: Bridge & Perreault (2009), Darier (1996), Goldman (2001), Luke (1995), and Whitehead (2008).

²² Governance analysis is concerned with institution building (Abers & Keck, 2013), institutional capacities (Stoker, 1998), and institutional change (Streeck & Thelen, 2005).

Prudham, 2004). Regardless, by describing the basis of interaction between nature and the state as strictly techno-managerial, this approach fails to overcome the theoretical and spatial divisions separating them.

Second, the ecological modernization literature, emerging primarily out of sociology, argues that sustainability is the most rational way for states to overcome capitalism's demonstrable ecological limits (Davidson & Frickel, 2004; Spaargaren & Mol, 1992). Ecological modernization is an "optimistic depiction of modern society's ability to transform itself in response to these tendencies" (Himley, 2008, p. 440) through institutional reform, and technological and scientific innovation. Efforts to 'green' capitalism are fueled by the underlying assumption that "economic actors and market dynamics have constructive roles to play on the stage of environmental reform" (Sonnenfeld & Mol, 2002, p. 1325). In this line of thinking, the shift away from state-based forms of environmental management is interpreted as necessary to achieve the win-win-win combination of economic growth, administrative efficiency, and environmental protection (Bakker & Bridge, 2008). Critics of ecological modernization argue, however, that it presents late-stage industrial capitalism as the only worthwhile definition of human progress – much as post-World War II modernization theory did – pursuing sustainability as a fix for maintaining business as usual (Foster, 2012; Keil & Desfor, 2003). In theorizing a solution to capitalism's ecological limits, ecological modernization over-privileges the role of capital to the detriment of articulating the relationship between nature and the state.

Third, the nascent eco-state restructuring literature argues that ecological modernization lacks both a theory of the state and a theory of politics, despite these being central to the implementation of any such project (While et al., 2010). Instead, it argues for thinking about

environmental regulation as one major driver of state political and economic restructuring in the contemporary era.

This is what we call eco-state restructuring (ESR), defined here as the reorganization of state powers, capacities, regulations and territorial structures around institutional pathways and strategic projects, which are (at least from the vantage of state interests at a given moment in time) viewed as less environmentally damaging than previous trajectories. (While et al., 2010, p. 80)

Eco-state restructuring uses capitalist state theory and geographical political economy to understand the entanglement of economy-environment-state in specific places and times, “as well as the ways in which trajectories of state environmental regulation are shaped by processes of struggle, negotiation and compromise between different interests” (While et al., 2010, p. 89). In this regard, ESR is conceptually quite similar to environmental statecraft. Yet ESR diverges in two important ways, the first being that it focuses nearly exclusively on contemporary carbon control in the first world (Jonas, While, & Gibbs, 2011; While et al., 2010).²³ ESR interprets state projects of low-carbon restructuring as doubly strategic: they curtail a menacing environmental problem threatening long-term economic growth (elevated greenhouse gas emissions), while also spawning new multi-scalar urban and regional development initiatives that award first adopters with an advantage over other states. This introduces the second point of departure from environmental statecraft: ESR is emphasized in relation to urban politics and urban governance (While, Jonas, & Gibbs, 2004) at the expense of explaining its relevance to extra-urban governance and land-use politics. Ultimately, the conceptual apparatus of ESR is too specific and determinative, meaning that it can only be applied to a limited number of empirical circumstances. Moreover, ESR presumes that states are rationally compelled to choose paths of least environmental harm due to economic and first-mover incentives. Yet the evidence

²³ Though see the recent article by Chang, Leitner, & Sheppard (2016) for one way ESR has been used to analyze the rise of eco-cities in China.

supporting this claim remains unclear. Not even in the context of carbon control have states acted in accordance to ESR's theoretical prediction.

The geographer Antonio Ioris (2014) uses what appears to be a similar concept to environmental statecraft – 'environmental statehood' – to articulate his own critical theory of state-environment relations. Defined as "the combination of discursive, ideological and material efforts by the state to deal with socio-ecological problems" (p. 1), environmental statehood attempts to connect state theory with ecological politics. Yet by presenting environmental statehood as the sum of state efforts to "deal with" environmental problems, Ioris's specification falls short of his intended goal to locate the environment in mutual relation to the state. Instead, it reifies the problematic assumption of the environment existing in binary opposition to the state. As my earlier arguments in this section have shown, environmental statecraft directly refutes this binary by theorizing the state and the environment dialectically.

None of these four approaches to state-environment studies explicitly addresses the environmental dimensions of statecraft, or the state-theoretical dimensions of the environment. Environmental statecraft, on the other hand, addresses both through three interrelated themes: first, it offers a theoretical argument about *how* nature, capital, and the state engage with one another: nature and the state are fully imbricated, there is no point where one ends and the other begins, yet forces of capital influence the terms under which nature and the state relate. These terms necessarily change with different political-economic arrangements and over time. Second, state environmental actions are interpreted to be both strategic and selective (Jessop, 2008) with the intent to advance state authority. Nature plays an intimate role in political statecraft by helping express and expand state power. Third and finally, environmental statecraft is never fully hegemonic or stable because biophysical agency routinely undermines the extent to which states

control their environments. Nature's unruliness places clear limits on states' authority.

To summarize, environmental statecraft fulfills two purposes as a companion to the framework of nature-capital-state relations. First, it reinforces the state-as-relationship argument characteristic of Jessop's strategic-relational approach by describing state formation and state consolidation as processual, negotiated, and never pre-given. Second, it insists on the integral role of nature in producing the state and state power, while also highlighting the impacts of state power on the environment. This thesis argues the nature-capital-state relationship is operationalized through the theory of environmental statecraft. In chapter three, environmental statecraft will be applied to the empirical context of land-based biodiversity conservation. To contextualize this, I consider the connection between environmental statecraft and land conservation in the next section.

Land Conservation and the Capitalist State

In-situ protected areas are the most common form of land conservation, promoted by the U.N. Convention on Biological Diversity as one way for member states to meet their national biodiversity targets. The Convention was adopted at the 1992 U.N. Conference on Environment and Development, also known as the Rio 'Earth Summit' ("History of the convention," n.d.), and with 193 parties has near universal participation among nation-states. In 2010, the Convention was updated with the Aichi Biodiversity Targets – named after Aichi Prefecture, Nagoya, Japan, where the conference meeting took place – which propose twenty goals for addressing global biodiversity loss and protection in the period 2011-2020. Target eleven declares,

By 2020, at least 17 percent of terrestrial and inland water, and 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes. ("Aichi Biodiversity Targets," n.d.)

The Aichi Biodiversity Targets are just one of the policy contexts currently influencing government action to protect biodiversity in the modern era. Yet there is a longer history to the relationship between conservation and capitalist state governance, which reveals not only why states practice land conservation in the first place, but also how deeply entangled ecology and economy have always been.

Conservationism traces back to Europe's colonial experience in the tropics. According to Grove (1995), "While the early oceanic island colonies provided the setting for well-documented episodes of rapid ecological deterioration, they also witnessed some of the first deliberate attempts to counteract this process" (p. 474). Through interventions first applied in the colonies, themselves borrowed from non-Western philosophies of nature, an ethos of European environmentalism gradually emerged.²⁴ By the mid-nineteenth century, naturalist lobbying organizations were founded in Britain and the United States, with names like the Open Spaces Society, the National Trust for Places of Historic Interest and Natural Beauty, the Sierra Club, and the Boone and Crockett Club (Adams, 1990). The idea of nature as a public, common good arose in the United States, framed as opposing the elitism of Britain's private landscape parks, which operated for the exclusive enjoyment of the wealthy classes (Olwig, 1995). In 1864, the U.S. government established Yosemite as the nation's first public conservation park, immediately deeding it to the state of California (Cronon, 1996). Frederick Law Olmsted, the first chairman of the California Yosemite Park Commission, thought the American national park

²⁴ Colonial-era conservation may have inspired a new variety of environmentalism in Europe, but its deployment in the colonies was unmistakably controlling and racist. In Africa's British colonies, for instance, protection efforts were initially motivated by the white-settler legacy of big game hunting. Neumann's (1995) historical analysis shows that "wildlife conservation began as a reaction to overhunting by whites but later focused its outrage at the 'fiendish system' of African hunting" (p. 152). Underwriting the political agenda of 'hunter-conservationists' was a double standard in which "white men hunted; Africans poached" (Adams, 1990, p. 18). The portrayal of African hunters as bloodthirsty savages legitimized Europeans' claim that local people posed the greatest threat to wildlife and wilderness. In the United States, Native Americans were also labeled ecological criminals to justify their forcible removal from future protected areas (Cronon, 1996).

“should be held, guarded, and managed for the free use of the whole body of the people forever” (Olmsted, 1865, p. 21-22, qtd. in Olwig, 1995, p. 387). Eight years later, in 1872, Yellowstone was designated as the world’s first national park.

Yellowstone was quickly concretized into a policy model for use in other national contexts, and by the 1890s it had been replicated in Canada, Australia and New Zealand (Adams, 2003). Under the Yellowstone model, land conservation became an explicit sovereign power of the nation-state. Though governments previously had a hand in creating protected areas (Grove, 1989), passage of the Yellowstone National Park Protection Act by the U.S. Congress and its approval by President Grant set an important legal precedent formally linking land conservation with the law.²⁵ In this moment, land conservation became a locus of state power – but not on legal basis alone. Through the use of legal doctrine and eminent domain, and other extra-legal techniques like discourse, imagery, and forced eviction, the protection of nature became a practice of environment statecraft.²⁶

Land Conservation as Environmental Statecraft

Land conservation is a significant site for theorizing environmental statecraft because it highlights the crisis tendencies of the nature-capital relationship and the selective ways states must intervene to overcome them. These crisis tendencies stem from the contradictory logic of

²⁵ Cf. Yellowstone National Park Protection Act (1872) for more information.

²⁶ The role of imagery in conservation practice is illustrated by Cosgrove (2003), who argues that the early naturalists were inspired by pictorial representations of wilderness in paintings, dioramas, and photographs. Their will to act in nature’s defense was built in part on the visual persuasion of aesthetics. For example, the paintings that Thomas Moran made while on expedition with the Hayden Survey of 1871 were used to successfully lobby Congress for Yellowstone’s designation as a national park (Barringer, 2002). Digital photography and social media imagery are no less influential today in promoting public lands to citizens and tourists, while also demonstrating the visible presence of government intervention across the American landscape. The role of discourse in conservation practice, on the other hand, is especially powerful in shaping wilderness areas as symbols of cultural nationalism (Adams, 2003; Cronon, 1996). They are “places where we “reinvent nature” in our own image” (Olwig, 1995, p. 380). For an excellent analysis of Indian removal during the heyday of U.S. national park construction, see Spence (1999).

capital to deteriorate, rather than reproduce, its own conditions of production: over time and in pursuit of greater rates of accumulation, capital degrades the environment and natural resources. James O'Connor (1991, 1998) refers to this as the second contradiction of capitalism, which eventually leads to a crisis of underproduction compromising profits and impeding growth. To stave off crisis, states initiate land conservation projects that slow the ecological side effects of overexploitation, designating protected areas where resource use is tightly controlled or banned altogether. Conservation projects are deployed to address specific environmental problems, such as species loss, land degradation, natural resource depletion, and others threatening the stability of national economic systems.

Yet the overall success of land conservation as a fix for capitalism's ecological problems is limited by states' conflicting role as centralized bureaucratic managers. Ensnared by opposing imperatives to both develop *and* protect the natural environment, states must on the one hand maintain pro-growth, business-friendly policies that enable resource use, while on the other hand ensure the longevity of the productive system by regulating resource use and disciplining bad environmental actors (Walker, 1989). Environmental statecraft offers a state-theoretical interpretation of biodiversity protection, suggesting that capitalist processes of nature exploitation and the conservation projects launched to counteract these processes cannot be fully understood without examining the role of the state. Nature provides necessary inputs for capitalist production, and the state seeks to facilitate capitalist production by grounding it in political and legal institutions. The state authorizes capital's exploitation of nature, while intervening periodically to initiate targeted conservation projects offsetting the negative effects of expanding accumulation.

Reading land conservation through the lens of state theory suggests that it is motivated by more-than-aesthetic rationalities that go beyond simply protecting the wild beauty of nature for its own sake. Rather, land conservation is a ‘strategically selective’ (Jessop, 2008) decision that states must balance against their other political-economic commitments, and the demands of their publics. Nevertheless, conservation decision-making plays a role in (re)producing state interests. Framing land conservation as a matter of strategic selectivity helps explain why certain kinds of nature become eligible for protection while others are sacrificed for productive use. Though national conservation registries feature landscapes of precious or rare aesthetic value, beauty is not the only – or even a necessary – condition for determining what nature gets protected. Other factors influence and complicate state conservation planning, such as finite administrative capacity to fund and manage a diffuse protected areas network spanning the national territory, and competing private or communal property claims that block access to in-situ biodiversity the state may ideally wish to protect. Notwithstanding these constraints, states practice land conservation partially to fulfill their duties as environmental managers, and always while attending to their larger goals and interests. This contrasts with the Yellowstone imaginary, which describes the primary objective of land conservation as being the preservation of pristine and sublime wilderness (Cronon, 1996).

In summary, this chapter has made two arguments. First, I propose a theory of environmental statecraft to show how forces of nature, capital, and the state interrelate in ways that are far more imbricated and co-constitutive than the dominant paradigms of nature-capital and state-society presume. Second, I argue that land conservation is a form of environmental statecraft. By identifying this, I bring together the theoretical domains of state theory and geographical political economy, which have remained estranged despite clear and productive

overlap. When synthesized together, these arguments emphasize the inherently relational, politicized, and strategic bases upon which nature, capital, and the state mutually engage. By articulating dynamics of metabolism and environmental change in state-theoretical terms, a better understanding of the connections between capitalist governance and the ecological conditions it engenders emerges. I hope it is now clear that environmental statecraft is far more than an abstract concept divorced from the real world, or routine practices of environmental management. In the next chapter, I hope to make clear how environmental statecraft operates historically.

CHAPTER 4. Land Conservation and the Chilean State

Protected areas cover nearly 12% of the world's terrestrial surface, and are considered “the fundamental building blocks of virtually all national and international conservation strategies” (International Union for Conservation of Nature, 2013, p. vii). In addition to protecting endangered species and biological resources, they concentrate valuable ecosystem services in-situ, and foster climate change mitigation by improving global carbon sinks. The International Union for the Conservation of Nature (IUCN) classifies protected areas into one of six categories, and recognizes four governance types according to who owns, controls, and administers them.²⁷ The U.N. Convention on Biological Diversity formally adopted the IUCN's classifications in 2004, where for the first time private and market approaches to biodiversity protection were emphasized (United Nations, 2004), triggering a proliferation of private protected areas worldwide (Langholz & Krug, 2004). All land conservation projects share the goal of preventing exhaustion and extinction of biodiversity stocks, but the legal and financial tools employed by private- and public-sector initiatives vary widely.

