# The Last Ranches at the End of the World: Changing Land Use Systems in Southern Chile

By

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THESIS

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## ABSTRACT

*"Multiple small spheres of personal experience both echo and enable events shared more widely, expressions of moments in a world in which we now recognize that no microcosm is completely separate, no tide pool, no forest, no family, no nation. Indeed, the knowledge drawn from the life of some single organism or community or from the intimate experience of an individual may prove to be relevant to decisions that affect the health of a city, or the peace of the world."*

-Mary Catherine Bateson, cultural anthropologist, in her memoir "With a Daughter's Eye"

*"To be sure, risk cannot be banned from modern life, but what we can and indeed should achieve is the development of new institutional arrangements that can better cope with the risks we are presently facing; not with the idea in mind that we might be able to regain full control, but much more with the idea in mind that we have to find ways to deal democratically with the ambivalences of modern life and decide democratically which risk we want to take."*

-Ulrich Beck in *Subpolitics: Ecology and the Disintegration of Institutional Power*

There are two Patagonian narratives: Patagonia is a wild place, defined by an extraordinarily remote landscape, that beckons travelers from all corners of the globe; Patagonia is a globalized place, integrated in a market economy, and family ranches are giving way to agribusiness and tourism. To some extent, the truth about today's Patagonia is embedded in both narratives. This thesis is a study of the tensions between the past and the present, not only of what Patagonia was, but also what it might be.

The Chilean Patagonia[1] is geographically isolated from the rest of the country and is only accessible by air or sea. The region was initially settled by wool and meat packing industries when they brought workers and supporting infrastructure to develop expansive rangeland grazing systems. Today, ranching is no longer the principal economic engine. Visitors in search of their own "end of the world experience" are leaving footprints with significant economic, cultural, and environmental implications. In the short term, tourism-induced changes may be economically advantageous. In the long run, these impacts are not only environmentally and socially unfavorable, but also irreversible. As new connections between agriculture and tourism are forged, and as land and business ownership is increasingly non-local, the ensuing shifts in land use and altered resource allocation raise important questions about the broader impacts of

[1] Patagonia encompasses the southern cone of both Chile and Argentina, 40-degrees south of the equator.

tourism on land use and rural livelihoods. By identifying the key drivers of agrarian change in Patagonia, insights can be gleaned for agricultural landscapes in other parts of the world regarding what is gained – and lost – in this transition.

The thesis is divided into five chapters, which together argue that tourism in Southern Chile is issuing in a new era of "land reform" based on market values. The central thesis of this research is threefold: (1) "rangeland" or "wilderness" is the central geographical feature for both tourism and agricultural activities in an overlapping space of both privately held and government controlled lands, (2) the commodification of nature, coupled with national-level preference for economic markets, is ushering in a new era of "market-based" land reform that is disconnecting the worker from their land, and (3) neoliberal land and environmental policies are unsustainable for protecting and preserving the natural resources and cultural landscape of Patagonia.

Research is situated in Chile's Región XII – or Magallanes and the Chilean Antarctic – and evaluates ranching systems within 160km of Puerto Natales. In order to conceptualize land use change, one must undertake the complex task of quantifying both the human and ecological dimensions of landscape (Little 2007). In 2016, twenty semi-structured interviews were conducted with local ranchers, tourism operators, and government workers. This study utilizes frameworks from political ecology, tourism geographies, and critical agrarian studies to evaluate regional agrarian systems.

In Chile, neoliberal economic and environmental policies are deconstructing the historical goal of agrarian reform which returned land use and control to the rural laborer. These policies commodify nature and give preference to the market value of nature over ecosystems and cultural landscapes. This thesis concludes that the current expression of neoliberal policies is unsustainable for protecting and preserving the natural resources and the interconnected social and environmental microcosms singular to Patagonia.

**ACKNOWLEDGMENTS**

"I do not so much write a book," Annie Dillard (1989, 52) wrote, "as sit up with it, as a dying friend. I hold its hand and hope it will get better." In many regards, writing this thesis was, as Dillard expressed, both an arduous task and a passionate undertaking. The final version of this project would certainly not be what it is today without the efforts of so many thoughtful academics, global citizens, and close friends. There are many people to thank, but I would also like to acknowledge the writing and revising process, and what it has taught me about discipline, research, long-term projects, and how I'd like to spend the future days of my life.

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The International Agricultural Development (IAD) graduate group at UC Davis is truly extraordinary, and I am thankful for a supportive cohort and caring staff. In particular, Theresa

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Finally, a special thanks to my partner, Juan Luis, who once joked that if honorary graduate degrees were awarded, he'd certainly be a recipient to compensate for hours spent accompanying me to umpteenth government offices, libraries, and interviews throughout the research process. You are a true *compañero*.

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## CHAPTER 1: INTRODUCTION, THEORY, AND METHODS

*Es una región sola, ya he hablado*
*de esta región tan sola,*
*donde la tierra está llena de océano,*
*y no hay nadie sino unas huellas de caballo,*
*no hay nadie sino el viento, no hay nadie*
*sino la lluvia que cae sobre las aguas del mar,*
*nadie sino la lluvia que crece sobre el mar.*

*It is a region alone, I have already said*
*of this region so alone,*
*where the earth is full of ocean,*
*and there is no one but a few traces of horse,*
*there is no one but the wind, there is no one*
*but the rain that falls upon the waters of the sea,*
*nobody but the rain grows on the sea.*

- Pablo Neruda in "El sur del océano" / "The South of the Ocean"

Starting in the late 1800's, sheep and cattle ranching was truly king in Southern Chile. In fact, the livestock industry was the earliest draw for individuals and businesses to establish themselves in the isolated and undeveloped Magellanic province. In the words of a former regional veterinary chief, the arrival of livestock changed Punta Arenas from "being a place of banishment and exile" in 1884, to an "increasing and stable population" by 1936 with the "noble desire to prosper pervading the modest and hardworking people of the time" (Calderón 1936, 7). The largest and most powerful livestock company to become established in the region was British owned *Sociedad Explotadora de Tierra del Fuego (S.E.T.F)*, or Company for the Exploration of Tierra del Fuego (Martinić 2011). Founded in 1893, the company grazed livestock on nearly 1,500,000 hectares[1] of Chilean rangeland at the height of the wool and meat trade in South America (Durán 1943).

Beginning in the early 1930's, livestock production began to decline in response to significant shifts in global markets (Figure 1.1). The change that most impacted Patagonia sheep production came from the British Empire Economic Conference, or Ottawa Conference, which in 1932 imposed high tariffs on trade with any country outside of the British Empire. This law was intended to protect the British economy from financial hardship following the 1929 Great

[1] 1,500,000 hectares is equivalent to 3,706,581 acres, or a space slightly larger than the State of Connecticut. Between property owned and/or rented in Chile and Argentina, the *Sociedad Explotadora de Tierra del Fuego* grazed more than 2,900,000 hectares of land in the early 1900's (Durán 1943).

Depression (Martinić 2002). The faltering global economic markets, in conjunction with low wool prices, resulted in a sharp decline in Patagonian sheep production because the refrigerated meat and wool industry in Southern Chile and Argentina was based almost exclusively on British demand (Martinić 2002). In reaction to changes in global meat and wool markets, the local economy faltered for several years while new internal markets between Southern and Northern Chile were developed, and before other economic subsectors, such as mining and lumbar, began to take hold (Calderón 1936, Martinić 2002).

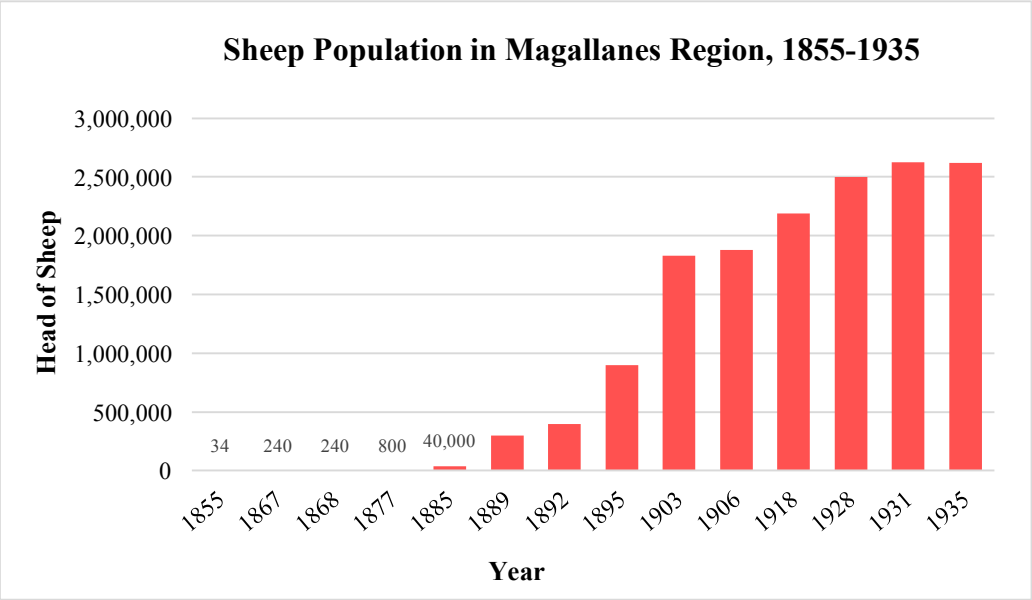


***Figure 1.1:*** *The sheep population in Magallanes rapidly increased annually until 1931, with a regional count of 2,625,000 sheep. After 1932, sheep production began to decline due to economic shifts in global export markets (Calderón 1936).*

Despite all of these external economic changes, the marginal grasslands in Patagonia continued to sustain livestock. In fact, livestock has been significant to the economy and culture of Southern Chile since its first inception in the region. Short summers, low-nutrient soils, and harsh winds create a hostile environment for growing crops; however, in the open expanses of *pampa* grasslands, sheep and cattle continue to thrive. Native Patagonian pastures are a vital forage resources as they support a majority of the national sheep stock (INE 2016, Vera 2006).

In the earliest days of carving out a Patagonia livestock empire, all work was labor intensive. The ranches, or *estancias*, required many laborers for various tasks including sheering sheep, moving herds of cattle, training young horses, and protecting livestock from mountain lions. Other positions included chopping and hauling wood, building fences, cooking for the workers, and tending small gardens. The region was truly a "Wild West" at the turn of the 19th century when pioneers from the Island of Chiloé – in addition to European immigrants of primarily Spanish, British, or Croatian decent – arrived in search of work, land, or gold, (Perry 1980).

Over the past 150 years, Chile has experienced many shifts and changes in land laws and land policy, notably the Chilean agrarian reforms of former presidents Eduardo Frei and Salvador Allende (1964-1973), and the partial counter-agrarian reform instituted by the Pinochet dictatorship (1974-1980) (Bellisario 2007). Despite these significant shifts in political leadership and land tenure, the primary use of the lands had not changed; that is, until the past few decades.

A comparison of the Gross Domestic Product (GDP) for Magallanes from 1996-2014 for the agriculture/forestry economic subsector vs. service industries (Figure 1.2), reveals that both agriculture and service industries maintained their respective percentages of regional GDP from 1996-2002 (BNC 2016). A downturn in the economy impacted both sectors similarly; however, the service industry (which includes commerce, restaurants, and hotels) grew steadily from 5.58% in 2003 to 12.63% in 2014. In contrast, agriculture and forestry, also at a low point at .36% of the economy in 2003, grew only to 1.24% of the economy by 2014. Overall, agriculture has declined in economic significance in Magallanes by -.74% between 1996 and 2014. (For a comparison of all economic subsectors from 1996-2014 see Appendix A.)

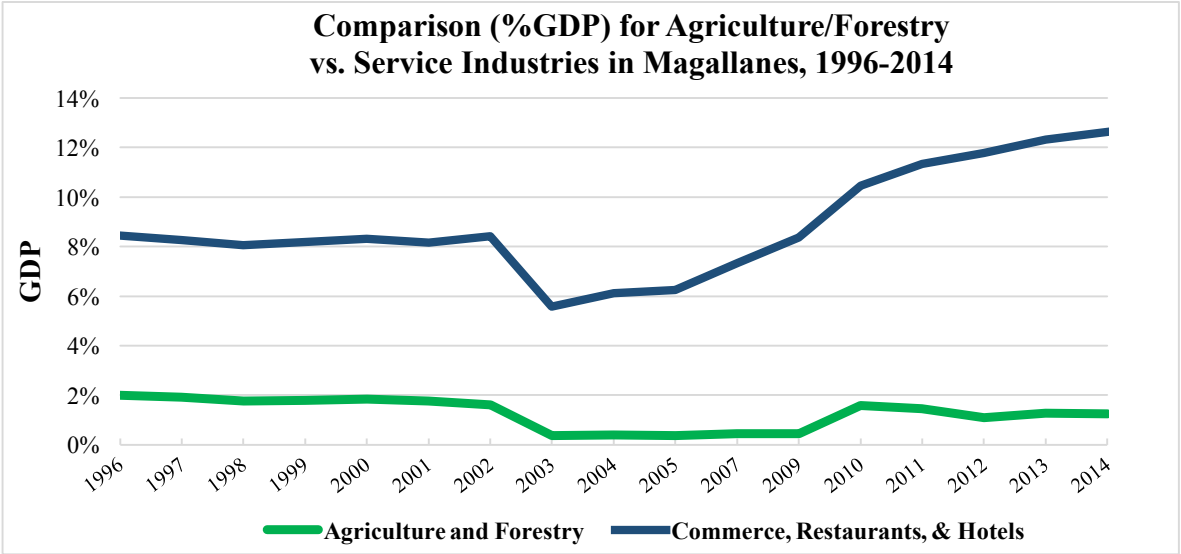


***Figure 1.2**: Comparison of the Gross Domestic Product (GDP), by percentage of overall GDP, for agrcicultural and service industries from 1996-2014 (BNC [Banco Nacional de Chile] 2016).*

Today, Southern Chile is still a significant producer of livestock for the country. In 2013, 88% of the 607,365 sheep slaughtered nationally were from the region of Magallanes (INE 2016). Yet as the popularity of Patagonia as a tourism destination soars, the regional economy is increasingly less dependent on livestock.

Tourism is the "new gold," as non-local investors purchase land not for the utilitarian purpose of raising livestock, but for its aesthetic beauty and the potential for tourism activities. Popular guidebooks sell Patagonia as a visual wonderland to foreign tourists. *Lonely Planet* (2003) calls Southern Chile "unquestionably one of the world's must ruggedly beautiful places;" *Backpacker Magazine* claims trekking in Torres del Paine "will give your eyeballs a whole new gauge for the best view you've ever seen" (Bastone 2009); and a participant from a 2015 ultra-marathon says, "The journey into the world of fiords is both magical and mystical…this entire section [of the race] floated below a forest worthy of being its own Lord of the Rings, which I was advancing through with goose bumps" (Zapater 2015).

While tourism may be distinct from traditional forms of urban development, the perceived "idea of" Patagonia – perpetuated through travel narratives, tourism operators, and

visual media – is changing the physical and cultural landscape of the region. Large tracts of marginal pasture land had historically been valued in utilitarian terms of how many sheep or cattle could be raised on that land. In fact, during the re-appropriation of lands during the 1970's, land in Southern Chile was divided into *estancias* based on stocking rates of approximately 5,000 sheep.[2] Today, the wide expanses of land in Patagonia are increasingly valued by an aesthetic evaluation based on key factors such as visual beauty and proximity to tourism spaces. The encroachment of "civilization" on open lands is often conjures up images of urban sprawl. However, in Patagonia, "urban sprawl" is rather evidenced by bus loads of backpackers, luxury hotels, and camera-carrying tourists. As the landscape encounters change – whether that be the physical change of new infrastructure or the new ideological overlays – land use is shaped by people and policy.

**Theoretical Frameworks**

This thesis triangulates literature from the fields of political ecology, tourism geographies, and critical agrarian studies to analyze the core drivers of present day land use and ownership change in Southern Chile. Together, these theoretical frameworks allow for a thorough investigation of agrarian change by taking into account historical context, political systems, and land tenure policies, while acknowledging the influences of regional specificity and Patagonian geography.

*Political Ecology*

Political ecology is a field with the capacity to addresses the interconnected realities of land, place, and politics, a field that "seeks to unravel the political forces at work in

[2] Depending on the quality of pasture lands, these parcels were between 3,000 to more than 10,000 hectares in size (Gallardo 2016).

environmental access, management, and transformation…" (Robbins 2012, 3). Political ecology, as a methodological framework, is unique in its efforts to realize how – as cultural anthropologist Mary Bateson describes – microcosms such as "tide pools" and "forests," or the "family" and the "nation," could be intimately connected. Understanding the current context of agrarian change and transformation requires contextualizing both the historical political forces that shaped the region, as well as an intimate understanding of the defining physical geographic characteristics where this change is occurring.

Paul Robbins (2012, 20), renowned political ecology scholar, summarizes the field's goals and demonstrates why this theoretical literature is appropriate for this project:

> "Research tends to reveal winners and loser, hidden costs, and the differential power that produces social and environmental outcomes…political ecologists follow a mode of explanation that evaluates the influence of variables acting at a number of scales, each nested within another, with local decision influenced by regional policies, which are in turn directed by global politics and economics."

In the Patagonian context, political ecology can be used to investigate the hidden costs and benefits of tourism beyond simply increasing the flow of money into the regional economy. The environment is a central character, not a bystander, in political decisions. Principal questions in this research are therefore concerned with the spectrum of "wins" or "losses" for both natural and human actors in situations such as national park enclosures, increasing numbers of private protected areas, and new growth in agritourism.

National decisions made in Santiago must also be evaluated on a regional scale in terms of suitability, sustainability, and socioeconomic impact; Blaikie and Brookfield (1987, 27) call this a "chain of explanation." This multifaceted approach "starts with the land managers and their direct relations with the land...The next link concerns their relations with each other, other land users, and groups in the wider society…[and] The state and the world economy constitute the last links in the chain." This research will engage several links in this "chain" by

investigating the relationships between those closest to the land – ranch workers and local landowners – and the influence of Chilean state-level politics on local land practices and ownership.

Careful analysis and multiple views of history are essential to a political ecology approach. Leach (1996, 5) states that it is necessary to challenge "received wisdom" in environmental change research and warns of the danger of creating "cause and effect" myths when "assumptions about the history of a given landscape on the basis of a 'snapshot' view of its current state or on data gathered over [at most] a few years." To truly understand the landscape change in Patagonia, research must account for the historical forces at work in the present-day by analyzing data gathered over an extended period, hence "documenting history rather than inferring it" (ibid).

Historical political ecology, a subfield within political ecology, encourages careful analysis of a place across time, thereby removing ambiguities and strengthening empirical evidence to either prove or disprove received narratives. Nancy Peluso (2012, 99), describing the challenge in one research project to define rubber as both a natural product and a commodity, says "How nature and capitalism come into being, join together, or become undone is ambiguous on a global scale. Locally, it is contingent on histories, trajectories and articulated moments; it needs to be untangled empirically." Land use change within Patagonia is not an isolated event occurring without external forces; it can be understood only by first unraveling the particularities of its unique context, constraints, and key characters, and then placing it within regional, national, and global frameworks.

In practice, historical political ecology also involves identifying the ideas that shape what a "wilderness" should look like, and deconstructing the historical conceptions and perceptions about how that land or space should be used (Neumann 1998). Analyzing a region with a long-

term approach illuminates, along the colonialism to capitalism timeline (Davis 2015), the various social relations, socioenvironmental challenges, and the differing resource uses. The power of political ecology to identify and reveal the historical beginnings and non-linear paths of certain beliefs is done by deconstructing today's narratives. While the most convenient narrative is not always the most correct narrative, historical political ecology is the tool to employ for directing such research. When one finds the historical roots of perceived wisdom, this does not change past policy per se, but it provides essential input to inform current decisions. While the strengths of political ecology are many, research that considers the influence of tourism within a specific geographic zone necessitates an additional theoretical framework to guide tourism-specific analysis.

*Tourism Geographies*

Torres del Paine is the most visited national park in Southern Chile (Figure 1.3). In 2013 the park was given the title "8th Wonder of the World" by travel website VirtualTourist.com. Puerto Natales is often called the "gateway" town to visit Torres del Paine and in 2012 had a population of 18,505. A closer examination of census data and national park records reveals that in just 10 years, the ratio of visitors to local residents grew by 215%. In 2002, there were an average of 3.6 visitors to Torres del Paine for every "Natalino" resident; in 2012, that number jumped to 7.8:1 (INE 2012, Sernatur 2016). In the 2015 tourism season, Torres del Paine had an all-time record high, totaling 211,886 visitors (SNASPE 2015).

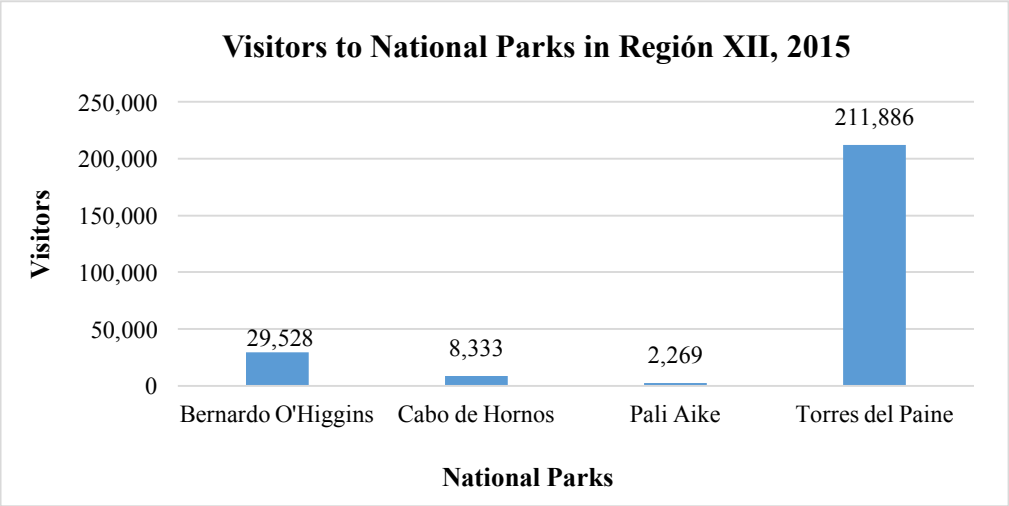


***Figure 1.3**: Annual visitors to the National Parks in Región XII in 2015 (Sernatur 2016).*

The role of tourism in both "making" and "unmaking" places is well documented within the study of tourism geographies (Chang 2012). This is true also of the Chilean Patagonia, where tourism is positively "making" the region as the economic inputs from tourism activities help improve infrastructure, increase local wages, augment privately owned businesses, and connect local people to intellectual and social networks both nationally and internationally. At the same time, tourism is "unmaking" the rural labor force and social fabric by: (a) offering alternative higher paying, less physically demanding jobs in service and hospitality, (b) by raising land prices to the threshold that most local individuals are unable to purchase land, and (c) by diminishing the necessity and opportunity to pass on the specialized livestock skills and traditions of this region. verge

In addition to these new social dynamics related to the growth of the tourism industry, the Patagonian landscape is experiencing physical changes. Larger *estancias* (ranches) are increasingly managed through a local foreman – while the owners live thousands of miles away in Santiago. This results in financial capital being the key and shortcut to property ownership, leaving the land owners disconnected from any real knowledge or experience stewarding the

land. Other *estancias* are being partitioned and sold as high-value parcels for absentee landholders who practice "hobby ranching" (Klepeis and Laris 2008). These changes are impacting not just the economic base of the region, but is also shifting the value and purpose of land from utilitarian livestock parcels towards landscape that is acquired as an aesthetic "commodity" (Castree 2008, Peluso 2012).

Some recent research has documented the increasing interaction between tourists and local residents within Chile's "extreme zones:" Región XI (Aysén) and Región XII (Magallanes) (Gale 2013). Other research emphasizes Southern Chile's potential for increasing its ecosystem and cultural services subsectors such as recreation and ecotourism (Nahuelhual et al. 2013). However, there is little academic research that specifically examines how tourism is influencing land use, ownership, and ranching practices beyond generalized predictions for the economic potential of agritourism growth.

The paradox of the situation for both tourists and the growing class of absentee land owners is that their actions – to visit or to buy – are often based on their perception of an "imaginary Patagonia," instead of the real place. Patagonia as the "last frontier" is perpetuated through tourism literature, travel agencies, and visual media; this mythology dates back to the earliest explorers and the imperial characterization of Patagonia as the "outermost part of the earth." The invention of Patagonia as a place exemplifies "how nature is part of culture, in the sense that every experience of the natural world is always mediated and shaped by rhetorical constructs" (Nouzeilles 1999, 36). As these fictional narrative are perpetuated, and visiting or owning a piece of Patagonia is increasingly popular, there are real implications for the local community and adjacent land owners, many of whom still raise sheep and cattle in the vicinity of Torres del Paine National Park. To fully understand what these emerging tourism-agriculture

intersections could signify for ranchers in Patagonia, the field of critical agrarian studies complements the political ecology and tourism geography frameworks utilized in this research.

