

HIGH NET WORTH OWNERSHIP REGIMES
IN CRITICAL CONSERVATION AREAS:
IMPLICATIONS FOR RESOURCE GOVERNANCE

by

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DEDICATION

To the Resources and Communities Research Group: Whatever richness is in this dissertation is the result of working and learning within a community of intellectual and emotional abundance. I will never be grateful enough for the chance to be a part of it.

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ABSTRACT

Despite the expanding financial power of the global super-rich and their expansive control over natural resources as proprietors of an increasing number of large agricultural properties, geographers have only just begun to assess the influences of wealthy landowners on systems of environmental management. In this dissertation, I examine a set of ownership dynamics related to the acquisition of ranchland properties by high net worth (HNW) individuals in the Greater Yellowstone Ecosystem, a charismatic conservation area in the Northern Rockies, USA. The dissertation deploys an ethnographic approach informed by social-ecological systems theory and insights from the literature on political ecology of the American West to assess HNW ownership regimes at the landscape and property scales from the perspective of an iconic regional resource institution: state-led elk management. The work follows a central conceptual logic related to the evolution of HNW land management, namely that ranch owners and properties interact with local ecologies, social actors, and resource institutions in ways that influence land use strategies and practices over time and space. At the landscape scale, patterns of land-use intensification (e.g., increased use of irrigation) have converged with growing diversification (e.g., increased residential development), to make elk management more complex, as elk encounter a range of push and pull factors across a shifting and diverse landscape of land-use values and practices. A defining characteristic of the trajectory for ranches of the super-rich is that HNW landowners ranch with, as opposed to for, money, though multiple social-ecological factors (markets, property lines, legal institutions, and unpredictable rangeland socio-ecologies) also shape HNW landowners' abilities to realize management goals and visions. Where HNW ownership regimes intersect with shifts in the political and moral economy, conflicts related to public access to wildlife on private lands have emerged. In this context, the work of wildlife managers requires adaptive strategies as wildlife management has become more about managing people – and the psychosocial outcomes of conflict – than managing wildlife. Ultimately, this research argues that the challenges HNW ownership regimes pose for resource governance require strategic engagement with the broader structures of wealth concentration and resource control that have enabled them.

CHAPTER ONE

QUESTIONING THE INTERACTIONS OF THE GLOBAL SUPER-RICH AND
SYSTEMS OF RESOURCE MANAGEMENT

“A ranch, by definition, is simply a swath of grassland that’s big enough to raise grazing livestock, usually cattle, that feed off the pastures. But a luxury ranch, or ‘recreational ranch’ is more about indulging in a romanticized version of the cowboy lifestyle, nestled on acres and acres of pristine natural beauty. Premium recreational ranches still have some working ranch component...and might grow hay, but the real value is owning massive expanses of grand pastures and meadows, filled with wildlife, giving the wealthy private access to top-tier outdoor recreation like hunting or fishing, something that’s increasingly scarce” (Plagianos 2017).

In the years since the 2008 financial crisis, the concentration of capital held by the world’s super-rich has grown significantly: between 2009 and 2015, the top 1% of the U.S. had their income increase by 37% while the bottom 99% grew by only 7.6% (Kasperkevic 2016). In roughly the same time period (from 2007 – 2017), the average number of acres held by the 100 largest landowners in the United States grew from 145,000 acres to 250,000 acres (O’Keefe 2019). The implications and outcomes of these two converging trends, the rising financial power of high net worth (HNW) individuals, and their growing control over natural resources as proprietors of large agricultural properties, is the subject of this dissertation.

Geographers have long known the importance of the question who owns what (Peluso and Lund 2011, Linklater 2013). The ability to influence land use and management gives proprietors of rural properties broad power to shape outcomes in social and ecological systems. Landowners can take on management practices that alter

the provisioning of ecosystem services and functions. They can control the access to and use of resources within their territory in ways that shape traditional livelihood patterns and affect the social institutions that govern resource management. As such, land ownership can be a vehicle of social-ecological change and can instigate a set of rural transformations with subsequent feedbacks to systems of environmental management and resource governance.

In this dissertation, I examine a set of ownership dynamics related to rural agricultural properties and the growing trend of ranchland acquisition by high net worth (HNW) individuals. By convention, high net worth individuals own \$1m in *investable* financial assets; ultra-high net worth individuals control \$30m or more (Beaverstock et al. 2004). I use this definition less for its discrete boundaries of wealth, and more for its emphasis on liquidity as a critical distinction from other rural landowners who are classically “land rich, cash poor.” While ranch properties have long been a draw for wealthy individuals (Gressley 1971, Righter 2008), the pace and scale of ownership change associated with the current political economy of wealth accumulation for wealthy individuals signals the growing prevalence of high net worth ownership regimes – land ownership patterns in which HNW individuals exercise a controlling interest in private land and drive rural land markets (Norman C Wheeler and Associates 2015, Haggerty and Gosnell 2018).

Land ownership transition in rural settler societies has been studied and analyzed primarily as a subset of amenity migration, the phenomenon involving the relocation of those with increased wealth and mobility to rural places in search of improved quality of

life and natural and cultural amenities (Johnson et al. 2003, Gosnell and Travis 2005, Gosnell and Abrams 2011). Collectively, this work argues that the values, perspectives, and land management orientations of amenity owners differ from their more traditional neighbors in consequential ways (Moss 2006, Abrams and Bliss 2013, Argent et al. 2014). These differences have shown to be a source of conflict as they have accelerated natural resource enclosures and disrupted local resource management institutions and livelihoods (Walker and Fortmann 2003, Haggerty and Travis 2006, Yung and Belsky 2007, Hurley and Halfacre 2011, Robbins et al. 2012).