Though the history of private conservation traces back several centuries (Langholz & Lassoie, 2001), its rapid increase in recent decades makes it an emerging trend with notable ecological and political implications. Private conservation, according to the IUCN, “comprises protected areas under individual, cooperative, NGO or corporate control and/or ownership, and managed under not-for-profit or for-profit schemes” (International Union for Conservation of

²⁷ The IUCN's six management categories (including a subdivided first category) are: (Ia) strict nature reserve, (Ib) wilderness area, (II) national park, (III) natural monument or feature, (IV) habitat/species management area, (V) protected landscape or seascape, and (VI) protected areas with sustainable use of natural resources (cf. International Union for Conservation of Nature, 2013 for more detailed descriptions). These are paired with a typology of four governance categories: (A) governance by government, (B) shared governance, (C) private governance, and (D) governance by indigenous peoples and local communities (cf. Borrini-Feyerabend et al., 2013 for more detailed descriptions).

Nature, 2013, p. 26).²⁸ The authority to define conservation objectives, and develop and enforce a biodiversity management plan is vested with the landowner. Private protected areas (PPAs) are almost always voluntarily designated, yet subject to government legislation and legal covenants, such as easements, land trusts, and other conservation management agreements. In cases where “there is no official recognition by the government, the accountability of private protected areas to society cannot be assured” (Borrini-Feyerabend et al., 2013, p. 36). This point is especially relevant to the Chilean case: more than twenty-five years after PPAs first appeared in the rural landscape, they remain largely outside the state’s legal framework.

In this chapter, I explore the rise of private conservation in Chile and explain the state’s role in a regulatory puzzle juxtaposing the increasing popularity of PPAs on the one hand with their precarious legal and political status on the other. I argue that this puzzle should be conceptualized as a problem of nature-capital-state relations because private approaches to land conservation in Chile, as elsewhere, depend on the messy and mutual entanglements of nature, capital, and the state. Without any one of these forces in play, the puzzle would undoubtedly take a different shape or, perhaps, cease being a puzzle altogether. Despite claims that biodiversity protection has taken a neoliberal turn in recent decades (Igoe & Brockington, 2007), with states devolving their conservation planning authority to private and non-state actors, I suggest that private conservation in Chile emerged from a particular legacy of public policy orchestrated by the state. Understanding the contemporary situation of private conservation in Chile therefore requires examining the history of state conservation behavior. In section two, I unpack the PPA

²⁸ This definition of private conservation, and the move to include private conservation in the IUCN’s schema of governance types, is part of a larger project to strengthen ties between non-governmental conservation organizations and private-sector actors. The IUCN is a member-based union of roughly 1,300 non-governmental organizations and nation-states. While private-sector membership is prohibited by statute, in recent years the IUCN has signed multiple strategic partnership agreements with corporations, including Royal Dutch Shell, Holcim (a global cement supplier), Total (a French oil firm), and Rio Tinto (a major metals and mining corporation). These agreements have been established despite vocal opposition from many IUCN member organizations who object to partnering with global polluters. See MacDonald (2010) for an extended discussion.

boom and critique the neoliberalizing conservation literature for its failure to adequately account for what is happening in Chile. In section three, I show how the National System of Public Protected Areas, known by the acronym SNASPE in Spanish, evolved and was managed, and why this is consequential for the private conservation system taking shape today.

Notwithstanding the proliferation of PPAs, I argue that nature and the ways it is protected by the Chilean state both express and expand state power. In this regard, land conservation is a practice of environmental statecraft. Section four reflects on the usefulness of environmental statecraft to this case, and synthesizes of the main contributions of this thesis.

Enclosing Ecology? The Rise of Private Protected Areas

Private land conservation has skyrocketed in Chile since the late 1980s, reflecting a similar trend at the global level (Stolton, Redford, & Dudley, 2014). Data on the number of units and total area of Chile's PPA network is difficult to confirm and inconsistently reported in the literature. A 2013 government-commissioned census identified 308 PPAs covering approximately 1.65 million hectares (Ministerio del Medio Ambiente, 2013), meaning that slightly more than 2% of Chile's terrestrial area is controlled by private conservation actors. This includes the 290,000-hectare Parque Pumalín in Patagonia, the largest private protected area in the world (Langholz & Lassoie, 2001).²⁹ Chile's private conservation actors include corporations, transnational environmental NGOs, eco-real estate firms, universities, indigenous communities, wealthy elites, and ordinary citizens.³⁰ A number of academic and policy reports

²⁹ The American billionaire conservationists Kristine and the late Douglas Tompkins own Parque Pumalín, see the following footnote.

³⁰ Among the high-profile PPA owners are Goldman Sachs, which operates the Karukinka Natural Park (270,000 hectares) in the XII Region (known as Magallanes); The Nature Conservancy, which runs the Valdivian Coastal Reserve (60,000 hectares) in the XIV Region (known as Los Ríos); former President Sebastián Piñera, who runs Parque Tantauco (118,000 hectares) in the X Region (known as Los Lagos) on the island of Chiloé; and Kristine and the late Douglas Tompkins, who have purchased conservation lands throughout South America, including 635,000

dispute the government's estimate, however, and calculate as many as 600 PPAs, once small-scale and informal projects by individual property owners are taken into account (Meza, 2009; Root-Bernstein, Montecinos Carvajal, Ladle, Jepson, & Jaksic, 2013; Sepúlveda & Villarroel, 2006). Nationwide, the total number of private conservation units outpaces the total number of public conservation units by a magnitude of between three and six. Framed in this way, Chile's PPAs are important sites of scholarly analysis because of their burgeoning influence on domestic conservation practice. Nevertheless, the vast majority of Chile's conservation lands are publicly held. More than 14 million hectares, 19% of national terrestrial area, are protected across 101 units (CONAF, n.d.).³¹

Such imprecise understanding of PPAs is due to their rapid expansion in recent years and the lack of state action to properly administer, standardize, and track them. PPAs have very limited de jure legitimacy under national law, leading Corcuera and Tecklin (2012) to argue, “this *laissez faire* context is a determining factor differentiating Chile from other countries with robust private conservation sectors, like Costa Rica, Colombia or South Africa, where the phenomenon has emerged with specific legislation and various incentives” (p. 1).³² Article 35 of the 1994 National Environmental Framework Law (No. 19.300) proclaims, “the state shall foster and incentivize the creation of private protected areas by subjecting them to equal tax and legal treatment as public protected areas” (Gobierno de Chile, 1994), but this recognition is in name only.³³ Neither the 1994 law, nor subsequent legislation, has clarified what a PPA is, and how its

hectares in Chilean Patagonia, making them the largest private conservation landowners in the world (Holmes, 2014).

³¹ Refer to Table 1 for a complete listing of Chile's public protected areas.

³² Translated from the original by author.

³³ Translated from the original by author.

conservation goals should be measured and assessed. Only in June 2016 did the government pass a conservation easement law, providing a partial legal basis upon which PPAs exist but offering no firm financial incentives or tax benefits to owners.³⁴ For these reasons, Tecklin and Sepúlveda (2014) refer to the country's private protected areas as 'policy fiction.'

Without full de jure standing, PPAs remain de facto tools, so popular that their basic characteristics have been translated into a replicable model for others to adopt. The model is ubiquitously used, and in several regions private conservation areas outnumber public conservation areas by a substantial margin (Schutz, 2015). An informal community of PPA owners and advocates promotes this model through a number of communication channels, including non-profit organizations, PPA owner associations, workshops, print materials, and websites. The existence of this community and their resources suggest that the PPA model is not so much a policy *fiction* but a policy *alternative* developed outside the state apparatus.

Since 1995, the Center for the Study of the Environment (known by its Spanish language acronym CIPMA) has researched the emergence of private conservation in Chile, and lobbied the government to regulate PPAs and incentivize PPA owners (Sepúlveda, 2004). CIPMA was one of the first organizations to identify and catalogue PPAs, as well as offer technical assistance and specialized training to landowners (Tacón & Sepúlveda, 2004). Its journal, *Ambiente y Desarrollo*, has published dozens of articles promoting the ecological benefits of PPAs and their potential to augment the state's biodiversity strategies. In 1997, a related organization, the National Committee for the Defense of Fauna and Flora (CODEFF), developed the Network of Private Protected Areas (RAPP), connecting approximately 100 landowners to legal services and

³⁴ It is worthwhile to note that the conservation easement law had not been approved at the time of my fieldwork in summer 2015, or during the 2015-16 academic year when I was formulating the majority of the arguments presented in this thesis. Its recent approval is a clear sign that private conservation in Chile is beginning to exist on new terms, yet it makes my question about the state's relationship to private conservation no less relevant.

conservation management training (Proyecto GEF-MMA-PNUD, 2010). RAPP also acted as a communication hub between PPA owners, disseminating quarterly bulletins and hosting regional meetings, and provided green brokerage services for prospective PPA buyers (Maldonado, 1999). The network dissolved in 2005, but not before expanding membership to 291 PPAs ranging in size from one-half hectare to 311,000 hectares (Proyecto GEF-MMA-PNUD, 2010). More recently, the groups *Así Conserva Chile* and *Parques para Chile* have assumed RAPP's advocacy responsibilities. In 2010, *Así Conserva Chile* founded a PPA union, arguing that unionization was a logical response by landowners to the prolonged instability of their legal situation. The union charges membership fees and lobbies for rural economic development, in addition to promoting private conservation. As of 2012, the union represented 54 members (Corcuera & Tecklin, 2012).

Early efforts of CIPMA and CODEFF to catalogue PPAs revealed important information about who was practicing private conservation in Chile and why. From October 2000 through October 2003, CIPMA ran the program "Public-private Mechanisms for Biodiversity Conservation in the X Region" with funds from the Global Environment Facility.³⁵ Through a registry process and qualitative data collection, the program generated a more complete profile of PPA owners in the X Region (known as the lakes district), confirming earlier observations made at the national-level (Sepúlveda, Letelier, & Seeberg, 2003). Of the 155 PPAs studied, 75% were smaller than 100 hectares, 22% were smaller than 5 hectares, and 68% were owned by individuals identifying as farmers or rural residents, including indigenous persons (Sepúlveda et

³⁵ The Global Environment Facility (GEF) was founded in 1991 as a pilot program of the World Bank to finance projects addressing global environmental concerns, especially in the areas of global warming, biodiversity, water, and ozone depletion (Streck, 2001). It was quickly restructured in 1992 to exist independently of the World Bank, but the organizations retain close ties. GEF often partners with the U.N. Development Program and the U.N. Environment Program, and serves as a fiscal agent for the U.N. Convention on Biological Diversity and the U.N. Framework Convention on Climate Change (UNFCCC).

al., 2003). When asked why they owned a PPA, respondents identified a number of motivations, including biodiversity conservation (66%), love of nature (56%), desire to leave a legacy to family (40%), and because land is perceived as a good and safe investment (13%) (Sepúlveda, 2003). Approximately 55% were interested in developing eco-tourism activities as a strategy for sustainably financing their conservation projects (Sepúlveda, 2003).

The results of CIPMA's PPA audit were significant because of what they did *not* find. Private conservation is not only a hobby of the wealthy in Chile, despite media accounts and public perception. Most PPAs are small- or medium-scale, established spontaneously, owned by ordinary individuals or families, and operated under formal and informal terms relating to land stewardship. Scholars and activists call this the 'Chilean formula' of private conservation (Sepúlveda, Villarroel, Moreira, & García, 1998). The Chilean formula is marked by a paradox, however: altruistic motives to protect the common environmental good are pursued through private means oriented toward individual interests. Critics of private conservation argue that this paradox is a reason for skepticism. Yet in Chile and globally, PPAs are likely to proliferate despite "what the conservation community thinks of them" (Langholz, 2003, p. 135). Rather than condemning PPAs because they exist outside the public sphere, it is important to scrutinize their capacity for conservation outcomes and social justice.

Supporters argue that PPAs serve a niche conservation purpose, making them distinct from, not redundant of, public efforts. They note that PPAs are a needed conservation alternative because at least 50% of Chile's unique biodiversity is enclosed on private property (Pauchard & Villarroel, 2002). Furthermore, they note SNASPE's multiple flaws and argue that PPAs could improve them by protecting biodiversity that is absent or underrepresented in the national network, forming cushion zones to extend coverage beyond state protected areas, and

strengthening continuity and connectivity in conservation landscapes (Pliscoff & Fuentes-Castillo, 2011; Sepúlveda, 2003; Sepúlveda & Villarroel, 2006). In other words, advocates think PPAs have the potential to overcome the isolated and ‘patchy’ qualities of SNASPE by serving as biological corridors between geographically dispersed public conservation units. They favor adopting policy tools allowing private property owners to participate in conservation, without either forfeiting their full holdings to biodiversity protection or ceding land to the state through eminent domain. Tools would include financial incentives such as tax breaks and tax credits, social incentives such as technical support and skills training, and market incentives such as certification programs and payment for ecosystem services.

Despite the rising popularity of private conservation, it presents new challenges to global conservation practice. There is concern that without adequate regulation or legal enforcement, conservation outcomes may be subsumed by larger priorities of profit maximization when paired with business ventures like RED/D+ and ecotourism. Additionally, it is unclear how privatization will affect the long-term future of biodiversity protection. Unlike states, private actors can disinvest in or withdraw from their protected areas with relative ease (Pauchard & Villarroel, 2002). The IUCN acknowledged these challenges when it codified private conservation as a key governance type, arguing that to be successful private conservation projects must demonstrate accountability and visibility (Borrini-Feyerabend et al., 2013). Conservation projects that remain unregulated, improperly funded or managed, and where little data is collected, risk violating international standards set forth in the Convention on Biological Diversity (United Nations, 2004). To meet international standards for protected areas, “private lands must be “dedicated,” by legal or other effective means, for long-term conservation. That usually means that voluntary conservation must be both binding and capable of standing up to

legal challenges” (Borrini-Feyerabend et al., 2013, p. 52). For more than two decades, Chile’s voluntary conservation movement did not meet international standards because it lacked basic legal designation from the state. The absence of a policy framework for PPAs has been their greatest barrier and deficit.

Conservation easements are the most common way to legally recognize voluntary conservation projects. A conservation easement is a legal agreement between a landowner and government agency or land trust that registers a parcel of land for specific conservation purposes. These purposes are enumerated in a contract, and permanently enforced for the life of the contract, even if the original landowner sells the land under easement. No party may abdicate the terms of a conservation easement, including the government. The Chilean Congress debated implementing a conservation easement law, first proposed to legislators by the U.S.-based Nature Conservancy and supported by domestic PPA organizations, since 2008. It was only in June 2016 that Law No. 20.930 legalized conservation easements in Chile. This goes a long way toward elevating Chile’s PPAs to international standards, but issues of accountability and visibility remain unresolved.

Critiquing neoliberalizing conservation

To summarize, a wellspring of spontaneous and piecemeal conservation projects has emerged from Chilean civil society over the last twenty-five years, despite the persistent lack of state action to recognize, regulate, and legitimize them. This situation reflects a ‘puzzle’ that calls into question the role of the state. According to the burgeoning literature on neoliberalizing conservation, Chile’s PPA boom reflects a global trend indicative of neoliberalizing capitalism (Holmes, 2012; Jones, 2012). Borrowing many theoretical claims from the neoliberalizing nature literature, scholarship focuses on the increasing prevalence of neoliberalizing ideology in

conservation practice (Buscher, Sullivan, Neves, Igoe, & Brockington, 2012). The main argument is that, far from protecting biodiversity from capitalist exploitation, conservation itself has become a terrain of capital expansion. By adopting techniques of commodification and marketization, neoliberalizing conservation blurs the line between public-interest environmental protection and ‘greenwashed’ big business.