*Critical agrarian studies*

Agrarian systems are currently changing at rates never before seen in the history of global food production. Tony Weis (2007, 5) observed that "the origins of the contemporary global food economy could be traced back through a series of revolutionary changes, which once took shape over the course of millennia, then over centuries, and which are now compressed into mere decades." Michael Watts (2008, 276) recognized that the "old or classical international division of labor within the agro-food system has been irretrievably altered in the past 25 years."

In a response to these new global agrarian realities, a recent introduction in the *Journal of Peasant Studies* outlines three distinct shifts in research on the dispossession of land and resources (Fairbairn et al. 2014). The first "wave" of scholarly interest focused on the significance of European land enclosures and "primitive accumulation" (Bernstein 1982, Macpherson 1978, McCay and Acheson 1987). In the 1980s and 1990s, scholarly focus emphasized themes of "development-induced displacement" (Peluso 1992, Fairhead and Leach 1996). The current and third "wave of dispossession studies" largely focuses on the acceleration of "land grabs" and "green grabs," a conversation and theoretical discourse that is particularly relevant to Southern Chile at this juncture in time.

South America is increasingly involved in the "green" economy, a new philosophy and ecological ontology where nature must pay its way through "ecosystems services" or by providing "natural capital" (Fairhead et al. 2012). The most well-known instance of "land grabbing," and more specifically "green grabbing," is in Chile, when Doug Tompkins[3] (founder

[3] Sadly, Mr. Tompkins passed away on December 8, 2015 from a kayaking accident near Coyhaique, Chile (Tompkins Conservation 2015).

of The North Face and Esprit) purchased 275,000 hectares in Central Patagonia to build a future "Patagonia National Park" (Blomley et al. 2013, Holmes 2015). Other high profile, non-local individuals that have purchased land in Patagonia on the Argentinian side include: 1) global Italian fashion brand "the Benetton group" with 1 million hectares; 2) Ward Lay (owner of Lay's potato chips), owns 80,000 hectares which he uses as a "world-class" hunting and fishing destination; and 3) Ted Turner, founder of CNN, owns 55,000 hectares in the Neuquén province (Carabellese 2006). "Green grab" property sales, while legal, still transfer large areas of land from local control to powerful outsiders (Holmes 2014) and strongly influence land prices and land use. There is urgent need to investigate the history, context, and future implications of these growing numbers of "conservation" and "green grab" land enclosures (Robbins 2012) and their impact – present and future – on Patagonia.

*Visual Sociology*

Visual sociology is a field of research dedicated to visual ethnographic documentation and interpretation. This field, although loosely defined, embraces multi-disciplinary exchanges of ideas for visual research and image interpretation (Grady 2001). One example of visual sociology research includes Dona Schwartz's "Waucoma Twilight," a visual ethnography of farm families in Iowa and the economic and social changes of agribusiness on the family farm (Shwartz 1992). Visual sociology can include the interpretation of documentary photographs, revisiting archival images and visual documents, as well as newer practices such as "photovoice" and "photo-elicitation" (Grady 2001).

Jon Wagner suggests in "Constructing Credible Images," that rather than looking at the differences between documentary photography, sociology or anthropology, that one should ask, "How does empirical social inquiry look when practiced by skilled sociologists or

anthropologists, and how does it look when practiced by skilled documentary photographers, journalists, and essayists?" (Wagner 2004, 1502). The inclusion of images in this research project is a visual inquiry into what defines the society-nature interface (Castree 2001) in Southern Chile.

Visual sociology can also address the primary research challenges that are often faced by social scientists by "creating empirically credible images of culture and social life, framing empirical observations to highlight new knowledge, and challenging existing social theory" (Wagner 2004, 1478). An example of such work is *The Great Central Valley: California's Heartland* by Stephen Johnson. The book is a collaborative project that combines images, personal accounts, and scholarship from environmental and social science fields while drawing from visual and empirical evidence to demonstrate how life and culture is changing in California's Central Valley (Wagner 2004). Documentary photography is a form of visual sociology, and a medium with which to share with a global audience a set of narratives on the changing land use and landscape in Southern Chile.

The seemingly disconnected worlds of tourism and ranching are actually overlapping spheres whose interaction will have an increasingly important role in shaping the future of Patagonia. The selection of political ecology, tourism geographies, critical agrarian studies, and visual sociology frameworks as research tools is done so with careful consideration to the region of study and the nuances of social science research. The land use change that is currently accelerating in Southern Chile raises broader questions regarding the commodification of nature, its relation to tourism activities, and the monetary evaluations of land worldwide.

**Research design and methods**

This research project contributes to literature on agrarian change, political ecology, and the geography of tourism while filling a gap in knowledge concerning the historical characteristics of ranching systems in Southern Chile. This is accomplished by: (a) investigating how land was redistributed during the 1970's in Región XII, including the unique elements of land reform in Southern vs. Northern Chile; (b) identifying similarities and differences between historical and present-day ranching systems; and (c) analyzing current changes in land ownership and regional land use.

*Study objectives*

1. Analyze the historical context of how humans and livestock shaped the region through archival research (government records, archival photographs, historical maps) and a comprehensive literature review.
2. Gather data, qualitative and quantitative, to define and measure current changes in livestock production.
    a. Qualitative data: semi-structured interviews, visual sociology
    b. Quantitative data: statistics (population, tourism, livestock)
3. Gain an understanding of the causes and possible trajectory of said changes and their potential impact on the future of the livestock industry

*Research Questions*

1. What are significant moments of change in the history of livestock production in Southern Chile and what were the cause(s) of these changes?
2. Will family livestock production ("the family ranch") continue (to be economically viable) in the future in Región XII? If not, what forces are currently influencing livestock production and what are their effects?
3. What are local people's perception of past land use changes, current shifts in ranching practices and ownership, and their projection(s) for the future of the livestock industry?

The interview questionnaire was developed after conducting a preliminary visit to the research area (August-September 2015). Informal conversations with residents during this month highlighted new trends towards "agritourism," a shortage of skilled ranch workers, and new

migration patterns for rural workers. The final questionnaire, reviewed for compliance and approved by the International Review Board, was administered to 20 individuals during the months of January-March 2016.

*Field sites*

During January-March 2016, research was conducted within a 160 km radius of the town of Puerto Natales, Chile (Figure 1.4). The research was a continuation of several prior visits to the region, and utilized my extensive network of local connections.

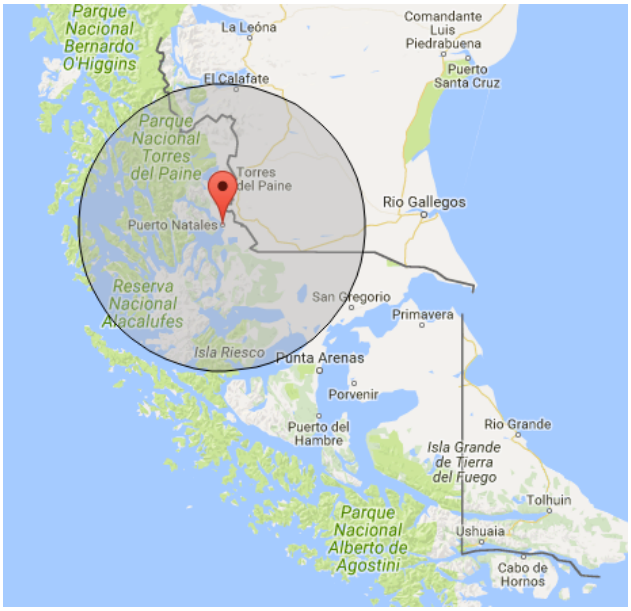


***Figure 1.4:*** *Research area includes ranches and tourism activities within 160km of Puerto Natales, Chile (Google n.d.).*

This particular location for research was selected because the area captures both the deep ranching history and traditional usage of agrarian land systems in Southern Chile. In addition, this area is near to Torres del Paine National Park and increasing tourist activity. The radius of 160 kilometers reaches from the urban center Puerto Natales to the border of Torres del Paine and also encompasses historically large parcels of ranching land such as *estancias* "Cerro Guido," "Jerónimo," and "Laguna Blanca."

Study participants included ranchers, ranch workers, landowners, and individuals involved in the tourism industry. These participants were recruited using the snowball sampling method. I interviewed personal contacts who met the following minimum criteria: (a) live and/or work in the field site region, and either (b) participate in tourism or ranching industries, or (c) hold a government job in a sector related to tourism and/or ranching. These included government employees from the forest service (*Corporación Nacional Forestal* or CONAF), livestock and agriculture (*Servicio Agrícola y Ganadero* or SAG), and water and hydrology (*Dirección General de Aguas* or DGA). Additional interviewees were recruited by asking these personal contacts to recommend acquaintances that met the interview criteria.

***Table 1.1**: Summary of the twenty interviews (For complete interview questionnaire, see Appendix B.)*

| | | |
|---|---|---|
| **Gender** | *Male* | 16 |
| | *Female* | 4 |
| **Nationality** | *Region XII (Chile)* | 14 |
| | *Other Region (Chile)* | 4 |
| | *Foreigner* | 2 |
| **Industry** | *Livestock* | 11 |
| | *Government* | 4 |
| | *Tourism/Service* | 5 |

| | | |
|---|---|---|
| **Age** | *18-35* | 4 |
| | *36-60* | 12 |
| | *60+* | 4 |
| **Education** | *Illiterate* | 1 |
| | *Primary ($1^{st}$-$8^{th}$)* | 3 |
| | *Some High School* | 2 |
| | *High School Graduate* | 4 |
| | *Beyond High School* *(technical school or university)* | 10 |

Interviews with forest rangers from CONAF were completed at ranger stations in National Parks Bernardo O'Higgins and Torres del Paine; SAG employees were interviewed at the local office in Puerto Natales. Other interviews took place on private ranches and in homes, coffee shops, and in hostels. All interviews were conducted in person, in Spanish or English, and lasted between 20 minutes to 1 hour.

*Political Geography*

Geographically, Chile is a country of extremes. The longest north-south running country in the world, Chile extends across 38 degrees of latitude and 2,653 miles long (4,270km), yet only averages 110 miles wide (177km). The geography of Southern Chile has influenced the history, culture, and economy of this austral region. Unlike other parts of Latin America, and other more accessible centers of the Spanish empire, Patagonia's development was far removed from the rest of the continent (Perry 1980).

Chile is divided into 15 regions, which are subdivided into provinces, and finally communes. Magallanes and the Chilean Antarctic is the 12$^{th}$ Region of Chile, or Región XII. Not only is it the southernmost region, it is also the largest region at 132,291 km$^2$ (BCN 2016). The four Magellanic provinces are: Ultima Esperanza, Magallanes, Tierra del Fuego, and the Chilean Antarctic. This research takes place in the province of Ultima Esperanza within its two communes, Natales and Torres del Paine. The provincial capital is Puerto Natales, with a latitude of 51°44′S and a longitude of 72°31′W.

*Population*

In the 2012 census, Magallanes and the Chilean Antarctic represented less than one percent of the national population (approximately 0.93%). Within Chile, Región XII is the second least populated, averaging only 1.2 persons per square kilometer (INE 2012).

***Table 1.2:*** *2012 Population and population density of Chile and Magallanes (INE 2012).*

| **Region or City** | **2012 Population** | **% of National Population** | **Area** (km$^2$) | **2012 Population Density** (person/km$^2$) |
|---|---|---|---|---|
| *Chile* | 15,607,308 | - | 756,096 | 21.92 person/km$^2$ |
| *Magallanes and the Chilean Antarctic* | 144,824 | 0.93% | 132,291 | 1.2 person/km$^2$ |
| *Punta Arenas* | 118,410 | 0.76% | - | - |
| *Puerto Natales* | 18,505 | 0.12% | - | - |
| *Santiago Metropolitan Area* | 6,771,964 | 43.4% | 15,403 | 433.93 person/km$^2$ |

*Physical Geography*

The physical geography of the region is a product of the last ice age when glaciers covered the entire Patagonian surface. Glacial retreat left behind mountains, steep valleys, non-vegetated glacial moraines, and large glacial rivers; vegetated areas include grasslands, forest, steppe, and wetland ecosystems (Farrell and Marion 2001).

The Magellanic rainforest and the deciduous beech forest are two prominent ecosystems in Región XII (Butland 1957). The deciduous forests are dominated by varieties of the southern beech tree (*Nothofagu*) including "lenga" (*N. pumilio*) and "nirre" (*N. antarctica*) while young moraine soils are populated with the "coigüe" evergreen (*N. betuloides*) (Armesto et al. 1992). Common shrubs include *Chiliotrichum diffusum* ("mata verde"), *Escallonia virgata* ("mata negra"), *Empetrum rubrum* ("murtilla"), and *Berberis microphylla*, commonly known as "calafate," whose seasonal berries are used in regional marmalades and beverages. Wildlife found in the area include the puma (*Puma concolor patagonico*), guanaco (*Lama guanicoe*), South Andean deer (*Hippocamelus bisulcus*), red fox (*Lycalopex culpaeus*), grey fox (*Lycalopex griseus*), Patagonian skunk (*Conepatus humboldtii*), dwarf armadillo (*Zaedyus pichiy*), and Darwin's rheas (*Rhea pennata*) (McEwan et al. 1997).

The growing season at this austral latitude is limited to active plant growth between September-December (Vera 2006). A wetland ecosystem, unique to Southern Chile, is important for both ranchers and native animal species. These wetland systems are primarily comprised of the Histosols and Fluvisols soil types (Filipová et al. 2010). The Magellanic peatlands are wet bogs, locally known as "turbas," and are an important resource for wildlife and wading birds. Another wetland system is the fertile meadows, or "vegas," dominated by short *Eleocharis* and *Juncus* grasses. The "vegas," with their nutrient rich grasses, are highly valued by ranchers for livestock production (Clausen et al. 2006). The drier *pampas*, or grasslands, are dominated by

the tussock grass species *Festuca gracillima* ("coirón"), and are an equally important forage resource for livestock production.

*Climate*

The town of Puerto Natales is located along Last Hope Sound and has an elevation of 3 meters; the highest mountain in the region is Cerro Paine Grande at 2,884 meters (9,462 ft.). According to the Köppen climate classification system, Puerto Natales has a temperate oceanic climate (Cfb) with an average annual temperature of 6°C, and average seasonal fluctuations range from 2°C in winter and 16°C in the summer. Precipitation averages approximately 360mm per year (INIA 2017); in 2016, the annual precipitation for Puerto Natales was 244.5mm (ibid). Nearby Torres del Paine National Park[4] and Punta Arenas both exemplify a subpolar oceanic climate (Cfc) with no dry season. Weather in Southern Chile is heavily influenced by persistent year-round polar winds, generally from the W and SW, with gusts of up to 100 km per hour (Vera 2006).

The weather station in Puerto Natales began collecting data in the 1980's only after the construction of local airport Aeródromo Teniente Julio Gallardo. Therefore, to analyze cycles of regional climate trends with more than thirty years of data, it is necessary to look at data from the capital city of Región XII, Punta Arenas, approximately 250km away.

Weather stations in Punta Arenas began collecting data in 1905, yet the historical data is sometimes incomplete with unrecorded average temperature or annual precipitation. Before the construction of President Carlos Ibáñez del Campo International Airport in 1950, data was collected from several different stations across Punta Arenas. Despite the reality that data was

[4] Torres del Paine National Park annually receives more than 700mm of precipitation (Clausen et al. 2006).

collected from multiple weather stations before 1950, these temperature and precipitation records are generally representative of regional climate trends. Figures 1.5 and 1.6 were created with data from the annual maritime publication "Anuario Meteorológico de Chile;" only years with complete data sets were included. Due to the geographical variety of the region, which includes many microclimates, more data would be necessary to make conclusions about long-term cycles

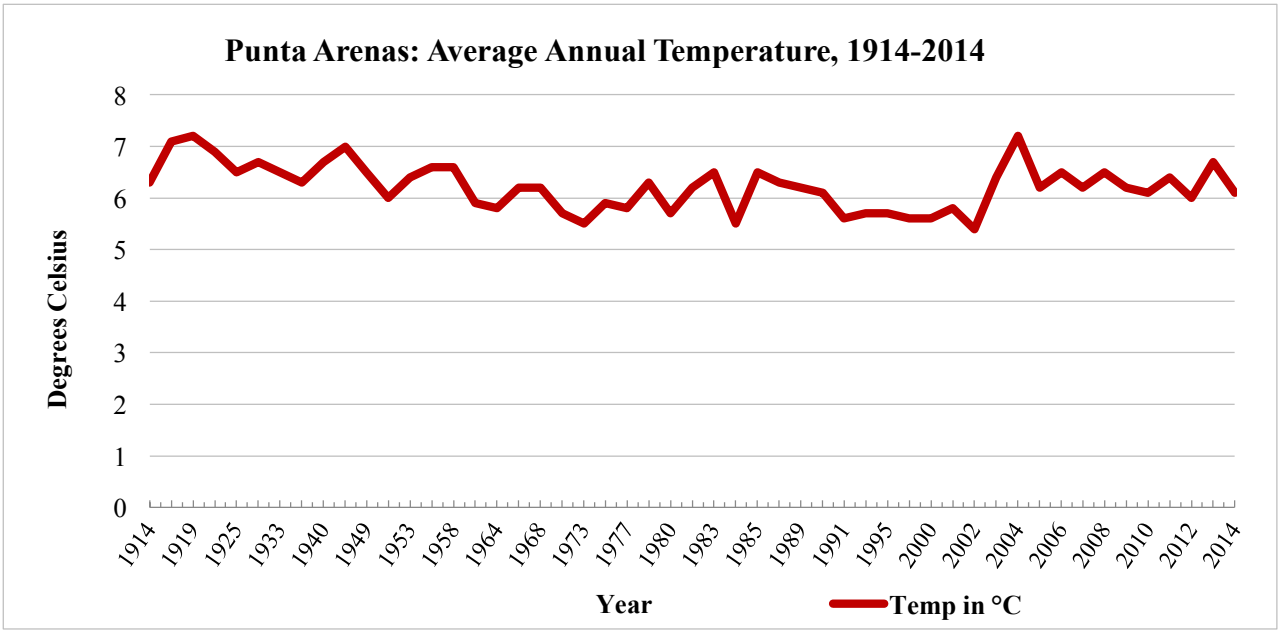


***Figure 1.5**: Current ranchers in Southern Chile have experienced an increase in the average annual temperature within their lifetime (Anuario Meteorológico de Chile 2014).*

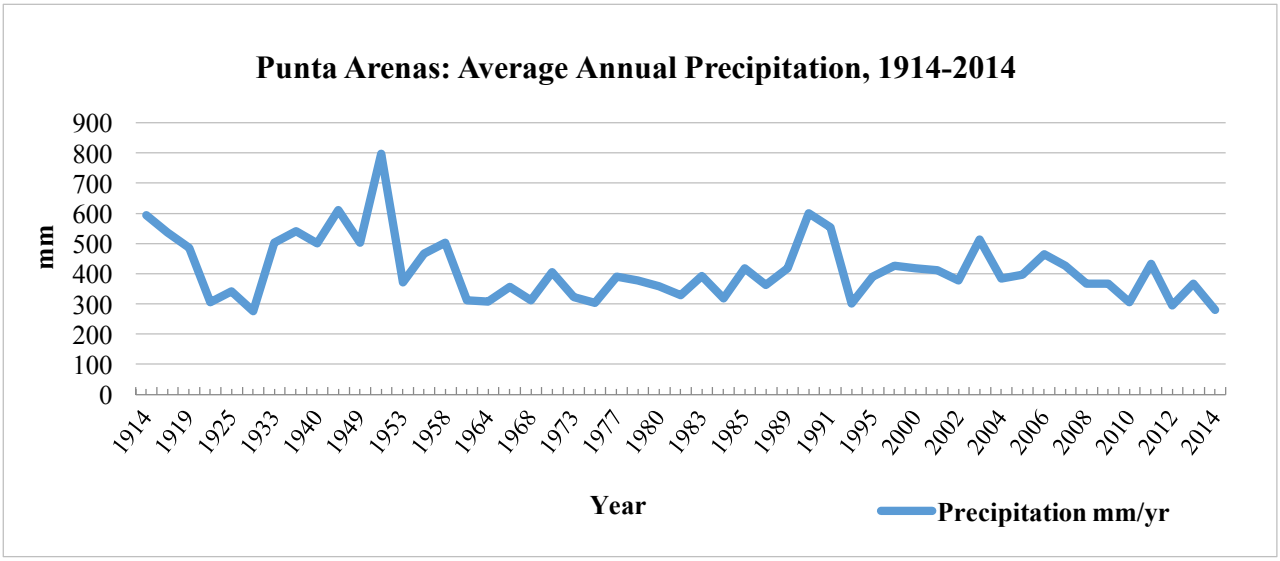


***Figure 1.6**: Southern Chile has experienced a decrease in annual precipitation within the past few years (Anuario Meteorológico de Chile 2014).*

of climate shifts and the direct impact on individual ranches. However, this meteorological data does support a claim, made by many ranchers in Southern Chile, that within their lifetime they have seen an increase in average annual temperature and a decrease in precipitation. Since rainfall and temperature directly influence the quantity and quality of rangeland grass, these climatic changes directly impact the sheep and cattle stocking rates ranchers are accustomed to on Patagonian *estancias.*

**Structure of the thesis**

The thesis is divided into five chapters, which together argue that tourism is issuing in a new era in "land reform" in Chile that is based on market values and neoliberal property and environmental policies. Today's Patagonia is rapidly changing from a region that was founded on the prosperity of rangeland grazing systems – to a tourism-based economy fueled by the increasing numbers of visitors and shifting local values.

Chapter 1 introduces the research design, methods, physical geography and field sites, ethical considerations, and the theoretical frameworks behind the research questions. Chapter 2 contextualizes the present day ranching ecologies historically, politically, and economically by examining the roots of the *estancia* and ranching systems in the region. Chapter 3 engages the local perspectives of ranchers, landowners, and cowboys, through semi-structured interviews, oral histories, and photographs to explore the layers of Patagonia by those who live closest to the land. Chapter 4 extends the individual experiences of those living and working off of the land in Patagonia to the increasing presence of tourism. This includes a wider theoretical conversation of changing perspectives on nature, including the commodification of place and experience, as well as how neoliberal values in Chile are restructuring nature-society relationships. Finally, Chapter 5 concludes this thesis by questioning the long-term sustainability of neoliberal land policies for

protecting and preserving the natural resources and cultural landscape of Patagonia within the overlapping spheres of privately held and government controlled lands.

**Ethical considerations and the role of the researcher**

"Why Patagonia?" wrote Lady Florence Dixie (2008, 2) the first English tourist to visit the region in 1878, "These, and similar questions and exclamations I heard from the lips of my friends and acquaintances, when I told them of my intended trip to Patagonia…What was the attraction in going to an outlandish place so many miles away? The answer to the question was contained in its own words. Precisely because it was an outlandish place and so far away, I chose it." My first trip to the Southern region of Argentine and Chilean was also as a tourist, a "*mochilera*" (backpacker), when I spent five months in 2011 traversing the national parks, cities, and small towns of Patagonia. Much like Lady Florence Dixie, I was drawn to the idea of traveling to a far and remote place that is both the reality, and representation, of the "end of the world."

Throughout my travels I found both confirmation and contradictions to my own ideas surrounding Patagonia. The natural beauty of the region is indisputable, with soaring mountain peaks, piercing blue-grey glaciers, and expanses of grassland *pampa* that extend as far as one can see. However, even during my first months in the region, I started noticing gaps between the *idea* of Patagonia as a "last frontier," and the *reality* of Patagonia as a remote, yet globally connected region of the world.

For the 2011-2012 tourist season (November-March), I returned to Southern Chile to work as a guide, leading horseback trips in Torres del Paine National Park and the surrounding area. As I became familiar with this region, and forged more local connections, I began to venture out of the tourist enclaves and visit "non-touristy" spaces – restaurants, bars, stores, and

supermarkets that are frequented primarily by local residents. At the end of the tourism season, I bought my own horse so that I could keep exploring the area on horseback (Figure 1.7).


***Figure 1.7****: In front of Erratic Rock hostel in Puerto Natales, Chile after buying my horse "Clos" for $500 (2011, personal archive).*

Since 2012, I have continued to frequent the Chilean Patagonia and the Puerto Natales region with visits of two weeks up to six months at a time to work, live, or travel in the area. It would be difficult, therefore, if not impossible, to separate my own Patagonian experiences from my research. While I am no longer a "tourist," I am still "non-local," and continually negotiate levels of "belonging."