This dissertation builds on findings from the amenity canon and in particular the prominence of amenity owners as a social-ecological force on the landscape. However, in critical conservation areas and other charismatic landscapes where the price of agricultural land outpaces the value of its productive returns, the ability to mobilize outside financial capital has become a distinct characteristic of buyers of large ranch properties (Estate 2020, Farrell 2020). HNW landowners can also be further differentiated by their ability to affect substantial social-ecological change in rural landscapes because of the scale at which they operate: thousands to tens of thousands of acres (Gosnell and Travis 2005). Indeed, geographers emphasize that the emergence of well-resourced and moneyed HNW landowners into rural land markets will instigate long-term changes to the structure and function of agricultural land ownership (Roberts and Schein 2013, Wolford et al. 2013). As such, this work adopts a perspective of HNW ranch ownership as a set of social-ecological relations embedded in broader geographies of the super-rich.

I focus my investigation on HNW ownership regimes in the Greater Yellowstone Ecosystem (GYE), a region where large rural ranch properties can be extremely consequential to the region's larger ecosystem function (Wilkinson 2013). Accordingly, HNW landowners have emerged as key actors in the evolution of the region's systems of resource management and ultimate conservation trajectory (e.g., French 2017). To understand the nature of this influence and its potential to affect resource governance over time and space, this dissertation applies a mixed-methods approach, informed by social ecological systems perspectives and theoretical insights from political ecology, to the case of HNW ownership as a driver of social-ecological change. I examine HNW ownership from multiple scales – at the landscape and property levels – and from the perspective of resource managers and management. This provides a multifaceted perspective on HNW ownership regimes and a synthetic analysis of implications for resource governance in critical conservation area through five scholarly efforts:

1. A critical review of literature and generation of a novel framework for examining ownership change over time;
2. A characterization of land-use change in geographies and its relevance to elk management;
3. An analysis of HNW land management practices and their influence over local social and ecological systems;
4. An analysis of how wildlife management strategies are responding to wildlife conflict amidst the current moment of HNW ownership; and,
5. A synthetic discussion of research implications for conservation research.

In the next section, I describe how I use elk management in the GYE as a perspective on resource governance in critical conservation areas. I then touch on the aspects of social-ecological systems theory and political ecology that serve as conceptual guideposts for this dissertation's research trajectory and provide an overview of my methodological approach. I conclude with a short overview of the remaining chapters.

Resource Governance in a Critical Conservation Areas:
Elk Management in the Greater Yellowstone

This dissertation uses the Greater Yellowstone Ecosystem (GYE) as a research setting to explore resource governance issues in critical conservation areas. A charismatic and extremely iconic landscape, the GYE is referred to frequently as one of the world's last remaining relatively intact ecosystems (Hansen and Phillips 2018). Originally designated as a border defined by the range of Yellowstone grizzly bear, the GYE spans three states – Wyoming, Montana, and Idaho – and over 19 million acres (Primm and Clark 1996). The region's complex property mosaic – comprising federal, state, Indian, and private holdings – makes the GYE a frequent touchstone for debates related to the broader politics of ecosystem management and the challenges that come with managing transboundary resources (Epstein et al. 2018). Despite making up less than a third of the GYE's total land area, private lands control much of the region's low elevation flood plains, river bottoms, and most ecologically productive land. This geography reinforces a strong link between private lands and local communities and ecologies. Large, intact ranches support local agricultural economies, influence the ecological functioning of landscape, and provide winter range and critical connective corridors for the region's

numerous migratory wildlife, including deer, elk, moose, bison and pronghorn antelope (Middleton et al. 2020). In this context, assessing and characterizing private land management dynamics is a critical part of a robust understanding of opportunities and challenges for globally recognized conservation areas and rural sustainability transitions (Doremus 2003, Cross et al. 2010, Marsden 2016).

This dissertation uses elk and elk management as a lens into larger debates related to the GYE's status as a critical conservation area. Among the GYE's migratory wildlife, elk are among the most visible, and ecologically and economically important. As a dominant species of the GYE's montane and rangeland habitats, elk are primary food source of keystone carnivore species and scavenger communities, a sought-after game species, tourist attraction, and symbol of the region's "wildness" (Smith 2011). Elk also provide a classic case study in the complexity of transboundary natural resource management: Most of the major migratory herds in the GYE depend on an area approximately four to five times the size of the available national park lands (Yellowstone and Grand Teton National Parks) (Cole et al. 2015, Middleton et al. 2020). Private land is a major component of elk habitat in GYE, providing lower-elevation grazing and access to water sources; estimates suggest that elk can spend anywhere from twenty to eighty percent of their time on private land in the GYE (White et al. 2010, Proffitt et al. 2013, Brennan et al. 2017). From the 1950s through the mid-1970s, dominant patterns of private land use and social tolerance of elk varied spatially within the GYE but were otherwise relatively static (Haggerty and Travis 2006, Robbins 2006).

More recently, the GYE has seen major shifts in land use (for example, ranching for wildlife rather than for livestock) and new land use patterns (such as the proliferation of residential subdivisions in agricultural valleys and growth in the extent and population density of cities and towns). These changes have important implications for how elk move on and use private lands in the GYE. Elk are often drawn to areas with increased access to feed like alfalfa fields and may use residential structures as safe harbors from hunters and predators (Cross et al. 2010, Proffitt et al. 2013, 2015). Alongside land use changes that shift the distribution of elk attractants and deterrents, the social tolerance for elk has evolved across the region, albeit unevenly, generating significant conflict between stakeholder groups invested in elk management (Burcham et al. 1999, Haggerty and Travis 2006, Robbins 2006). In this context, a key dynamic is the changing role of hunting in determining the distribution and density of elk on private land, an issue I address in more detail in Chapter Five.