According to Holmes (2012), three neoliberalizing trends are visible in contemporary approaches to land conservation. First, state monopoly on conservation planning has been ‘rolled back’ and supplanted by a variety of non-state actors. Second, conservation goals are increasingly achieved through market-based solutions, like payment for ecosystem services, RED/D+, carbon offset programs and ecotourism. Third, conservation NGOs have developed closer ties to the business world on the grounds that corporate partnerships and use of corporate business strategies improve conservation outcomes. Yet neoliberalizing conservation practice appears in certain places and not others: like the capital it carries with it, neoliberalizing conservation “skips around” (Holmes, 2011, p. 2) and develops unevenly.

The shift from state-managed to privately-managed land protection has been facilitated by the emergence of what Holmes (2011) calls a ‘transnational conservation elite.’ This group of highly networked NGOs, corporations, bureaucrats, scientists and wealthy individuals collectively leverage their power and influence – through the mutual exchange of ideas, money and personal contacts – to steer the global conversation on best practice. Different motivations spur participation by different actors within the network. Wealthy individuals, increasingly known as ‘eco-philanthropists’ (Jones, 2012), purchase PPAs or donate to conservation projects to fulfill their environmentalist sympathies. Corporations contribute to biodiversity protection

out of “fear (or hope) of consumer sanctions and reputational risk” (Liverman, 2004, p. 735).³⁶ Scientists and universities establish private protected areas to serve larger research or community-outreach goals. Conservation NGOs participate for many reasons, not the least of which are organizational mandates to do so. Together, this elite network functions as a global assemblage of “thought and action” (Igoe & Brockington, 2007, p. 440) emerging as the dominant conservation discourse; this ‘variety of environmentalism’ (Guha & Martinez-Alier, 1997) dictates what and how conservation decisions get made.

Nevertheless “privatization modifies power relations (Budds, 2004, p. 325) between state and non-state actors, raising critical questions of control and, in the case of land, sovereignty. For example, the PPA owner Douglas Tompkins ignited a media and political firestorm in the mid-1990s when he purchased a land parcel in the X Region of southern Chile spanning the entire width of the country, from the Pacific Ocean to the Chile-Argentina border. In effect, Tompkins’ land deal disrupted the contiguous territorial sovereignty of the Chilean state, cutting it in two. This parcel became Parque Pumalín, one of the world’s most high-profile private protected areas.³⁷ PPAs also enroll conservation into the contentious realm of land politics by triggering three forms of land-based entanglements: land monopolization by elites, consolidation of land concentration into fewer hands, and rise in anti-foreigner attitudes about land ownership (Langholz, 2003; Zoomers, 2010). Each of these entanglements is present in the Chilean case to varying degree. The most extreme critiques read private conservation as a case of what Harvey (2003) calls ‘accumulation by dispossession,’ insofar as PPAs enclose the commons, displacing

³⁶ These fears and hopes are also generated by pressure to adhere to corporate social and environmental responsibility policies, along with the increasingly common practice of corporate ‘greenwashing.’

³⁷ Refer to Holmes (2014) and Nelson and Geisse (2001) for an extended discussion of private land conservation and sovereignty in southern Chile.

and dispossessing local populations from the land where they once lived and worked (cf. Kelly, 2011).³⁸ More recently, scholars have explored the correlation between biodiversity conservation, ‘green’ environmental initiatives, and land grabbing (Fairhead et al., 2012; Larson et al., 2013; Scheidel & Sorman, 2013). They find that some market-based efforts to address global environmental change have led to “the expropriation of land or resources for environmental purposes” (Corson & MacDonald, 2012b, p. 263), constituting scenarios of eco-driven land grabbing, or ‘green grabbing.’

While the neoliberalizing conservation literature has shed light on a number of recent developments within the global conservation community that deserve publicity and critical analysis, certain aspects of this narrative do not travel well in the Chilean context. The rationale that private protected areas are radically different than state-managed conservation areas (Buscher & Fletcher, 2015; Fletcher, 2010) fails in the Chilean case on two fronts. First, by using public conservation as a baseline for measuring changes provoked by privatization, the narrative fails to question the nature of states’ conservation behavior or attend to the multiple and complex reasons why states practice conservation. My approach, by contrast, frames land conservation as a dimension of environmental statecraft, meaning that it must engage with these questions, and in a historically informed way. Second, the narrative interprets private conservation projects rather monolithically – seeing the large-scale, capital-intensive, and celebrity-owned projects as the rule rather than the exception (Brockington, 2008) – whereas private conservation in Chile is evolving under diverse and heterogeneous conditions. Notwithstanding the large-scale, capital-intensive, and celebrity-owned projects, the majority of Chile’s PPAs are small- or medium-

³⁸ Accumulation by dispossession describes the enduring multiplication of primitive accumulation processes originally identified by Marx – including forced expulsion, asset appropriation, enclosure of property rights, and proletarianization – which Harvey argues are needed to sustain growth well beyond the infant stages of capitalist development.

scale, and owned by ordinary citizens (e.g. individuals, families, and those with indigenous claims to land) who practice conservation for reasons other than profit motive; 25% operate on an annual budget of less than US\$2,000 (Stolton et al., 2014). PPA owners voluntarily assume responsibilities for conservation without receiving full legal and financial benefits from the state that would stabilize their work. This evidence challenges the scholarly criticisms portraying PPAs as strictly economized spaces that ‘save nature by selling it’ (McAfee, 1999).

A Brief History of State Conservation Behavior

The distinctiveness of the ‘Chilean formula’ suggests that PPAs require a different analysis than that offered in the neoliberalizing conservation literature. Rather than simply attributing the PPA boom to the ‘neoliberalization of everything’ (Harvey, 2005), it should be thought of as symptomatic of longer-standing processes of nature-capital-state relations in Chile. I argue that the PPA model must be re-situated *within* the wider history of public conservation, instead of compared against it. Reading private and public conservation relationally serves to clarify why and how PPAs emerged, while also indicating ways in which biodiversity protection may evolve in the future. In the following sections, I trace the origins of public conservation in Chile, explain its logics, and argue that the PPA boom is partially attributed to how the state has historically rationalized its own conservation behavior.

Historical logics of land conservation

Archival analysis of Chilean state conservation behavior reveals a deeply historical entanglement between ecology and economy, with particular and surprising consequences for the resulting land protection practices. State decisions about what and where to conserve have been driven by a series of ‘eco-economic’ logics favoring the protection of some ecologies over

others. These logics comprise a system of calculation that manages ecological issues through economic principles, especially value and opportunity cost, and they manifest in the financial, geospatial, and legal dimensions of the country's public protected areas network.

Chile's eco-economic logics are the product of a longstanding state development rationale of managing the environment through the economy. While not unique to Chile, this rationale is particularly pronounced because of specific colonial and neocolonial conjunctures impacting the arc of national environmental policy paradigms. From the mid-sixteenth century, mineral and resource extraction were the Spanish Crown's primary colonial industries in Chile, provoking a re-orientation of human-environment relationships and initiating long-term processes of land degradation. The post-colonial economy continued to rely on raw materials extraction, prioritizing the development of natural resource sectors such as copper mining, plantation forestry, agriculture, and commercial fishing, which remain leading industries today. According to a recent government report (Gobierno de Chile, 2014),

Chile bases its economy on the exploitation of natural resources and, without considering the mining sector, which represents 12% of national GDP and 60% of total exports, the sectors that depend directly on the provision of renewable natural resources are forestry, fishing, agriculture, and tourism, which together account for 9.7% of GDP, and generate at least 1 million jobs. (p. 8)³⁹

Manzur (2000) argues that Chile's export-oriented economic development model is the principal cause of environmental degradation in Chile. The model is based on the excessive exploitation of natural resources with little value added, exerting pressure over species and ecosystems, and precipitating biodiversity loss. Manzur (2000) cites a lack of political will as the principal reason why more rigorous conservation and sustainable use policies have not been implemented.

Chile's experience as a testing site of neoliberal reforms has also dramatically shaped the

³⁹ Translated from the original by author.

national environmental regulatory framework such that it “expresses a strongly market-enabling quality instead of the market-regulating character commonly ascribed to environmental law and policy” (Tecklin et al., 2011, p. 879). Neoliberalism made its worldwide debut in 1970s authoritarian Chile under the direction of Milton Friedman and other Chilean economists trained at the University of Chicago (known in Chile as ‘Los Chee-Ka-Go Boys’). Many of the rules that eventually became universal tenets of neoliberal orthodoxy were invented on the fly in response to particular conditions of the Chilean experiment (cf. Peck, 2010). The neoliberalization of economic logics in Chile has affected the governance of nature and natural resources to considerable degree, promoting “modernity and economic efficiency through commodification, privatization, and market deregulation” (Schutz, 2015, p. 27).

In addition to permeating Chile’s development strategies, eco-economic logics permeate Chile’s conservation strategies. Concomitant with early movements in the United States and Europe, Chile’s conservation movement emerged in the mid-1800s, pressuring the government to address the rapid rate of native forest loss in the country’s southern regions. Nineteenth-century deforestation in Chile was driven by a number of processes initiated centuries earlier by the Spanish Crown, including industrialization, settler-colonization, and urbanization. Deforestation “occurred despite the various restrictions in the Laws of the Indies as well as local ordinances for protection of the forests” (Hopkins, 1995, p. 40), in part, because the Spanish Crown and successive post-colonial administrations disproportionately prioritized mining rights over other economic activities. This was the case because mining was, and continues to be, Chile’s most profitable export industry (Borregaard, Blanco, Wautiez, & Matte-Baker, 1999). By invoking a *denuncio del bosque*, mining companies could obtain legal permission from a judge to deforest areas that blocked access to subsurface mineral resources or obstructed mine

development. The National Congress moved to repeal the *denuncio del bosque*, and President José Joaquín Pérez signed the motion into law on July 15, 1871 (Cabeza Monteiro, 1988, p. 13). Facing intense opposition from the mining industry, the *denuncio del bosque* was reinstated by President Federico Errázuriz on July 13, 1872 for an additional three years (Cabeza Monteiro, 1988, p. 14), but new limitations were placed on what forest areas could be cut. These limitations foreshadowed a more comprehensive forest law issued the following year. On May 3, 1873, the National Congress passed legislation “establishing norms for cutting and clearing and providing for an inspector-general of forests and for forest rangers” (Hopkins, 1995, p. 40) in every administrative region.

Bolstered by the 1873 forest law, Chilean conservationists pressured the state to officially declare on January 16, 1879 that it would protect forests in federal reserves (Memoria Chilena, 2015a). Twenty-eight years passed before the first federal forest reserve, Malleco National Reserve, was established on September 30, 1907 via *Decreto Supremo* No. 1.540 (Memoria Chilena, 2015a); nonetheless, the 1879 declaration is considered the legal antecedent for Chile’s public conservation system (Cabeza Monteiro, 1988).⁴⁰ The National Treasury administered Chile’s conservation program until 1913, managing 600,000 hectares of native forest in eight reserves between the southern cities of Concepción and Puerto Montt (Memoria Chilena, 2015a). The National Treasury was an unlikely government bureau to be placed in charge of biodiversity protection, indicating that early conservation was above all a monetary project instituted to manage, but not prohibit, consumption of endangered native timber. Timber was a key input in nineteenth-century mining, used to build mine shafts, and native timber was especially coveted due to its particularly sturdy quality (Clapp, 1995). Given the outsized importance of mining to

⁴⁰ Cabeza Monteiro (1988) argues that the 1879 decree was not immediately implemented due to several important historical events placing demands on the state’s administrative resources, including the War of the Pacific between Chile and Peru (the only war Chile has ever fought), and government campaigns to pacify the Mapuche Indians.

the Chilean economy, it was in the state's macroeconomic interest to maintain the long-term viability of remaining native forest resources by regulating their exploitation.

Until 1925, forest reserves were the only conservation category protected under national law, nearly all of which were located in the lakes district (X Region), prompting Pauchard and Villarroel (2002) to argue that “the creation of protected areas... was more of a response to the interest of visionary naturalists in ameliorating deforestation than it was a national policy of conservation” (p. 319). The addition of new conservation categories slowly expanded the number of biomes and variety of species protected by the state. Chile's first national park, Benjamín Vicuña Mackenna, was created on July 21, 1925 via *Decreto Supremo* No. 378 and signed by President Arturo Alessandri (Cabeza Monteiro, 1988). In 1984, Chile adopted the IUCN's protected area categories, adding virgin region reserves, natural reserves, and natural monuments. Nevertheless, Chile's temperate forests continued to be disproportionately protected because they embodied conventional definitions of natural beauty. These “aesthetic considerations played a major role in defining protected areas. At that time, concepts like “biodiversity” or “ecosystem processes” were not part of the conservation logic; thus most areas were chosen for their scenic or recreational value” (Pauchard & Villarroel, 2002, p. 321).

Chile's first public protected areas were founded on a highly instrumental eco-economic logic insisting that ‘rational’ levels of deforestation would improve biodiversity protection. This logic was espoused by conservationists and adopted by politicians. Writing in the 1911-1912 *Journal of Forests, Fisheries, and Game*, then-inspector general of forests Federico Albert Fraupp argued: “Forest conservation entails the need to cut and exploit, however strange that may sound. To conserve, it is necessary to cut” (Albert Fraupp, 1911-1912, p. 11 qtd. in Cabeza

Monteira, 1988, p. 22).⁴¹ Albert Fraupp's philosophy is indicative of conservation behavior during this period: efforts were "strongly oriented toward forest production and not to conservation goals" (Pauchard & Villarroel, 2002, p. 319). Under the government's early conservation framework, laws issued to protect forests and establish national parks set a precedent that justified the legal exploitation of forests in state reserves and national parks (Cabeza Monteiro, 1988; Hopkins, 1995). Furthermore, early state conservation behavior was motivated by several disparate factors: anxieties about native forest loss and land degradation, aesthetic preferences biasing the protection of forests over other biomes, and cost-benefit analyses measuring environmental protection in terms of economics.

The strategic selectivity of SNASPE

These early motivations for conservation, and the role of eco-economic logics, did not diminish throughout the 20th century as the national protected areas network expanded and management practices matured. Between 1913 and early 1973, several agencies within the Ministry of Agriculture managed national protected areas. Then on April 19, 1973 (five months before General Augusto Pinochet's September 11 military coup d'état), President Salvador Allende transferred management authority to the newly convened National Forestry Corporation, known as CONAF (Memoria Chilena, 2015b). CONAF is a privately held corporation independent of, but obligated to report to, the Ministry of Agriculture. CONAF both protects and exploits national natural resources: in addition to administering all public protected areas, it is responsible for overseeing national forestry policy, controlling forest fires, and promoting the development of the national forestry industry (Corporación Nacional Forestal, 1995). The concentration of such seemingly contradictory responsibilities in the same quasi-governmental

⁴¹ Translated from the original by author.

hands shows the entanglement of ecological with economic goals, and the degree to which private enterprise had embedded itself in Chile's public conservation infrastructure long before the first private protected areas appeared.