The guiding questions that motivated this research stem from my own observations regarding the discontinuity between real and perceived narratives of Patagonia. This includes the "selective vision" of many national and international visitors who ignore the rich livestock and ranching history of the region with the singular focus of visiting "Torres del Paine," or the "penguins" near Punta Arenas, as well as an over-confidence by local government and business owners that tourism is "the" economic engine to continue developing a historically isolated and disconnected region of Chile.

The burgeoning tourism industry appears to have a significant impact, both direct and indirect, on the regional economy and agrarian land use. Up to this point the discussion, and my understanding, of this impact has been primarily observational and narrative in nature. As Paul Robbins (2012, 137) points out, there are pitfalls to purely narrative approaches to research; therefore, "rigorous techniques, survey methods, and sustained presence in a community are all prerequisite to clarifying and verifying human models of environmental change." The primary goal of this research is to apply methodological tools and frameworks from political ecology to my personal observations that will then unravel the particularities of how, and to what extent, tourism is changing land use in Patagonia. This starts with understanding Bernstein's (2010, 22) key questions to investigate agrarian political economy: "Who owns what? Who does what? Who gets what? What do they do with it?"

My extensive personal experience and connection to my research site does merit an honest look at ethical considerations. At the same time, it is also recognized that relationships are an essential component to research across any discipline; these "entanglements" of relationship – which allow knowledge to be shared and produced – is not only part of the learning process, but is also essential to developing quality, comprehensive scholarship (Neely and Nguse 2015). My regional knowledge and authentic relationships with local people are valuable assets. Occupying a space between foreigner and confidante allows me to remain disconnected form old grudges and disagreements, while maintaining a context for understanding alliances and the awareness to recognize situated knowledge.

**Summary and Conclusion**

In Patagonia, the historical layers of politics, land use, and ranching ecologies are deep and complex. The tools of political ecology, tourism geographies, and critical agrarian studies offer valuable frameworks to unpack the way "the environment is *produced*, by people and non-humans together" (Robbins 2012, 120). These tools also allow us to identify the nuances within the context of changing land use in a specific Chilean community. While the research questions may be a byproduct of my own sustained presence in one community, the research tools employed are selected with the purpose of eliciting local, situated knowledge from a wide variety of stakeholders. Semi-structured interviews and oral histories, in conjunction with statistical data and archival documents and images, provide historical evidence to trace and analyze the past trajectory to the present reality of "Patagonia."

## CHAPTER 2: HISTORICAL PERSPECTIVES ON LAND

*"It may be difficult for you to understand the mentality of those of us from the south. In Chile we are influenced by the eternal presence of the mountains that separate us from the rest of the continent, and by a sense of precariousness inevitable in a region of geological and political catastrophes. Everything trembles beneath our feet...."*
- Author Isabelle Allende in "Paula"

### Introduction

The extreme geography of Southern Chile influenced not only the history, but also the culture and economy of this austral region. Chilean author Isabelle Allende alludes to the significance of the eternal influence of the Andes Mountains and the Pacific Ocean as the defining geographic features that shaped the region from prehistoric to modern times. Unlike other parts of Latin America, and more accessible centers of the Spanish empire, Chile developed far removed from the rest of the continent (Castillo-Feliú 2000).

In the earliest history of the region, the indigenous people of South America supported themselves physically and economically from native grazing animals such as the llama (*guanaco*) and rhea (*ñandú*). When the first sailors and settlers arrived to the territory, later followed by the Chilean government's active promotion of colonization, these parties also recognized the land's potential for rangeland grazing, and sheep and cattle were introduced to the region. Since the late 19$^{th}$ Century, livestock has continued as the predominant economic force in Southern Chile. This economic reality is a natural byproduct of the physical and climatic limitations of the landscape, a panorama predominately characterized by large expanses of rangeland unsuitable for crop production, yet ideal for grazing livestock.

## Pre-Colonial Roots: Before Magellan

*"The history of Patagonia is a classic colonial enterprise of exploration, invasion, evangelization and ethnic cleansing, recast by the victors as a tale of heroes overcoming obstacles."*
- Chris Moss in "Patagonia: A Cultural History"

The Tehuelches, Aónikenk, Selk'nam, Yámana, and the Kawéskar were the original inhabitants of "Patagonia" and are estimated to have arrived in South America and Tierra del Fuego between 14,000 and 10,000 years ago (Borrero 1999, Moss 2008). These tribes and ethnic groups specialized in either hunting the dry *pampa* grasslands, or fishing and marine travel by canoe. Beyond being sources of food, the *pampas* and the sea also provided clothing and housing materials. The Yámanes were dedicated to fishing, the Kawéskar hunted sea lions, while the Onas and Selk'nam pursued *guanaco*, a type of llama, as their main source of food. These original people groups used a variety of tools, including stone spearheads, bone artifacts, and a tool made of a rope connecting three stone "bolas" that would trip, and thereby halt, a running animal. The geographic and climatic challenges of Patagonia predisposed the original inhabitants to have a "fundamental dependence on the land and its products" and a "cultural pattern closely related to its physical environment" (Butland 1957, 38).

## Maritime Exploration: Discovering Patagonia

In 1520, Portuguese explorer Ferdinand Magellan led the earliest group of European surveyors who encountered Tierra del Fuego during their attempt to circumnavigate the globe. When Magellan, sailing under the Spanish flag, first sailed through the strait that would later bear his name, he was also unaware of the original inhabitants in the southernmost reaches of South America.

The name "Patagonia" for this austral region was not chosen by the original people, but was rather a mythologized term invented by the European outsiders. The exact etymology of "Patagonia" is unknown; however, there are several speculations. Magellan's diarist, Antonio

Pigafetta, described the people as *pathagoni*, or "giants" (Moss 2008). Other interpretations say that the prefix *pata* referred to "foot," thus Patagonia was the "Land of the Bigfeet." Another speculation, from Bruce Chatwin in his travelogue "In Patagonia," is that Pigafetta's original word choice was similar to a Greek word meaning "a roaring" or "gnashing of teeth" and therefore the Patagonians were "roaring like bulls" (Chatwin 1977). Regardless of how Patagonia was christened, the name, like the people and culture that later arrived, was derived from an idea about the region that was disconnected from real knowledge; this term was then imposed upon the people as well as the land.

**Colonial Landscapes and Frontier Races**

After Chile officially declared independence from Spain in 1810, the country's population was concentrated in Santiago. Chile did not have a strong northern presence along the Peruvian and Bolivian border; it also lacked a southern presence near the Magellan Strait and surrounding fjords and canals. With the advent of steam navigation, the political administration in Santiago began to show interest in Patagonia because the Magellan Strait was an important trade route for boats crossing between the Pacific and Atlantic Oceans. Control of the region and its waterways suddenly became economically vital to the young country (Perry 1980).

Chile's interest in the economic potential of the Magellan Strait was therefore the catalyst that led to the political and territorial concern to stake claim to the region, thereby maintaining control of the waterway. The initial attempt to colonize the new territory, and particularly the Magellan Strait, was unsuccessful. In 1843, President Manuel Bulnes sent pioneers to found Fort Bulnes on the Brunswick Peninsula. However, by 1861 Punta Arenas had a population of only 202 persons; this weak colonial presence continued in the subsequent decades (Perry 1980).

The Treaty of 1881 finalized the Chilean possession of the Andes and Pacific Coast, with Argentina asserting ownership of the eastern *pampas* and Atlantic Coast. Each country had laid claim at one point to both the Strait and the coastal Atlantic regions. This changed in 1879, when Argentine General Julio Argentino Roca set forth on his final campaign to conquer the desert, and Argentina claimed new territory westward up to Río Negro and Río Neuquén (Perry 1980). During the next few years, from 1879 to 1883, Chile was more concerned with the nitrate deposits in the north, and the occupation and eventual acquisition of Bolivia's coast during the War of the Pacific, than in disputing the grasslands with Argentina (Talbott 1967). Chile, with control of the Magellan Strait and the prospective acquisition of the Atacama Desert and northern ports cities Iquiqui and Arica, was satisfied with the 1881 agreement and the *frontera* was drawn.

The same "adventure spirit" that first brought Magellan was also present in the new migrants that followed. The government in Santiago had attempted to facilitate settlement in Patagonia by encouraging national migration from the island of Chiloé to Southern Chile. It was not until the arrival of sheep, coupled with the lure of gold, that non-native pioneers were interested in inhabiting the isolated region (Moss 2008). When sheep and cattle ranching was just beginning to appear on the economic horizon, Romanian explorer Julius Popper and his crew of Croatian sailors found gold in Tierra del Fuego in 1887 (Martinić 1999). While most prospectors left as penniless as they arrived, the influx of migrants into the rural economy benefited the emergent sheep *estancias* with a fresh supply of new workers and increased the demand for goods and services (Moss 2008).

The Popper expedition increased migration to the region and helped secure the Southern Chilean frontier. Tragically, new immigrants also quarreled with the native people groups over the use and control of Magellanic territory, and these conflicts precipitated the genocide of the

***Figure 2.1**: Julius Popper during a "hunt" of the Ona people in 1885. In the late 19th Century, cattlemen and gold prospectors launched a campaign of extermination against the indigenous peoples of Tierra del Fuego (Wikimedia Commons 1885).*

Selk'nam, Tehuelche, Ona, Yahgan, and Halakwalup people (Magee 2000, Moss 2008). In 1908, a writer for *The Journal of Geology* forecast this unfortunate truth: "The natives, until recently, have been a considerable check to the progress of mining. Many of them still use the bow and arrow of their ancestors, and have fiercely opposed the invasion of the white man; yet the sad fate of most American Indians is rapidly overtaking them, and they will probably soon vanish before the miners and the cattlemen" (Penrose 1908, 696). As with many other native populations around the world, the isolation of this region gave the indigenous tribes no immunity to European diseases. Smallpox and measles had an additional devastating effect. Nearly half of the Tehuelches, and members of many other tribes, died during a smallpox epidemic from 1809-1812 (Butler 1957). While colonial land disputes were occurring as Argentina and Chile

squabbled over their side of the "line," and immigrants arrived to live their dreams of gold or sheep at the "end of the world," it must not be forgotten that these changes displaced the native peoples forever.

**Post-Colonial Context: Political Patagonia**

C.B. Macpherson (1978, 202) in *Property: Mainstream and Critical Positions* argues that to understand "property" and land "ownership," one must understand that "Property is a right, not a thing. It is an individual right. It is an enforceable claim created by the state." In fact, he argues that there are three kinds of property: common, private, and state, and that "The theory of property had always been a theory of rights in land and capital" (ibid, 203). In Chile, agrarian reform measures from 1964-1979 utilized a wide spectrum of policy tools and political ideologies to make property claims enforceable, while also coming to terms with how land should be valued and distributed across the country. Under different governments, land in Chile transitioned from one extreme of being controlled by the State, to the opposite side of the property spectrum where land and natural resources are privatized and then integrated into a capitalistic, market economy. It is significant to acknowledge how the distinct development strategies of agrarian reform, which occurred under two presidents and a military regime, either embraced – or rejected – capital accumulation disconnected from physical labor and land. The current relationship between the individual, society, and the land in Patagonia is the product of these historical movements and counter-movements. To fully understand the impacts of a land tenure system that champions a neoliberal economic model – with the market as the mechanism for resource allocation, and how that relates to the commodification of land and nature in Chile – it is essential to follow the historical roots of capitalism's inception within the country.

*Encomiendas, the hacienda system, and latifundios*

The establishment of European landholding in Chile was predominately characterized by very few land owners who controlled large tracts of land, and hired many unskilled workers. This type of land control had its roots in the *encomienda* system, a structure originating from Spain when land was granted – and the use of indigenous labor on that land – in return for military and financial service to the Crown during the Spanish conquest of Latin America. Because the search for gold was exhausted early in Chile, the Chilean *encomiendas* were largely characterized by agricultural duties (based on indigenous servitude); this agrarian connection became a central characteristic to shape rural spaces and labor in following centuries (Biblioteca Nacional de Chile 2016). The *encomienda* system was the groundwork that led to the subsequent *hacienda* system, an antiquated agrarian structure where land ownership was inherited along the familial lines of the first conquistadors. The *hacienda* system was the precursor to the emergence of large estates, or *latifundios*, with one owner/family, and many workers (Guerrero and Valdés 1988). Not only was the *hacienda* system a source of political power for landholding families, it existed for more than three centuries as a stable system of "agrarian socio-economic organization" (Bellisario 2007).

In Southern Chile, the *hacienda* period was characterized by valuing the ownership of livestock over the land itself. From 1887 to 1891, ranches in Magallanes leased 1,403,632 hectares from the government; of the 123 ranches, the average size was 11,412 hectares, with no *estancia* exceeding 30,000 hectares (Calderón 1936). *Estancia* size increased significantly in the early part of the 20th Century as fewer investors began to lease increasingly expansive tracts of land from the Chilean government. Local business men José Nogueira and Mauricio Braun helped facilitated the foundation of the Sociedad Explotadora de Tierra del Fuego, the largest ranching operation in Patagonia. Founded in 1983, this British owned company gained

concession of large tracts of land, nearly 1,500,000 hectares of Chilean rangeland, at the peak of its operation (Durán 1943).

*Agrarian Reform (pre-1964)*

After World War II, agriculture throughout many parts of Latin America was considered "stagnant." Output increased slowly, and at the time slow economic growth was often attributed to the unequal divisions of land (Valdés and Foster 2014). Chile encountered a domestic food shortage as demand grew faster than domestic agricultural production (Jarvis 1985). The first attempts at land reform under the conservative President Jorge Alessandri (1958-1964) was not a reform movement instigated by the *campesinos* and the working class, but was rather highly correlated to international fear that the Cuban revolution would spread within the region. In 1961, President John Kennedy's administration initiated the Alliance for Progress, which was later signed by twenty Latin American countries, and promised financial aid from the United States for land redistribution programs (Bellisario 2007).

In 1962, the first phase of land reform in Chile was Agrarian Reform Law 15.020. This law eliminated the government agency *Caja de Colonización Agrícola,*[5] and resulted in the creation of three new agencies, the *Corporación de Reforma Agriaría* (CORA), the *Consejo Superior de Fomento Agropecuario* (CONFSA), and the *Instituto de Desarrollo Agropecuario* (INDAP) (Jarvis 1985, Valdés and Foster 2014). The first use of land reform in Chile was implemented as a colonizing device directed towards family units and individual property rights (Valdés and Foster 2014); this phase focused on a small-scale reform process that did not allow forced expropriations without full compensation (Bellisario 2007).

[5] The *Caja de Colonización Agrícola*, established in 1928, had been used to "carry out land redistribution and settlement activities" (Jarvis 1985, 7).

*Agrarian Reform (1964-1970)*

Large scale agrarian reform began in 1965, under the Christian Democratic Party of Eduardo Frei Montalva. Agrarian Reform Law 16.640, approved by Congress in 1967, provided the legal framework for agrarian restructuring, and extended the existing law of 1962 (Bellisario 2007). This period of reform transformed the existing land tenure system by creating *asentamientos*, cooperative type production systems, in an effort to stimulate capitalist modernization (Silva and Videla 1991). Most of the beneficiaries of land reform during this period were the relatively unskilled, permanent agricultural workers, or *inquilinos*, who had worked on the expropriated farms (Jarvis 1985). External and landless peasants, who were also farm laborers and sharecroppers, were not given full membership in the *asentamientos*, and were therefore denied equal rights and the same opportunity to claim land (Bellisario 2007).

The initiation of land reform in Chile under the Frei administration was as much an ideological shift in the relationship between persons and property as it was a physical change in land redistribution. In an introductory message of the agrarian reform bill sent to Congress in 1965, President Eduardo Fri wrote:

> Property must be maintained and respected, but it should be socially regulated. The exercise of a property right that infringes upon the common good and rights of the community cannot exist. When this occurs, the fundamental norm that the common good must precede individual rights has been broken, and it is essential, then, that the State reorganized, regulates and redistributes these property rights to avoid this abuse (1965, 15).[6]

Frei's emphasis on "socially regulated" land where property rights must not infringe on "the community" was seen as a direct attack on individual property rights by the propertied classes. The following paragraph continues, "This must be obtained by the substitution and

[6]Original Spanish document reads: "*La propiedad debe ser mantenida y respetada, pero socialmente regulada. No puede existir un derecho de propiedad que en la forma que se ejercita lesione el bien común y los derechos de la comunidad. Cuando así sucede, significa que se está quebrando la norma elemental de que el bien común debe primar sobre el derecho individual, y es indispensable entonces que el Estado reorganice, regule y redistribuya estos derechos para evitar dicho abuso"* (Frei 1965, 15).

rearrangement of existing systems of ownership and landholding… in order that the land will become, for the man who works it, the basis of economic stability, the foundation of his increasing welfare, and guarantee of freedom and dignity" (Frei 1965, 15).[7] The governmental assessment for the worker at this time truly regarded one's direct ability to produce a living income from the land as the "basis of economic stability" for that individual, and thereby for the nation.

Magellanic land was redistributed under the same governmental agencies that directed agrarian reform in the Central and Northern regions of the country: CORA and INDAP, as well as the subsequent agencies implemented under the Allende administration, *Centros de Reforma Agraria* (CERAS) and *Sociedades Agrícolas de Reforma Agraria* (SARAS). However, the actual implementation of agrarian reform was quite different in Southern Chile as distinct geographic limitations coupled with the economic fortitude of the already established *estancia* system required a unique reform framework.

The 1967 agrarian reform bill put into place under the Frei administration defined the concept of Basic Irrigated Hectares (BIH)[8] as a reference unit: 1 BIH referred to an irrigated hectare in the Maipo Valley, a fertile region in Central Chile. The BIH measurement allows for a comparison of "land productivity" despite geographic differences such as soil type, land slope, and access to irrigation. While 80 Basic Irrigated Hectares[9] was the maximum size for land proprietorship (Bellisario 2007, Jarvis 1985), one Basic Irrigated Hectare in Central Chile equates to a very different physical quantity of hectares in other regions of the country.

[7]Original document reads: "*Esto debe obtenerse mediante la substitución y reordenamiento de los actuales sistemas de propiedad y tenencia de la tierra…a fin de que la tierra constituya para el hombre que la trabaja base de estabilidad económica, fundamento de su progresivo bienestar y garantía de la libertad y dignidad*" (Frei 1965, 15).
[8] In Spanish, "*hectáreas de riego básico*" or HRB.
[9] 80 hectares is equivalent to 197.7 acres.

As defined in Law 18.910[10], the BIH ratio for one hectare in Magallanes compared to one hectare in the Maipo Valley is .0031:1. Therefore, in Patagonia, an *estancia* of 10,000 hectares would only have a BIH value of 31 hectares[11] due to factors such as undulated terrain, lack of irrigation, and unimproved pastures with native grass varieties. This physical difference between the South and the North did not allow for the same 80 Basic Irrigated Hectare allocation to be applied universally to all geographies.

Another difference between the Chilean South and North was the relationship between workers and land owners or operators. The prevailing system of the *latifundios* in the center and north of the country was generally characterized by workers having little to no rights, living in sub-par conditions, and an antagonistic relationship with the land owner. On the contrary, Magallanes already had a long history of local labor unions[12] negotiating wage, labor, and housing agreements between farm workers and the employer, and workers did not have a direct relationship with the *estancia* owners (Maldonado and Espíndola 2011).

During the agrarian reform years under the Frei administration, the initial expropriation of land included the distribution of properties formerly controlled by largest Patagonian ranching companies, the *Sociedad Ganadera de Tierra del Fuego*[13] and *Sociedad Ganadera Río Paine,* to workers who had an annual contract with the company at the time of expropriation (Zuñiga 2016). In the Magellanic province Ultima Esperanza, more than 105,000 hectares were divided under Law 16.640, and the first *asentamientos*, or ranching cooperatives, were established. This newly allotted land included: 286 family-sized parcels (a five hectare *huerto*), 20 agricultural

[10] Law 18.910 was a 1990 addendum to the original Law 16.640 approved in 1967.
[11] 10,000 physical hectares multiplied by the .0031 coefficient equals 31 basic irrigated hectares.
[12] Labor unions in Magallanes that acted on behalf of *estancia* workers in the 1900's included: *Federación Obrera de Magallanes, Asociación de Ganaderos de Magallanes* (which replaced former *Sociedad Rural de Magallanes*), *Sindicato de Campo y Frigorífico,* and the *Sindicato Ganadero de Magallanes* (Maldonado and Espíndola 2011, Zuñiga 2016).
[13] Formerly known as *Sociedad Explotadora Tierra del Fuego.*

parcels, and 31 livestock lots (Martinić 2000). Former workers now owned herds of sheep and cattle, and land and livestock were worked collectively. After rental costs for the land were paid to the State, all profit was split between the workers (Zuñiga 2016).

Expropriated former ranch land was used to establish national parks and reserves. New parks created during these years include:

***Table 2.1:*** *National Parks in Magallanes established between 1964-1970.*

| Year | National Park | Size (Hectares) |
|---|---|---|
| 1965 | Alberto M. de Agostini | 565,050 |
| 1966 | Laguna de los Cisnes | 23.5 |
| | Los Pinguinos | 97 |
| | Monte Balmaceda | 7,900 |
| 1967 | Bernardo O'Higgins | 1,500,000 |

*Source: Martinić 1967.*

Additional *estancias* totaling approximately 300,000 hectares were expropriated in other Magellanic provinces during the Frei years (Martinić 2006a). In 1966, this included *Estancia Bellavista* (owned by a French family), *Wagner*, and *Peckett Harbour*. In 1969, nearly 270,000 hectares were redistributed from *Punta Delgada*, a ranch managed by the *Sociedad Ganadera de Tierra del Fuego*, and was divided into six *asentamientos*: *Cacique Mulato*[14]*, El Ovejero, Estrecho de Magallanes, Ciaike, Bernardo O'Higgins, and Cañadón Grande* (Maldonado and Espíndola 2011). Agrarian reform in Magallanes under the Frei administration was characterized by an energized regional government that for the first time had a clear vision regarding the development of the province and its integration into the overall Chilean economy (Martinić 2002). From 1964 to 1970, the region grew and developed in aspects previously unseen in the region. The rural population increased[15] as women and children joined men on the *estancias*,

[14] Cacique Mulato is the only *asentamiento* cooperative in Magallanes that still functions in the present day. Twenty families currently share *estancia* responsibilities and profits from the annual production of 27,000 sheep are split between cooperative members (fieldwork).

[15] In Ultima Esperanza, the rural population grew by 45.9% from 1960 to 1982 (Martinić 2000, 289).

money was invested by the workers back into their cooperatively ranched lands and herds, and there was enthusiasm among the *asentamientos* towards the future of their own livestock production (Martinić 2000, Zuñiga 2016).

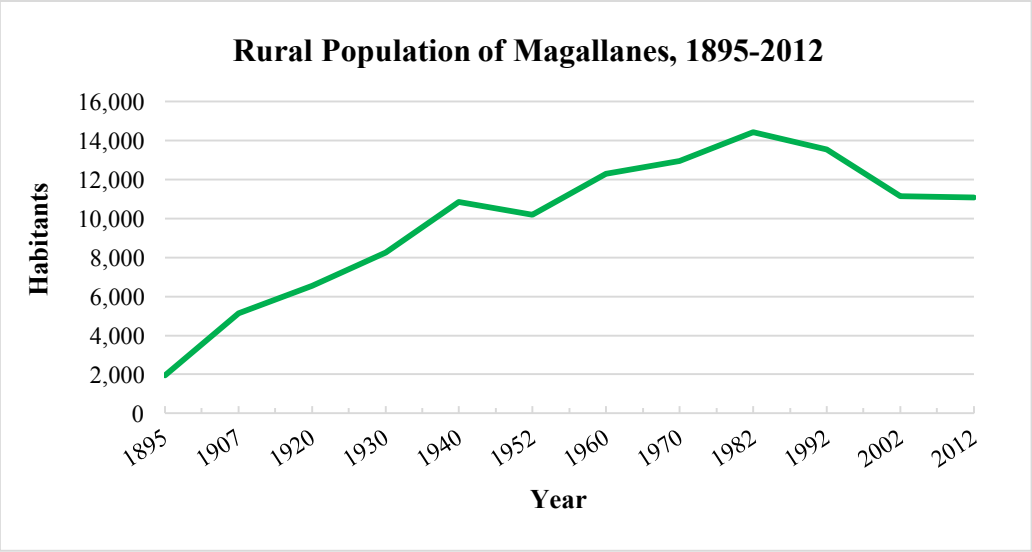


***Figure 2.2:*** *The rural population in Magallanes experienced steady growth during the agrarian reform years; the highest rural population recorded was 14,432 individuals in the 1982 National Census. Since the 1980's, population in rural areas has been in decline (INE 2016).*

*Agrarian Reform (1970-1973)*

Upon entering government office, Salvador Allende's Popular Unity government and his coalition of political parties of the Chilean Left, named four structural problems that were impeding the development of the Chilean society: (1) dependency on foreign markets; (2) concentration of poverty and income; (3) socio-economic and political marginality; and (4) economic preference to satisfy elite, high-income groups (Bellisario 2007, 12).