Another key dynamic associated with shifting elk distributions and densities across the GYE includes the ecology of the elk themselves. Though elk populations have declined within Yellowstone National Park, most of the surrounding elk populations have been stable or increasing such that some are five to nine times larger than they were in the 1970s and 80s. Coincident with these expanding populations is an increase in brucellosis, a highly contagious bacterial disease that affects ungulates and livestock (Cross et al. 2010, Rhyan et al. 2013, Brennan et al. 2017). The risk of brucellosis spread is particularly meaningful for the agricultural systems of the area and the nation. Even a small “escape” of brucellosis beyond the GYE’s zone of testing would quickly scale up

into a serious crisis for the livestock economy and a serious political and administrative challenge for wildlife managers (Schumaker et al. 2012).

The rising costs and risks associated with brucellosis – alongside the politics of access related to hunting and conserving one of the region’s most iconic migratory species – demonstrate the increasingly complex nature of elk management in the context of amenity-driven land use and land tenure change. In the next section, I describe how these interconnected social and ecological factors warrant a deliberate approach to unpacking the implications of HNW ownership regimes on systems of resource management – one that integrates the interdependent nature of the GYE’s conservation issues with the region’s connections to broader shifts in the political economy and patterns of land ownership change.

Methodological Approach

Building on previous efforts to qualify the unique characteristics of HNW landowners, I address HNW ownership regimes as a case of social-ecological change. In doing so, I draw on two overarching theoretical literatures: social-ecological systems theory and political ecology.

Social-Ecological Systems

In their review of social-ecological systems (SES) literature, Stojanovic et al. (2016) describe SES as a concept with multiple definitions. As a metaphor, SES is a way to conceptualize the relationship between humans and the environment as interconnected and complex (Walker and Salt 2012). As an ontology, SES is a perspective where aspects

of the social and ecological are coupled and linked through multiple scales of interdependent relationships and feedbacks; these social-ecological systems have the potential to reach thresholds, which if crossed, can result in system-wide reorganization and change (Gunderson and Holling 2002). The concept has also been applied more didactically, as a research framework. For example, Ostrom's SES framework outlines distinct components in every system: resource systems, resource units, governance institutions, and individual actors. By examining the outcomes that result from interactions between each component, Ostrom's SES approach seeks to "harness complexity" (Ostrom 2009 p. 420) and explain how various social and ecological relationships create outcomes related to resource management. Similarly, Berkes and Folke (1998) use SES as an analytical framework to study the links between ecosystems and resource institutions. In doing so, Berkes and Folke theorize their SES framework as a strategy for assessing institutional resilience and how "institutional resilience can be combined with ecological resilience for mutual benefit" (Berkes and Folke 1998, Colding and Barthel 2019 p. 3).

SES approaches to social-ecological change view interactions between aspects of the social – resource actors, governing institutions, social norms and customs – linked to and able to create feedbacks in ecological components of a system – land cover, wildlife population dynamics – and vice versa. As such, visualizations of SES systems often show aspects of the social and the ecological as nested across scales or linked interdependently. In this dissertation, preliminary research began with the development of a conceptual model of social-ecological change (Figure 1.1). Drawing from existing literature and

knowledge of the system, the model sought to map out various pathways through which HNW owners and HNW ownership regimes could instigate change in the existing SES, with resulting feedbacks to resource governance.

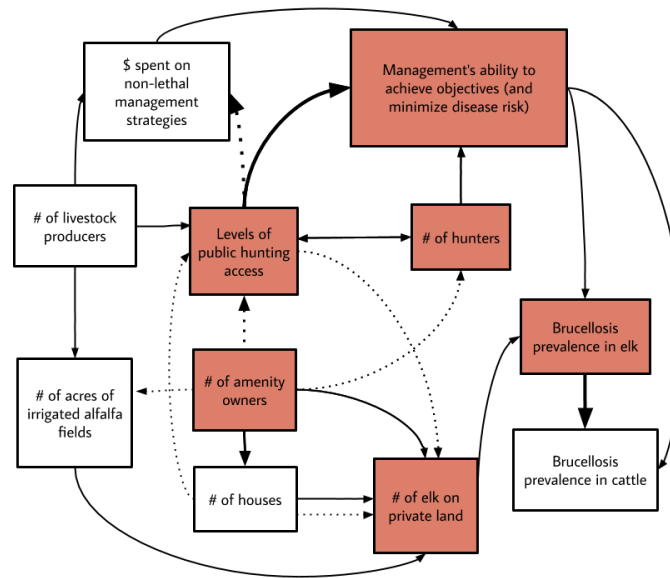


Figure 1.1. Conceptual model of social-ecological system dynamics in GYE related to HNW landownership and elk management. Solid arrows represent positive feedbacks, and dotted arrows represent negative feedbacks. The width of arrows indicates (hypothesized) strength of feedbacks. This research focuses on interactions amongst and within system components shown as red boxes.

Despite widespread application of the SES approach in resource assessments (Colding and Barthel 2019), the framework has notable limitations. Ecologists and natural scientists have observed a lack of the “E” in SES research where “ecological processes matter only insofar as they present a collective-action problem related to the collection and processing of information” (Epstein et al. 2013 p. 2). Natural resources managers often report difficulty in operationalizing resilience and SES frameworks given that resource stakeholders typically prefer one ecosystem state over another. Such

normative goals make asking what state an SES is resilient to rhetorically cumbersome from a management perspective (Carpenter et al. 2001).