In 1984, Chile's protected areas were reorganized under Law No. 18.362, creating the National System of Public Protected Areas (SNASPE in Spanish). CONAF retained administrative control over SNASPE (Manzur, 2000), but the law formalized the country's biodiversity protection strategies and conservation practices for the first time in Chilean history (Proyecto GEF-MMA-PNUD, 2010). According to Pauchard and Villarroel (2002),

The law establishes that protected areas should maintain "representative samples of the biological diversity of the country" in a way that "ensures the continuity of evolutionary processes, animal migrations, genetic flow patterns and the regulation of the environment" (Law 18.362). Such biological criteria were never mentioned before in Chilean legislation. Furthermore, the law established ecosystems as the primary unit for protection, emphasizing biogeographical diversity and ecosystem representation. (p. 322)

In step with emerging international discourses of sustainable development and biodiversity, SNASPE justified Chile's conservation program along entirely new lines. No longer framed in purely aesthetic or recreational terms, protected areas became important means of regulating the health of Chile's ecosystems.

Chile joined the Convention on Biological Diversity in 1994 and submitted its first national biodiversity strategy to the United Nations in December 2003 (Gobierno de Chile, 2003). In this strategy, the government set a goal of protecting at least 10% of every relevant ecosystem in the country by 2015 (Proyecto GEF-MMA-PNUD, 2010), and identified priority sites for conservation that would be privileged in subsequent expansions of the SNASPE network. Yet Chile did not meet this goal by the 2015 deadline, and it will likely fail to meet the Convention on Biological Diversity's Aichi Biodiversity Target 11, which aims for "at least 17%

ecoregion representativeness by 2020” (Schutz, 2015, p. 32). I argue that Chile’s conservation program consistently falls short of fulfilling the terms of its national and international agreements because it is driven by eco-economic logics that interpret protected areas as direct threats to economic growth. Despite the state’s vocal commitment to expand and improve SNASPE (cf. Gobierno de Chile, 2005, 2009, 2014), state actions indicate that conservation remains a low priority.

Eco-economic logics have shaped the material form of SNASPE in dramatic and surprising ways, leading to a number of systemic flaws, the most obvious of which is the geographically uneven distribution of its conservation units. Currently, SNASPE protects approximately 14.6 million hectares, 19% of Chile’s total terrestrial area, across 101 protected areas: 36 national parks, 49 national reserves, and 16 natural monuments (CONAF, n.d.). Eighty-two percent of Chile’s public lands are located in just two of its fifteen administrative regions, the extreme southern XI (known as Aysén) and XII (known as Magallanes) regions. Expressed as a percentage of total area by region, conservation lands comprise 40% of Aysén and nearly 60% of Magallanes. The remaining 18% of SNASPE’s conservation lands are distributed across thirteen administrative regions, eight of which contain fewer than 1% each of the SNASPE network’s total area.⁴² Expressed as a percentage of total area by region, conservation lands comprise only between 0.1% and 3% of these eight regions.⁴³

The highly uneven spatial distribution of state protected areas in Chile causes a subsequent problem: ecosystem representation bias. SNASPE has major gaps in the number and variety of ecosystems it covers because the vast majority of conservation lands are concentrated

⁴² Refer to Figures 2 and 3.

⁴³ Conservation lands as a percentage of total area by region is as follows: III Region (2%), IV Region (0.4%), V Region (2.7%), RM (0.8%), VI Region (2.8%), VII Region (0.6%), VIII Region (3%), and XIV Region (1%). Note: RM stands for Región Metropolitana, where the national capital of Santiago is located.

in Chile's southernmost regions of Aysén and Magallanes, which contain a small number of ecological zones – mostly high, glaciated mountains (Holmes, 2015) – characterized by low species diversity, low biodiversity value, and low species threat. As Schutz (2015) argues, “SNASPE coverage in Chile is inversely proportional to species endemism and richness” (p. 31); Durán, Casalegno, Marquet, and Gaston (2013) find that “protected areas are mainly protecting lands devoid of vegetation, such as ice and rock” (p. 6).

Furthermore, there are problems with SNASPE's coverage of the 85 vegetation types identified on Chile's national biodiversity registry (cf. Gajardo, 1995). Fifty-one of these 85 vegetation types are completely unprotected or classified as ‘severely under-protected,’ meaning that no more than 5% of the species population is contained within SNASPE (Corcuera, Sepúlveda, & Geisse, 2002; Sepúlveda, 2003). Species protection is most inadequate in Chile's central (28°–36°) and south-central (36°–43°) ecological zones, covering the III, IV, V, RM, VI, VII, VIII, IX administrative regions, where species richness and biodiversity value are highest (Durán et al., 2013). These zones constitute one of only thirty-five biodiversity hotspots in the world, which are defined as “areas featuring exceptional concentrations of endemic species and experiencing exceptional loss of habitat” (Myers, Mittermeier, Mittermeier, da Fonseca, & Kent, 2000, p. 853). SNASPE protects only 0.3% of Chile's Mediterranean and matorral biomes, while it protects 25% of Chile's forest biomes (Proyecto GEF-MMA-PNUD, 2010, pp. 61–62).

SNASPE's flaws reflect the state's decision to manage biodiversity protection as a function of the economy, rather than an exception to it. Conservation planning has historically been driven by the economic principles of alternative use-value and opportunity cost, explaining why the majority of SNASPE's protected areas are located in ecological zones with low species richness and biodiversity value: Chile's most remote and least populated regions, where

economic activity and resource extraction are minimal, and land carries little-to-no alternative use-value or opportunity cost. Simply put, the political-economic trade-offs of establishing protected areas here are small. By contrast, biodiversity protection is severely lacking in Chile's central and south-central regions, where species richness and species threat are highest, because land's alternative use-values and opportunity costs are also highest. These regions comprise the demographic, urban, and political-economic core of the country, and are home to major natural resource industries, such as agriculture, viticulture, mining, forestry, and fishing. Land rents are steep due to the agglomeration of government, finance, and export-oriented sectors in and around the national capital, Santiago. The political-economic trade-offs of establishing protected areas here are far greater, and perceived by government officials to undercut the success of Chile's economic development strategies. Together, these eco-economic logics constitute the conditions under which SNASPE operates, producing a network that over-protects the temperate and sub-polar ecoregions of extreme southern Chile, while failing to protect the desert, Mediterranean, and matorral ecoregions of central and south-central Chile (Schutz, 2015).

The state's conservation behavior can be characterized as 'strategically selective' (Jessop, 2008) in that it balances political-economic interests with conservation obligations. The mere existence of Chile's public conservation network since 1907 indicates that the government "was concerned with increasing pressure on natural resources and realized that it needed to preserve samples of the still pristine ecosystems of the country" (Pauchard & Villarroel, 2002, p. 321), yet conservation decision-making has frequently been motivated out of an interest to advance state power, not biodiversity protection. For example, Chile's recent ambitious goals to transform environmental and conservation policy have been prompted by "external forces linked to economic globalization" (Tecklin et al., 2011, p. 880), such as the U.N. Convention on

Biological Diversity in the early 1990s, the U.S. government during negotiations to join NAFTA in the mid-1990s, and the OECD during membership talks in the mid-2000s, but these goals have not dramatically improved the overall coverage of SNASPE. They have, however, bolstered Chile's international profile on the world stage as a politically legitimate economic powerhouse in the rapidly developing Southern Cone region.

The imperative of capitalist states to both develop *and* protect the natural environment plays out in Chile through the use of eco-economic logics justifying what kinds of nature should be protected and where. As a natural resource-based economy, Chile has historically managed land-based biodiversity conservation strategically and selectively, performing a complex calculus mixing ecological considerations with economic rationalities and political priorities.

Conservation interventions are deployed to offset the negative effects of natural resource exploitation, yet they tend to be located in ecological zones that do not interfere with the state's dominant political-economic interests. This is why so few protected areas exist in copper country, or near the urban metropolises of Santiago and Valparaíso, or in the Mediterranean climates preferred by international agribusiness firms. Like mining and agriculture, land conservation is a socio-ecological process produced through metabolic exchange, relying on the interrelationship between forces of nature and forces of the state, but also forces of capital.

The seeming paradox of private conservation in Chile, wherein PPAs continue to proliferate despite the lack of clear encouragement or incentives from the state, becomes less paradoxical once PPAs are also conceptualized in terms of nature-capital-state relations. PPA owners are responding to gaps in the state's conservation agenda, including the need for biological corridors, buffer zones, and other improvements to SNASPE, using their own eco-economic logics that leverage markets, private property, and private capital to advance national

biodiversity protection. The PPA boom, therefore, is partially attributed to how the state has historically managed public conservation. Rather than having evolved autonomously and without precedent, PPAs evolved in reaction to the government's conservation behavior.

Chilean Land Conservation as Environmental Statecraft

In chapter two, I argued that environmental statecraft offers a state-theoretical interpretation of land conservation, suggesting that capitalist processes of nature exploitation, and the protected areas established to counteract these processes, must be framed in relation to the state. The majority of this chapter has been dedicated to unpacking Chile's recent PPA boom, and the logics of the SNASPE system that are consequential to the PPA network taking shape today. My analysis can be summarized as two related claims. First, public conservation in Chile is a useful lens to study the state's exercise of environmental statecraft. Nature and the ways it is protected both express and expand state power. For over 400 years, Chile has followed a development model of natural resource extraction, meaning that the state's economic and political power have been shaped by its relationship to nature. Yet land conservation is beset by contradictions at multiple levels, revealing the imperfections and incompleteness of environmental statecraft as a governance project: the state is tasked with both selling and stewarding its territorial environment; conservation is governed as a function of the national economy instead of as an exception to it; and in many cases the resulting protected areas network does not protect what it is designed to.

Second, the PPA boom contests the environmental statecraft shaping public land conservation. For nearly three decades, private conservation actors have used private resources to develop a voluntary protected areas network that redresses the ecological shortcomings produced by the government's approach to biodiversity protection. This network has a long way to go, and

is by no means flawless, but its growth in the face of sustained bureaucratic ambivalence indicates that it will continue to expand, influencing future conservation policy in Chile. Reading public and private protected areas in strategic and relational terms has served to show the deep connections between them. A strategic-relational interpretation of Chile's ecological behavior suggests that the regulation of state conservation spaces and the lack of regulation of private conservation spaces are both produced through the interactions and negotiated consent of many different actors: elected officials, government bureaucrats, environmental activists, business leaders, PPA owners, PPA advocates, and the general public. Though conservation governance represents state power, it is far from the top-down authoritarianism implied by Hegelian accounts of a Leviathan state. It was only through the persistent demands from and political struggles of the PPA community that the Chilean state began to formally recognize PPAs in summer 2016, when conservation easements were finally legalized. Moving forward, biodiversity protection in Chile will continue to be shaped by these social forces, as well as the mutual entanglements of nature, capital, and the state.

Chapter 5. Conclusion

As an environmental management technique, land conservation is a complex assemblage of scientific knowledge and ‘best’ practice, policy, ideology, governance norms, and biophysical processes. This thesis offers a state-centric and historical understanding of land conservation, emphasizing that the assemblage is also constituted by statecraft and political economy. Taking Chile’s PPA boom as my empirical case, I ask two research questions: what is the role of the state in the regulatory puzzle ensnaring PPAs, and how does private conservation fit into a deeper history of Chilean conservation practice?

To answer these questions, I situate my case within the paradigms of nature-capital and state-society relations, using the literatures of geographical political economy of nature and capitalist state theory. I critique these paradigms for their isolated and binary treatment of nature and the state, and offer a tripartite framework of nature-capital-state relations that synthesizes them into a single conceptual tool. This framework interprets historical change through the lens of metabolism (*Stoffwechsel*), recognizing that both historical change and metabolism are produced by the systematic engagements between nature, capital, society, and the state – rather than by one or a combination of these forces. Theoretically, the framework is mobilized through the idea of ‘environmental statecraft,’ which argues that metabolic processes linking nature with society are conditioned by different political-economic regimes that change over time. The state and capital fundamentally shape nature-society relations by stabilizing, regulating, and transforming metabolic operations. Environmental statecraft describes nature’s role in shaping political statecraft, and the state’s role in shaping ecological systems. Public approaches to land conservation are emblematic of environmental statecraft because they selectively manage the crisis tendencies of nature-capital dynamics even as they strategically (re)inscribe the state’s

hegemonic authority.

In Chile, land conservation is emblematic of environmental statecraft. Archival analysis of Chilean state conservation behavior reveals not only its strategic and selective qualities, but also how decisions about what and where to conserve have historically been driven by what I call ‘eco-economic logics.’ Under CONAF, the SNASPE network deploys eco-economic logics to selectively promote certain kinds of conservation interventions in certain kinds of landscapes. Yet, consequently, SNASPE is plagued by an uneven geographical distribution, unrepresentative coverage of ecosystems, and inadequate protection of endemic species. Ultimately, biodiversity protection and ecological management in Chile have been heavily influenced by the very economic growth logics that conservation is theoretically designed to mitigate.

Contrary to common claims in the neoliberalizing conservation literature, in the Chilean context private conservation is not the radical opposite of public conservation (the dark side of public initiatives). While private protected areas evolved voluntarily as alternatives to the state’s SNASPE network, they rely on similar eco-economic logics leveraging market solutions, private property, and private capital to help meet national biodiversity goals. Many PPAs were established to counteract the failings of the SNASPE network. In this regard, the PPA boom was neither spontaneous nor unprecedented: it emerged as a result of how the state has historically rationalized its socio-ecological commitments, contesting the environmental statecraft shaping public land conservation.

This thesis emphasizes a historical and relational approach to understanding the rise of PPAs in Chile. My conceptual and theoretical analyses utilize Bob Jessop’s strategic-relational approach to highlight the degree to which the state and state power are shaped by social but also biophysical agency. Reading public and private conservation relationally, I show how and why

these approaches are produced through similar entanglements of nature, capital, and the state.