The agrarian land policy under Allende aimed to continue the de-concentration of large tracts of land controlled by few, yet powerful landowners. To accomplish this goal, the expropriations of farms above the 80 BIH size limit was accelerated. The administration was so successful that within the first six months they expropriated "almost as many farms as had been taken in during the previous six years" (Valdés and Foster 2014, 7). *Asentamientos* were

incorporated into regional cooperative organizations for increased administrative and financial control over larger state enterprises (Jarvis 1985, 9). While the *campesinos* in Central and Northern Chile were truly mobilized for the first time in support of agrarian reform under the socialist Popular Unity government, the results were often unsatisfactory to poor farmers and the reform process encountered many logistical and political hurdles (Jarvis 1985). Similar sentiments were also experienced by rural laborers in Southern Chile as, contrary to the agrarian reforms under Frei, the subsequent restructuring of pastoral lands under Allende was marked by a "sense of disorder in rural Chile" (Valdés and Foster 2014, 7). In Magallanes, unclear organization regarding various types of land proprietorships ultimately led to a decrease in regional productivity and an increase in livestock disease (Martinić 2006b).

***Table 2.2**: Distribution of expropriated land, in physical hectares (1964-1973).*

| Categories | Chile's Total | Expropriated | % Physical Hectares |
|---|---|---|---|
| Irrigated land | 1,243,628 | 729,459 | 58.7 |
| Arable dry land | 3,535,481 | 1,500,888 | 42.5 |
| Non-arable dry land | 11,978,102 | 7,735,522 | 64.6 |
| TOTAL | 16,757,211 | 9,965,868 | 59.5 |

Source: Bellisario (2007, 15).

Agrarian reform under Allende signified the termination of large *latifundios* in Magallanes (Martinić 2000), a hallmark of the region for nearly six decades. Expropriations included an additional 563,000 hectares from the *Sociedad Ganadera de Tierra del Fuego*, which, with the support of CERA and SARA, formed twenty-four new ranching cooperatives (Maldonado and Espíndola 2011). In Ultima Esperanza, four large estancias expropriated at this time included *Cerro Castillo*, *Cerro Guido*, *Dos Lagunas*, and *Río Tranquilo* (Martinić 2000).

Similar to the rest of the country, CORA and INDAP dictated the subdivision of Magellanic *estancias* and controlled the allotment of government support to the ensuing cooperatives while land and profits were controlled by state enterprises SARAS and CERAS

(Martinić 2006b). The Unidad Popular government did not continue the same type of *asentamiento* structure used under the Frei administration; instead, new expropriations were given one of three types of organizations: agrarian reform centers (CERAs), state farms, or campesino committees (Valdés and Foster 2014, 7). The "campesino committee" was the most commonly implemented reform structure in Magallanes.

Workers who had generally been in favor of the expropriations that occurred under Frei (and pleased with the autonomy to work their cooperative lands and herds), were extremely frustrated by the changes that occurred under Allende (Guerrero 2016). Instead of splitting annual profits, former workers of the *Sociedad Ganadera de Tierra del Fuego* once again returned to a fixed monthly salary – this time paid for by the State – in exchange for caring for what had just been their own sheep and cattle (Zuñiga 2016). The State assumed ownership of livestock, equipment, and ranch buildings, and ranchers received payment in the form of a "*vale,*" or voucher, for food and basic necessities.

*Comunidad Rio Serrano*, located in the vicinity of Torres del Paine National Park, is one example of the campesino committees created under the Allende administration. Founded on September 18th, 1970, *Comunidad Rio Serrano* included ten *socios*, or "business partners," and belonged to a larger organization that included several additional committees called *Cooperativa Campesina "31 de Mayo" Limitada*. The committee in Rio Serrano was put in charge of 21,878 physical hectares by INDAP (lots 2, 3, and 4 on Map #10) and began with 483 *criollo* and 436 Hereford cows (Guerrero 1970). The State owned the land and the animals, but the *socios* worked together to raise the livestock (Guerrero 2016). All goods sold through the campesino committee were required to be reported to INDAP; no products, not even potatoes, chickens, or eggs, could be sold through a third party (Guerrero 1970). *Comunidad Rio Serrano* continued to work together until Pinochet's counter-agrarian reform, yet internal disagreements resulted in the

group ending their three years together with six *socios* instead of the initial ten (Guerrero 2016). Of the six remaining *socios*, only four were eligible to apply to receive land under Pinochet as the other two members were automatically ineligible due to legal problems (stealing cattle or being in jail) during the Allende administration.

Nº 109311 E° 0,25

GUIA DE TRANSITO DE ANIMALES
(INTRANSFERIBLE Y DEBE ACOMPAÑAR AL GANADO HASTA SU DESTINO)

Tesorería Comunal de Porvenir 13 de Febrero de 1971

Con la presente guía remito por Camion con destino a Natales a consignación de Indap los animales que se detallan:

| DETALLES DE ANIMALES | DETALLES DE ANIMALES | DETALLES DE ANIMALES |
|---|---|---|
| MARCA | MARCA | MARCA |
| 5 Toros | | |
| Hereford | C | J |
| Total | Total | Total |

Capataz ..... con ..... arreadores.

Fundo Springdale

TESORERO COMUNAL (FIRMA Y SELLO)

OTORGANTE DE LA GUIA

CARNET N.º

Tesorero Comunal tiene la obligación de estampar su firma y sello respectivo en cada guía o puede negarse a emitirlas en tales condiciones sin faltar a la ley (Art. 49 de la Ley N.º 4023, de 13 de Junio de 1924).

CASA DE MONEDA DE CHILE

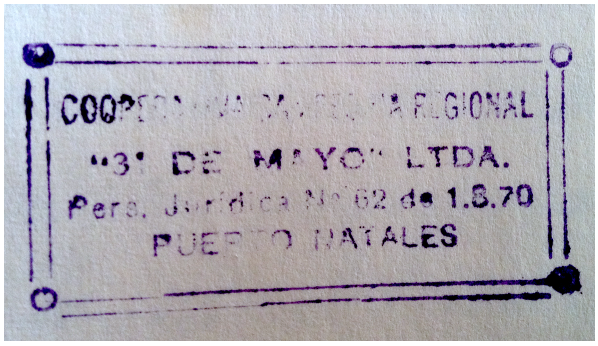


**Figure 2.3** (above): The front of the *Libro de caja, Control interna* (accounting and logbook) for *Comunidad Rio Serrano*, which began in 1970, is stamped with the *Cooperativa Campesina "31 de Mayo" Ltda.* seal authorized by INDAP (Guerrero 1970).

**Figure 2.4** (left): A 1971 livestock transfer form shows INDAP as the consignor of cattle being transported on behalf of *Comunidad Rio Serrano*. The price for this "guía de transito" is given in escudos (E° 0,25), which was the national currency in Chile between 1960-1975.

*Capitalistic Counter Agrarian Reform (1973-1980)*

The radical changes that occurred in Chile in the 1970's were in many ways unique to the country, yet these social and economic shifts mirrored similar political movements occurring simultaneously across Latin America and the Caribbean. The postwar economic model of import-substitution – that is, an economic policy that focus on "inward-oriented" growth such as domestic production instead of foreign imports – was decreasing in popularity across Latin America. By the late 1960's, import-substitution had lost its former enthusiastic following (Munck 2003) and "fallen into disrepute" (Kay 1975, 4). The increasingly urgent economic

debates in South America generally included a disagreement between structuralist or monetarist economic policy; these disputes were not voted on or negotiated diplomatically, but rather "settled by tanks in the streets in reality" (Munck 2003, 51). In 1964 the Brazilian military overtook the democratically elected president, in 1973 Pinochet violently overthrew the Chilean government, and a 1976 military coup d'état in Argentina would also end democracy in that country for decades to come.

To understand the agrarian changes that occurred during the capitalistic counter-agrarian reform under the military dictatorship of General Augusto Pinochet, one must avoid "being limited by strict agrarian reality" (Silva and Videla 1991, 18). The military regime's "foundational act" – that later set the stage for the dictatorial government – was the bombing of presidential building *La Moneda*, on September 11th, 1973, with President elect Salvador Allende inside. The military reinforced its autonomy and power with acts of terror throughout its 17 years of leadership, included repressing labor unions and peasant activists, killing those who opposed the government,[16] and by sending others into exile (Bellisario 2007). The structural changes that occurred within the economic and social divisions of Chilean society during these years were possible only because the authoritarian government used force to induce control. With this dictatorial autonomy, the military government revoked the expropriation of lands that had occurred under the Frei and Allende administrations. High-ranking CORA officials, who had ties with or were sympathetic to Allende's Unidad Popular government, were dismissed and a new land policy that embraced capitalistic-oriented agriculture was implemented.

[16] Under the Pinochet dictatorship, an estimated 3,065 individuals were killed or forcibly "disappeared;" 9,795 people were held as political prisoners; and 27,255 suffered human rights violations ("Chile recognises 9,800" 2011). It is also estimated that approximated 200,000 Chileans were forced into exile during these years (Wright and Oñate 2005).

The 1973 coup d'état in Chile reflected the political division in the country and the fear that the economy, and society, was disintegrating. With the world economy in serious recession, both the working classes and government leaders were looking for a new economic system. By 1972, the Chilean economy was depleted, black markets developed, and this resulted in government-imposed administrative controls over food distribution (Kay 1975). Pinochet took control of Chile at an economic turning point, not just for the country, but for Latin America as well. Unlike Frei and Allende, who had based their presidencies on structural changes such as agrarian reform and nationalizing the copper mines and other natural resources, Pinochet emphasized the privatization of land and industry, subsidy elimination, and the freeing of prices. The "Chicago boys" – a group of U.S. economists who believed strongly in the neoliberal theories of Milton Friedman – were called in to advise the military government's reconstruction of the Chilean economy (Harvey 2007). Under Pinochet's direction, and with the help of the economic theories purported by the Chicago boys, the Chilean economy was economically restructured to a free-market economy with the deregulation of market constraints.

From 1976 to 1980 CORA facilitated a massive redistribution of the over 9 million hectares that began with agrarian reform measures in 1965. Expropriated lands changed possession yet again as state farms, agrarian reform centers, and campesino committees were dissolved across Chile. Approximately 43 percent of the land that had been expropriated between 1965-1973 was either returned to its previous owners, or transferred to public agencies (Jarvis 1985, 27). Other land was split into Family Agricultural Units (*Unidad Agricola Familiar* or UAF) – which in Central and Northern Chile was 10 BIH – a parcel that was theoretically sufficient for one family's annual income (Jarvis 1985, Valdés and Foster 2014). Of the 36,533 parcels redistributed by the military regime, only 32,880 went to the 65,965 *asentado* applicants, leaving more than 50% of *asentados* marginalized (Silva and Videla 1991, 27). UAF selection

only included those who had been working on a farm at the time of expropriation (in Magallanes, this was an *estancia*), and favored family size (Barriento 2016, Jarvis 1985). 6,689 families who did not qualify to receive a UAF were given a small plot of land for a house site and 880,606 physical hectares of land were transferred to non-profit institutions, which included the creation of additional national parks and reserves (Jarvis 1985, 12).

The role of large farms (over 80 BIH) did increase from 2.9% of landholdings in 1972 under Allende to 16.9% in 1979 at the end of counter agrarian reform under Pinochet (Murray 2006). However, considering that 55.3% of farms were >80 BIH before the reform process began in 1965 (Jarvis 1985, 20), agrarian reform significantly changed the structure of agricultural properties in Chile. While not all rural workers and families benefited, many former employees did become land owners by the end of the reform process in 1979.

Under the counter agrarian reform private land ownership became possible in Chile. In Patagonia, the final redistribution of land was based on the Family Agricultural Unit (UAF). The approximately 960,412 physical hectares redistributed in Magallanes were divided into 135 UAF plots that equated to a medium-sized *estancia* that would support one family unit and approximately 5,000 sheep (Gallardo 2016, Martinić 2000). Similar to land redistribution across the country, land preference was given to those who had the most *cargas,* that is, to those who had the most years working with an annual contract for the large estancias, and those who were married with children (Barriento 2016, Zuñiga 2016). The preferential age bracket for reform beneficiaries was 30-40 years old (Jarvis 1985, 150).

Reassigned *estancias* varied in size between approximately 3,500 hectares to more than 10,000 hectares depending on the forage resources available for livestock on that particular piece of property. New *estancia* owners were given land with pastures for both summer and winter grazing. These parcels were either: (a) one continuous tract of land that could support animals

year-round, or (b) two separate parcels, one for summer and one for winter grazing. Even if not physically connected, summer and winter pastures were allocated to each owner. According to an interview with a current INDAP official in Puerto Natales, while the Basic Irrigated Hectare coefficients were taken into account, a significant regional factor that influenced land redistribution was the extent to which a piece of land, or *campo*, was considered "campo malo" (bad) or "campo bueno" (good). "Bad land" for ranching purposes could include large tracts of nearly impassable vegetation, extensive peat bogs, steep cliffs, and no road access; "good land" might signify the presence of *vegas*, or natural meadows, and proximity to urban centers.

While the formal process for land redistribution was finalized by the end of the 1970's, the actual "purchase" of these properties by newly allocated "owners" was a rocky and uneven process. Redistributed land was sold to beneficiaries at roughly half its market value, payable over thirty years at six percent interest, with a two-year grace period to begin repayment (Jarvis 1985, 145). Most new land owners already had years of experience working on a farm or a ranch; however, many were also unprepared to transition from worker to owner or manager. The redistribution process did not select for education and literacy, and the military government offered almost no support to new farm or ranch owners. In Northern Chile, 75% of beneficiaries had not completed primary school, and 25% were illiterate (Jarvis 1985). According to the 1970 census, literacy rates in Magallanes were higher than many northern regions of the country, with only 3% illiteracy among all men, and 5% illiteracy in the rural male populations (the primary land recipients) (INE 1970). Conversations during fieldwork with interviewees who lived in Magallanes during the 1970's revealed that, similar to other regions of the country, many individuals who initially received land ultimately lost the right to pursue final ownership for a variety of reasons. Common challenges for new ranch owners included:

- Moving from a position of worker (receiving orders) to self-employment and self-directed work habits
- Quantitative illiteracy (ex: lack of skills to budget and balance ranch expenses/profits)
- Not understanding the significance of timely loan payments and/or not having enough money to make these payments

Interviewees recounted stories of new land owners who weren't able to repay loans because they initially sold off sheep or cattle to purchase items such as a new car during the two-year grace period (even though the value of these animals had been included in the repayment price of their ranch). Other interviewees recalled new *estancia* owners who didn't complete the normal seasonal duties, such as castrating bull calves or sheering sheep, at the appropriate times. A lack of managerial experience and preparation in self-employment, such as planning ahead, budgeting profits for quarterly loan repayments, or self-directed work habits, were new skills and challenges encountered by most ranch owners. Lack of education and/or illiteracy was also mentioned as a reason for land to be reclaimed by the government, yet interviewees in Magallanes focused primarily on the lack of managerial and quantitative skills as the primary causes for land reclamation.

*Neoliberal land policies (1980-present)*

While the counter-agrarian reform process was imperfect and filled with many logistical and administrative hurdles, the neoliberal policies enacted by the Pinochet military government ushered Chile into an entirely new era. Mining, agriculture, fisheries, and forestry were now viewed as the main source of Chile's prosperity, and State assets (water, energy, and labor) were liberalized (Holmes 2014). The restructuring of land use and land ownership was strongly connected to a political ideology of "reregulation of nature through forms of commodification" (Igoe and Brockington 2007), and this privatization of land and natural resources has had a significant impact on how both are used and controlled. In addition, the removal of limitations on

individual landholding size created the possibility for large-scale land deals, even those involving transactions of millions of hectares of land. While some sizeable land purchases have occurred for mining and agricultural reasons, other exchanges are justified for the purpose of land conservation and the creation of Private Protected Areas (PPAs).

One characteristic of the changing profile of land use in Patagonia is closely linked to "land grabbing," which is equivalent to "control grabbing" of a piece of land and associated resources (Borras et al. 2012). The unique natural environment of Southern Chile has made the region susceptible to conservation-based land grabs, or "green grabs," which are the appropriation of land and resources for environmental ends. Doug Tompkins' creation of private national parks, the largest such being 290,000 hectare Pumalín National Park in Northern Patagonia (Langman 2015), exemplify the goals and ideology of PPA creation. Green grab purchases are justified for reasons ranging from conservation and biodiversity protection to ecosystem services, biocarbon sequestration, and/or ecotourism (Fairfield et al. 2012, 237). Today, 18.3% of Chile is under a state-managed national park or reserve system, and an additional 2.12% of the total surface area is under privately managed conservation (Holmes 2014, World Bank 2014). As a comparison, neighboring Argentina has only 6.8% of its territory as a protected area, while other countries nearby rank much higher: Bolivia 24.8%, Brazil 28.4%, Ecuador 25.8%, Peru 31.4% (World Bank 2014)[17].

The current land tenure policy in Chile is as much a product of former political movements within the country as it is a statement of the current government's economic and political ideology. The fiscal policies of the Pinochet dictatorship were grounded in neoliberal theories that originated from the University of Chicago. Neoliberal economic policies are now the defining feature of Chile's political and economic liberalization and the country is often

[17] The United States ranks 41st in the world with 13.9% of its land a protected area (World Bank 2014).

considered a model for the rest of the developing world. While the exploitation of natural resources, through extraction and privatization, has been closely linked to Chile's development and "success" (Latta and Cid 2012), others claims that the strongest critic to Chilean development is the land itself as "the boom has been fed by the wholesale exploitation of an extraordinary natural endowment" (Carruthers 2001, 347). As ecosystems are increasingly for sale across the globe, it is essential to consider the impact macro level neoliberal economic policies have on an individual decision-making "micro" level in regards to land usage, land sales, or land acquisitions.

**Summary and synthesis**

Tracing the path of land ownership and use from the original people groups of Patagonia to the present day reveals an uneven trajectory. The rules of the game were altered many times along the journey regarding who had the right to own or control which property or natural resource. Sometimes, policies changed without the inhabitant's permission or control, such as when gold prospectors and livestock entrepreneurs appropriated land in the mid-19$^{th}$ Century that had been used by local tribes for thousands of years. The shift from the Frei to the Allende administration recalibrated a system from collective earnings to State-owned cooperatives, and the Pinochet regime's privatization of land enacted a one-hundred and eighty degree turn from prior agrarian reform measures.

The advent of individual property rights under Pinochet, despite many injustices committed by the military government and biases within the reform process, was favorably received by most Chilean citizens. Furthermore, the privatization of land and natural resources was key to initiating a national export market that would later be dominated by copper, forestry and wood products, fresh fruit, salmon, and wine (World Bank 2015). According to Bellisario

(2007, 16), the dismantling of the "import substitution [model of] industrialization and the development of an economic model based on exports of Chile's natural resources" was possibly "the most important [policy] carried out by the military government."

Even with national Chilean GDP numbers increasing, one must be careful to not accept these narratives (and numbers) without taking into account the whole context – and cost – of policies that give full preference to the market. Karl Marx (1992, 874) claimed that "as soon as capitalist production is once on its own legs, it not only maintains this separation, but reproduces it on a continually extending scale." More than four decades after the initial implementation of counter-agrarian reform measures, negative consequences of a whole-hearted embrace of "market based" land reform are increasingly apparent. The strengthening of individual property rights, and encouragement of foreign investment, has left rural planning and development to the market (Holmes 2015). Yet these are the pillars of the neoliberal project, what Harvey (2007, 26 and 43) terms "a brutal experiment in creative destruction" with "seductive rhetoric."

Economic frameworks, regardless of their type, are not neutral. Jarvis (1985, 31) observed: "It is possible to appreciate the value of free markets, and to encourage reliance on them, without recommending the narrow policy chosen by the military government." While reform policies implemented by the military government did give agrarian workers individual property rights, it also established the neoliberal economic framework that is currently placing pressure on Patagonia's cultural and natural resources. Chapters 3 and 4 further discuss how the same policy structures that gave Patagonia the "family ranch" have now created a land market impenetrable to most rural workers.

## CHAPTER 3: HERDING ECOLOGIES AND RANGE ANIMAL FRONTIERS

*If we do not live where we work, and when we work, we are wasting our lives, and our work too."*
-Wendell Berry in "The Unsettling of America: Culture and Agriculture"

### Memories of Land Reform in Magallanes

Agrarian reform in Magallanes, and across Chile, was a multi-faceted and multi-layered project with diverse outcomes and mixed evaluations. As explored in the previous chapter, reform legislation under Frei, Allende, and Pinochet excluded many and gave preferential inclusion to others. Yet by the end of the 1970's, more land was in the hands of the *campesinos* than before the reform processes began (Jarvis 1985). Each step of the reform was historically significant, but it was the final process of land redistribution under Pinochet that was most influential to determine who owns land in Patagonia today. In Southern Chile, many rural workers did receive the opportunity to become a land owner in a livestock industry previously dominated by wealthy foreigners and the Chilean elite for nearly a century.

Near Torres del Paine, land owners today can generally be described as one of three types: (a) ranchers who acquired land in the 1970's during Pinochet's counter-agrarian reform and still run a family-operated livestock business; (b) an individual or small group of investors from Northern Chile (most likely Santiago) who purchased land as an agricultural, tourism, or agritourism investment property; or (c) a foreigner or international organization who bought land for nature conservation and/or ecotourism purposes.

Foreign investors and Northern Chileans are the "newest" proprietors since agrarian reform. Land acquisitions by these "outsiders" is currently contributing to the reconfiguration of the Patagonian livestock industry from predominately family-owned and operated *estancias* of moderate size, to progressively larger properties owned by absentee owners. This "redistribution" of land through private ownership, as prospectors are purchasing multiple

family-sized *estancias* and merging them to increase their property size, is strikingly parallel to the *hacienda* structure of land leases in the first part of the 20th Century, an agrarian structure also characterized by large parcels of land in the hands of few individuals. At the same time, the converse is also true, as other landowners are subdividing their land, and selling parcels for tourism or "hobby ranching" purposes (Klepeis and Laris 2008). What agrarian reform accomplished to end landholdings concentrated in the hands of few (and often non-local) owners is currently being unraveled by neoliberal policies that legitimize the existence of large estates in the hands of a few wealthy individuals (Holmes 2015). Small farms and ranches in Chile are being "squeezed" by competitive global forces, and the "withdrawal of state support systems dismantled by neoliberal programs and polices" (Murray 2006, 669) compounds the challenges currently faced by family farms and ranches. As small to medium scale agriculturalists from around the world face growing pressure from global markets, agribusiness, and climatic shifts, it is critical to investigate how and why individual ranch owners choose to engage – or not – with neoliberal "answers" to the problems and challenges they face.

**The Estancia Today**

Most family ranchers who purchased their INDAP-assigned *Unidad Agricola Familiar* ranch plot in the 1970's still live and work on that very land yet today. Changes in land use and ranching practices are most common among new (and mostly non-local and/or absentee) land owners. To contextualize the significance of this new phase of agrarian change in Patagonia, it is essential to understand the environmental and the cultural significance of traditional *estancias*.

Wendell Berry, speaking about the agricultural life, poignantly observes how individuals who do not live where they work, or in connection to the property they own, make decisions: (a) separate from an intimate knowledge of place and environment, and (b) without the same

dependence on the health of their animals or their land. It is true that organizations or individuals who purchase property in Patagonia for conservation purposes may successfully protect thousands, or even millions, of hectares of this austral ecosystem. Yet one must acknowledge that a commercial or non-local relationship to place is fundamentally different from that of the family rancher who physically lives year-round in Patagonia, earning a living based off his or her knowledge, skills, and *daily* contact with the land.

*Who are the ranchers?*

When the first *estancias* were established in the 1880's, the initial attempts to bring sheep from the nearby Falkland Islands were unsuccessful (Calderón 1936). Ranchers faced enormous difficulties ranging from unpredictable weather to endemic natural predators. Today's ranching techniques are based on the knowledge and skills passed down through the generations since the first Patagonian cowboys began working the *estancias*; the ability to raise sheep and cattle in adverse climatic conditions and on marginal grazing lands truly requires a unique skillset.

The name for the Southern Chilean cowboy, "*baqueano,*" acknowledges this connection to the land; the term literally means "knower of a place." To be a *baqueano* is to have an intimate understanding of the region, gained over an extended period of time, where experience and the natural world are the principle teachers (Martinić 2000). This includes knowledge such as seasonal changes in river flows, the first place to look for a missing herd of horses, or when to expect the arrival of the first *teros*, or Southern Lapwing birds (*Vanellus chilensis fretensis)*, signaling that spring is on its way. In essence, to be a *baqueano* is to truly know a piece of land.