Equal, if not more, criticism of SES and resilience has come from the social science community. Stojanovic et al. (2016) point out that while a systems perspective is advantageous for considering social components (like economic systems), other components (like an individual's values, perceptions, or intentions) are less amenable to conceptualization as a system. Cote and Nightingale (2012) point out that SES approaches imply the bounding of systems that are inherently unbounded, and often lack a way to conceptualize the role of macro-institutions, realities like markets and globalization, and consequential qualities of network relations such as power dynamics. Lastly, some social scientists reject SES altogether claiming a resilience framework subtly reinforces social inequities by framing them as an assumed, and highly resilient, baseline condition (Evans and Reid 2013). In response to these critiques, several scholars have highlighted the potential for political ecology – a perspective that seeks to disentangle the contested nature of control over and access to natural resources – to ameliorate gaps in the SES perspective (Nygren and Rikoon 2008, Boonstra 2016).

Political Ecology of the American West

Not quite a discipline and more than a framework, political ecology (PE) is perhaps best described as “community of practice” (Robbins 2011) invested in the “social relations at different scales of environmental negotiation” (Nygren and Rikoon 2008 p. 770). Political ecologists come from diverse fields and study a range of environmental

issues but are generally united under the principle that environmental management is “power-laden rather than politically-inert” (Biersack 2006 p. 5).

Classic PE texts tend to focus on agrarian societies in the developing world and global south (Fairhead and Leach 1996), however rising acknowledgment of the global nature of resource conflicts has prompted the application of PE perspectives to more diverse geographies (McCarthy 2002, Walker 2003) A political ecology of the global north has caught particular hold in the American West – where a long history of land use conflicts, uneven rural development and periods of successive colonialization – make PE’s emphasis on disentangling asymmetrical access to resources particularly salient (Limerick 1987, White 2015).

In this dissertation, I draw insight from the emerging canon of PE in the American West (Martin et al. 2019) where political ecologists investigate the uneven economic transitions associated with amenity populations, the increasing expansion of exurban development, and rural reconstruction and argue that land control is a medium through which landowners instigate land use change. For example, amenity migrants may shape the landscape through their particular expectations of what is aesthetic, natural, and wild, as they do in Paul Walker and Louise Fortman’s (2003) study of exurban development in the Sierra Nevada. Robbins et al. (2012) show how amenity migrants exercise elite authority on local planning boards or conservation districts to support or enact particular land use regulations. Ultimately, political ecologists argue that these changes re-commodify landscapes through the cultivation of an “amenity” sense of place that dictates amenity-oriented landscape design features and land use practices (Hurley 2013).

In this dissertation, I draw insights from both SES and PE to operationalize a system's-oriented perspective to HNW ownership regimes. I use an emphasis on system relationships to ask a series of questions related to the interactions of HNW landowners and their ranch properties – how HNW landowners manage their ranches and what social-ecological changes their ownership produces. Rather than unidirectional change, I use attention to the feedbacks that link land management and land dynamics – ways in which HNW land management has induced shifts and changes in systems of resource governance, and more specifically elk management. Because relations of power and conflict are implicated in issues of ownership, property, and access to and control over various resources, this research merges the holism of an SES approach with attention to the broader structural forces found in PE. The result is not a traditional social-ecological systems assessment per se, but a perspective on resource governance generated through a comprehensive exploration of HNW ownership regimes, their influences on the landscape, and connections to the emerging political economy of wealth concentration.

Data Collection

This dissertation follows what Luker refers to as a “logic of discovery,” as opposed to a “logic of verification” (Luker 2008) and examines HNW ownership as a cultural phenomenon. Specifically, I combined multiple qualitative data-collection techniques with immersive time in the “field.” Long-term engagement and immersion in study sites and cultures is the hallmark of ethnographic methods, an approach that relies on observation, description, and a deep understanding of context to generate theory and insight (Lewis-Beck et al. 2004, Luker 2008). While this work is not an ethnography in a

formal sense – given that I did not live for long periods of time with HNW families – I approached data-collection efforts with an ethnographic sensibility. I sought out opportunities to develop a broad understanding of the study context through deliberate participation and observation of relevant social activities and experiences.

The suite of findings I present in the chapters that follow draws from four years of engagement in issues and activities related to HNW landowners, HNW land management, and regional elk management. While I spent time in various locations across the region, I concentrated my ethnographic energy on the northern half of region – portions of the GYE in Montana and northwest Wyoming and more specifically in three main ranching neighborhoods with varying degrees of historic and ongoing HNW ownership (Hansen and Wyckoff 1991, Travis et al. 2003): the Madison Valley, MT; the Paradise Valley, MT; and Park County, WY. Data collection activities aimed to capture and understand the range of variance – the various ways that HNW landowners manage land and influence resource governance – as opposed to a particular distribution of HNW influences across the landscape and comprised two general efforts: 1) observational studies and immersive field time and 2) a series of semi-structured and open-ended interviewing.

This dissertation was informed by a variety of observational activities. First, starting in 2016 through the completion of this dissertation in 2020, I regularly attended public meetings, workshops, and conferences related to elk management, wildlife conflict, private land management, and conservation more generally. These events included convenings of academics and practitioners (e.g., the annual meeting of the

Western Association of Fish and Wildlife Agencies, easement trainings put on by the Montana Association of Land Trusts) as well as more advocacy and NGO-type gatherings (such as those hosted by the American Prairie Reserve and Western Landowners Alliance). Participation in and observation at these events provided opportunities to develop research contacts and identify prominent discourses related to the resource context and salient resource challenges.