Methodologically, I interrogate my research questions through the qualitative methods of archival and document research, utilizing an intensive technique of data collection and analysis. Empirical data was gathered during ten weeks of fieldwork in Santiago, Chile between June 2015 and September 2015. I conducted archival research at the Archivo Nacional de Chile (National Archives of Chile), the Biblioteca Nacional de Chile (National Library of Chile), and the Archivos del Ministerio del Medio Ambiente (Archives of the Environment Ministry). All three collections house important legislative and policy documents concerning public and private conservation management since the late 1870s. In particular, I analyzed:

Government Sources

- SNASPE (National System of Public Protected Areas): a conservation institution created under Law No. 18.362 that manages Chile's 101 public protected areas units
- 1994 Environmental Framework Law (Law No. 19.300): this law "forms the core of Chile's environmental regime, along with sectoral legislation governing natural resources" (Tecklin et al., 2011, p. 880); in particular, Article 35 pledges the state's support of private protected areas, but this support has largely been in name only
- 2016 Conservation Easement Law (Law No. 20.930)
- "Memoria Chilena," Special Collection of the Biblioteca Nacional Digital (Digital National Library Archive): this special digital collection provides historical background on the national conservation system, as well as archival material related to SNASPE and CONAF
- GEF-MMA-PNUD Reports: produced for the project, "Creación de un Sistema Nacional Integral de Areas Protegidas para Chile" (Creating an Integrated National System of Protected Areas in Chile), a joint initiative between the Global Environment Facility, the U.N. Development Program, and Chile's Environment Ministry; running from 2009-2014, the project evaluated the status of public and private conservation and ways to more fully integrate PPAs into national environmental and legal codes; most of its recommendations have not been implemented
- CONAMA (National Environment Commission) and MMA (Environment Ministry) National Biodiversity Strategies: submitted in 2003, 2005, 2009, and 2014 to comply with the U.N. Convention on Biological Diversity
- MMA (Environment Ministry) Biodiversity Conservation Policy Reports
- CONAF (National Forestry Corporation) Statistical Registry of Public Protected Areas

NGO Sources

- Centro de Investigación y Planificación para el Medio Ambiente (Center for the Study of the Environment, CIPMA) Reports: position papers and working group reports on private protected areas

- Complete Archive of CIPMA's *Ambiente y Desarrollo* Journal
Civil Society Sources
- El Comité Pro Defensa de la Fauna y Flora (Committee for the Defense of Wildlife, CODEFF) Documents
- Chile Sustentable (Sustainable Chile) Documents

Document analysis of these sources was complemented by a review of the secondary literature on Chile's PPAs and SNASPE dating back to the mid-1990s.

Through the idea of environmental statecraft, I have argued that the state is insufficiently theorized in relation to nature. We must work harder to connect environmental practices like land conservation to the deeper logics driving states' core imperatives of accumulation and legitimation, for these logics shape environmental histories in pronounced and profound ways. Specifically, a state-theoretical understanding of land conservation casts global practices of biodiversity protection in more systematic light. There is a design and calculated logic to which natures get protected and where; above all, there is a politics to this. Yet we cannot see these dimensions without articulating the relationship between land conservation and the state. In Chile, land protection has reflected the state's historical politico-economic priorities, frequently to the detriment of improving conservation outcomes: SNASPE is constrained by an over-dependence on eco-economic logics and a serial lack of political will. The Chilean formula of private conservation exposes the limits of state conservation behavior, while gesturing to new conservation possibilities: PPAs are evolving in radically innovative and novel ways. While the success of private conservation as an official policy solution remains uncertain, the state must finally recognize the role of private protected areas in the matrix of domestic biodiversity protection.

APPENDIX.

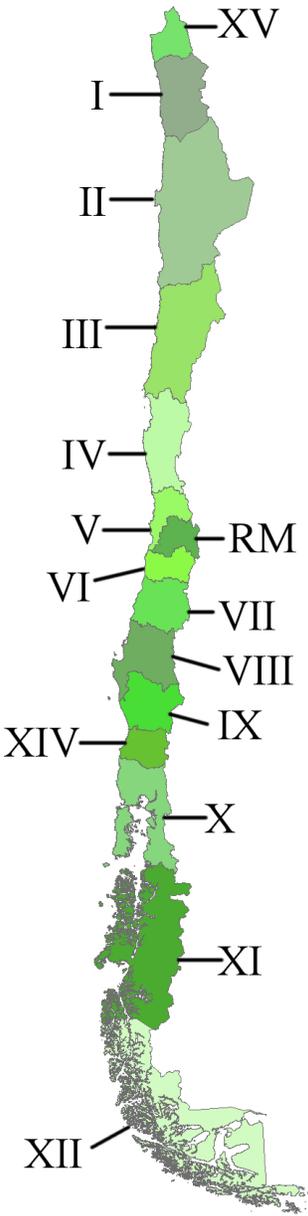


Figure 1: Administrative Regions of Chile (Map by Mia Bennett)

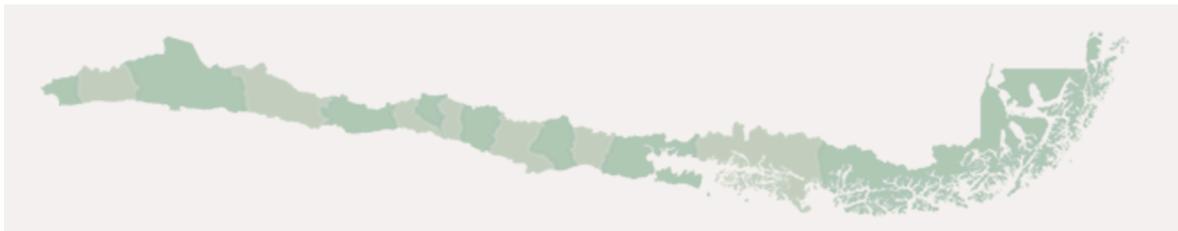
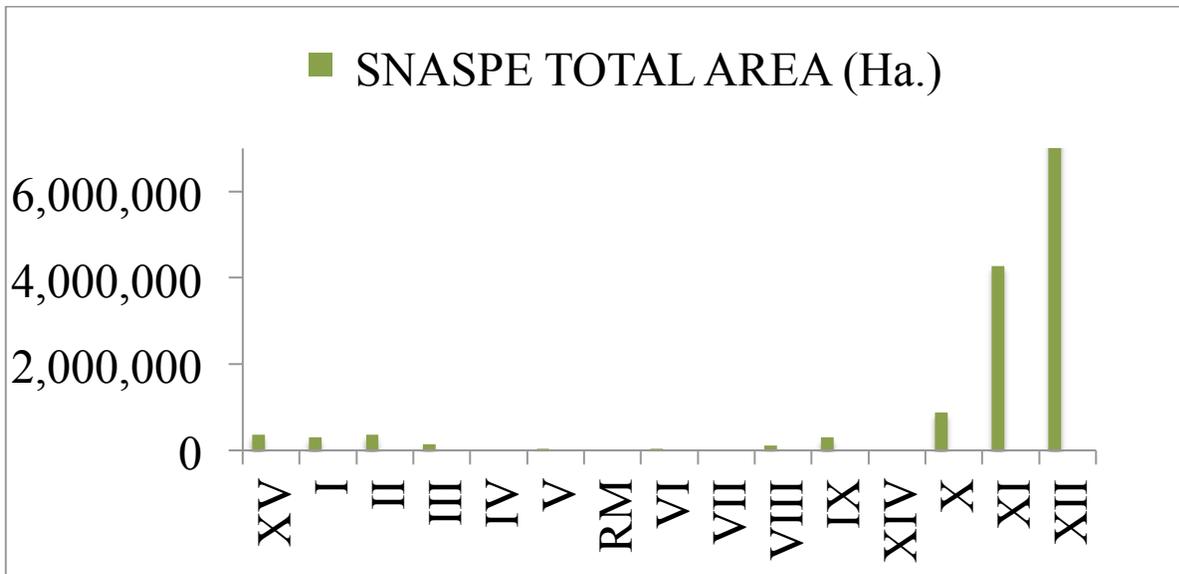


Figure 2: Spatial Distribution of SNASPE's Protected Lands by Region (Hectares)

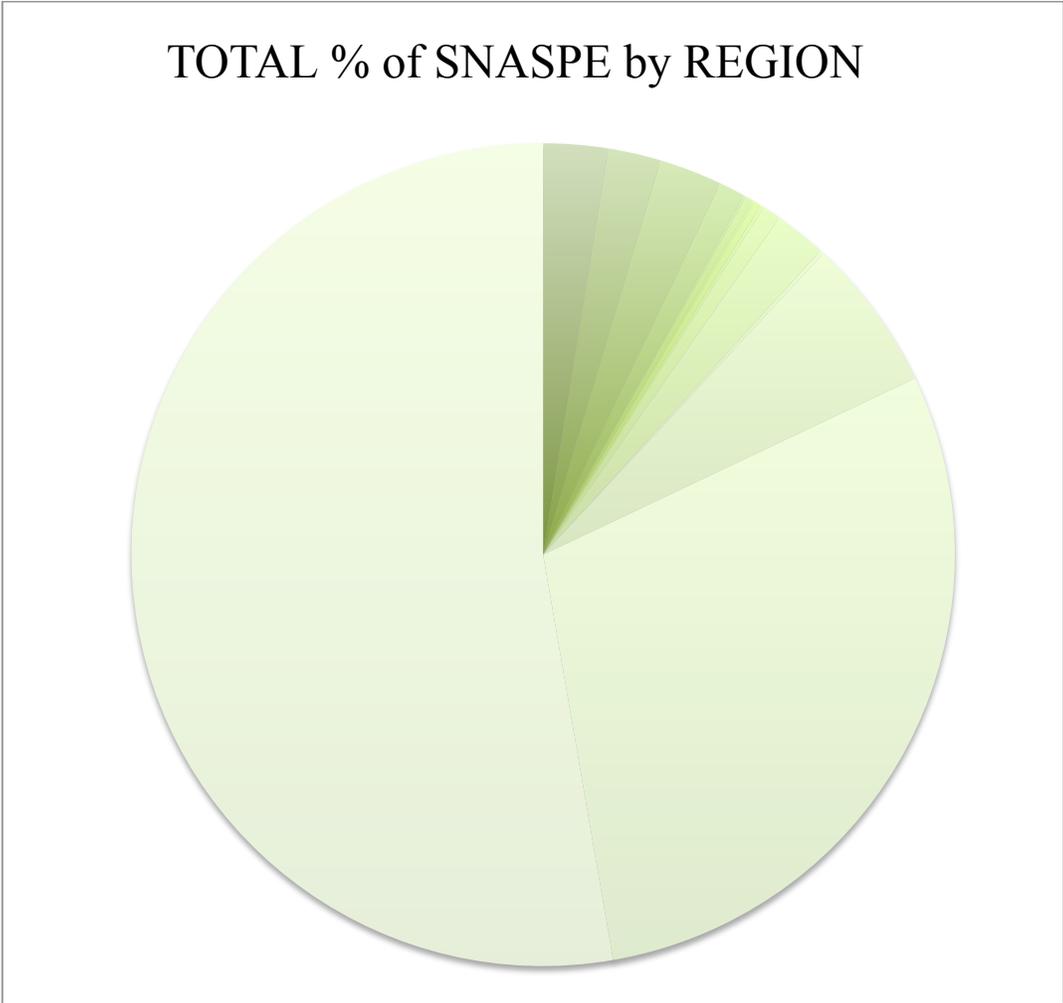


Figure 3: Total Percent of SNASPE by Region (Hectares)

Table 1: Registry of SNASPE's Public Protected Areas

REGION	PROTECTED AREA	TOTAL AREA (Ha.)	TOTAL REGIONAL AREA (Ha.)	% of SNASPE
Arica y Parinacota (XV)	Parque Nacional Lauca	137,883	369,638	2.53%
	Reserva Nacional las Vicuñas	209,131		
	Monumento Natural Salar de Surire	11,298		
	Monumento Natural Quebrada de Cardones	11,326		
Tarapacá (I)	Parque Nacional Volcán Isluga	174,744	301,893	2.07%
	Reserva Nacional Pampa del Tamarugal	127,149		
Antofagasta (II)	Parque Nacional Llullaillaco	268,671	360,119	2.48%
	Parque Nacional Morro Moreno	7,314		
	Reserva Nacional La Chimba	2,583		
	Reserva Nacional Los Flamencos	73,987		
	Monumento Natural La Portada	31		
	Monumento Natural Paposo Norte	7,533		
Atacama (III)	Parque Nacional Pan de Azúcar	43,754	148,544	1.02%
	Parque Nacional Nevado de Tres Cruces	59,082		
	Parque Nacional Llanos de Challe	45,708		
Coquimbo (IV)	Parque Nacional Bosque Fray Jorge	9,959	15,175	0.1%
	Reserva Nacional Las Chinchillas	4,229		
	Reserva Nacional Pingüino de Humboldt	859		
	Monumento Natural Pichasca	128		
	Parque Nacional Archipiélago de Juan Fernández	9,571		

Valparaíso (V)	Parque Nacional La Campana	8,000	44,495	0.3%
	Parque Nacional Rapa Nui	7,130		
	Reserva Nacional Río Blanco	10,175		
	Reserva Nacional Lago Peñuelas	9,094		
	Reserva Nacional El Yali	520		
	Monumento Natural Isla Cachagua	4.5		
Región Metropolitana (RM)	Reserva Nacional Río Clarillo	10,185	13,194	0.09%
	Monumento Natural El Morado	3,009		
O'Higgins (VI)	Parque Nacional Las Palmas de Cocalán	3,709	40,591	0.28%
	Reserva Nacional Roblería del Cobre de Loncha	5,870		
	Reserva Nacional Río de los Cipreses	36,882		
Maule (VII)	Parque Nacional Radal Siete Tazas	4,138	18,668	0.13%
	Reserva Nacional Laguna Torca	604		
	Reserva Nacional Radal Siete Tazas	1,009		
	Reserva Nacional Altos de Lircay	12,163		
	Reserva Nacional Los Ruiles	45		
	Reserva Nacional Los Bellotos del Melado	417		
	Reserva Nacional Federico Albert	145		
	Reserva Nacional Los Queules	147		
	Parque Nacional Laguna del Laja	11,600		
	Parque Nacional Nahuelbuta	6,832		
	Reserva Nacional Isla Mocha	2,182		

Bio Bio (VIII)	Reserva Nacional Los Huemules de Niblinto	2,021	106,065	0.73%
	Reserva Nacional Ñuble	55,948		
	Reserva Nacional Ralco	12,421		
	Reserva Nacional Altos de Pemehue	18,856		
	Reserva Nacional Nonguén	3,037		
La Araucanía (IX)	Parque Nacional Tolhuaca	6,374	298,158	2.04%
	Parque Nacional Conguillio	60,832		
	Parque Nacional Huerquehue	12,500		
	Parque Nacional Villarrica	53,000		
	Reserva Nacional Malleco	16,625		
	Reserva Nacional Alto Bio Bio	33,050		
	Reserva Nacional Nalcas	17,530		
	Reserva Nacional Malalcahuello	12,789		
	Reserva Nacional China Muerta	12,825		
	Reserva Nacional Villarrica	72,462		
	Monumento Natural Contulmo	82		
Monumento Natural Cerro Ñielol	89			
Los Ríos (XIV)	Parque Nacional Alerce Costero	13,975	21,512	0.15%
	Reserva Nacional Mocho-Choshuenco	7,537		
	Parque Nacional Puyehue	107,000		
	Parque Nacional Vicente Pérez Rosales	253,780		
	Parque Nacional Alerce Andino	39,255		

Los Lagos (X)	Parque Nacional Hornopirén	48,232	880,481	6.03%
	Parque Nacional Corcovado	293,986		
	Parque Nacional Chiloé	42,567		
	Reserva Nacional Llanquihue	33,972		
	Reserva Nacional Lago Palena	49,415		
	Reserva Nacional Futaleufú	12,065		
	Monumento Natural Lahuén Ñadi	200		
	Monumento Natural de Puñihuil	9		
Aysén (XI)	Parque Nacional Queulat	154,093	4,279,606	29.33%
	Parque Nacional Isla Guamblin	10,625		
	Parque Nacional Isla Magdalena	157,616		
	Parque Nacional Laguna San Rafael	1,742,000		
	Reserva Nacional Lago Carlota	18,060		
	Reserva Nacional Lago Las Torres	16,516		
	Reserva Nacional Lago Rosselot	12,725		
	Reserva Nacional Las Guaitecas	1,097,975		
	Reserva Nacional Río Simpson	41,621		
	Reserva Nacional Coyhaique	2,150		
	Reserva Nacional Trapananda	2,305		
	Reserva Nacional Cerro Castillo	179,550		
	Reserva Nacional Lago Jeinimeni	161,100		
	Reserva Nacional Lago Cochrane	8,361		
	Reserva Nacional Katalalixar	674,500		
	Monumento Natural Cinco Hermanas	228		
	Monumento Natural Dos Lagunas	181		
	Parque Nacional Bernardo O'Higgins	3,525,901		
	Parque Nacional Torres del Paine	181,414		

Magallanes (XII)			7,693,770	52.73%
	Parque Nacional Pali Aike	5,030		
	Parque Nacional Alberto de Agostini	1,460,000		
	Parque Nacional Cabo de Hornos	63,093		
	Parque Nacional Yendegaia	111,832		
	Reserva Nacional Alacalufes	2,313,875		
	Reserva Nacional Laguna Parrillar	18,814		
	Reserva Nacional Magallanes	13,500		
	Monumento Natural Cueva del Milodón	189		
	Monumento Natural Los Pingüinos	97		
	Monumento Natural Laguna de los Cisnes	25		
TOTAL			14,591,909	100%

BIBLIOGRAPHY.