The counter-agrarian reform carried out under Pinochet parceled Patagonia into family-sized *estancias* of relatively modest size[18]. Today's working ranches, that acquired their land in

[18] The *Unidad Agricola Familiar* (UAF) plot sizes were approximately 4,000-5,000 hectares (yet this did vary significantly according to the geography and the terrain). This is roughly equivalent to 10,000 acres, which in many

the 1970's, are still primarily owned and operated by immediate family members. A common question asked by tourists to *estancia* owners is, "How many generations have you had your ranch?" Visitors assume that Patagonian *estancias* had a similar land history as North American ranches, and have therefore been in a family for three, four, or even five generations. Tourists are surprised to learn that Chilean ranches, due to the history of agrarian reform, are largely first generation. Yet even if today's owners of family *estancias* are "first generation" on paper, most of these ranchers are the second or third generation to work in the Patagonian livestock industry.

During the cycles of agrarian and counter-agrarian reform, individuals were not selected to received Patagonian *estancias* based on their highest level of education. This lack of formal education among those initially allocated parcels may have had a significant impact on who ultimately paid, or did not pay, the CORA contributions required to finalize the purchase of the land. At the same time, experience and local knowledge are key to ranching success in Patagonia. That the counter-agrarian reform selected for years of experience did acknowledge *baqueano* roots and traditions, where education is the execution of knowledge and skill. For example, Eladio Saldivia, a former worker for Sociedad Explotadora Tierra del Fuego and recipient of land under the counter-agrarian reform, is regionally renown as one of the most successful livestock traders even though he has only an elementary school education (Guerrero 2016).

*Characteristics of traditional Patagonian ranching systems*

Ranching operations are significant environmental stewards of Patagonia. Of the approximately 13.2 million hectares that constitute Magallanes and Chilean Antarctic Region,

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places around the world, is considered a good sized ranch. However, the UAF land size is considered a small *estancia* by Patagonian standards, where 20,000-30,000 hectare ranches were typical before land reform, and are increasingly common today.

43% of the land (5.7 million hectares) is dedicated to agriculture, and 51% (6.7 million hectares) consists of State protected areas (Ministerio de Agricultura 2010). Traditional *estancias* of Southern Chile are characterized by pastoral systems that use minimal technological disturbance. These ranches practice rotational grazing over extensive areas of land and ranchers do their best to manage stocking rates according to what the *estancia* can support in a given year (Gallardo 2016). Livestock are handled from horseback, and herds of cattle or sheep are moved using working dogs, not 4-wheelers or other vehicles. Until recently, investments in modern tractors, farm implements, or irrigation systems has been quite uncommon. Family-owned ranches have thrived on this traditional system that embraces low operational costs, therefore circumventing challenges associated with debt and loan repayment that often afflict the agrarian sector.

On Patagonian *estancias* the sheep, cattle, and horses use natural shelter, most commonly the *calafate* bushes (*Berberis microphylla*) and *lenga* trees (*N. pumilio*), to seek protection from the elements. Depending on the location of the ranch, some provide water for their animals with only natural lakes and rivers, while other ranches utilize wells. Since most family ranches do not practice intensive forage or hay production, little to no pesticides or fertilizers have been used on ranch lands, nor have they contaminated water sources. Because Chile is very strict on their agricultural import rules, the country has kept livestock disease to a minimum. In Patagonia, antibiotics are rarely used, and when needed, are applied only to treat a specific injured animal; most ranchers do not vaccinate their herds (Gallardo 2016). According to the Servicio Agrícola y Ganadero (SAG), cool temperatures year-round help limit the spread of disease and the health of sheep and cattle in Magallanes is particularly excellent. Not only was Magallanes the first region within Chile to be declared free of Bovine Brucellosis, there is also no presence of "Q fever" (*Coxiella burnetii*) or Bovine leukemia virus (*Enzootic bovine leucosis*) (Álvarez 2015).

*Cattle*

The majority of Patagonian *estancias* that raise cattle can be described as "cow-calf" operations. These ranches measure stocking rates according to the number of cows they can sustain year-round on rangeland pastures (Covacevich et al. 2005). Herefords were the first breed imported to the region, selected for their hardy nature that does well in cool climates (Lira and Sales 2015). Hereford and Hereford crosses are still common, although there is an increasing regional presence of Angus and Charolais cattle. Traditionally, bulls live cover cows sometime between November-January, depending on the latitude of the ranch and the producer's preference; calves are born in the Patagonian spring nine-months later (end of August or September). Ranches brand and castrate bull calves in December, and by March or April most calves are sold. A ranch will generally sell all male calves and most female calves, saving only a few of the best female calves to integrate back into the herd as replacement heifers. After selling the calves in late Fall or early Winter, the ranches then enter the winter months with a lower stocking rate, maintaining only cows and bulls on winter pastures.

After calves are sold, they are generally destined: (a) to be shipped to a Central Chilean feedlot on the *Navimag* cargo ship[19] and finished[20] before slaughter; or (b) are sold locally to a butcher shop that will then pasture the animals nearby and slaughter on an as-need basis. Since there is no slaughterhouse for cattle in Puerto Natales, all locally sold regional meat requires a minimum journey of 500 kilometers. Live animals are first shipped to Punta Arenas 250

[19] The *Navimag* is a cargo ship that makes a weekly round-trip journey from Puerto Natales to Puerto Montt; the one-way journey is approximately three days long, depending on climatic conditions. Because Southern Chile is not connected to Northern Chile by land, shipping animals in semi-trailers by the *Navimag* is preferable as the livestock does not leave Chilean territory. Animals from Magallanes are rarely shipped by truck via Argentina because of the additional paperwork and quarantine requirements to re-enter Chile.

[20] "Finishing" an animal means bringing that animal to the desired size and weight before slaughter.

kilometers away, then they are slaughtered, and finally processed meat is returned to Puerto Natales in a refrigerated truck.

*Sheep*

The most common sheep breeds in Southern Chile are Corriedale and Merino (Hervé 2007). Lambs, or *corderos*, are born at the end of August and through September. Ranchers will often choose to shear ewes in late August if a crew of sheep shearers can be contracted before the ewes start giving birth. Strong winds and cool temperatures, sometimes accompanied by snow in early spring, can be fatal to newborn lambs. Unlike an ewe with a full coat of wool, sheared ewes will look for protection from the elements in the bushes, a grove of trees, or in dense grass, thereby providing better shelter for the newborn lamb (Gallardo 2016). Lambs are earmarked and castrated in December, and most are sold by February. Similar to cattle, lambs are either: (a) shipped to Northern Chile on the *Navimag* cargo ship; or (b) sold to a local butcher shop that will then pasture the animals and slaughter on an as-need basis. Sheep are slaughtered in both Puerto Natales and in Punta Arenas. Patagonian sheep account for the majority of national production

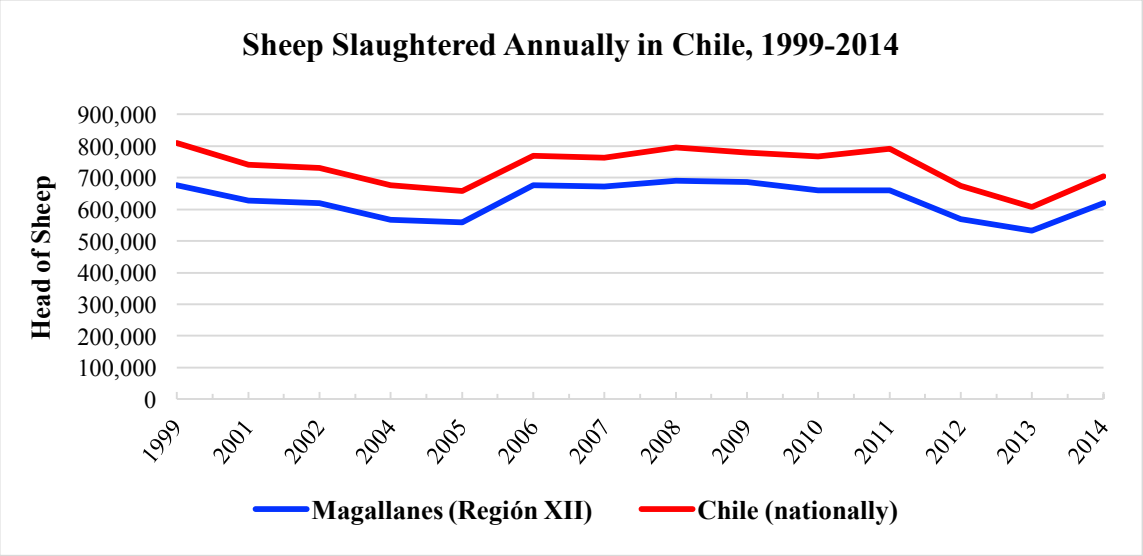


**Figure 3.1**: Sheep slaughtered annually in Región XII compared to all sheep slaughtered in Chile (INE 2016).

(Figure 3.1). In 2014, 88% of the 607,365 sheep slaughtered nationally were from the region of Magallanes (INE 2016).

*Horses*

Horses in Patagonia are traditionally considered a working animal. The *baqueanos* use horses as an essential tool to manage livestock in rangeland grazing systems where road-less terrain can consist of open *pampas,* dense forests, glacial rivers, or all of the above. Stallions live cover mares, and ranchers generally breed for medium-sized horses with strong hooves and sturdy bones; most foals are born between October and January. These hardy equines are considered a *criollo* – or a mixed breed horse – and are well-suited for the climate and undulated landscape. Horses are not raised specifically for meat, yet crippled, aged, or untrainable animals not put down on the ranch are sold at their live weight for *precio jerky*, or "jerky price," and then shipped north on the *Navimag* ferry for slaughter.

**Agrarian Change in Patagonia**

Critical inquiry into agrarian changes within a particular geography must take into account the "interplay" between structures, institutions, and actors as key units of analysis (Borras 2009, 22, emphasis in the original). In Patagonia, agrarian change is impacted by national and international political structures, institutions ranging from the University of Santiago, conservation-minded NGO's, and tourism-related infrastructure, plus the everyday actions of ranchers who must navigate the meteorological limitations of a given year in addition to the regional economic climate in order to turn a profit.

A recent study by the Office of Agricultural Studies and Policies (Oficina de Estudios y Políticas Agrarias, or ODEPA) released in December 2016, "Study on sectoral policy challenges for a competitive and sustainable agriculture by the year 2030, vision from the regions," offers

an excellent summary of regional agrarian challenges as understood by both public employees (i.e. government agencies such as SAG, INIA, CONAF) and private sector (i.e. small and large agriculturalists, academics, environmental organizations). The study identified Magallanes with a contracting agricultural economy that only contributed 1.1% to the regional GDP in 2013 (ARSChile Ltda. 2016). According to all 15 individuals[21] interviewed, and consistent with information elicited from participants of this thesis' fieldwork, a lack of labor and human resources is the most significant regional agrarian challenge. However, the public and private agricultural sectors diverge on subsequent priorities for regional development (Table 3.1).

**Table 3.1:** *Prioritization of agricultural development gaps according to actor (ARSChile Ltda. 2016).*

| **Public** | | **Private** | |
|---|---|---|---|
| Labor and human resources | 18.5% | Labor and human resources | 22.2% |
| Availability and access to water resources and irrigation | 16.8% | Availability and access to water resources and irrigation[22] | 22.2% |
| Producer organizations | 16.8% | Small farming and peasant family farming | 16.7% |
| Availability and access to energy | 11.1% | Rural youth | 11.1% |

This chapter explores these tensions between private and public sectors, as well as challenges of scale, technology, and cultural retention, as faced by the family ranchers of Patagonia. The frames of structures, institutions, and actors as units of analysis are utilized to allow for a deeper investigation of agrarian change within Southern Chile.

[21] The study included 15 interviewees from Magallanes: 8 individuals from the public sector; 7 individuals from the private sector. Interviews were conducted between August-November 2016 (ARSChile Ltda. 2016).
[22] The ODEPA study, released December 2016, states a much higher priority to water resources and irrigation than the participants in my semi-structured interviews which were conducted primarily in January and February 2016. This is most likely due to a regional drought of increasing significance now impacting the region. In 2016, the annual precipitation for Puerto Natales was 32.1% below average (INIA 2017).

*National structures and agrarian change*

Ben Kerkvliet (2009, 231) describes official politics to involve "authorities in organisations making, implementing, changing, contesting, and evading policies regarding resource allocations…Authorities in [state and non-state] organisations are the primary actors…[and] can range from public to private (even secret) spheres." Chile's embrace of neoliberal economic policies, implemented under the Pinochet regime, included the "maximum privatisation of economic activities; a strict limitation on government regulation; strengthening of private property rights; freedom in pricing; openness to the international economy; and generally, the free functioning of markets" (Tecklin et al. 2011, 881). These official overarching national-level neoliberal policies are the most significant official politics connected to land use change in Patagonia. The purpose of analyzing the impact of these policies on Patagonian *estancias* is not to come up with the "logic" of neoliberalism (Du Toit and Neves 2014), yet rather to understand the "force at which it carves out new paths and establishes new relations between networks of actors that in relation coordinate forms of extraction and capital accumulation" (Huizenga 2016, para. 5).

Using the price of a horse as a unit of analysis offers an alternative perspective on how pervasive neoliberalism is, and just how market-based value structures are establishing new relations in Magallanes. Interview participants who work in the livestock industry (11 individuals) were asked: "Have you noticed any changes in the prices of animals (cattle/sheep) or horses in the past few years?" and if so, "What could be the reason(s) for this?" All interviewees said that livestock prices always fluctuate to some extent, and these *estancia* owners and *baqueanos* hadn't noticed any unusual variations. On the other hand, each individual also mentioned a shortage of trained horses and an increase in horse prices as a challenge.

Traditional *estancia* systems valued their land, and their animals, with a utilitarian assessment based on profitability. Interviewees explained that while horses are essential to their work, they have traditionally been valuable only insomuch as they served to complete a job. On an *estancia*, a horse is a form of transportation to move livestock, they allow the cowboys to rope and therefore restrain cattle, and some ranches use horses to drag logs for firewood or fence repair in places without vehicles access. Horses that are injured, elderly, have poor confirmation, a very bad temperament, or are a cryptorchid[23], are either sold for horse jerky or sacrificed and then fed to the ranch's working dogs[24].

In regions of the world where horses are treated more like a family member than a working animal, this practice may seem brutal. On the contrary, for local cowboys, the horse is valued in Patagonia not just for the job it functions while alive, but also for the nutrition they can provide. Because of this appraisal, untrained horses have historically been bought and sold at "jerky price," that is, how much that particular horse would be worth if slaughtered. Five years ago, a small horse might cost $80.000 CLP, and a larger horse $100.000 CLP. A trained horse might have cost an extra $100.000 CLP, bringing the total price of a basic riding horse to $200.000 CLP, or approximately $400 USD[25]. As a point of reference, when I bought my first Patagonian-bred horse in 2011, I paid $250.000 CLP (~$500 USD, see footnote 5). At this time, the *baqueanos* were aghast that I spent "so much." Fast forward to 2016, and my little horse

[23] A cryptorchid is a male horse with one or more undescended testes. This condition is undesirable as the horse cannot be gelded (castrated) without access to advanced veterinary medicine. Therefore, most ranchers don't have the technical capabilities to castrate these stallions; since cryptorchidism can be passed on genetically, most cryptorchid horses are put down before their second year of age (fieldwork).

[24] It is common for one cowboy to have at minimum 3-6 working dogs, and these canines are often considered the most important workers on the *estancia*. Due to the isolation of many of these ranches, and the inaccessibility and high cost of packaged dog food, most working dogs are fed a diet of kitchen scraps, internal organs leftover from butchered animals, as well as elderly, severely injured (ex: broken leg), or feral "*bagual*" cattle.

[25] This calculation uses an exchange rate from 2011 of approximately 500 CLP = 1 USD as this more closely reflects the price of a horse when evaluated in U.S. dollars.

appears an incredible deal; interview respondents stated that the same "basic-yet-trained" horse now costs $450.000^{+}$ CLP.

The next logical question is: Why such a rapid increase in the price of horses? The answer: tourism and endurance races. As local *estancias* and *baqueanos* are increasingly involved in the tourism industry through *cabalgata* horseback rides and multi-day pack trips, a horse now contributes to ranch income in new ways. A riding horse can now earn $80.000 CLP or more per day if used for *cabalgatas*; after only five full-day horseback tours, a $400.000 CLP horse pays for itself. These *manso*, or tame, horses are understandably in high demand as horse-related tourism is profitable for local *estancias* and there is an increasing regional demand for agritourism services. Additionally, the lack of supply and increasing price of the horse is compounded by a decrease in local horse trainers as new employment opportunities in higher-paying service sectors have drawn many workers away from the ranches.

Beyond tourism, the growing popularity of endurance horse races[26] in Patagonia has prompted regional importation of Arabian horses, a breed well-known for their long-distance capabilities. Arabian and Anglo-Arabian horses fetch a higher price than the regional *criollo* breed, and the infusion of new bloodlines bred into local horses has contributed to a higher-priced horse market.

While horseback tourism and endurance horse racing are distinct activities, they both share a similar purpose: the horse is a now a vehicle to provide an aesthetic experience and entertainment. This is a significant shift from the prior understanding of "horse" as an essential tool to complete a task. While there has been a proliferation of horses for tourism and endurance race purposes, there are still many, many ranch horses in Patagonia. Nonetheless, this sharp and

[26] Endurance races are long-distance horse races of 60km, 80km, and 120km. The winner is determined by the first horse to finish *and* be considered "recuperated" measured by heartrate.

recent increase in horse prices demonstrates just how "new relations between networks of actors" form (Huizenga 2016, para. 5). Seemingly benign events, such as tourists looking for an interesting way to spend an afternoon, or the desire to improve a local horse breed, can produce new forms of capital accumulation.

*Institutions impacting livestock production*

When rangeland grazing systems are appropriately stocked, marginal pasture land can be economically productive while simultaneously providing important habitats for wildlife, improving soil health and rainfall infiltration, and sequestering millions of tons of carbon (NRCS 1995). Patagonian raised grass-fed beef and sheep are nationally and internationally respected as high quality meat produced in a nearly contamination-free environment (Morales 2015). While rangeland grazing is the traditional livestock system of Magallanes, there is increasing pressure by non-local land owners/investors and academics to utilize components of more intensive and conventional livestock systems.

Regional studies do confirm that livestock in Magallanes can achieve higher daily weight gains by adapting new technologies and with additional equipment. These practices include: irrigation systems, increased forage production, improved pastures, supplemental feed for calves, and artificial insemination. Yet change is never neutral. The ability to increase on-ranch technology is often a result of land consolidation and increasing *estancia* size, which is the product of new land owners who have the capital to invest in such equipment. However, for most family ranches, the startup costs for these systems are prohibitive. Changes on Patagonian *estancias* must be evaluated with a critical lens, as shifts in production patterns can produce economic gains, but increased profits can also come at the expense of environmental and socio-cultural subsystems.

Rangeland grazing in Magallanes is characterized by a high degree of seasonality (of both production and work) that is highly dependent on annual climatic conditions (Lira and Sales 2015). Northern Chileans who buy land in Patagonia have the tendency to assume that livestock production systems they are familiar with – and that do work well in the North – will have the same result further south; yet this simply isn't true (Guerrero 2016). In Central Chile, improved and irrigated pastures may produce up to 1,200 kg weight gain/ha; in Patagonia, the yield is only 100 kg/ha of weight gain in a cow-calf system (Vera 2006).

A 2014 study at the *Instituto de Investigaciones Agropecuarias* (INIA) livestock and agriculture research station Kampenaike, near Punta Arenas, compared the weight gain of calves over forty-eight days in five different grazing situation. Traditional rangeland grazing was used as the control group, while a combination of pasture plus creep feed, alfalfa, and/or oats as supplementary feeds were used in the other four test groups. The calves that were reared on pasture, alfalfa, oats, and creep feed did yield the highest percentage of weight gain; however, the researchers concluded that the improved feeding intervention was *not* recommended under the conditions evaluated, as it did not repay the full intervention cost (Cárdenas and Campos 2015)[27].

The researchers acknowledge that while higher daily weight gains can be attained in Magellanic beef cattle, there are challenges and limitation in new systems beyond traditional rangeland grazing methods. For an *estancia* that does not have access to their own supply of alfalfa, it is impractical to purchase alfalfa or other forage crops due do the high cost and limited

[27] Calves raised on rangeland pasture in the control group gained an average of .313 kg/day, while calves in the highest gaining test group gained .938 kg/day. However, after the cost of improved feed was subtracted from the sale price, pasture-only calves brought in an average profit of $308.172 Chilean pesos while calves on improved feed had a profit margin of only $239.272 CLP.

quantity within the region. Also, the machinery and inputs required to begin a more intensive feeding program are nearly prohibitive for smaller family ranches.

Semi-structured interviews elicited concern among family ranchers that in just the past few years, new owners and farm managers are switching from the "traditional" rangeland grazing system to more intensive agricultural production. Several interviewees said that they literally believed these outsiders to be "destroying" the ranchland[28]. Interviewees also demonstrated a certain amount of antagonism for governmental officials and non-local agricultural "specialists" (generally, from Santiago) who come to Patagonia to tell the local people how to improve their ranches. Several ranch-owning interviewees explained that these visiting professionals may have all of the qualifications and university certifications possible, yet they have no ability or practical understanding of the geographical challenges and terrain that Patagonian ranchers work with on a daily basis. Local ranchers acknowledged that some of the improvements and suggestions are valid, but they often felt that academics lack understanding of the costs and benefits of implementing such changes into their particular production system.

New agricultural practices that include the clearing of many hectares of land exposes bare soil to strong and unpredictable winds, resulting in soil loss and erosion. The Magellanic region is predisposed to soil and water erosion due to high precipitation and strong winds; the clearing of forest lands for agriculture and livestock amplifies erosion by removing the top soil where natural vegetation is the buffer between soil erosion and the elements (Pérez and González 2001). Because family ranchers practice rangeland grazing, there are very few places where bare soil is actually exposed to the notoriously strong gusts of wind that are part of the Patagonian climate. While many family ranches do cut some hay, forage is generally used for on-ranch consumption by the saddle horses. Family ranches generally get one cutting of local pasture hay,

[28] In Chilean Spanish, "Están haciendo mierda a los campos."

or "*pasta vega*," and some ranches have some alfalfa. However, intensive cultivation beyond a few hectares is uncommon on family ranches.

In 1936, the Chief Veterinarian for SAG (*Servicios de Ganadería y Sanidad Animal*, or Livestock Services and Animal Health) of Magallanes wrote a short bulletin for the Ministry of Agriculture on the region's livestock history. A noteworthy point he made was that the variety of plants in Magallanes are well adapted to the soil and climate of the region. He continues to explain that non-native plants, including legumes (such as alfalfa) are difficult to cultivate in Patagonia since high winds (which are part of the local climate) are the enemy of improved pastures. Unless new cultivations are planted in a location with natural protection from the wind, it is difficult to bring these non-native plants to flower, and even more difficult to have sufficient plants to harvest at the end of the growing season (Calderón 1936). He concluded that within the physical and climactic limitations of the austral Magellanic landscape, there is much land that cannot, or should not, be cultivated intensely.

Fast forward sixty years to 1996 when local *estancia* owner Nestor Gallardo participates in an alfalfa production study as the first rancher in the region to implement a sprinkler-based irrigation system. The project was funded in connection with the regional agrarian research center, Centro Regional de Investigación Kampenaike, and the goal was to increase alfalfa production from one cutting to two annual cuttings. The article praises Nestor for his open mindedness to try a new technique, as the ranching industry's principal characteristic (according to the author) is "not to change," or "*no hacer cambios*" (Lira 1996, 38). The researchers, along with the Gallardo family, were able to successfully produce two cuttings of alfalfa on the ranch's 12-hectare field by irrigating throughout the summer months. The article concluded that the study demonstrated the importance of irrigation for alfalfa production in Magallanes, yet the

final evaluation of the project's success would be if *Estancia Vega Castillo* continued in future years to produce two annual cuttings of alfalfa.

I happen to know the Gallardo family personally, and after stumbling across this article on the Internet while researching regional alfalfa production, I called Nestor Gallardo in January 2017, as I was curious to find out if the project met the "final" test of time. What I learned through our conversation was that yes, the ranch was able grow two alfalfa cuttings a year, and they did continue the irrigation project for an additional five years. However, when the project funding ended, and in conjunction with the rise in diesel prices, the input costs to irrigate outweighed the benefit of increased forage production. Yes, Nestor Gallardo did "believe in the change" (Lira 1996, 37), yet he is also practical. Even though the irrigation system wasn't difficult to use or time consuming, the input costs for diesel fuel still don't justify the use of the irrigation system for their field size. And so, for the past 15-years, *Estancia Vega Castillo* has returned to their former system: one annual cutting of alfalfa without irrigation.