Participation in Montana State University Grassland Resilience Working group, a transdisciplinary cohort of faculty, graduate students, and regional stakeholders, provided another important learning outlet with relevance to this dissertation. In particular, a multi-year engagement with multiple rural communities in central Montana served as a critical learning space for contextualizing the key themes of this dissertation in a broader context. Along with members of my lab group, I participated in the quarterly convenings of the Charles M. Russell Community Working Group as well as the board meetings of several regional conservation districts and local landowner working groups. These activities served as an additional opportunity to learn about wildlife management issues and the opportunities and challenges of land ownership change from the perspective of multi-generational ranching communities. As such, this set of observation efforts served as a comparative foil to my more focused study of HNW ownership regimes, or what Luker calls a “tacit control group” (2008 p. 105). In sum, while none of the experiences above are featured as formal elements in this dissertation’s research, they helped generate more confidence in each of the chapter’s investigation of HNW ownership regimes as a distinct

phenomenon, separate from but also related to the broader social landscape of ranching communities.

More central to this research was a series of immersive and observation experiences I conducted in several GYE ranching neighborhoods. I attended multiple meetings of the Madison Valley Ranchlands Group in Ennis, MT as means to understand relationships between local working groups and their local HNW landowners. I also spent approximately eight weeks over the course of two summers (2017, 2018) in Park County, Wyoming. There I attended conservation district meetings of both the Cody and Meeteetse districts, philanthropic events hosted by the regional chapter of the Nature Conservancy, as well as multiple other community gatherings. Much of this work was facilitated by a residency at the Buffalo Bill Cody Center of the West.

I paired these observational experiences with a series of interviews and focus groups with a range of informants. Here HNW landowners were a central target of my sampling efforts. As I describe in several chapters, HNW landowners, like many wealthy and elite individuals, are notoriously difficult to study and present various challenges related to access. In total, I conducted interviews with six HNW individuals. Importantly, this dissertation did not quantify informants' wealth as a formal part of the sampling frame. Instead, I relied on publicly available information and key informants to verify the HNW status of interview participants. To supplement and also triangulate information about HNW ownership regimes, I also invested heavily in relationships with HNW "intermediaries" (Davies 2017), individuals who interfaced regularly with HNW landowners such as ranch managers, real estate agents and rural land appraisers, state and

federal resource management personnel, and employees of regional and national conservation NGOs. In sum, I conducted 72 formal interviews. For data analysis related to Chapter Four, I paired a subset of these interviews with an additional 12 transcripts from the Ranchland Dynamics project.

Research related to Chapters Three and Five was made possible by a set of relationships with wildlife managers and research experts at the Montana Department of Fish, Wildlife and Parks. I first connected with members of the department in the first year of my program and proceeded to meet on a roughly biannual basis for the remainder of my tenure as a graduate researcher. As informal advisors and also key stakeholders in the research outputs, members of the department offered insight on research design and provided research contacts and connections for both studies. Contacts at the department also generously reviewed research results, providing a crucial “member check”, and gave productive feedback on the projects’ analytical approach and outcomes.

Importantly, all five remaining chapters were informed by this dissertation’s connection to a broader scholarly effort, an NSF funded endeavor (Grant # 1832452) led by Julia Haggerty (PI) and Hannah Gosnell (co-PI). Specifically, Chapters Two and Four are collaborative products from this grant, and Chapter Five was an independent study that benefited from the mentorship of the project team and contextual insights generated through the grant’s additional research activities. I incorporate reflections from this larger set of studies in the concluding chapter, where I propose ways that regional transformations at the property scale related to HNW ownership of private land bring an

important set of complications to the public project of conservation and its research to policy praxis. I note additional funding sources in the acknowledgments.

Dissertation Overview

The remaining chapters of this dissertation comprise five individual scholarly efforts that, in sum, seek to provide a series of perspectives on HNW ownership regimes, their abilities to instigate social-ecological change, and in turn, their implications for regional systems of environmental management. I lay out a framework for organizing these perspectives in Chapter Two, a study entitled “Super-rich Landowners in Social-Ecological Systems: Opportunities in Affective Political Ecology and Life Course.” In reviewing the literature on amenity migration, the chapter highlights consequential knowledge gaps related to how HNW land management practices change over time. To fill these gaps, we synthesize theoretical insights from social-ecological systems, political ecology and sociology’s life course theory to inform a novel framework: The Property-Landscape Life Course (P-LLC). The P-LLC hypothesizes how aspects of a landowner’s life course – personal life histories, consequential events, and social interactions – intersect with ecological change to facilitate influence experiences and social learning that affect land management trajectories over time and space.

Chapter Three addresses HNW ownerships from the perspective of the landscape scale. The study combines GIS-analysis with qualitative data from a map-assisted focus group to assess various levels of land-use change on elk winter range. The results suggest that on elk winter range with both land-use intensification (e.g., increased use of irrigation) and diversification (e.g., increased residential development) wildlife

management is becoming more complex – elk encounter a range of push and pull factors across a shifting and diverse landscape of land-use values and practices.

Moving to the scale of HNW ranch property, Chapter Four, entitled “With, Not for, Money: Ranch Management Trajectories of the Super-rich in Greater Yellowstone,” features an in-depth qualitative assessment of HNW land management trajectories – the confluence of strategies and land-use values that inform land use over time. Drawing on an extensive data set of interviews and site visits, across a variety of GYE geographies (Park County, WY; the Madison Valley, MT; the Paradise Valley, MT), this study identifies social-ecological influences on HNW land management and characterizes shifts in HNW land management practices.