- Abers, R. N., & Keck, M. E. (2013). *Practical authority: Agency and institutional change in Brazilian water politics*. Oxford: Oxford University Press.
- Abrams, P. (1988). Notes on the difficulty of studying the state. *Journal of Historical Sociology*, 1(1), 58–89.
- Adams, W. M. (1990). *Green development: Environment and sustainability in the third world*. London; New York: Routledge.
- Adams, W. M. (2003). Nature and the colonial mind. In W. M. Adams & M. Mulligan (Eds.), *Decolonizing nature: Strategies for conservation in a post-colonial era* (pp. 16–50). London; Sterling, VA: Earthscan Publications Ltd.
- Adey, P. (2010). Vertical security in the megacity. *Theory, Culture & Society*, 27(6), 51–67.
- Agnew, J. (1994). The territorial trap: The geographical assumptions of international relations theory. *Review of International Political Economy*, 1, 53–80.
- Aichi Biodiversity Targets. (n.d.). Retrieved March 18, 2017, from <https://www.cbd.int/sp/targets/>
- Altvater, E. (2004). Is there an ecological Marxism? In *Development studies and political ecology in a North South perspective* (pp. 2–25). Denmark: Research Center on Development and International Relations, Aalborg University.
- Asher, K., & Ojeda, D. (2009). Producing nature and making the state: Ordenamiento territorial in the Pacific lowlands of Colombia. *Geoforum*, 40(3), 292–302.
- Bakker, K. (2002). From state to market?: Water mercantilización in Spain. *Environment and Planning A*, 34(5), 767–790.
- Bakker, K. (2003). A political ecology of water privatization. *Studies in Political Economy*, 70, 35–58.
- Bakker, K. (2005). Neoliberalizing nature? Market environmentalism in water supply in England and Wales. *Annals of the Association of American Geographers*, 95(3), 542–565.
- Bakker, K. (2009). Neoliberal nature, ecological fixes, and the pitfalls of comparative research. *Environment and Planning A*, 41, 1781–1787.
- Bakker, K. (2010). The limits of ‘neoliberal natures’: Debating green neoliberalism. *Progress in Human Geography*, 34(6), 715–735.

- Bakker, K., & Bridge, G. (2006). Material worlds? Resource geographies and the “matter of nature.” *Progress in Human Geography*, 30(1), 5–27.
- Bakker, K., & Bridge, G. (2008). Regulating resource use. In K. R. Cox, M. Low, & J. Robinson (Eds.), *The SAGE handbook of political geography* (pp. 219–233). Los Angeles; London; New Delhi; Singapore: SAGE Publications.
- Barringer, M. D. (2002). *Selling Yellowstone: Capitalism and the construction of nature*. Lawrence, KS: University Press of Kansas.
- Benton, T. (1989). Marxism and natural limits: An ecological critique and reconstruction. *New Left Review*, (178), 51–86.
- Benton, T. (Ed.). (1996). *The greening of Marxism*. New York; London: The Guilford Press.
- Billig, M. (1995). *Banal nationalism*. Los Angeles; London; New Delhi; Singapore: SAGE Publications.
- Blaikie, P. M., & Brookfield, H. C. (1987). *Land degradation and society*. London; New York: Methuen.
- Borregaard, N., Blanco, H., Wautiez, F., & Matte-Baker, A. (1999). *Environmental impacts of trade liberalization and policies for the sustainable management of natural resources: A case study on Chile’s mining sector*. Geneva, Switzerland: UNEP.
- Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B., Pathak Broome, N., Phillips, A., & Sandwith, T. (2013). *Governance of protected areas: From understanding to action* (Best Practice Protected Area Guidelines Series No. 20). Gland, Switzerland: International Union for Conservation of Nature. Retrieved from <https://portals.iucn.org/library/sites/library/files/documents/PAG-020.pdf>
- Braun, B. (2008). Theorizing the nature-society divide. In K. R. Cox, M. Low, & J. Robinson (Eds.), *The SAGE handbook of political geography* (pp. 189–203). Los Angeles; London; New Delhi; Singapore: SAGE Publications.
- Braun, B. (2009). Nature. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads (Eds.), *A companion to environmental geography* (pp. 19–36). Chichester, West Sussex, UK: Blackwell Pub.
- Braun, B., & Castree, N. (1998). *Remaking reality: Nature at the millenium*. London; New York: Routledge.
- Brenner, N. (1999). Beyond state-centrism? Space, territoriality, and geographical scale in globalization studies. *Theory and Society*, 28, 39–78.

- Brenner, N. (2004). *New state spaces: Urban governance and the rescaling of statehood*. Oxford; New York: Oxford University Press.
- Brenner, N., Peck, J., & Theodore, N. (2010). Variegated neoliberalization: Geographies, modalities, pathways. *Global Networks*, 10(2), 182–222.
- Brenner, N., & Theodore, N. (2002). Cities and the geographies of “actually existing neoliberalism.” *Antipode*, 34(3), 349–379.
- Bridge, G. (2007). Acts of enclosure: Claim staking and land conversion in Guyana’s gold fields. In N. Heynen, J. McCarthy, S. Prudham, & P. Robbins (Eds.), *Neoliberal environments: False promises and unnatural consequences* (pp. 74–86). London; New York: Routledge.
- Bridge, G., & Jonas, A. E. G. (2002). Governing nature: The reregulation of resource access, production, and consumption. *Environment and Planning A*, 34(5), 759 – 766.
- Bridge, G., & Perreault, T. (2009). Environmental governance. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads (Eds.), *A companion to environmental geography* (pp. 475–497). Chichester, West Sussex; Malden, MA: Wiley-Blackwell.
- Brockington, D. (2008). Powerful environmentalisms: Conservation, celebrity and capitalism. *Media, Culture & Society*, 30(4), 551–568.
- Budds, J. (2004). Power, nature and neoliberalism: The political ecology of water in Chile. *Singapore Journal of Tropical Geography*, 25(3), 322–342.
- Bulkeley, H. (2005). Reconfiguring environmental governance: Towards a politics of scales and networks. *Political Geography*, 24, 875–902.
- Bullard, R. D. (1994). *Dumping in Dixie: Race, class, and environmental quality*. Boulder, CO: Westview Press.
- Bumpus, A., & Liverman, D. (2008). Accumulation by decarbonization and the governance of carbon offsets. *Economic Geography*, 84(2), 127–155.
- Buscher, B., & Fletcher, R. (2015). Accumulation by conservation. *New Political Economy*, 20(2), 273–298.
- Buscher, B., Sullivan, S., Neves, K., Igoe, J., & Brockington, D. (2012). Towards a synthesized critique of neoliberal biodiversity conservation. *Capitalism, Nature, Socialism*, 23(2), 4–30.
- Cabeza Monteiro, A. (1988). *Aspectos históricos de la legislación forestal vinculada a la conservación, la evolución de las áreas silvestres protegidas de la zona de Villarrica y la creación del primer parque nacional de Chile*. Santiago, Chile: CONAF.

- Castree, N. (2008a). Neoliberalising nature: The logics of deregulation and reregulation. *Environment and Planning A*, 40(1), 131–152.
- Castree, N. (2003). Commodifying what nature? *Progress in Human Geography*, 27(3), 273–297.
- Castree, N. (2006). From neoliberalism to neoliberalization: Consolations, confusions, and necessary illusions. *Environment and Planning A*, 38, 1–6.
- Chang, I.-C. C., Leitner, H., & Sheppard, E. (2016). A green leap forward? Eco-state restructuring and the Tianjin-Bin Hai eco-city model. *Regional Studies*, 50(6), 929–943.
- Clapp, R. A. (1995). Creating competitive advantage: Forest policy as industrial policy in Chile. *Economic Geography*, 71(3), 273–296.
- Clark, B., & Foster, J. B. (2010). The dialectic of social and ecological metabolism: Marx, Mészáros, and the absolute limits of capital, socialism and democracy. *Socialism and Democracy*, 24(2), 124–138.
- Clark, G. L., & Dear, M. (1984). *State apparatus: Structures and language of legitimacy*. Boston, MA: Allen & Unwin, Inc.
- Cole, L. W., & Foster, S. R. (2001). *From the ground up: Environmental racism and the rise of the environmental justice movement*. New York: New York University Press.
- Collard, R.-C., Dempsey, J., & Sundberg, J. (2015). A manifesto for abundant futures. *Annals of the Association of American Geographers*, 105(2), 322–330.
- Collier, P. (2010). The political economy of natural resources. *Social Research*, 77(4), 1105–1132.
- CONAF. (n.d.). Parques de Chile [Ministerio de Agricultura, Gobierno de Chile]. Retrieved April 20, 2017, from <http://www.conaf.cl/parques-nacionales/parques-de-chile/>
- Corbridge, S., Williams, G., Srivastava, M., & Veron, R. (2005). *Seeing the state: Governance and governmentality in India*. Cambridge, UK: Cambridge University Press.
- Corcuera, E., Sepúlveda, C., & Geisse, G. (2002). Conserving land privately: Spontaneous markets for land conservation in Chile. In S. Pagiola, J. Bishop, & N. Landell-Mills (Eds.), *Selling forest environmental services: Market-based mechanisms for conservation and development* (pp. 127–149). London: Earthscan Publications Ltd.
- Corcuera, E., & Tecklin, D. (2012). Asociatividad gremial como adaptación a la precariedad institucional de la conservación en Chile: El surgimiento de Así Conserva Chile, A.G. *Revista Parques*, 1. Retrieved from <http://revistaparques.net/2013-2/articulos/asi-conserva-chile/>

- Corporación Nacional Forestal. (1995). *CONAF: 25 años*. Santiago, Chile.
- Correia, D. (2007). A “continuous and ample supply”: Sustained yield timber production in northern New Mexico. In N. Heynen, J. McCarthy, S. Prudham, & P. Robbins (Eds.), *Neoliberal environments: False promises and unnatural consequences* (pp. 231–242). London; New York: Routledge.
- Corson, C., & MacDonald, K. I. (2012a). Enclosing the global commons: The Convention on Biological Diversity and green grabbing. *The Journal of Peasant Studies*, 39(2), 263–283.
- Corson, C., & MacDonald, K. I. (2012b). Enclosing the global commons: The convention on biological diversity and green grabbing. *The Journal of Peasant Studies*, 39(2), 263–283.
- Cosgrove, D. (2003). Landscape and the European sense of sight - eyeing nature. In K. Anderson, M. Domosh, S. Pile, & N. Thrift (Eds.), *Handbook of cultural geography* (pp. 249–268). London; Thousand Oaks, CA; New Delhi: SAGE Publications.
- Costanza, R., d’Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., ... van den Belt, M. (1997). The value of the world’s ecosystem services and natural capital. *Nature*, 387, 253–260.
- Cox, K. R. (2008). States: Introduction. In K. R. Cox, M. Low, & J. Robinson (Eds.), *The SAGE handbook of political geography* (pp. 89–93). Los Angeles; London; New Delhi; Singapore: SAGE Publications.
- Cresswell, T. (2013a). *Geographic thought: A critical introduction*. Chichester, West Sussex, UK: Wiley-Blackwell.
- Cresswell, T. (2013b). *Geographic thought: A critical introduction*. West Sussex, UK: Wiley-Blackwell.
- Cronon, W. (1996). The trouble with wilderness: Or, getting back to the wrong nature. In W. Cronon (Ed.), *Uncommon ground: Rethinking the human place in nature* (pp. 69–90). New York: W.W. Norton & Co.
- Crosby, A. W. (1986). *Ecological imperialism: The biological expansion of Europe, 900-1900*. Cambridge, UK: Cambridge University Press.
- Daily, G. C. (Ed.). (1997). *Nature’s services: Societal dependence on natural ecosystems*. Washington, DC: Island Press.
- Darier, E. (1996). Environmental governmentality: The case of Canada’s green plan. *Environmental Politics*, 5(4), 585–606.

- Davidson, D. J., & Frickel, S. (2004). Understanding environmental governance: A critical review. *Organization & Environment*, 17(4), 471–492.
- Delaney, D. (2001). Making nature/making humans: Law as a site of (cultural) production. *Annals of the Association of American Geographers*, 91(3), 487–503.
- Delaney, D. (2003). *Law and nature*. Cambridge, UK: Cambridge University Press.
- Duit, A., Feindt, P. H., & Meadowcroft, J. (2016). Greening Leviathan: The rise of the environmental state? *Environmental Politics*, 25(1), 1–23.
- Durán, A. P., Casalegno, S., Marquet, P. A., & Gaston, K. J. (2013). Representation of ecosystem services by terrestrial protected areas: Chile as a case study. *PLoS ONE*, 8(12), e82643. <https://doi.org/10.1371/journal.pone.0082643>
- Economakis, G., & Papalexiou, G. (2016). Environmental degradation and crisis: A Marxist approach. *Capitalism, Nature, Socialism*, 27(1), 34–51.
- Ehrlich, P. R. (1968). *The population bomb*. New York: Ballantine Books.
- Elbasha, E. H., & Roe, T. L. (1996). On endogenous growth: The implications of environmental externalities. *Journal of Environmental Economics and Management*, 31(2), 240–268.
- Elden, S. (2013). Secure the volume: Vertical geopolitics and the depth of power. *Political Geography*, 34, 35–51.
- Fairhead, J., & Leach, M. (1998). *Reframing deforestation: Global analyses and local realities: Studies in West Africa*. London; New York: Routledge.
- Fairhead, J., Leach, M., & Scoones, I. (2012). Green grabbing: A new appropriation of nature? *The Journal of Peasant Studies*, 39(2), 237–261.
- Ferguson, J., & Gupta, A. (2002). Spatializing states: Toward an ethnography of neoliberal governmentality. *American Ethnologist*, 29(4), 981–1002.
- Fletcher, R. (2010). Neoliberal environmentality: Towards a poststructuralist political ecology of the conservation debate. *Conservation and Society*, 8(3), 171–181.
- Foster, J. B. (1992). The absolute general law of environmental degradation under capitalism. *Capitalism, Nature, Socialism*, 3(3), 77–81.
- Foster, J. B. (1999). Marx's theory of metabolic rift: Classical foundations for environmental sociology. *American Journal of Sociology*, 105(2), 366–405.