The introduction of intensified forage production also brings with it increased use of chemical additives, fertilizers and pesticides, a practice relatively unknown to Patagonian water. While it is possible to improve and irrigate pastures in Patagonia, and cultivate forage for livestock, a study by the Food and Agriculture Organization of the United Nations (FAO) confirms that the short growing season and climatic constraints limit pasture improvement and also that conventional soil preparation has a narrow window of opportunity (Vera 2006, 16). The clearing of land for forage production, the draining of wetland areas and lakes, and the diversion of water for irrigation have negative implications for wildlife and water quality. Patagonia is recognized globally for its pristine water and natural areas. Further study is needed to monitor the long term environmental impacts of the adaption of conventional agriculture in Patagonia and

to determine whether the perceived benefits of this system will outweigh the economic and social costs.

*Increasing age among estancia owners and implications for ranch use and size*

A historical perspective on agrarian change in Patagonia acknowledges that current shifts in land use and land ownership are occurring roughly four decades after the counter-agrarian reforms began in 1973. This means that the principle actors in this analysis, the ranchers themselves (who were 30-40 years old in the 1970's and were eligible to receive land), are now reaching 70 or 80 years of age, and are increasingly limited in their physical ability to complete ranch-related tasks. Consequently, the sons and daughters of the original land grantees are assuming more ranch responsibilities, and will ultimately inherent control of the family *estancia*.

As this generational shift begins to impact more family-run *estancias* of Patagonia, the region could see increasingly significant changes in land use or ownership as the younger generations are faced with the decision of how, or if, they will continue to manage the *estancia*. It is also possible that younger owners/managers will be more keen to embrace agritourism and/or diversify ranch income in ways unfamiliar, or not possible, for their parents (Torres and Momsen 2011). It could also mean that these "children" are not interested in, or capable of, continuing the ranching operation, and are therefore more likely to sell or lease the land.

Of the 11 interviewees who currently work in the ranching industry, five either own their own *estancia* or work for their father. All five of these ranch owners (or sons of owners) indicated that their family acquired the land from CORA redistributions during Pinochet's counter-agrarian reform. These individuals unequivocally agreed that, in the current real estate market, it would be impossible for them to repurchase their land. In this context, agrarian reform did initiate positive transformations for Magallanes and improved the socioeconomic status of

rural laborers. Nearly fifty years after the 1970's counter-agrarian reform measures, many workers who did receive a *Unidad Agrícola Familiar (UAF)* plot still earn a living from that property. Also, due to tourism and increasing property values[29], if that individual should choose to sell, their land is exceptionally more valuable now than when it was first acquired.

All five ranch owners (or sons of owners) indicated that their family has been approached one or more times during the past five years with unsolicited offers by land prospectors interested in buying their *estancia*. Interviewees stated that the proposed use for the land was either to continue livestock production, start or increase tourism activities, or a combination of both via agritourism. When asked, "Do you consider selling your land?" four respondents answered with an emphatic "NO," while one individual said he might sell "for the right price."

These uninvited requests and rapidly increasing real estate prices demonstrate how the tourism-induced popularity of a place can impact local people in both positive and negative ways. While no home or ranch owner is upset when their property value increases, all twenty interviewees felt that regional land prices are currently "overvalued" and "rising too rapidly." Several individuals shared the opinion that it is now difficult, if not impossible, for an unskilled worker to purchase their own land, a reality that was unthinkable ten or twenty years ago. Thirteen of twenty respondents stated that they would like to purchase land (even a house-sized plot) in the future, yet only three of these thirteen individuals believed that this desire was a realistic financial goal.

A significant concern for the longevity of family ranchers in Southern Chile is that as first generation ranchers continue to age, there are little to no policy incentives to keep the land

[29]According to a conversation with a local real estate agent in January 2017, the price for land in or near Puerto Natales rose by nearly 50% in the past year. The current price for an undeveloped .5-hectare parcel (1.2 acres) is approximately 30.000.000 CLP, or $46,000 USD. From the real estate agent's perspective, the sharp increase in price is due to high demand coupled with decreasing availability of subdivided land near Puerto Natales.

in a family ranching system. Diversified ranch incomes, land leases and sales, or agritourism may be the most attractive and financially advantageous options for individuals who no longer desire the often physically challenging work inherent to livestock production. Only by acknowledging the historical role of the family unit in Southern Chile's ranching sector is one able to fully grasp how agrarian change will continue to impact the social fabric and traditions of Patagonia. As more ranches reach the cusp of transitioning from the first generation to the second in subsequent decades, the extent to which the family ranching structure is either eroded – or conserved – will play an increasingly meaningful role behind land use change in Patagonia.

**Summary and synthesis**

Chile's full embrace of a neoliberal economic market has had, and will continue to have, profound effects on land use and agrarian restructuring. As Brenner et al. (2012, 184) point out, "across all contexts in which they have been mobilized, neoliberalization processes have facilitated marketization and commodification while simultaneously intensifying the uneven development of regulatory forms across places, territories, and scales." During agrarian reform land was expropriated for redistribution among the peasantry – land for those who work it (Zoomers 2010). The liberalization of land markets in Chile is reorganizing the profit once again not to those who work the land, but to those who own the land. Furthermore, the consolidation of *estancias* into larger landholdings and increased technological adaptations by these new landowners demonstrates a different level of access to financial capital, information, and scale of livestock operation than the family ranches of Patagonia. Murray (2006, 669) claims that this "asymmetry" is a natural outcome of 'free'-market evolution; in Chile, the neoliberal model is facilitating an increasingly rapid "depeasantisation."

The very nature of neoliberalism is "antagonistic to the peasantry" (or in this case, the family ranches), and "the demise of the latter is inevitable where neoliberalism is applied, as it continues to be in Chile" (ibid, 647). As global capitalism interacts with agrarian frameworks in previously unknown ways, continued scholarly engagement with these changes within localized geographies is necessary (Fairbairn et al. 2014). There will always be a more "efficient" way to raise livestock in Patagonia; however, it is essential to measure the success of production not just by the size of the herd and the thickness of the pocketbook, but also by the overall cost to the land and rural culture. As new generations increasingly take over the "family ranch," these questions will be amplified. Neoliberal economic policies are gradually unravelling the former agrarian reforms with today's "market-based" land reform. The current policy preference for economic rights is not capable of protecting the future of family ranchers, nor the environmental health, of Magallanes.

## CHAPTER 4: TOURISM GEOGRAPHIES AND CULTURAL LANDSCAPES

*"It was elation of this kind…a mental condition we have outgrown, which I had in the Patagonian solitude; for I had undoubtedly 'gone back'; and that state of intense watchfulness, or alertness rather, with suspension of the higher intellectual faculties, represented the mental state of the pure savage."*
-William Hudson in *Idle Days in Patagonia*, 1892

*"I knew I was nowhere, but the most surprising thing of all was that I was still in the world after all this time, on a dot at the lower part of the map. The landscape had a gaunt expression, but I could not deny that it had readable features and that I existed in it. This was discovery-the look of it. I thought: Nowhere is a place."*
-Paul Theroux in *The Old Patagonian Express: By Train through the Americas,* 1979

"Mythical Patagonia" takes on many forms. There is Theroux's descriptor of empty land: "nowhere is a place." Hudson idealized Patagonia as a last frontier, where the solitude of untouched space allows one return to "intense watchfulness," which he considers the "mental state of the pure savage." Or, many consider simply visiting the region to be a "rite of passage," a symbolic journey which offers the traveler a "powerful experience of the sublime" (Nouzeilles 1999, 41). Yet outsiders throughout history have projected their ideals, hopes, and desires onto this austral region. A tourist guide working in El Calafate[30] offers this astute summary: "For visitors, Patagonia was first regarded as an obstacle, then it became a resource and it is now *un escenario*—a backdrop, scenery, a kind of theatre" (Rivera, as cited in Moss 2008, xiv). The current crossroads of agrarian change in Patagonia is precisely where the natural "resources" of the region meet the "theater" of tourism.

### Tourism and Agrarian Change

The invention of Patagonia as a place is as old as Magellan's encounter of a southern passage in 1520. Beyond christening the region after supposed "giants," other landmarks, cities, and natural features also bear witness to the geographical imagination imposed upon the region.

[30] El Calafate is a popular tourist destination in the Argentine Patagonia and the gateway town to visit Glacier Perrito Moreno in Los Glaciares National Park.

Names such as Desolation Bay, Port Desire, Port Famine, Last Hope Sound, Obstruction Sound, or Gulf of Sorrow[31] are what Nouzeilles (1999, 39) calls an "apocalyptic toponymy left behind by the imperial travelers." From the first tourists in the 19th Century to today's post-modern travelers, Patagonia's symbolic "end of the world" landscape – believed to elicit an aesthetic experience – continues to be a central draw for visitors to this austral land.

What, then, does tourism contribute to agrarian change in Patagonia? In fact, quite a lot. Fieldwork indicated that the most significant challenge currently facing local ranchers near Torres del Paine National Park is a shortage of labor. Despite the often-applauded marriage of tourism and agriculture for development, these sectors often share, and eventually compete, for the same resources (such as land and labor); this conflict of interests can be detrimental to rural communities (Torres and Momsen 2005). Additionally, while tourism is often perceived as economically and socially beneficial to rural areas, it can also stimulate in-migration and urban entrepreneurs who "merely siphon off any benefits away from the local rural area" (Hall et al. 2003, 4).

Chris Moss (2008, 351) points out how tourism – and tourism literature – can direct the visitor's gaze towards certain features, and ignore other characteristics, of a place or region: "Travelogues, like schematic itineraries dreamed up by tour operators and – paradoxically – also by hippies and backpackers, create their own narrow trails and fixed points of encounter. They open up certain routes, and close others down. When a travel book becomes famous, the literary pilgrims will set out to pay homage, *Lonely Planet* in one hand and cult travelogue in the other." In the Chilean Patagonia, the "fixed point of encounter" is generally the natural landscape, thereby prioritizing "aesthetic Patagonia" as the land's highest value. This new evaluation of the

[31] In Spanish: Bahía Desolación, Puerto Deseo, Puerto del Hambre, Sena Ultima Esperanza, Sena Obstrucción, and Golfo de Penas.

land's purpose is a recent shift in relation to Patagonia's long history of livestock and agrarian land use and exemplifies how "ideas about nature inevitable reflect our social world" (Robbins 2012, 127). As nature and natural experiences are increasingly commodified in Patagonia, society-nature interfaces shift (Castree 2001), thereby altering the agrarian landscape. Evaluating these changes in Patagonia is best done by starting with how nature (including nature-based tourism) contain social implications, then by clarifying Chile's national level policies regarding tourism and the privatization of nature, and finally by exploring the impact of tourism – both the challenges and the opportunities – for ranchers on a regional and local level.

## Changing Values

Roderick Neumann's (1998) classic study of nature preservation in Africa, *Imposing Wilderness*, illustrates how the idea of "wilderness" is actually based on an aesthetic construction of landscape exported from England and Germany. He claims that nature conservation is built on a particular ideal of "wilderness" as pure, pristine, and free of livestock or farms. Robbins (2012, 177) encapsulates Neumann's (1998) evaluation of wilderness reserves and conservation (i.e. national parks and private protected areas) as having "turned complex cultural-environmental landscapes of 'production' into commodified landscapes of tourist 'consumption,' where environment and society are artificially partitioned at the expense of social and ecological sustainability." The continuing expansion of tourism in Patagonia merits a closer examination of the hidden costs to ecological systems when nature is commodified.

### *How Nature is Social*

Noel Castree (2001, 18) argues in *Social Nature,* "For if nature is nothing if it's not social, it's also unavoidably political." He explains that the term "social nature" refers to: (1) politics as a form of values, (2) politics as moral or ethical statements about nature, and that (3)

formal governmental policies and decision making "are responsible for both regulating and shaping society-nature relation."

In Patagonia, nature is absolutely value-laden. According to Castree's definition, "politics as a form of values" equates to "who is doing the knowing and acting." Locally interpreted, the trend in Southern Chile towards the ownership of land (i.e. absentee landowner), as opposed to the ownership of knowledge and ability to work the land (i.e. *baqueano*), exemplifies a changing social-natural value. His second point, "politics as moral or ethical statements about nature," compels a broader view of non-human agency. Not only does this approach allow for a "serious consideration of ethics that surround political ecologies" (Robbins 2012, 240), it also implores questions of how changing economic values impact natural spaces, and the types of rights afforded (or denied) to non-human ecologies. This overlaps with Castree's third argument, that not only do governments regulate and shape societies, they do so on a variety of scales, with implications for both human and non-human actors. In Chile, neoliberalism is the overarching narrative that defines economic and environmental policies; these national level policies exert considerable force to shape how nature is valued and purposed on a local scale.

Within the conservation movement, the rise of "green grabs" and Private Protected Areas (PPAs) is increasing in Southern Chile. Holmes (2014, 557) identifies four key factors driving this growth of "new enclosures," which he claims are directly linked to Chilean neoliberalism and the integration of Southern Chile in global capitalism.

1. Strong individual property rights
2. Neoliberal economy which encourages individual actions and market-based solutions
3. PPAs can be profitable enterprises, particularly through land speculation
4. Sufficient interest in purchasing PPAs by middle-class and wealthy Chileans (as well as international NGO's, individuals, and corporations).

National parks epitomize "capitalist property relations" through the "enclosure of commons" and by later being "viewed as productive of an aestheticized and commodified nature [experience]" (Neumann 1998 as cited in Neumann 2015, 397). This results in an inherently contradictory challenge to conservation posed by "commodification or green production" (Peluso 2012, 86), where mainstream conservation has internalized the logic of capitalism to an unprecedented extent (Igoe and Brockington 2007). There are indisputable environmental benefits to well-managed conservation endeavors, yet increasing the anthropogenic footprint on natural areas, even areas devoted to conservation, can trigger broader impacts on local residents, ecologies, and change the dynamics of place-based politics (Büscher 2013).

While there are many policy implications that support these "green grabs," the aesthetic evaluation of the land is a significant factor in why outsiders wish to purchase a piece of Patagonia. A PPA owner of 2,000 hectares in Southern Chile described their decision to buy as: "We just travelled through Patagonia and then one day…visited the area, we liked it…and we bought it" (Holmes 2015, 857). The inadvertent challenge for communities near protected areas, where landscapes have been marketed as a touristic consumptive experience, are often skyrocketing real estate costs and new property markets that are often financially out of reach for local people (Igoe and Brockington 2007). The rise of PPAs in Chile further demonstrates Castree's (2001) assertion of how nature is inherently social. The novelty of the Patagonian landscape is assigned a certain value, ecologies are privatized and commodified, and the overall political landscape in Chile coincides with market values that allow for, and appear to even encourage, this new wave of private nature conservation.

*Tourism and the Social Construction of the Environment*

Tourism and agriculture can interact in diverse ways, on multiple scales, and be described by distinct relationships (Torres and Momsen 2011). In Patagonia, this relationship is primarily characterized by agritourism, ecotourism, adventure tourism, nature/green tourism, farm or ranch stays, and sustainable tourism. While there are nuances to each type of tourism activity, Weaver (1999, 793) offers a definition of ecotourism; this description generally describes how tourism in Patagonia is packaged, and therefore most tourist's ambitions for visiting as well:

1. The primary attraction is nature, and culture is a secondary attraction
2. The study and/or appreciation for nature in its own right as opposed to its use for another purpose
3. The activities of tourism are benign to the local environment

Results elicited from the semi-structured interviews confirmed that points one and two echo the nature-based motivations behind most tourist's interest to visit Patagonia. Tourism guides and operators in Puerto Natales described clientele expectations with nature as the central goal:

- "[Tourists come] for the scenery more than anything"
- "...to see Torres del Paine, the 8th Wonder of the World"
- "Natural beauty and singular vistas which are unique for them [the foreigners]"
- "A backcountry and adventure experience; to see wild lands"

Visitors to the region regard nature as the primary attraction, which includes Torres del Paine National Park, plus flora and fauna encountered within its vicinity. Cultural tourism and agritourism, although acknowledged by interviewees from the tourism industry, was not mentioned as a top priority for their clients.

Weaver's third point, that ecotourism (or eco-conscious tourism in Patagonia) is "benign to the local environment," vastly underestimates the complexities of natural *and* social environments. Yet this notion of tourism's "banality" is assumed by most travelers, particularly those who choose "eco" or "sustainable" tours, which supposedly benefit local places and

people. For critical readers of geography and tourism, this assumption simplifies the complexities of the social-nature nexus. Nancy Peluso (2012, 84) articulates this reality: "Understandings of Nature, whether we construct 'it' as a natural resource, a park, a reserve, a plantation, a forest product or wildlife, are always produced and historical." The historical context of each "nature" reality is intimately connected to local truths. Furthermore, the very job of political ecological projects is to disseminate the impacts of change on both human and non-human actors and processes (soil, trees, and climate). This includes appreciating "alternative constructions of the environment" held by "other social communities, like forest dwellers, nomadic herders, and religious philosophers" (Robbins 2012, 128). In Patagonia, ranchers are increasingly becoming the "other social community." Aesthetic land values embodied by tourists and non-local landowners are anything but "benign" as they fundamentally transform the local land market. This new challenge for Chilean ranchers is similar to threats faced by North American ranches that began nearly half a century earlier.

According to Sayre (2002, as cited in Sheridan 2007, 129), in the 1970's, rangelands in the Western United States "began to be valued in terms of their real estate potential rather than their actual production of beef." A 2004 study on individual ranching families in Madison Valley, Montana[32], near Yellowstone National Park, identified two key economic forces behind this transition: increasing vulnerability of beef producers and the skyrocketing value of private lands (Pearce 2004, Sheridan 2007). In Southern Chile, according to interviewees, the value of *estancia* rangeland near tourism hot spots has also shifted from primarily livestock to now embrace land values based on tourism and real estate potential.

[32] Madison Valley is a hot spot in ranch-to-real estate conversion due to its proximity to the Greater Yellowstone Ecosystem.

**Chile's Tourism Strategy**

Chile's "National Tourism Strategy for 2012-2020," put forth by SERNATUR (Servicio Nacional de Turismo), embraces the positive aspects of economic gains associated with tourism development. However, the document lacks a true exposition of how the strategy will simultaneously deal with tourism-related challenges and also protect cultural identity through means other than the commodification of nature and culture. The introduction to the bulletin explains the touristic vision for the country as follows:

> By 2020, Chile will be recognized as a world class tourist destination, being admired and known for offering attractive, varied, high-quality and sustainable tourism. The tourism industry will have a strategic character and priority in the economic development of the country, ensuring the prosperity of the towns and regions where it is inserted and will contribute to greater social equity, regional balance, and overcome poverty. Tourism will be the main promoter of environmental conservation, national heritage, and cultural identity of communities (Subsecretaría de Turismo 2012, 17)[33].

While tourism *can* bring positive changes and new income streams into rural and less-developed areas, the ideals set forth in this tourism strategy are seductively positive. Unharnessing tourism as the "main promoter of environmental conservation" is similar to the "deployment of the logics and tools of free market capitalism to save nature" (Holmes 2015, 850). Neoliberal conservation, and quite similarly sustainable tourism, is often touted as a win-win solution that benefits "corporate investors, national economics, biodiversity, local people, western consumers, development agencies and the conservation agencies that receive funding from those agencies" (Igoe and Brockington 2007, 435). Yet proponents of both sustainable tourism and neoliberal conservation often ignore how landscapes, when rendered more marketable and valuable as a

[33] Original Spanish: "Al 2020, Chile será reconocido como un destino turístico de clase mundial, siendo admirado y conocido por poseer una oferta atractiva, variada, sustentable y de alta calidad. La industria del turismo tendrá un carácter estratégico y prioritario en el desarrollo económico del país, asegurará la prosperidad de las localidades y regiones donde está inserta y contribuirá a una mayor equidad social, equilibrio regional y a la superación de la pobreza. El turismo será el principal promotor de la conservación del medio ambiente y del patrimonio y la identidad cultural de las comunidades" (Subsecretaría de Turismo 2012, 17).

touristic and consumptive experience, can also promote negative social and ecological consequences (ibid, 436).

Protected natural areas are embedded with capitalist social relations (Neumann 2015) and are often "neatly packaged cultural experiences of environment on which substantial profits are recorded" (Smith 1984, 57). The Chilean government's evaluation of Torres del Paine National Park demonstrates a clear link between a neoliberal value for nature and the commodification of the "end of the world" experience. Torres del Paine has the highest entrance fee of all the 36 national parks in Chile. At 21.000 Chilean pesos per foreign guests (~$32 USD), and 6.000 CLP for Chilean citizens (CONAF 2016), the park functions as an income generating machine for the entire national park system ("CONAF" or "National Forest Corporation"). The next most expensive national parks, reserves, and monuments are a third of that cost, at 7.000 Chilean pesos each (Laguna San Rafael, Bernardo O'Higgins, Alberto de Agostini, Cabo de Hornos, Alaclufes, and Los Pingünos), while the remaining 33 national parks charge only an entrance fee between 1.500-6.000 Chilean pesos (CONAF, 2016).

The range of entrance fees across the Chilean national park system clearly demonstrates how market values are applied to natural spaces based on their popularity and revenue potential. While this is not an inherently bad practice, and does make economic sense, it is still a value statement. Fieldwork revealed frustration on the local level where some individuals expressed concern that ecological components of Torres del Paine are being sacrificed in exchange for high profits from entrance fees while an insufficient portion park revenue is used to maintain park facilities. Several recent health and safety incidents support this argument.

In December 2016, a 16-meter suspension footbridge over the El Francés river collapsed, temporarily barring passage of a trail with daily traffic of nearly 400 people, and required the evacuation of 30 individuals stranded on the other side of the bridge ("Colapso de pasarela"

2016). A few months earlier, in October 2016, three camping sites were shut down within Torres del Paine by the Ministry of Health[34] (Sanhueza 2016) according to "an outbreak of gastrointestinal diseases in tourists due to various health and environmental deficiencies detected in the accommodations, coupled with the overload of people who toured the different trails of this natural reserve"[35] (Seremi de Salud 2016). Unfortunately, this does not surprise me as I personally observed overcrowding and insufficient bathroom facilities while trekking the "O" Circuit through the park in 2010. A blog post by a visitor to Torres del Paine in 2011 describes a similar situation at the campsites: "Unmaintained CONAF pit latrines were overflowing their holes, forming mini-mountains of human waste. The sight was not only revolting, but seemed to be the root of another terribly real visual impact. Due to the poor condition of the latrines, people had taken to using the woods" (West 2011). Failing infrastructure and insufficient bathroom facilities should not plague the most popular national park in Southern Chile, a park celebrated for its pristine land and natural beauty. If such serious health (and safety) issues have been present during the past five or more years, why has nothing been done promote the well-being of the park and the visitor's experience?

Fortunately, several positive outcomes have surfaced despite these events. A "Comprehensive Inspection Plan in Torres del Paine National Park,"[36] issued by Seremi and the Ministry of Health, aims to improve the sustainability of tourism in Torres del Paine. The goals of the $67 million CLP[37] project are to improve water for human consumption, wastewater disposal, and regulate sanitary authorizations for the handling and processing of food and waste

[34] Secretarías Regionales Ministeriales de Salud, also known as Seremi de Salud.
[35] In Spanish, the original website states: "Con este operativo se busca evitar lo acontecido la temporada pasada en que se registró un brote de enfermedades gastrointestinales en turistas producto de las diversas deficiencias sanitarias y ambientales detectadas en los alojamientos, sumado a la sobrecarga de personas que recorrieron los diferentes senderos de esta reserva natural" (Seremi de Salud 2016).
[36] In Spanish: "Plan de Fiscalizaciones Integrales en el Parque Nacional Torres del Paine."
[37] Approximately $103,000 USD.

disposal, which are "issues with which we have encountered major difficulties in the park"[38] (Seremi de Salud 2016). In addition to this, limitations on the number of overnight campers within Torres del Paine was instituted for the first time in October 2016.

## Changing Spaces

The creation of Chilean national parks can be described by Neumann's (2015, 391) definition of nature conservation as "state-based initiatives to maintain existing biodiversity and its supporting ecological conditions through the establishment of [protected areas]." Neumann (ibid, 397) also observes that a gap exists in studies of neoliberal conservation regarding "the effects on the daily lives of people resident near [protected areas] or about the types of place-based politics generated by the neoliberal turn in conservation." Igoe and Brockington (2007, 446) are careful to remind readers that neoliberalisation is a global process "about restructuring the world to facilitate the spread of free-market" and these changes may or may not benefit local people and the environment. They point out that "neoliberalism opens up new spaces in ways that could either harm or benefit the environment, in ways that can either present opportunities or liabilities to local people." Analyzing the intersection of agrarian change and tourism near Torres del Paine reveals just how the creation of the park and ensuing tourism activity impacts regional rural livelihoods.