In Chapter Five, I shift focus from the particularities of HNW landowners to implications of expanding HNW ownership regimes for wildlife governance. The study entitled, “Managing Wild Emotions: Wildlife Managers as Intermediaries at the Conflictual Boundaries of Access Relations” examines conflict around elk through the lens of wildlife managers and more specifically their work with private landowners to secure access to private lands. The work documents how in order to effectively manage elk populations that frequent private lands, wildlife managers must enter an increasingly complex and emotionally charged terrain. The analysis finds that in this context, wildlife management has become more about managing people than wildlife and more specifically, the anger, fear, and frustration that landowners feel about the institution of wildlife management. I explain this labor as affective and emotional, in that it requires wildlife managers to manage the emotions of landowners as part of their everyday

practice. This work illuminates key constraints within the institution of wildlife management today and draws attention to the social costs securing access to public resources in an increasingly privatized and commodified private landscape.

Chapter Six, the final of the dissertation, lays out a series of synthetic findings from across the four main body chapters. To discuss the broader implications of this work for resource management, I propose ways that the dissertation's key findings suggest challenges for translating social-ecological assessments into conservation policy and action. Finally, I reflect on the study's overall design and process and offer lessons for future research on studying up.

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CHAPTER TWO

SUPER-RICH LANDOWNERS IN SOCIAL-ECOLOGICAL SYSTEMS:
OPPORTUNITIES IN AFFECTIVE POLITICAL ECOLOGY AND
LIFE COURSE PERSPECTIVES

Contribution of Authors and Co-Authors

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Abstract

The world's wealthiest individuals own an increasingly large portion of the world's rural agricultural land and through their ownership, assume unprecedented control over ecosystem processes and biodiversity. This critical review considers recent geographic scholarship and its implications for gaining traction in understanding high net worth (HNW) owners as critical components of complex social-ecological systems. Though scholars have begun to question the role of the super-rich in systems of environmental management, questions remain about how HNW individuals influence and shape rural communities and ecologies over time. This review identifies HNW landowners as key constituents of social-ecological system dynamics and examines how they change with the ecological and social systems in which they operate through feedbacks that are unique to the nature of ownership and management of extensive rural properties. To address literature gaps and motivate future work on HNW landownership and rural change, we offer a novel research framework and agenda that integrates affective political ecology and sociology's life course perspective through a social-ecological systems approach.

Introduction

From 2008 to 2017, the average number of acres held by the 100 largest landowners in the United States grew from 145,000 acres to 250,000 acres (The Land Report, 2018). Wealthy individuals have long shaped rural societies and environments. However, the surge of financial capital into rural land markets worldwide facilitated by high net worth (HNW) individuals since the 1990s has brought new attention to the scale and implications of the extensive rural land holdings of HNW landowners—an emerging geography of the “super-rich” related to global land grab dynamics (Hay, 2013). Their growing presence across vast geographic spaces means that today’s HNW landowners have new levels of individual influence in social-ecological systems. The potential impacts of this phenomenon raise questions about the motivations and actions of this demographic group. In many cases, HNW buyers of land aspire to more than a sound investment or production opportunity and report emotional and affective connections to a particular aesthetic. For example, when entrepreneurs Kris and Doug Tompkins purchased over 2.2 million acres in Chile and Argentina to hasten the pace of biodiversity conservation because of the region’s ‘haunting soulfulness’ (Bonney, 2018), or when media mogul Ted Turner aspires to ‘living in harmony with nature’ and restores native ecosystems on his vast American landholdings (Turner Enterprises, Inc., 2019), their actions suggest complex personal rationales for landownership. The association of large properties with status and value in elite classes is well-documented historically (Veblen, 1899/1998). Yet little is known about what material experiences, social networks, affective impulses, mental models, and philosophies shape land use and management

approaches among the contemporary super-rich and, by extension, what this emergent regime means for critical conservation areas and rural landscapes worldwide.

This critical review considers recent geographic scholarship and its implications for gaining traction in understanding HNW owners as crucial components of complex social-ecological systems. In reviewing literature that examines the lives and lifestyles of HNW individuals (Hay, 2013; Hay and Beaverstock, 2016), as well as their role as owners of rural amenity properties (Gosnell and Abrams, 2011), we highlight a key knowledge gap involving the evolutionary and relational dynamics of HNW landowners and HNW property systems. In response, we propose a framework that integrates insights from social-ecological systems, sociology, and affective political ecology to provide a longitudinal and system-driven approach for studying wealthy individuals and their influence on rural communities and ecologies.

Social and Environmental Dimensions of HNW Landownership

Recent work from geographers concerning the super-rich focuses on exposing the outrageous and sometimes peculiar aspects of their lives and lifestyles: for example, their luxury consumption patterns, the insular nature of their elite social networks, and their penchant for secrecy and isolation (McManus, 2013; Holmes, 2011; Davis and Monk, 2008). A related body of research has begun to track the adoption of boutique environmental causes by celebrities and wealthy, influential individuals (Brockington, 2009), and to examine how this trend has transitioned rural landscapes into sites of contested sustainability initiatives (Marsden, 2016). As landlords in critical conservation areas, HNW individuals frequently bring enthusiasm for land uses and practices that

espouse lofty social and environmental goals (e.g., conservation easements or the restoration of endangered species). As a complication to a narrative of altruism, however, Davison (2016) describes these environmental efforts as a type of “drawbridge sustainability,” where wealthy landowners create exclusive eco-paradises in order to seek out “private redemption through conservation” (2016: 353). This critique aligns with others who argue that the philanthropic activities of the super-rich typically support social systems and causes that reproduce their elite status and perpetuate hard class distinctions (Giridharadas, 2019).