- Foster, J. B. (2012). The planetary rift and the new human exemptionalism: A political-economic critique of ecological modernization theory. *Organization & Environment*, 25(3), 211–237.
- Gajardo, R. (1995). *La vegetación natural de Chile: Clasificación y distribución geográfica* (2nd ed.). Santiago, Chile: Editorial Universitaria.
- Gandy, M. (1999). Rethinking the ecological Leviathan: Environmental regulation in an age of risk. *Global Environmental Change*, 9, 59–69.
- Giddens, A. (1985). *The nation-state and violence*. Cambridge, UK: Polity Press.
- Gobierno de Chile. (1994). Ley 19.300. Retrieved from <http://www.leychile.cl/Navegar?idNorma=30667>
- Gobierno de Chile. (2003). *National biodiversity strategy of the Republic of Chile* (United Nations Development Program). Santiago, Chile: Comisión Nacional de Medio Ambiente (CONAMA).
- Gobierno de Chile. (2005). *Tercer informe de Chile ante la Convención de Diversidad Biológica* (p. 195). Santiago, Chile: Comisión Nacional de Medio Ambiente (CONAMA).
- Gobierno de Chile. (2009). *Convenio sobre Diversidad Biológica: Cuarto informe nacional de biodiversidad, Chile*. Santiago, Chile: Comisión Nacional de Medio Ambiente (CONAMA).
- Gobierno de Chile. (2014). *Quinto informe nacional de biodiversidad en Chile ante el Convenio sobre la Diversidad Biológica (CBD)*. Santiago, Chile: Ministerio del Medio Ambiente.
- Goldman, M. (2001). Constructing an environmental state: Eco-governmentality and other transnational practices of a “green” World Bank. *Social Problems*, 48(4), 499–523.
- Gottman, J. (1973). *The significance of territory*. Charlottesville, VA: The University of Virginia Press.
- Greenberg, J. B., & Park, T. K. (1994). Political ecology. *Journal of Political Ecology*, 1(1), 1–12.
- Gregory, D. (2016). The natures of war. *Antipode*, 48(1), 3–56.
- Grove, R. H. (1989). Early themes in African conservation: The Cape in the nineteenth century. In D. Anderson & R. H. Grove (Eds.), *Conservation in Africa: Peoples, policies and practice* (pp. 21–39). Cambridge, UK: Cambridge University Press.
- Grove, R. H. (1995a). *Green imperialism: Colonial expansion, tropical island Edens and the origins of environmentalism, 1600-1860*. Cambridge, UK: Cambridge University Press.

- Grove, R. H. (1995b). *Green imperialism: Colonial expansion, tropical island Edens, and the origins of environmentalism, 1600-1860*. Cambridge, UK: Cambridge University Press.
- Guha, R., & Martinez-Alier, J. (1997). *Varieties of environmentalism*. London: Earthscan Publications Ltd.
- Gupta, A., Lovbrand, E., Turnhout, E., & Vijge, M. J. (2012). In pursuit of carbon accountability: The politics of REDD+ measuring, reporting and verification programs. *Current Opinion in Environmental Sustainability*, 4, 726–731.
- Harris, L. M. (2012). State as socionatural effect: Variable and emergent geographies of the state in southeastern Turkey. *Comparative Studies of South Asia, Africa and the Middle East*, 32(1), 25–39.
- Harvey, D. (1976). The Marxian theory of the state. *Antipode*, 8(2), 80–89.
- Harvey, D. (2003). *The new imperialism*. Oxford: Oxford University Press.
- Harvey, D. (2005). *A brief history of neoliberalism*. Oxford; New York: Oxford University Press.
- Harvey, D. (1982/2006). *The limits to capital*. London; New York: Verso.
- Hegel, G. W. F. (1821/2008). *Outlines of the philosophy of right*. Oxford, UK: Oxford University Press.
- Henderson, G. (2009). Marxist political economy and the environment. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads (Eds.), *A companion to environmental geography* (pp. 266–293). Chichester, West Sussex, UK: Blackwell Pub.
- Heynen, N., McCarthy, J., Prudham, S., & Robbins, P. (Eds.). (2007). *Neoliberal environments: False promises and unnatural consequences*. London; New York: Routledge.
- Himley, M. (2008). Geographies of environmental governance: The nexus of nature and neoliberalism. *Geography Compass*, 2(2), 433–451.
- History of the convention. (n.d.). Retrieved March 18, 2017, from <https://www.cbd.int/history/>
- Hobbes, T. (1986). *Leviathan*. (C. B. Macpherson, Ed.). Harmondsworth, UK: Penguin.
- Holloway, J., & Picciotto, S. (Eds.). (1978). *State and capital: A Marxist debate*. London: Edward Arnold.
- Holmes, G. (2011). Conservation's friends in high places: Neoliberalism, networks, and the transnational conservation elite. *Global Environmental Politics*, 11(4), 1–21.

- Holmes, G. (2012). Biodiversity for billionaires: Capitalism, conservation and the role of philanthropy in saving/selling nature. *Development and Change*, 43(1), 185–203.
- Holmes, G. (2014). What is a land grab? Exploring green grabs, conservation, and private protected areas in southern Chile. *The Journal of Peasant Studies*, 41(4), 547–567.
- Holmes, G. (2015). Markets, nature, neoliberalism, and conservation through private protected areas in southern Chile. *Environment and Planning A*, 47(4), 850 – 866.
- Hopkins, J. W. (1995). *Policymaking for conservation in Latin America: National parks, reserves, and the environment*. Westport, CT: Praeger.
- Igoe, J., & Brockington, D. (2007). Neoliberal conservation: A brief introduction. *Conservation and Society*, 5(4), 432–449.
- International Union for Conservation of Nature. (2013). *Guidelines for applying protected area management categories* (Best Practice Protected Area Guidelines Series No. 21). Gland, Switzerland. Retrieved from <https://portals.iucn.org/library/sites/library/files/documents/PAG-021.pdf>
- Ioris, A. A. R. (2014). *The political ecology of the state: The basis and the evolution of environmental statehood*. London, England; New York, NY: Routledge.
- Ioris, A. A. R. (2012). Applying the strategic-relational approach to urban political ecology: The water management problems of Baixada Fluminense, Rio de Janeiro, Brazil. *Antipode*, 44(1), 122–150.
- Ioris, A. A. R. (2015). Theorizing state-environment relationships: Antinomies of flexibility and legitimacy. *Progress in Human Geography*, 39(2), 167–184.
- Jessop, B. (1982). *The capitalist state: Marxist theories and methods*. Oxford, UK: Martin Robertson.
- Jessop, B. (1990). *State theory: Putting the capitalist state in its place*. Cambridge, UK: Polity Press.
- Jessop, B. (2008). *State power: A strategic-relational approach*. Cambridge, UK: Polity Press.
- Jessop, B., Brenner, N., & Jones, M. (2008). Theorizing sociospatial relations. *Environment and Planning D: Society and Space*, 26, 389–401.
- Jessop, B., & Sum, N.-L. (2006). *Beyond the regulation approach: Putting capitalist economies in their place*. Cheltenham, UK: Edward Elgar.
- Johnston, R. (1996). *Nature, state, and economy: A political economy of the environment*. Chichester, UK; New York: John Wiley & Sons, Ltd.

- Jonas, A. E. G., While, A. H., & Gibbs, D. C. (2011). Carbon control regimes, eco-state restructuring and the politics of local and regional development. In A. Pike, A. Rodríguez-Pose, & J. Tomaney (Eds.), *Handbook of local and regional development* (pp. 283–294). London; New York: Routledge.
- Jones, C. (2012). Ecophilanthropy, neoliberal conservation, and the transformation of Chilean Patagonia's Chacabuco Valley. *Oceania*, 82(3), 250–263.
- Kareiva, P., Tallis, H., Ricketts, T. H., Daily, G. C., & Polasky, S. (Eds.). (2011). *Natural capital: Theory & practice of mapping ecosystem services*. Oxford: Oxford University Press.
- Keil, R., & Desfor, G. (2003). Ecological modernisation in Los Angeles and Toronto. *Local Environment*, 8(1), 27–44.
- Kelly, A. B. (2011). Conservation practice as primitive accumulation. *The Journal of Peasant Studies*, 38(4), 683–701.
- Kosek, J. (2006). *Understories: The political life of forests in northern New Mexico*. Durham, NC: Duke University Press.
- Kuus, M., & Agnew, J. (2008). Theorizing the state geographically: Sovereignty, subjectivity, territoriality. In K. R. Cox, M. Low, & J. Robinson (Eds.), *The SAGE handbook of political geography* (pp. 95–106). Los Angeles; London; New Delhi; Singapore: SAGE Publications.
- Langholz, J. (2003). Privatizing conservation. In S. R. Brechin, P. R. Wilshusen, C. L. Fortwangler, & P. C. West (Eds.), *Contested nature: Promoting international biodiversity with social justice in the twenty-first century* (pp. 117–135). Albany, NY: State University of New York Press.
- Langholz, J. A., & Krug, W. (2004). New forms of biodiversity governance: Non-state actors and the private protected area action plan. *Journal of International Wildlife Law & Policy*, 7(1–2), 9–29.
- Langholz, J. A., & Lassoie, J. P. (2001). Perils and promise of privately owned protected areas. *BioScience*, 51(12), 1079–1085.
- Larner, W. (2007). Neoliberal governmentalities. In N. Heynen, J. McCarthy, S. Prudham, & P. Robbins (Eds.), *Neoliberal environments: False promises and unnatural consequences* (pp. 217–220). London, England; New York, NY: Routledge.
- Larson, A., Brockhaus, M., Sunderlin, W., Duchelle, A., Babon, A., Dokken, T., ... Huynh, T. (2013). Land tenure and REDD+: The good, the bad and the ugly. *Global Environmental Change*, 23, 678–689.

- Lefebvre, H. (2009). *State, space, world*. (N. Brenner & S. Elden, Eds., G. Moore, N. Brenner, & S. Elden, Trans.). Minneapolis, MN: University of Minnesota Press.
- Li, T. (2014). What is land? Assembling a resource for global investment. *Transactions of the Institute of British Geographers*, 39(4), 589–602.
- Liverman, D. (2004). Who governs, at what scale and at what price? Geography, environmental governance, and the commodification of nature. *Annals of the Association of American Geographers*, 94(4), 734–738.
- Locke, J. (1980). *Second treatise of government*. (C. B. Macpherson, Ed.). Indianapolis, IN: Hackett Pub. Co.
- Luke, T. W. (1995). On environmentality: Geo-power and eco-knowledge in the discourses of contemporary environmentalism. *Cultural Critique*, 31(2), 57–81.
- MacDonald, K. I. (2010). The devil is in the (bio)diversity: Private sector “engagement” and the restructuring of biodiversity conservation. *Antipode*, 42(3), 513–550.
- Maldonado, V. (Ed.). (1999). Las áreas silvestres protegidas privadas en Chile: Una herramienta para la conservación. Comité Nacional por Defensa de la Fauna y Flora (CODEFF).
- Mann, M. (1993). *The sources of social power, volume II: The rise of classes and nation-states, 1790-1914*. Cambridge, UK: Cambridge University Press.
- Mann, M. (2003). The autonomous power of the state: Its origins, mechanisms and results. In N. Brenner, B. Jessop, M. Jones, & G. MacLeod (Eds.), *State/space: A reader* (pp. 53–64). Oxford, UK; Malden, MA: Blackwell Pub.
- Mansfield, B. (2004). Neoliberalism in the oceans: “Rationalization,” property rights, and the commons question. *Geoforum*, 35(3), 313–326.
- Mansfield, B. (2007). Privatization: Property and the remaking of nature–society relations. *Antipode*, 39(3), 393–405.
- Manzur, M. I. (2000). *Situación de la biodiversidad en Chile: Desafíos para la sustentabilidad* (Programa Chile Sustentable: Propuesta ciudadana para el cambio No. 1st Edition). Santiago, Chile. Retrieved from Biblioteca Nacional. (Sección Chilena, Salón de Gabriela Mistral)
- Marston, S. A. (2004). Space, culture, state: Uneven developments in political geography. *Political Geography*, 23, 1–16.
- Marx, K. (1844/1959). *Economic and philosophic manuscripts of 1844*. (M. Milligan, Trans.). Moscow: Progress Publishers.

- Marx, K. (1859/1970). *A contribution to the critique of political economy*. (M. Dobb, Ed., S. W. Ryazanskaya, Trans.). New York: International Publishers.
- McAfee, K. (1999). Selling nature to save it? Biodiversity and green developmentalism. *Environment and Planning D: Society and Space*, 17(2), 133–154.
- McAfee, K. (2012). The contradictory logic of global ecosystem services markets. *Development and Change*, 43(1), 105–131.
- McCarthy, J. (2004). Privatizing conditions of production: Trade agreements as neoliberal environmental governance. *Geoforum*, 35(3), 327–341.
- McCarthy, J. (2005). Commons as counterhegemonic projects. *Capitalism, Nature, Socialism*, 16(1), 9–24.
- McCarthy, J. (2007). States of nature: Theorizing the state in environmental governance. *Review of International Political Economy*, 14(1), 176–194.
- McCarthy, J., & Prudham, S. (2004). Neoliberal nature and the nature of neoliberalism. *Geoforum*, 35(3), 275–283.
- Meadows, D. H., & Club of Rome. (1972). *The limits to growth: A report for the Club of Rome's project on the predicament of mankind*. New York: Universe Books.
- Memoria Chilena. (2015b). Corporación Nacional Forestal [Biblioteca Nacional de Chile]. Retrieved December 1, 2015, from <http://www.memoriachilena.cl/602/w3-article-96609.html>
- Memoria Chilena. (2015a). Los parques naturales [Biblioteca Nacional de Chile]. Retrieved December 1, 2015, from <http://www.memoriachilena.cl/602/w3-article-3571.html>
- Meza, L. E. (2009). Mapuche struggles for land and the role of private protected areas in Chile. *Journal of Latin American Geography*, 8(1), 149–163.
- Millar, S. W. S., & Mitchell, D. (2015). The tight dialectic: The Anthropocene and the capitalist production of nature. *Antipode*, 1–19.
- Ministerio del Medio Ambiente. (2013). *Diagnóstico y caracterización de las iniciativas de conservación privada en Chile (resumen ejecutivo)*. Santiago, Chile: División de Recursos Naturales y Biodiversidad - Gobierno de Chile. Retrieved from <http://www.proyectogefareasprotegidas.cl/wp-content/uploads/2013/08/RESUMEN-CATASTRO-ICP-CHILE-v16082013.pdf>
- Mitchell, T. (1999). Society, economy, and the state effect. In G. Steinmetz (Ed.), *State/culture: State formation after the cultural turn* (pp. 76–97). Ithaca, NY: Cornell University Press.