### *Local perspectives on Patagonian tourism*

International audiences planning a trip to Patagonia usually receive tourism information about the region from non-Chilean sources, such as guidebooks or ex-patriots. Yet to truly

[38] In Spanish, the original website states: "Nos interesa trabajar los temas del agua para el consumo humano, la disposición de aguas servidas, las autorizaciones sanitarias para la manipulación y elaboración de alimentos y la disposición de residuos, que son los temas con los cuales nos hemos encontrado con mayores dificultades en el parque. Solucionando estos elementos, el destino se vuelve no solo más sustentable, sino que también más agradable para los visitantes. Esperamos que estas fiscalizaciones que buscan regularizar estos temas, tengan la acogida que nosotros esperamos de parte de los empresarios" (Seremi de Salud 2016).

understand tourism's impact on regional and rural livelihoods, it is essential to assess the local perspective on how tourism is transforming the region. The result of these questions and conversations indicate that local people overwhelmingly (100% of respondents) feel that tourism is good for Magallanes and contributes positively to the local economy. Yet when asked, "Due to current changes in Patagonia, will the *local people* will be better off, worse off, or the same in the future?" only 55%% answered "better;" 30% thought opportunities for local people would remain the same, and 15% of respondents thought that current changes will actually be detrimental.

Local Natalinos (residents in the Puerto Natales area) listed positive changes in Magallanes due to tourism to include increased wages, job creation, and a stronger local economy. Also, the growing popularity among national and international visitors to visit Patagonia has placed pressure on the government to increase funding to improve roads, telecommunication, and regional infrastructure. Tourism is, for many local people, equivalent to opportunity and improved economic status, and the positive impacts as seen by local people are primarily monetary in nature.

The negative effects of tourism in Patagonia include concerns for the environment, loss of community and regional identity, and increased crime. Elevated prices for land, goods, and transportation also reflect the new level of engagement the region has assumed with the global economy. Both local and non-local interviewees were concerned that tourism, and the increasing development of hotels and roads in previously undeveloped land, is polluting wilderness areas and contributing to the subdivision of Patagonian land and therefore increased urbanization of this pristine region.

The seasonality of tourism in Patagonia was seen as a negative characteristic that contributes to a transient and seasonal workforce. Many guides are non-local workers who come

only for the tourism season. Additionally, the short time scale (October – March) for the majority of tourism-related income generation lends itself to short-term and contract-based jobs instead of annual positions. The increase of crime and delinquency due to the arrival of more "*Norteños*" (Northern Chileans), as well as workers from other regions of Latin America (predominately Colombia), were also listed as concerns by Natalinos. For individuals who have lived and worked in what has historically been a small, insular community of "everyone knows everyone," this is an understandable concern.

While tourism is overwhelmingly viewed as a "good thing" for Patagonia, the list of negative outcomes is still robust and deserves closer consideration. The "winner" for Patagonian tourism is clearly the market and a neoliberal economic structure that supports an "economics-first" evaluation of what a place, a history, or a group of people are worth. The next sections explore how tourism interacts with the physical, economic, and social aspects of Patagonia and reveal some of these tensions.

***Table 4.1*****:** *Summary of answers to the interview question: "What do you think are the positive and/or negative impacts of tourism on the region?"*

| **Positive (+)** | **Negative (-)** |
|---|---|
| + increased wages | - increase in prices (land/goods/transportation) |
| + job creation; more work opportunities for local people | - contamination and pollution of wilderness areas |
| + better connectivity, such as improved roads and telecommunications | - development and subdivision of natural areas |
| + the region (Magallanes) receives more acknowledgment by the government and increased funding | - the Park is badly in need of visitor limitations |
| + improves regional development | - many private enterprises and hotels within the park; more people = less nature |
| + improves local economy | - transient population in Natales as many guides are from Northern Chile or are non-Chilean; these workers come only for the tourism season = less community focus |
| + cultural exchange | - increasing population of non-locals ("*Norteños*" (or "Northerners") from Northern Chile plus foreigners) |
| + new ideas (ex: Leave No Trace wilderness backpacking principle) | - tourism is dependent on the strength of the global economy, not just the local/regional economy |
| | - work is seasonal; if one works in tourism, after the season is over they must look for different work |
| | - increase in crime and corruption |
| | - loss of regional cultural identity |

*Source: Fieldwork*

*Tourism and the physical landscape: Land ownership change*

Tourism is often perceived to offer rapid economic growth, new income opportunities, and increased infrastructure development (Hall et al. 2003). In rural areas, tourism as a development tool is often seen as an "attractive option" because it is "relatively easy to implement" and startup cash and capital generally comes from non-local sources (Davenport and Jackiewicz 2008). Destinations that are particularly vulnerable to capture the interest of outside investors are often in proximity to UNESCO World Heritage Sites and/or those featured in Lonely Planet guides. Zoomers (2010) claims that the foreignization of space – due to land purchases by outsiders in touristic zones – is a significant cause behind radical changes in landownership worldwide, and an influential process behind the global land grab. While the inflow of new economic streams by multinational companies and international visitors can be beneficial for isolated and/or "less developed" areas, this foreignization of space can also create long-term challenges and undesirable changes in rural communities.

Torres del Paine was named an UNESCO World Heritage Site in 1978, just three years after it was established as a National Park. Semi-structured interviews confirmed the "foreignization of space" (Zoomers 2010) pattern near Torres del Paine National Park as land value and ownership is changing. When local Natalinos were asked if they had seen a change in land price, 100% of respondents said: (a) the price of land is increasing, and (b) it would be nearly impossible for them to purchase land today unless they already had a large amount of capital to invest. Interviewees also stated that while land in the 1970's and 1980's was mostly owned by local people, there has been a steady increase in new land purchases by absentee landowners since the privatization of land under the counter-agrarian reform of Pinochet.

During the counter-agrarian reform, land was parceled out based on Basic Irrigated Hectare (BIH) land coefficients. These BIH calculations were based on rangeland quality,

terrain, and accessibility. Under tourism, land value is taking on an entirely different set of "coefficients." New "tourism coefficients" of most influence to land value and price, include: proximity to Torres del Paine National Park, geographic uniqueness, presence of wildlife, exclusivity, remarkable views, natural beauty, and suitability for tourism activities (i.e. hiking, backpacking, birdwatching, horseback riding, and kayaking).

Today, land sold in Patagonia is most likely destined to be included in a larger *estancia* (as explored in Chapter 3), or to be used for tourism and/or conservation-related causes. In the Western United States, Sheridan (2007) claims that due to the high production costs for family ranches and escalating land values, the only way to acquire a ranch (other than being independently wealthy) is to "inherit or marry into one." This same phenomenon now holds true for family ranches in Patagonia.

*Tourism and the environment*

The creation of Torres del Paine National Park is often celebrated as "saving" the area from overgrazing (Woodward 2008). However, a more nuanced approach is necessary to understand the hidden costs of both ranching and tourism. Before the Chilean government acquired the park, large expanses of forest were burned to increase pasture area, and some of these areas were later overgrazed (Martinić 2000). An interesting discrepancy arises between academic and non-academic sources as to the extent, and intent, of overgrazing by *estancias* owners. However, the pre-park area was characterized by minimal technological disturbances and few people.

The establishment of the national park and subsequent promotion of ecotourism activities has promoted a shift, which "instead of emphasizing a preservationist approach, underlines the statement 'parks are created for the benefit and enjoyment of the people,' [as] asserted in the

founding law of Yellowstone National Park," and requires "careful examination in order to achieve a sustainable compatibility between conservation and human needs or benefits" (Jax and Rozzi 2004, 357). Two recent environmental examples demonstrate the importance of managing conservation areas well if ecosystems are to be truly protected.

In 1985, a 15,000-hectare (~37,000 acres) forest fire began in Torres del Paine National Park by a Japanese visitor who didn't fully put out their cigarette (Nuñez 2011); in 2005 a Czech tourist accidentally started a fire that grew to 15,500-hectares (~38,300 acres) from a gas stove used while camping in an unauthorized grassland area (Torres 2012). From December 2011-January 2012, 17,600-hectares (~43,500 acres) were burned by an Israeli backpacker who failed to fully extinguish toilet paper he had been burning ("Israeli tourist family" 2012). Ranchers in Southern Chile no longer use fire to clear their land, yet accidental forest fires by non-locals have burned nearly 94-thousand-hectares (~232,300 acres) in the past 31 years. The larger question remains: Is tourism truly less damaging to the natural environment than well-managed sheep or cattle rangeland systems? Either system can be ecologically detrimental if improperly managed.

Didymo (*Didymosphenia geminata*), a type of invasive algae, was first seen in Chile in 2010. According to a fact sheet on the algae provided by the U.S. National Park Service, humans – in particular, fishermen and women – are thought to be the main way that Didymo spreads from one place to another. Contaminated recreational equipment and clothing can spread Didymo if not properly cleaned before being used in another body of water (National Park Service 2010). Didymo has extraordinary capacity to impact river and stream ecosystems, and it is nearly impossible to eradicate once it's established (ibid). In March 2015, this alga was found in the Serrano River, a popular fishing destination for tourists near Torres del Paine National Park ("Presencia de Didymo" 2015). This non-local alga most likely arrived from fishing gear that was used in either Central Chile or another country and this unfortunate occurrence provides

an additional example of how irresponsible tourism can inadvertently cause long-lasting and negative environmental impacts. On the positive side, there is increased awareness of this invasive alga, and wash stations with instructions have been installed at many popular fishing destinations across the region.

One of the most significant challenges for the intersection of tourism and the environment is how to *prevent* cases such as human-caused forest fires or the arrival of Didymo to Magallanes. Jax and Rozzi (2004, 357) explain that "ecotourism poses complex puzzles to conservation biology" and that "On the one hand, it seems to favor a larger integration between society and protected areas. On the other hand, with current deficiencies in the planning and regulation of ecotourism within parks, such as Torres del Paine, undesirable environmental impacts [such as the arrival of Didymo to Magallanes] may follow." Local environmental officials and national park employees must assess what sorts of policy – and enforcement – are needed to prevent negative environmental impacts instead of the current system which appears to wait for a problem to surface, and then react.

*Tourism and the economic landscape: Where are the workers going?*

Rural workers leave the countryside for a variety of reasons, including higher wages and opportunities to be closer to the city. This phenomenon is also true for ranch workers in Patagonia. Agrarian change, while highly influenced by "command and control," also occurs in the daily decisions of individuals, families, and communities. Different from official politics as discussed in Chapter 3, everyday politics occurs where people live and work "in quiet, mundane, and subtle expressions and acts that are rarely organized or direct…and is done by people who probably do not regard their actions as political… [Everyday politics is often] entwined with individuals and small groups' activities while making a living, raising their families, wrestling

with daily problems, and interacting with other like themselves" (Kerkvliet 2009, 232). The everyday politics of tourism engagement by the local people in Patagonia is not usually acknowledged as a "political decision," but to engage (or not) with tourism opportunities has political and economic implications.

When ranch owners or administrators were asked, "What are the most significant concerns right now for the livestock industry?" all individuals (7 of 7) stated that a shortage of skilled laborers was the most pressing issue they currently face. Due to their moderate size, family ranches don't need an extraordinary amount of extra help, but most ranches still do require one or two additional laborers to assist with tasks beyond the scope of work completed by immediate family members. These workers are often hired on a seasonal or contractual basis to complete tasks such as new fences or fence repair, to help during labor intensive branding and castration days, or an additional person on horseback with their own set of working dogs for rounding up animals to change pastures.

When the Chilean cowboys, or *baqueanos*, were asked the same question, 100% of respondents (4 of 4) said that they believed their wages were too low. Ranch owners and workers, interviewed between February and March 2016, stated that most ranch employees were currently paid between 280,000 – 380,000 Chilean pesos/mo. (approximately $425-$577 USD/mo)[39]. Minimum wage in Chile is currently 250,000 CLP/mo. (approximately $379 USD/mo.) for a 45-hour work week (Monday – Friday and a half day Saturday). As a comparison, when the same question was asked of tourism guides and operators, a 2016 "freelance" guide rate is approximately $70 USD/day and porters receive $50 USD/day. The skillset need to guide tourists is clearly different than moving cattle, but even a porter working

[39] United States dollar equivalents were calculated with the exchange rate of 1 USD = 659 Chilean pesos, the exchange rate on December 7th, 2016.

20 out of 30 days a month takes home ~$1,000 USD, while a guide can easily earn more than $1,400 USD/monthly, which is more than 3.5 times the minimum wage. As the *baqueanos* are concerned about their salary, and as tourism offers higher paying and new income possibilities, the "everyday political" decision that many ranch workers are making is the transition from the ranch into tourism and service industries.

Both ranch owners/operators and baqueanos acknowledged that the increase in rural salaries to compete with salaries offered by tourism-related enterprises is a positive change for local people. However, the family-owned ranchers stated that it is financially straining for them to try and offer sufficiently competitive rural wages to retain rural workers. This has resulted in localized "outmigration" – the loss of ranch hands to service and related industries, such as the construction of roads and hotels – and has created a regional shortage of capable ranch workers. To solve this problem, local ranchers find themselves increasingly hiring non-local workers[40], or looking to management systems that use more technology and less labor[41]. As tourism and agriculture compete for similar resources (Torres and Momsen 2011), tourism can have an indirect, yet significant impact on agricultural industries, especially in labor-scarce areas such as Southern Chile.

*Tourism and the social landscape: Implications for the "family ranch"*

The intersection of tourism and agriculture in Magallanes increases the vulnerability of family ranches through the increase in non-local land speculation and the outmigration of rural

[40] Non-local workers have traditionally been from Northern Patagonia and the Aysén region (near Coyhaique); however, ranchers are also tapping into a growing community of migrant workers from Colombia.
[41] Traditionally, the spring branding in Patagonia has been accomplished on horseback and with lassos, with the *baqueanos* individually dragging each calf to the branding fire. However, stock chutes are an increasingly popular method of restraint as they save time and require fewer workers.

workers into tourism. At the same time, this juncture also offers family ranchers new income opportunities, such as agritourism.

According to personal conversations with Natalinos over sixty-five years of age, the last peak of a vibrant, rural community in Magallanes was during the agrarian reform under former President Eduardo Frei (1964-1970). Individuals who worked on regional *estancias* during this time described an entrepreneurial spirit and sense of community that is no longer present among family ranchers (Guerrero 2016, Zuñiga 2016). These former cowboys and ranch managers said that rural schools (such as in Cerro Castillo or the school building that is now the park ranger administration within Torres del Paine National Park) allowed for ranch families to remain together year-round which also fostered community interaction. While elderly individuals may remember the 1960's and 1970's as the "heyday" of Patagonian estancias, the rural population has been in steady decline since regional census records began in 1895 (Figure 4.1). Today, most families who participate in ranching or rural livelihoods spend more of their time apart than together. While a man completes a work week or a "roll" (12 days on, 3 days off) on an estancia, the majority of women work and/or care for children who attend school in Puerto Natales.

Chile's "National Tourism Strategy 2012-2020" claims that tourism can contribute to positive externalities for rural livelihoods through increased income generation (Gale et al. 2013). The strategies listed include the increased commodification of rural people's "*identidad cultural"* (cultural identity) and the "*imagen del territorio"* (image of the region) (Subsecretaría de Turismo 2012, 58). Furthermore, the strategy also posits that intensifying tourism in rural areas will diversify agricultural incomes and help keep younger generations on the farms. If tourism is able to accomplish these goals, the social and cultural benefits to rural families, and

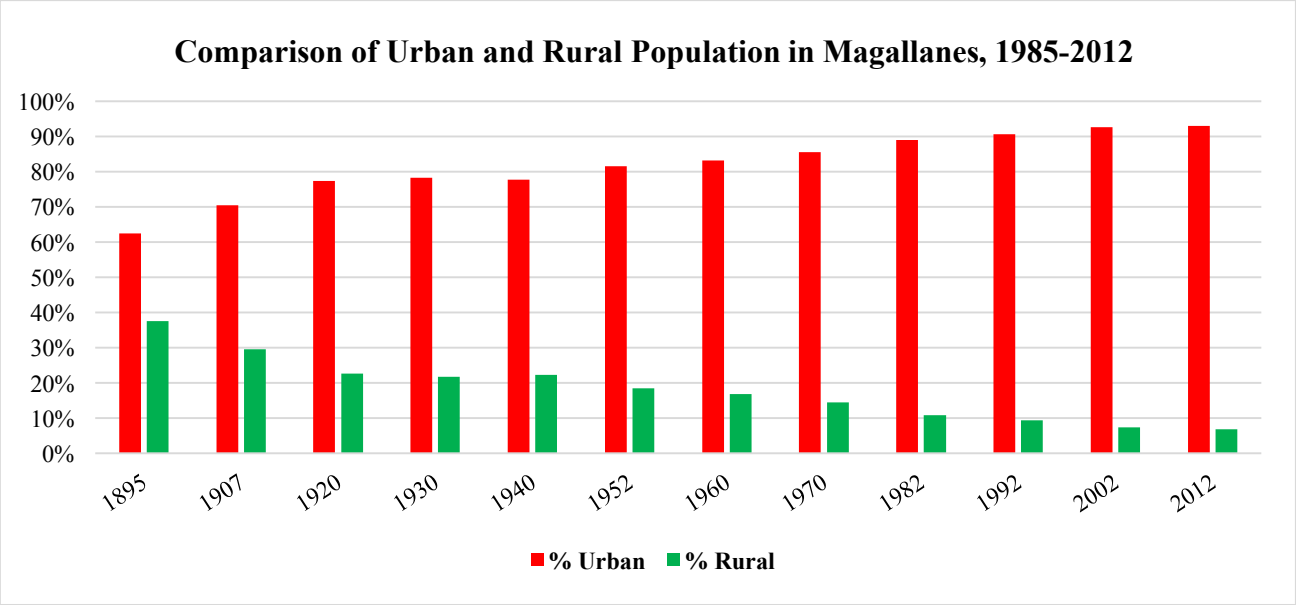


***Figure 4.1:*** *Census records since 1895 indicate a rural population in Magallanes that has decreased from nearly 38% in 1985 to less than 7% in 2012 (INE 2016).*

national identity, will be quite positive. Families remain unified, farm and ranch knowledge is passed on to younger generations (who no longer need to leave in search of outside employment), and the retention of rural populations can contribute to rural revitalization (Torres and Momsen 2011). However, if the current challenges of labor and capital faced by ranchers in Patagonia are any indication of the potential downside of tourism activities, the national tourism strategy falls short of active programs for cultural retention and keeping the "family farm."

**Summary and Synthesis**

The current challenges and opportunities imposed by tourism on Patagonian *estancias* and rangeland are, in large part, simply a natural extension of an increasingly urban world. As modern life has become faster and "less authentic," rural areas have taken on "a more utopian, mythical role as a simpler, slower, more natural, more meaning and thus 'superior' state" (Hall et al. 2003, 10). Patagonia, with its "Timbuktu or Shangri-La" sensibility, is just one of many landscapes across the globe that is dealing with the impact of aesthetic or ecosystem service

commodification as a result of tourism. Peluso (2012, 100) states that Nature as a commodity is not a "new or uniquely neoliberal phenomenon," it simply takes on different conjectures at different places and in different moments across time.

For Southern Chile, the shift from "landscape for production" to "landscape for aesthetic consumption" is unfamiliar territory for a historically agrarian region. Moreover, tourism's promise to conserve culture and the environment seems to be at odds with what actually occurs in communities where tourism is strongly emphasized. Unlike the former agrarian reforms that transferred land ownership or control into the hands of the workers, the pressures from tourism and real estate speculation are now re-transferring land back to those with the most capital. It seems ironic that an "aesthetic Patagonia" is becoming economically more powerful than the local herding ecologies, especially since this new evaluation is imposed by fleeting visitors, not by the ranchers and *baqueanos* who maintain year-round contact with the land. But maybe this new reality should not come as surprise, as the "main objective of neoliberalism is *not* the eradication of inequality (= social development) but economic growth" (Murray 2006, 648).

Neoliberalism opens up new spaces that can benefit the environment and present new opportunities to local people, or it can cause harm and increase the risks and liabilities of local livelihoods (Igoe and Brockington 2007). The tapestry of Chile's neoliberal economic and environment policies contain significant implications for Patagonia's future, including the power to overshadow and unravel the same rural livelihoods these policies purport to protect. While it is important to acknowledge how tourism can serve an important role in developing rural economies, it is even more essential for local communities to understand the environmental and social risks inherent to the neoliberal project to inform their "everyday political" response to these new challenges to protect themselves and their land.

# CHAPTER 5: CONCLUSION

*"Capitalism perpetually strives…to create a social and physical landscape in its own image and requisite to its own needs at a particular point in time, only just as certainly to undermine, disrupt and even destroy that landscape at a later point in time. The inner contradictions of capitalism are expressed through the restless formation and reformation of geographical landscapes. This is the tune to which the historical geography of capitalism must dance without cease."*
-David Harvey, 1985

Patagonia's transition from a sheep and cattle ranching empire, to a hub of nature-based and adventure tourism, is less than a century old. Socio-natural politics have played a key role in this evolution, from the very first *latifundios*, to later agrarian and counter-agrarian reforms, to the neoliberal economic model of today. Harvey (1985) captures the inherent contradictions within capitalism and the power of economic values to shape geographical landscapes. In Southern Chile, the capitalistic "dance without cease" is the ever-increasing pressure from tourism on agrarian systems, which has both social and environmental implications.

First, this thesis situates how the perception of the Patagonian landscape is central to both tourism and livestock activities. Evaluated historically, the imagined "end of the world" landscape has been paradoxical since the earliest European explorers encountered the austral region. One could argue that the non-local European evaluation of the region as "rangeland," followed by the arrival of sheep and cattle, is no different than today's assertion of the same landscape being seen as "wilderness," and thereby attracting tourists from around the globe. Both examples demonstrate the society-nature interface (Castree 2001) and how the perception of what nature is, and why it exists, fundamentally shapes how land is used and purposed. However, unlike the production-based model of land for livestock, the new "wilderness" wave is grounded on an aesthetically consumptive experience where the central characters, the tourists, are fleeting visitors, not everyday participants in localized geographies.

Secondly, the agrarian reforms in the 1960's and 1970's re-parceled large *estancias* into smaller family ranching units, thereby facilitating the opportunity for rural workers to become

landowners. Nearly five decades later, the national embrace of neoliberal market logics, with few limitations on private ownership of large expanses of land, is re-arranging the structure of land tenure that, in many ways, parallel the pre-agrarian reform era. Murray (2006, 646), speaking on the impact of neoliberal policy on rural communities in Chile's Norte Chico region, asserts that, "The gains of the earlier land reform period are being eroded as rural Chile differentiates and depeasantisation unfolds…there is mounting evidence of the unraveling of earlier agrarian reforms as neoliberalism has been applied to rural sectors and globalization restructures theses spaces." In Patagonia, the sheer size of Private Protected Areas (PPAs), such as Pumalín Park (290,000 ha.), Patagonia Park (263,000 ha.), and Karukinka (270,000 ha.) (Cuevas 2015) are overwhelmingly larger than most pre-reform *latifundios,* such as *Sociedad Agrícola y Ganadera José Montes* (88,430 ha.), *Sociedad Industrial y Ganadera de Magallanes* (125,000 ha.), and *Sociedad Ganadera Río Paine* (86,550 ha) (Martinić 1992)[42]. New landowners in Southern Chile are increasingly absentee, and the growing size of property acquisitions reinforces the power welded by capital accumulation to select who is "qualified" to own land in Patagonia.

Finally, while proximity to Torres del Paine National Park does offer new economic opportunities for rural families, tourism, in and of itself, does not inherently improve the economy, solve systemic issues, protect rural livelihoods, preserve the environment, or contribute to the retention of regional and cultural knowledge. Yes, tourism-generated income can improve an individual's standard of living, or raise the regional GDP. It is also true that conservation and wilderness areas can contribute to the protection of diverse ecosystems and endemic species. What is most essential to acknowledge is that local subsystems are inseparable from a large and complex web of socio-natural relations.

[42] This list from 1953 does not include the *Sociedad Explotadora de Tierra del Fuego*, the largest *latifundio*, that leased 707,386 hectares from the Chilean government (Martinić 1992, 1175).

Bernstein's (2010, 22) key questions for agrarian political economy: "Who owns what? Who does what? Who gets what? What do they do with it?" help distill what future agrarian changes could mean for Patagonia. Chang (2012, 138) asserts that "depending on one's perspective and degree of place attachment, the effects of tourism will be perceived differently…While planners and business operators regard landscape transformation as a way to infuse new life into defunct spaces, tourists and local residents may have different opinions about the benefits and problems of these spatial outcomes." Stakeholders certainly do have different views and values, yet to answer "Who owns what?" one must analyze levels of power as they relate to spatial transformation. What opportunities exist in Patagonia, or will exist, for "rural communities to continue to assert their own conceptions of land, property and resource use at the intersection of local, national, and transnational normative frameworks?" (Huizenga 2016, para. 9). If a *baqueano* and a business man have opposing views regarding the highest purpose for a land's use, whose opinion takes precedent? Should priority be given to the outlook that is most financially viable? Or, are principles of sustainability and/or local knowledge and culture more "valuable" than wealth? Under the current neoliberal framework, it is capital accumulation that does the heavy lifting.