By asking more than “who” and “where” the super-rich are, the literature described above begins to answer the question of how wealthy individuals shape the world around them (Hay and Beaverstock, 2016). Still needed, however, especially from the perspective of human-environment studies, is greater attention to material transformations in rural communities and of rural ecologies and to the role of the super-rich as dynamic agents of change in social-ecological systems (Folke et al., 2005). Nowhere do wealthy individuals exert more direct influence in this capacity than as owners of extensive, rural properties.

HNW Landowners: A Unique Subset of Amenity Migrants

Geographic scholarship on wealthy individuals as rural landowners typically constitutes a subset of studies of amenity migration, the phenomenon involving the relocation of those with increased wealth and mobility to rural places in search of improved quality of life and natural and cultural amenities (Abrams et al., 2012). To understand the significance of rural amenity migration, scholarship has often focused on

associating types of landowners with categories of different land use values and management strategies. Studies have shown that rural landowners can differ by their economic orientation vis-à-vis ownership (amenity, investor, developer) and by their stewardship ethics and management strategies (Gosnell and Travis, 2005; Gill et al., 2010). Importantly, the literature typically distinguishes new owners of large rural properties by their interest in and capacity to implement resource management approaches that differ from the conventions of production-based agricultural systems (Gosnell et al., 2007).

Scholarship focused on ownership type provides an opportunity to track patterns of changing demographics across rural landscapes where new ownership regimes can instigate significant changes, such as a shift from production-based to multifunctional landscapes (Holmes, 2006). However, a preoccupation with categorizing landowners – through either survey work or typologies – limits the focus of the amenity canon to characterizing static moments in time (Sorice et al., 2018). Observations of amenity-driven landscape change are similarly temporally fixed and often bounded to the property level. In contrast, a social-ecological systems (SES) perspective suggests that HNW landowners can influence social-ecological processes at a landscape scale, shifting resource governance practices and producing new rural ecologies (Haggerty and Travis, 2006). Furthermore, though characteristics of emergent rural HNW property regimes likely correspond with those of amenity-driven rural gentrification (Gosnell and Abrams, 2011), a key distinction between an HNW property regime driven by extensive agricultural landholdings and other gentrified rural and amenity landscapes is the

disproportionate role that individual landowners play in landscape-scale social-ecological processes. These limitations suggest a need to approach HNW landowners as unique within the amenity migration and rural gentrification literature: as landowners who are differentiated by their capacity to exert influence across vast geographic territory and therefore as especially interesting from the perspective of how and why their approaches and values change over time.

Land Management and the Life Course

Life course theory is an established perspective in sociology that connects the course of individual lives to social context and broader structural social and economic developments (Elder et al., 2003). In life course theory, trajectories describe the sequence of roles and experiences in individual lives that evolve at the nexus of individual choice and institutional and social forces. Individual life trajectories are punctuated by transitions, when developments in a state or role (such as leaving home, marriage, or retirement) can precipitate major shifts in identity or social status. In addition, life course theorists observe turning points, when individual trajectories undergo substantial changes in direction, often antithetical to standard patterns or rules of social pathways, such as, starting a new career late in life.

Insights from other ethnographic examinations of the super-rich suggest that the socio-cultural and economic context of the HNW life course has unique dimensions that may be consequential for land management and ownership trajectories. For example, while certain HNW individuals who use real estate as part of their investment portfolio may find rural properties fungible in times of market volatility, the wealthiest members of

the super-rich have been found to be impervious to downturns and recessions (Hay, 2013). While all landowners likely leverage social networks for advice about land management, Harrington suggests that wealthy individuals seek out sources of advice particular to their wealth and status, such as personal wealth managers (Harrington, 2016). And while the basic transitions that are important from the perspective of land management may be similar for all landowners (e.g., divorce or death), the unique ways that HNW individuals experience turning points through the learned experience of taking on stewardship of vast landscapes (often for the first time) merits special consideration.

A recent and promising convergence between human-environment studies and the sociological theory of the life course provides a way to describe and explain social-ecological change in the context of social history. In their examination of woody plant encroachment in Texan rangelands, Hurst et al. (2017) employ a conceptual approach that integrates life course theory with a SES perspective to trace how macro phenomena, such as structural changes in the agricultural economy and social norms about hunting, as well as household level social dynamics, including divorce and ranch succession, instigate shifts in land management, outlook, and behavior.

Hurst et al.'s (2017) foray into life course is representative of a growing interest across the human-environment literature in how landowners and the social-ecological systems they inhabit change over time. In its current iteration, however, the social-ecological dynamics of the landowner life course are unidirectional: social changes happen to landowners and result in tangible outcomes on the landscape. A SES perspective should recognize multi-directional relationships and interconnected

feedbacks; yet this is largely lacking from both the life course and SES literature. What is needed is a careful approach for analyzing the influence of non-humans and aspects of the natural world on socio-emotional and behavioral change in humans—particularly in the context of HNW ownership in which the idiosyncratic and non-standardized experience has profound influence at scale. Here, emerging work from critical geographers on affect offers a potential strategy.