- Mitchell, T. (2002). *Rule of experts: Egypt, techno-politics, modernity*. Berkeley, CA; Los Angeles, CA; London: University of California Press.
- Moore, J. W. (2015). *Capitalism in the web of life: Ecology and the accumulation of capital*. London; New York: Verso.
- Mosse, D. (2003). *The rule of water: Statecraft, ecology, and collective action in South India*. Delhi; Oxford: Oxford University Press.
- Muradian, R., Corbera, E., Pascual, U., Kosoy, N., & May, P. H. (2010). Reconciling theory and practice: An alternative conceptual framework for understanding payments for environmental services. *Ecological Economics*, 69, 1202–1208.
- Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature*, 403, 853–858.
- Nelson, M., & Geisse, G. (2001). Las lecciones del caso Tompkins para la política ambiental y la inversión extranjera en Chile. *Ambiente y Desarrollo*, 17(3), 14–26.
- Neumann, R. P. (1995). Ways of seeing Africa: Colonial recasting of African society and landscape in Serengeti National Park. *Cultural Geographies*, 2(2), 149–169.
- Neumann, R. P. (2004). Nature-state-territory: Toward a critical theorization of conservation enclosures. In R. Peet & M. Watts (Eds.), *Liberation ecologies: Environment, development, social movements* (2nd Edition, pp. 195–217). London; New York: Routledge.
- O'Connor, J. (1988). Capitalism, nature, socialism a theoretical introduction. *Capitalism, Nature, Socialism*, 1(1), 11–38.
- O'Connor, J. (1991). On the two contradictions of capitalism. *Capitalism, Nature, Socialism*, 2(3), 107–109.
- O'Connor, J. (1998). *Natural causes: Essays in ecological Marxism*. New York; London: The Guilford Press.
- Ohmae, K. (1995). *The end of the nation-state: The rise of regional economies*. New York: The Free Press.
- Olwig, K. R. (1995). Reinventing common nature: Yosemite and Mount Rushmore - a meandering tale of a double nature. In W. Cronon (Ed.), *Uncommon ground: Toward reinventing nature* (pp. 379–408). New York; London: W.W. Norton & Co.
- Painter, J. (2005). State: Society. In P. Cloke & R. Johnston (Eds.), *Spaces of geographical thought* (pp. 42–60). London; Thousand Oaks, CA; New Dehli: SAGE Publications.

- Painter, J. (2006). Prosaic geographies of stateness. *Political Geography*, 25, 752–774.
- Pauchard, A., & Villarroel, P. (2002). Protected areas in Chile: History, current status, and challenges. *Natural Areas Journal*, 22(4), 318–330.
- Peck, J. (2004). Geography and public policy: Constructions of neoliberalism. *Progress in Human Geography*, 28(3), 392–405.
- Peck, J. (2010). *Constructions of neoliberal reason*. Oxford, UK: Oxford University Press.
- Peck, J., & Tickell, A. (2002). Neoliberalizing space. *Antipode*, 34(3), 380–404.
- Peet, R., & Watts, M. (Eds.). (2004). *Liberation ecologies: Environment, development, social movements* (2nd Edition). London; New York: Routledge.
- Perreault, T. (2005). State restructuring and the scale politics of rural water governance in Bolivia. *Environment and Planning A*, 37(2), 263 – 284.
- Pliscoff, P., & Fuentes-Castillo, T. (2011). Representativeness of terrestrial ecosystems in Chile's protected area system. *Environmental Conservation*, 38(3), 303–311.
- Polanyi, K. (1944/2001). *The great transformation: The political and economic origins of our time* (2nd edition). Boston, MA: Beacon Press.
- Poulantzas, N. (1980). *State, power, socialism*. (P. Camiller, Trans.). New York: Verso.
- Proyecto GEF-MMA-PNUD. (2010). *Evaluación ambiental estratégica de apoyo al diseño del sistema nacional de áreas protegidas* (Creación de un sistema nacional de áreas protegidas para Chile: Estructura Financiera y Operacional). Santiago, Chile.
- Prudham, S. (2004). Poisoning the well: Neoliberalism and the contamination of municipal water in Walkerton, Ontario. *Geoforum*, 35(3), 343–359.
- Prudham, S. (2009). Commodification. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads (Eds.), *A companion to environmental geography* (pp. 123–142). Chichester, West Sussex, UK: Blackwell Pub.
- Pulido, L. (2000). Rethinking environmental racism: White privilege and urban development in southern California. *Annals of the Association of American Geographers*, 90(1), 12–40.
- Ranganathan, M. (2015). Storm drains as assemblages: The political ecology of flood risk in post-colonial Bangalore. *Antipode*.
- Robbins, P. (2003). Political ecology in political geography. *Political Geography*, 22(6), 641–645.

- Robbins, P. (2008). The state in political ecology: A postcard to political geography from the field. In K. R. Cox, M. Low, & J. Robinson (Eds.), *The SAGE handbook of political geography* (pp. 205–218). Los Angeles; London; New Delhi; Singapore: SAGE Publications.
- Robbins, P. (2012). *Political ecology: A critical introduction, 2nd edition*. Chichester, West Sussex; Malden, MA: Wiley-Blackwell.
- Robertson, M. (2007). Discovering price in all the wrong places: The work of commodity definition and price under neoliberal environmental policy. *Antipode*, 39(3), 500–526.
- Robertson, M. (2015). Environmental governance: Political ecology and the state. In T. Perreault, G. Bridge, & J. McCarthy (Eds.), *The Routledge handbook of political ecology* (pp. 457–466). London; New York: Routledge.
- Robertson, M. (2004). The neoliberalization of ecosystem services: Wetland mitigation banking and problems in environmental governance. *Geoforum*, 35(3), 361–373.
- Robertson, M. (2006). The nature that capital can see: Science, state, and market in the commodification of ecosystem services. *Environment and Planning D: Society and Space*, 24(3), 367–387.
- Robertson, M. M., & Wainwright, J. D. (2013). The value of nature to the state. *Annals of the Association of American Geographers*, 103(4), 890–905.
- Root-Bernstein, M., Montecinos Carvajal, Y., Ladle, R., Jepson, P., & Jaksic, F. (2013). Conservation easements and mining: The case of Chile. *Earth's Future*, 1(1), 33–38.
- Rousseau, J.-J. (1950). *The social contract*. (G. D. H. Cole, Trans.). New York: E.P. Dutton and Company, Inc.
- Sack, R. D. (1986). *Human territoriality: Its theory and history*. Cambridge, UK: Cambridge University Press.
- Scheidel, A., & Sorman, A. H. (2013). Energy transitions and the global land rush: Ultimate drivers and persistent consequences. *Global Environmental Change*, 22, 588–595.
- Schutz, J. (2015). *A GIS assessment of ecoregion representation in Chile's existing and proposed integrated network of protected areas* (Master's Thesis). University of Montana, Missoula, MT
- Scott, J. C. (1998). *Seeing like a state*. New Haven, CT: Yale University Press.
- Scott, J. C. (2009). *The art of not being governed: An anarchist history of upland Southeast Asia*. New Haven, CT: Yale University Press.

- Sepúlveda, C. (2003). Conservación de la biodiversidad en Chile: Actores y territorio, la conectividad que falta. *Revista Austral de Ciencias Sociales*, 7, 111–128.
- Sepúlveda, C. (2004). ¿Cuánto hemos avanzado en conservación privada de la biodiversidad? El aporte de las Areas Protegidas Privadas en perspectiva. *Revista Ambiente y Desarrollo de CIPMA*, 20(1), 75–79.
- Sepúlveda, C., Letelier, E., & Seeberg, C. (2003). *Incentivos apropiados para áreas protegidas privadas: El enfoque y la experiencia del Proyecto CIPMA-FMAM* (No. 58). Valdivia, Chile: Centro de Investigación y Planificación del Medio Ambiente.
- Sepúlveda, C., & Villarroel, P. (2006). Servicios ecosistémicos y financiamiento de la conservación privada de Chile. *Revista Ambiente y Desarrollo de CIPMA*, 22(1), 12–20.
- Sepúlveda, C., Villarroel, P., Moreira, A., & García, D. (1998). *Catastro de iniciativas privadas en conservación de la biodiversidad implementadas en Chile* (Serie Documentos de Trabajo No. 49). Santiago, Chile: CIPMA. Retrieved from Ministerio de Medio Ambiente. (Centro de Documentación)
- Shah, N. (2012). The territorial trap of the territorial trap: Global transformation and the problem of the state's two territories. *International Political Sociology*, 6(1), 57–76.
- Sheppard, E. (2002). The spaces and times of globalization: Place, scale, networks, and positionality. *Economic Geography*, 78(3), 307–330.
- Sheppard, E. (2011). Geographical political economy. *Journal of Economic Geography*, 11(2), 319–331.
- Smith, N. (2008). *Uneven development: Nature, capital, and the production of space* (3rd edition). Athens, GA; London: University of Georgia Press.
- Sonnenfeld, D. A., & Mol, A. P. J. (2002). Globalization and the transformation of environmental governance: An introduction. *American Behavioral Scientist*, 45(9), 1318–1339.
- Spaargaren, G., & Mol, A. P. J. (1992). Sociology, environment, and modernity: Ecological modernization as a theory of social change. *Society & Natural Resources*, 5(4), 323–344.
- Spash, C. L. (1995). The political economy of nature. *Review of Political Economy*, 7(3), 279–293.
- Spence, M. D. (1999). *Dispossessing the wilderness: Indian removal and the making of the national parks*. New York: Oxford University Press.

- St. Martin, K. (2005). Disrupting enclosure in New England fisheries. *Capitalism, Nature, Socialism*, 16(1), 63–80.
- Stoker, G. (1998). Governance as theory: Five propositions. *International Social Science Journal*, 50(155), 17–28.
- Stolton, S., Redford, K. H., & Dudley, N. (2014). *The futures of privately protected areas* (Protected Area Technical Report Series No. 1). Gland, Switzerland: International Union for Conservation of Nature.
- Streck, C. (2001). The Global Environment Facility: A role model for international governance? *Global Environmental Politics*, 1(2), 71–94.
- Streeck, W., & Thelen, K. A. (Eds.). (2005). *Beyond continuity: Institutional change in advanced political economies*. Oxford; New York: Oxford University Press.
- Swyngedouw, E. (1999). Modernity and hybridity: Nature, regeneracionismo, and the production of the Spanish waterscape, 1890-1930. *Annals of the Association of American Geographers*, 89(3), 443–465.
- Swyngedouw, E. (2005). Dispossessing H2O: The contested terrain of water privatization. *Capitalism, Nature, Socialism*, 16(1), 81–98.
- Tacón, A., & Sepúlveda, C. (2004). *Conservación de la biodiversidad en Areas Protegidas Privadas: Manuales de apoyo para los propietarios y gestores* (Ecorregión Valdiviana: Mecanismos público-privado para la conservación de la biodiversidad en la Décima región). Valdivia, Chile: Proyecto CIPMA-FMAM: Programa de fomento para la conservación privada en la Décima región. Retrieved from Biblioteca Nacional. (Sección Chilena, Salón de Gabriela Mistral)
- Taylor, P. J. (2003). The state as container: Territoriality in the modern world-system. In N. Brenner, B. Jessop, M. Jones, & G. MacLeod (Eds.), *State/space: A reader* (pp. 101–113). Oxford, UK: Blackwell Pub.
- Tecklin, D., Bauer, C., & Prieto, M. (2011). Making environmental law for the market: The emergence, character, and implications of Chile's environmental regime. *Environmental Politics*, 20(6), 879–898.
- Tecklin, D., & Sepúlveda, C. (2014). The diverse properties of private land conservation in Chile: Growth and barriers to private protected areas in a market-friendly context. *Conservation and Society*, 12(2), 203–217.
- Tybout, R. A. (1972). Pricing pollution and other negative externalities. *The Bell Journal of Economics and Management Science*, 3(1), 252–266.
- United Nations. (1992). Convention on biological diversity. Rio de Janeiro, Brazil.

- United Nations. (2004). *Annex: Decisions adopted by the Conference of the Parties to the Convention on Biological Diversity at its seventh meeting* (pp. 94–412). Kuala Lumpur, Malaysia: United Nations. Retrieved from <https://www.cbd.int/doc/meetings/cop/cop-07/official/cop-07-21-part2-en.pdf>
- Vandergeest, P., & Peluso, N. L. (1995). Territorialization and state power in Thailand. *Theory and Society*, 24, 385–426.
- Walker, D. (2013). Commentary: The two Karls, or reflections on Karl Polanyi’s “The Great Transformation.” *Environment and Planning A*, 45(7), 1662–1670.
- Walker, G. (2009). Beyond distribution and proximity: Exploring the multiple spatialities of environmental justice. *Antipode*, 41(4), 614–636.
- Walker, K. J. (1989). The state in environmental management: The ecological dimension. *Political Studies*, 37(1), 25–38.
- Weber, M. (1968). *Economy and society: An outline of interpretive sociology*. New York: Bedminster Press.
- West, P., & Carrier, J. G. (2004). Ecotourism and authenticity: Getting away from it all? *Current Anthropology*, 45(4), 483–498.
- While, A., Jonas, A. E. G., & Gibbs, D. (2004). The environment and the entrepreneurial city: Searching for the urban “sustainability fix” in Manchester and Leeds. *International Journal of Urban and Regional Research*, 28(3), 549–569.
- While, A., Jonas, A. E. G., & Gibbs, D. (2010). From sustainable development to carbon control: Eco-state restructuring and the politics of urban and regional development. *Transactions of the Institute of British Geographers*, 35(1), 76–93.
- Whitehead, M. (2008). Cold monsters and ecological Leviathans: Reflections on the relationships between states and the environment. *Geography Compass*, 2(2), 414–432.
- Whitehead, M., Jones, M., & Jones, R. (2006). Spatializing the ecological Leviathan: Territorial strategies and the production of regional natures. *Geografiska Annaler. Series B, Human Geography*, 88(1), 49–65.
- Whitehead, M., Jones, R., & Jones, M. (2007). *The nature of the state: Excavating the political ecologies of the modern state*. Oxford, UK: Oxford University Press.
- Wolford, W. (2005). Agrarian moral economies and neoliberalism in Brazil: Competing worldviews and the state in the struggle for land. *Environment and Planning A*, 37(2), 241–261.

Young, D., & Keil, R. (2007). Re-regulating the urban water regime in neoliberal Toronto. In N. Heynen, J. McCarthy, S. Prudham, & P. Robbins (Eds.), *Neoliberal environments: False promises and unnatural consequences* (pp. 139–150). London; New York: Routledge.

Zoomers, A. (2010). Globalisation and the foreignisation of space: Seven processes driving the current global land grab. *The Journal of Peasant Studies*, 37(2), 429–447.