To answer the question "Who gets what?" it is important to remember that agrarian restructuring is a dynamic process that involves policy, politics, institutions, and individual actors (Borras 2009). Wendell Berry (1977, 41) takes a different approach to evaluate the impact of the free market on agricultural systems:

> "I remember, during the fifties, the outrage with which our political leaders spoke of the forced removal of the populations of villages in communist countries. I also remember that at the same time, in Washington, the word on farming was "Get big or get out" – a policy which is still in effect and which has taken an enormous toll. The only difference is that of method: the force used by the communists was military; with us, it has been economic – a "free market" in which the freest were the richest. The attitudes are equally

> cruel, and I believe that the results will prove equally damaging, not just to the concerns and values of the human spirit, but to the practicalities of survival."

The "who," or the "what," that allocates value to human and non-human ecologies through the negotiation of these three levels of interactions is a value-laden process, not a value-free process.

The popularity of Patagonia as a tourism destination does offer new and positive economic opportunities for local people, yet simultaneously raises concerns regarding the intersection of tourism and the environmental. Overcrowding in Torres del Paine National Park is just one example of the "un-environmental" side of tourism. New limitations for visitors are now in place, and a strategy for improved waste control is being implemented. Nonetheless, the mere existence of these problems illuminates the "shadow side" of development when there is too much interest in the *economic* potential of a place, and not enough protection of the actual environment. Furthermore, the occurrence of forest fires accidentally started by tourists, plus the arrival of invasive species such as the algae Didymo, demonstrate how creating or defining protected areas on paper also requires preventative measures and active management if true conservation is to occur (Jax and Rozzi 2004).

The application of new agricultural technologies on Patagonian *estancias* is directly related to an increase in ranch size and the infusion of new sources of capital by non-local entrepreneurs. Research published by the regional agricultural center INIA Kampenaike appears to focus predominately on the implementation of high-input strategies, such as irrigation, improved forage, and artificial insemination, to improve local livestock production. In the long run, will the application of these new agricultural technologies improve the sustainability – both environmental *and* social – of livestock systems in Patagonia? Or, will these new advances create a widening gap between the family ranches and larger livestock enterprises with increased pressure on the fragile austral environment? A narrow approach to agricultural advances that

depend heavily on technology and the "get big or get out" mentality will slowly, as Wendell Berry explains, make it impossible for the smaller ranchers to compete. If, or when, this happens, irreplaceable values and knowledge will be lost as the *baqueano* culture disappears. Improving the connectivity and access to markets[43], both nationally and internationally, would be a positive advancement for livestock producers regardless of *estancia* size,[44] as a larger market would increase the competitiveness of local livestock prices. Challenges for the future of the Patagonian livestock industry include exploring sustainable agrarian advances that improve production, protect local producers, and increase opportunities for rural youth to engage in agricultural activities.

Bernstein's final question implores: "What do they do with it?" The *nuances* invoked in this answer will be most influential to the future of the agrarian landscape of Southern Chile. It is quite difficult, and perhaps impossible, to ascertain that either tourism – or rangeland grazing systems – are inherently "more sustainable" or "lower impact" than the other. The true impact of either system depends solely on proper management. Increased mechanization of livestock systems may be a solution to the labor scarcity in the region. The arrival of Private Protected Areas (PPAs) may offer, in part, improved management and additional financial and human resources beyond the current capabilities of the national CONAF system (Cuevas 2015, Jax and Rozzi 2004). At the end of the day, one must ask: What is the goal, and what do we value? The answer could be increased incomes or higher regional GDP. Or maybe, environmental protection coupled with more productive and sustainable agricultural systems. The solutions may not be

[43] Costs incurred to ship calves north on the Navimag boat decrease rancher profits significantly due to Patagonia's geographic isolation from the rest of the country and animal quarantine issues of land travel through Argentina.
[44] According to ranchers interviewed during fieldwork, livestock in Patagonia (and particularly cattle) is sold for substantially less per kilo of live weight as compared to prices in the North. The ranchers explained this frustrating reality as a combination of: (a) the obligatory shipping costs for the Navimag, and (b) a smaller market where a few buyers can substantially control what is being paid regionally for livestock.

straightforward, yet it is good and necessary to continually refine the questions, and to seek the clearest answers. For example, can tourism protect against development in the long-run, or is it simply the newest chapter in the exploitation of Patagonian wilderness? Does "sustainability" only take into account the environment, or does it acknowledge culture, too? Bernstein's four questions for agrarian political economy raise important consideration regarding how, or if, intrinsic values for nature and culture can coexist in an overwhelmingly neoliberal system.

On December 6th, 2016, the first direct commercial flight from Santiago touched down in Puerto Natales, a town whose current population merits just five stoplights. The inaugural crowd, that included President Michelle Bachelet, emphasized the moment as a "historical milestone in the development of tourism" ("Con 174 pasajeros" 2016). The general manager of Latam Airlines Chile stated "we are proud to start flying to Puerto Natales and to expand our connectivity in Chile and with the rest of the world" (ibid). The logistical benefits of the new airport are substantial for Natalinos and tourists alike, as the 500km roundtrip to the Punta Arenas airport can be avoided. At the same time, the ease with which visitors, and particularly residents from Santiago, can reach Patagonia's most popular national park will certainly transform social and economic structures in the years ahead. Important considerations include: How will land value change? Will the presence of vacation or second homes increase? In what ways will additional air and ground traffic impact the environment? Are the appropriate protections in place to avert contamination, and properly manage, an increasingly congested national park? Puerto Natales, and Torres del Paine, have attained a new level of connectivity previously unknown to the region. How many more stoplights will there be in years to come?

Beyond tourism and ranching, Magallanes faces new challenges. The intensification of salmon farming is placing new pressures on water quality (Costello et al. 2012), a regional drought is forcing local cattle ranchers to evaluate if Magellanic rangeland qualifies as a

catastrophe zone (Bustos 2016), and there are new and disconcerting intents to commodify and exploit Patagonia's natural resources. In 2016, the Chabunco S.A. mining company submitted a proposal to begin an open-pit coal mine, nicknamed "Tranquilo," with an extraction capacity of five thousand tons per month, just twelve kilometers from Puerto Natales. Project advocates view the mine as a boost to economic and regional energy development, while opponents recognize serious threats posed to the ecosystem, environment, and public health. In January 2017, the Environmental Assessment Service of Magallanes (*Servicio de Evaluación Ambiental de Magallanes*, or SEA) executed their ability to enforce policy, and terminated the current version of the application; SEA cited an incomplete impact assessment that did not fully take into account how the open-pit coal mine would impact water, air, climate change, and traffic in addition to flora, fauna, and wetland areas ("SEA puso término" 2017).

The impact of globalization is placing increasing pressure on rural areas (Hall, et al., 2003), and it is more critical than ever before to analyze how "control over access, aesthetics, and landscape production" (Robbins 2012, 177) functions in particular geographies if threats to environmental and social sustainability are to be overcome. Conservationist and philosopher Aldo Leopold (1949, xvii) observed that "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect." Neoliberal land and environmental values are, by themselves, clearly unsustainable for protecting and preserving the natural resources and cultural landscape of Patagonia.

"This is not the time for discussing the liberation of the individual from the system," wrote Ulrich Beck (1997, 54), but rather the time to decipher just how to work within existing structures to "develop new institutional arrangements that can better cope with the risks we are presently facing…to find ways to deal democratically with the ambivalences of modern life and

decide democratically which risks we want to take" (ibid, 65). Patagonia, with its relatively untouched land and expansive geography, is one of the few places that can still decide how to value, and therefore engage with, not only the ecological components of landscape, but also how to retain its rural identity and localized knowledge before that, too, is lost. There is so much at stake. Noel Castree (2001, 19) implores: "What kinds of nature – or more properly natures, in the plural – do we want for what kind of future?" To answer this question is an immense challenge, yet for those who live in a region where natures still have a future, it is also a great privilege. How the local, national, and international community negotiates overlapping spheres of political, ecological, and social interests will shape the future of an increasingly complex and multidimensional Patagonian landscape.

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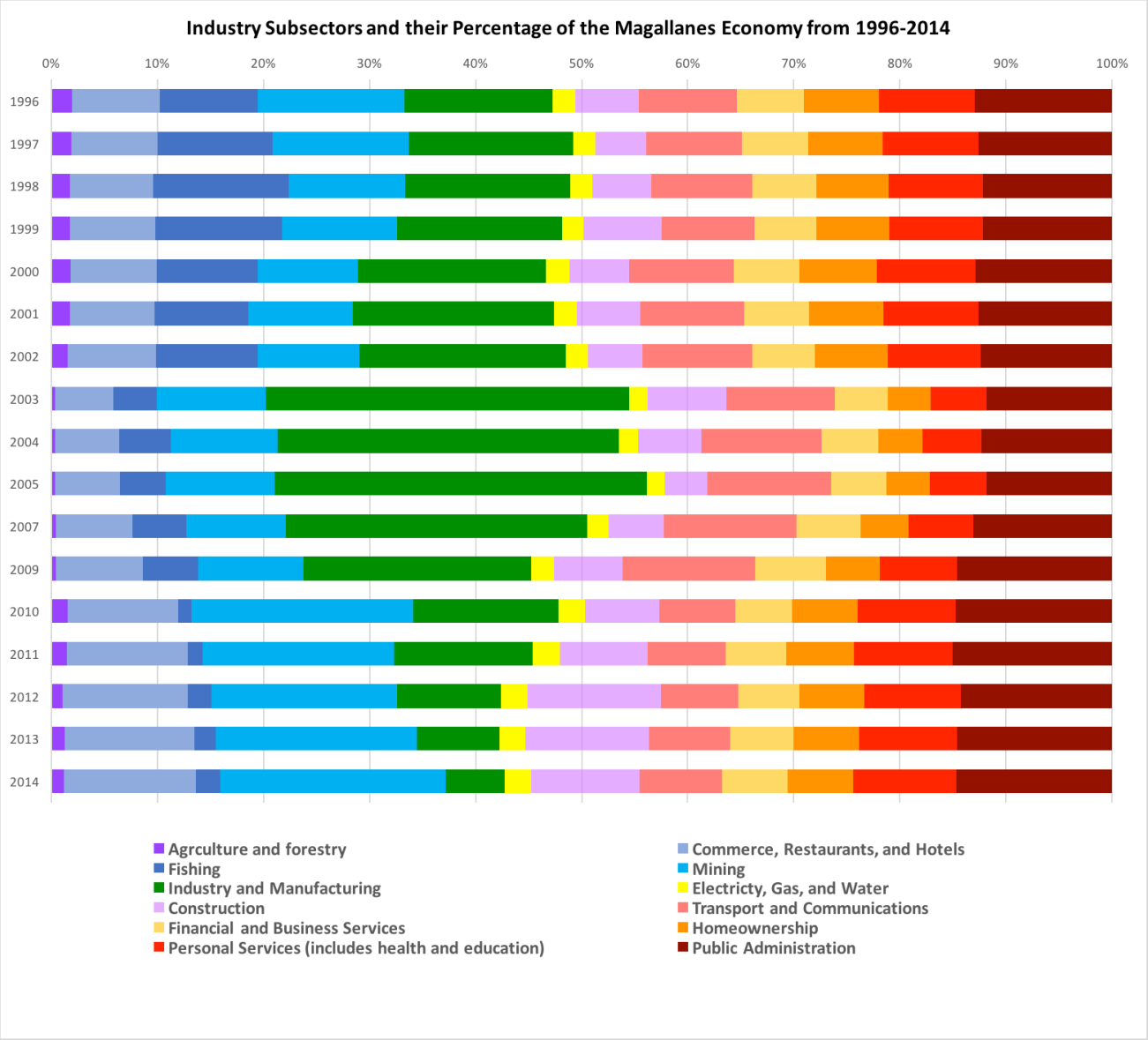
## APPENDIX A




***APPENDIX A**: Comparison of the Gross Domestic Product (GDP) in Magallanes, by percentage of overall GDP, from 1996-2014 (BNC [Banco Nacional de Chile] 2016).*

## APPENDIX B: INTERVIEW QUESTIONNAIRE

**Script of consent**: Hi. I'm a Masters student at the University of California and I'm studying the use of agricultural lands. As a researcher, I am interested in both the historical and present use of land in Southern Chile. I would like to ask you a few questions about your work in the region and your knowledge of livestock production.

I am seeking individuals who are willing to participate in an anonymous interview that will take approximately 20-40 minutes to complete. I will not share your identity, or any identifying features of your ranch, business, or person, with anyone outside of this conversation without your explicit oral or written permission to do so. Our conversation is for a paper that I am writing that I hope to use for my Masters thesis and later to publish.

***(Oral History/Photographs ONLY)*** In addition to anonymous interviews, I am hoping to collect some photographs as well as personal stories and oral histories of the region on audio or videotape. These materials will be used for the immediate research project (until June 2016); however, some of these materials may be used in the future as archival materials and may be published with or without your permission. If you share a story or personal anecdote on audio/videotape, or allow yourself or your property to be photographed, your identity may not remain anonymous.

If you choose to participate in this project, you may elect to: a) participate only in the interview, b) take part in both the interview and the oral history/photographs, or c) choose to end the interview/recording/photographs at anytime.

Thank you for helping me with this research. I hope that I can continue to learn more about the past and present context of livestock production in Southern Chile.

***Guión de consentimiento:*** *Hola. Soy un estudiante de maestría en la Universidad de California y estoy estudiando el uso de las tierras agrícolas. Como investigador, me interesa tanto en el uso histórico y actual de la tierra en el sur de Chile. Me gustaría hacerle algunas preguntas acerca de su trabajo en la región y su conocimiento de la producción ganadera.*

*Estoy buscando personas que están dispuestos a participar en una entrevista anónima que tomará aproximadamente 20 a 40 minutos para completar. No voy a compartir su identidad, o cualquier señas de identidad de su estancia, negocio o persona, con nadie fuera de esta conversación sin su permiso oral o escrita explícita de hacerlo. Nuestra conversación es para un trabajo que estoy escribiendo que espero utilizar para mi tesis de maestría y posteriormente publicar.*

***(Historia Oral / fotografías SOLAMENTE)*** *Además de entrevistas anónimas, estoy esperando para recoger algunas de las fotografías, así como historias personales e historias orales de la región de audio o video. Estos materiales serán utilizados para el proyecto de investigación inmediata (hasta junio de 2016); Sin embargo, algunos de estos materiales pueden ser utilizados en el futuro como materiales de archivo y podrán publicarse con o sin su permiso. Si comparte una historia o anécdota personal de audio / video, o permite que usted o su propiedad para ser fotografiado, su identidad no puede permanecer en el anonimato.*

*Si decide participar en este proyecto, usted puede optar por: a) participar sólo en la entrevista, b) participar tanto en la entrevista y las orales historia / fotografías, o c) elegir para poner fin a la entrevista / grabación / fotografías en cualquier momento.*

*Gracias por ayudarme con esta investigación usted. Espero que yo pueda seguir aprender sobre el contexto pasado y el presente de la producción ganadera en el sur de Chile.*

## APPENDIX B: INTERVIEW QUESTIONNAIRE

Survey # _____

| | |
|---|---|
| Gender:<br>*Genero:* | Location:<br>*Lugar:* |
| Age:<br>*Edad:* | Highest level of school completed:<br>*Nivel de educación:* |
| Date:<br>*Fecha:* | Who is present?<br>*Quien esta?* |

### I. GENERIC

| | |
|---|---|
| 1. In what region of Chile were you born? Or, in which country? (*En que región de Chile naciste? O en que país?)* | Region:<br>Country: |
| 2. How long have you lived or worked here? *(Cuantos años has vivido o trabajado acá?)* | |
| 3. Do/did you work for yourself, or for someone else? (*Trabajas por si mismo? O trabajas por otra persona?)* | A. Por si mismo<br>B. Por otra persona |
| 4. In what type of industry do you work? *(En que tipo de industria/empresa trabajas?)* | |

### II. PATAGONIA and NATALES

| |
|---|
| 5. In 1-2 sentences, what is it like to live in Patagonia? *(En 1-2 oraciones, como es para vivir en Patagonia?)* |
| 6. What are the most significant concerns right now for individuals who work in your industry? (i.e. tourism, livestock, etc.) (*Hoy en día cuales son las preocupaciones principales para la gente que trabajan en ___ (ganadería, turismo, etc).* |

| | | |
|---|---|---|
| 7. How would you describe the people who work and live in Puerto Natales? *(Como describieras la gente que viven y traban en Natales?)* | | |
| 8. In the past few years, what in Natales/the region has changed, and what has stayed the same?: *(En los últimos años, que en Natales/la región ha cambiado, y que siga lo mismo?)* | | |
| 9. What changes do you expect to see in the region within the next 5 years?: *(Que cambios piensas ver en el región en los próximos 5 años?:)* | | |
| 10. In your opinion, which is more profitable: livestock or tourism? Why do you say that? *(Cual es mas rentable, trabajar en la ganadería o en turismo?)* | A. Livestock | B. Tourism |
| | *Reason:* | |

**III. LAND**

| | |
|---|---|
| 11. Thinking historically about who has owned/purchased land in the region, how would you describe the majority of landowners: *(Pensando históricamente de los dueños de las tierras en la región, como describieras la* | A. Historically in the 1970s and 1980s? (*históricamente, en los 1970s y 1980s)?* |
| | B. In the 1990s and early 2000s? Local or non-local? *(en los 1990s y 2000s)?* |

| | | |
|---|---|---|
| *mayoría de los dueños de las tierras?)* | C. Who owns land now in Patagonia? *(ahora quien son los dueños de la Patagonia)* | |
| 12. Do you think the way that land is **used** is changing? If so, can you give an example? (*Crees que la manera en que están usando los terrenos esta cambiando? Puedes dar un ejemplo?)* | | |
| 13. Do you think the way that land is **valued** is changing? If so, can you give an example? (*Crees que el valor de los terrenos esta cambiando? Puedes dar un ejemplo?)* | | |
| 14. Do you own land? *(Eres dueño de un terreno?)* | A. Yes | B. No |
| a. How many hectares do you own? *(Cuantos hectáreas tienes?)* | A. <100 hectares<br>B. 100-1,000 hectares<br>C. 1,000-3,000 hectares<br>D. 3,001-5,000 hectares<br>E. 5,001-10,000 hectares<br>F. 10,001 – 20,000 hectares<br>G. 20,001 – 30,000 hectares<br>H. 30,000+ Approx:_____ | |
| b. In what year did you purchase or acquire your land? *(En que año compraste o conseguiste tu terreno?)* | | |
| c. From whom did you buy the land? Or, how did you acquire the land? *(A quien compraste tu terreno o como lo conseguiste?)* | | |
| d. When you initially purchased or acquired the land, for what purpose did you intend to use the land? *(Cuando compraste el terreno cual era el propósito?)* | | |
| e. Do you still use the land for the same purposes as originally purchased? If not, what has changed? *(Todavía usas tu terreno por el mismo propósito(s) que tenia cuando lo compraste? Si no, que ha* | | |

| | |
|---|---|
| *cambiado?)* | |
| f. Have you sold any of the land you originally purchased? *(Has vendido algo del terreno que compraste antiguamente?)* | |
| g. Would you be able to purchase the same (amount of) land now? Why or why not? *(Podrías comprar el mismo terreno ahora? Porque?)* | |
| h. Would you want to purchase the same land now? *(Te gustaría comprar el mismo terreno ahora?)* | |
| i. Do you intend to purchase any other land(s) in the near future? *(Tienes intenciones de comprar otro(s) terreno(s) en el futuro?)* | |

| | | |
|---|---|---|
| 15. Has anyone asked you or approached you in the past 5 years asking to by your land? *Alguien te ha preguntado en los últimos 5 años si quieres vender tu terreno?* | A. Yes | B. No |
| b. When? *Cuando?*<br>c. Why did they want to purchase it? (Intended use) *Porque querían comprar tu terreno?* | | |
| d. Do you consider selling your land? Why or why not? *Piensas vender tu terrero algún día? Porque?* | | |

## IV. WORKERS

| | |
|---|---|
| 16. What is the monthly and/or daily wage for people who work in your industry? Do you think this is what people should be paid? Why or why not? (*Cual es el sueldo mensual y/o cuanto ganan por día la gente en tu tipo de trabajo? Son buenos los saldos? Porque piensas eso?)* | |

| | |
|---|---|
| 17. Where are most of the workers from? (*A donde son la mayoría de los trabajadores?)* | |
| 18. What were the characteristics of workers in the past? Now? *(Cuales eran las características de los trabajadores antiguamente? Y ahora?)* | |

**V. LIVESTOCK**

| | |
|---|---|
| 19. What type of livestock do you raise? *(Que tipo de ganado tienes?)* | A. Cattle (Vacuno)<br>B. Sheep *(Ovejas)*<br>C. Cattle and sheep *(Vacuno y oveja)*<br>D. Other *(Otro?)* |
| 20. Approximately how many animals (and of what type) can your land support? (*Aproximadamente cuantos animales (y de que tipo) puedes tener en tu campo?)* | A. Cattle:<br>B. Sheep:<br>C. Horse: |
| 21. Have you noticed any changes in the prices of animals (cattle/sheep) or horses in the past few years? What could be the reason for this? (*Has notado cambios en los precios de los animales o caballos en los últimos años? Cual podría ser la(s) razón(es)?)* | |

**VI. TOURISM**

<table>
<tr><td rowspan="2">22. Do you wok in tourism? (Trabajas en turismo?)<br><br>a. When did you start working in tourism?<br>b. Did you work previously in another occupation? (Cuando empezaste a trabajar en turismo? Trabajaste antes en otra ocupación?)</td><td>A. Yes</td><td>B.<br>No</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td>23. Why do you think most tourists come to Puerto Natales? (Porque piensas que los turistas vienen a Puerto Natales?)</td><td colspan="2"></td></tr>
</table>

| | |
|---|---|
| 24. What do you think are the positive and/or negative impacts of tourism? (*Cuales son los puntos positivos y negativos del turismo?)* | |
| 25. What is the impact of tourism on ranching? (*Que impactos produce el turismo a la ganadería?)* | |
| 26. On a scale of 0-5, how well do you think tourists (Chilean and International) understand the livestock and ranching history of the region? *En una escala de 0-5, cuanto piensas que los turistas (Chileno y extranjero) entienden la historia de ganadería en la región?* | 0 1 2 3 4 5<br>None Moderate Extensive<br>*Zero Algo Mucho* |
| 27. (For non-native individuals) Why did you first choose to visit this region? *Porque elegiste visitar esta región?* | |
| 28. (For non-native individuals) Why did you return to live/work here? *Porque volviste a trabajar/vivir acá?* | |

**VII. General closing questions**

| | | |
|---|---|---|
| 29. Tourism is good for Magallanes. *El turismo es bueno para Magallanes.* | A. Agree | B. Disagree |
| 30. Ranching and livestock production is an economically viable activity. *Es rentable criar ganado.* | A. Agree | B. Disagree |
| 31. Tourism is an economically viable activity. *Es rentable el turismo.* | A. Agree | B. Disagree |

| | | |
|---|---|---|
| 32. Most land around Puerto Natales is owned or controlled by local people. *La mayoría de los terrenos, negocios, y empresas en Natales (y sus alrededores) tienen dueños o administradores de la región.* | A. Agree | B. Disagree |
| 33. Due to current changes in Patagonia the local people will be better or worse off in the future. *De parte de los cambios ahora en la Patagonia la gente local tendrá mejor futuro.* | A. Better | B. Worse |
| 34. Is there anything we didn't talk about that you would like to add? *Hay algo mas que te gustaría añadir de que no hemos mencionado?* | | |

## APPENDIX B: INTERVIEW QUESTIONNAIRE

**Oral History (Additional verbal consent given on audio or video recording)**

1. Tell me a little bit about your childhood.
2. What jobs have you had? What do you do for a living now?
3. Do you know any stories about how your family first came to Magallanes? Where did they first settle? Why? How did they make a living? Did your family stay in one place or move around? How did they come to live in this area?
4. What do you miss most about the way it used to be?
5. Who are some of the great (important/memorable/significant) people from here?
6. What stories have come down to you about your parents and grandparents?
7. When you were finishing high school what options did you consider for where to go from there?
8. Describe the place where you grew up. What was it like? How has it changed over the years? What brought about these changes? What did people do for a living? What do they do now?
9. Did you or your family work for the Sociedad Explotadora de Tierra del Fuego or Comunidad Rio Serrano? Describe your experience ranching communally held land.
10. Were you or your family affected by the agrarian land reform in the 1960's-1970's? If so, how? What changed?
11. Did you notice any changes in land use after private land ownership was reinstated in the 1970's?
12. Do you remember your first contact with international tourists visiting the region? If so, when was this? What was the encounter like?
13. What are the most important skills for people who work in livestock?
14. What are the most important lessons you've learned in life?
15. Is there anything we didn't talk about that you would like to add?

**APPENDIX C: "The Last Ranches" by Andria D. Hautamaki**

Tea
Legitimo