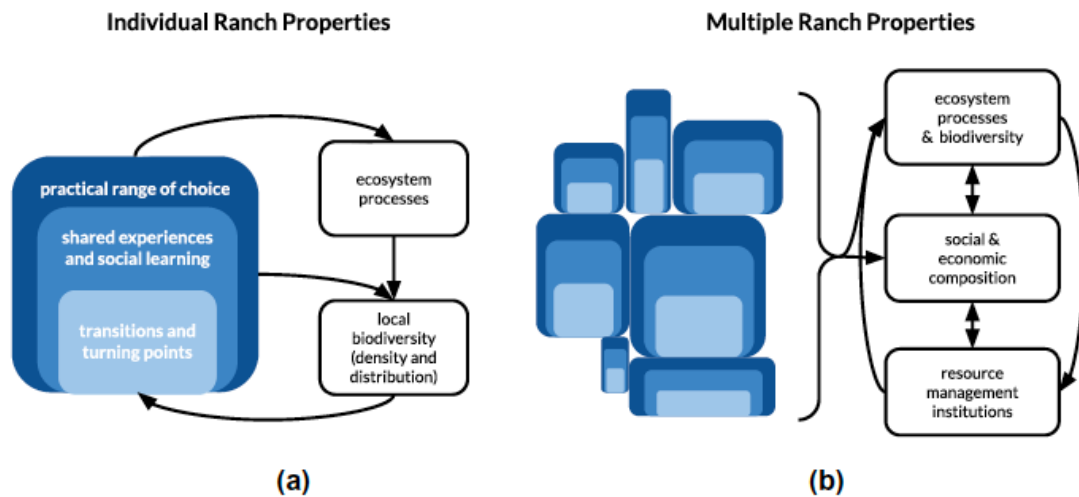
Affective Political Ecology and Natural Resource Management

As part of the post-structural turn, multiple lineages of critical theory have embraced the role of affect in mediating human behavior and change (Anderson, 2006). Affective political ecology applies the concept of affect to natural resource management and demonstrates how encounters between humans and non-humans result in new sionatural relationships and subjectivities, ethics relating to stewardship and care, and management orientations (cf., Singh, 2013). A focus on the phenology of affect adds to Hurst et al.'s (2017) landowner life course by positioning HNW landowners and the beliefs and strategies they enact on rural properties as co-constituted by social and biophysical processes while simultaneously acknowledging the role of HNW landowners as core nodes in and as co-evolving with complex SES. At the same time, the focused ethnographic nature of an affect-oriented life course study responds to realities within the larger political economy of land ownership, namely that HNW property regimes comprise an increasing small cohort of wealthy individuals amassing control over increasingly large and ecologically consequential areas.

The P-LLC Framework and Research Agenda:
Linking Affect and Life Course Approaches

This review examined literature addressing wealthy individuals and their roles as consequential agents of rural landscape change and identified research gaps concerning the social-ecological evolutionary dynamics of HNW landowners and HNW property regimes. To motivate future research, we propose the Property-Landscape Life Course (P-LLC), a longitudinal, systems-based framework for investigating social-ecological implications of HNW landowners and HNW property regimes (Fig. 1a and b). The P-LLC organizes data collection activities at the property and landscape-scale to describe and characterize the dynamics of HNW landowners and the rural communities and ecologies they inhabit through space and time. Organizing research activities around the P-LLC provides both theoretical and practical advancements for studies involving the geographies of the super-rich. The integration of critical geography perspectives, such as affective political ecology, with a SES framing, is an oft-described yet seldom realized union (Cote and Nightingale, 2012). By mobilizing affect as a component of SES dynamics, the P-LLC provides an opportunity for theories from critical geography to fruitfully engage with ecology, land system science, and complex systems theory. Here, multidisciplinary collaborations built around the P-LLC could add a missing perspective to the search for conservation interventions focused on emerging threats to ecological integrity in many critical conservation areas. Linking property ownership trajectories with rural landscape change and identifying important feedbacks advances a broader dialogue about transition and transformation in environmental governance systems, along with potential pathways to future social-ecological transformation in the context of HNW

property regimes. Lastly, research organized around the P-LLC supports continued investigations into the dynamics of rural change while providing an innovative common platform for assessing the increasing influence of the super-rich as proprietors of natural resources in settler societies globally.



Figures 2.1a and 2.1b. The P-LLC Framework. The property life course (a) views HNW property ownership as an evolutionary phenomenon with distinct trajectories, where life course and ecological dynamics interact to influence the owner’s “practical range of choice” about ranch property management (White, 1961). At the property scale, the practical range of choice of HNW landowners evolves with one’s life course and the social-ecological experiences that connect people to social and ecological networks – which can take the form of networked or affective experiences (Lorimer, 2016). We conceptualize these social-ecological experiences and encounters as opportunities for social learning and transformative change associated with management values and practices (Pahl-Wostl, 2009). At the landscape scale (b), property regimes influence local social and economic systems through changes in land use and management and social network experiences and interactions. We theorize that HNW landownership dynamics at the landscape scale then influence environmental and natural resource governance and biophysical composition of the landscape. For example, American West HNW landowners that block public hunting on their private lands quickly find that their properties serve as safe harbors for large concentrations of game animals, which results in significant public conflict and challenges the administrative capacity of wildlife management agencies (Haggerty and Travis, 2006).

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CHAPTER THREE

LAND USE INTENSIFICATION AND DIVERSIFICATION ON ELK WINTER
RANGE: FRAMEWORK AND AGENDA FOR SOCIAL-ECOLOGICAL RESEARCH

Contribution of Authors and Co-Authors

Manuscript in Chapter

Author: Julia H Haggerty

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Contributions: Conceived the study; collected and analyzed the data; prepared and edited the manuscript.

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Abstract

Amenity migration describes the movement of peoples to rural landscapes and the transition toward tourism and recreation and away from production-oriented land uses (ranching, timber harvesting). The resulting mosaic of land uses and community structures has important consequences for wildlife and their management. This research note examines amenity-driven changes to social-ecological systems in the Greater Yellowstone Ecosystem, specifically in lower elevations that serve as winter habitat for elk. We present a research agenda informed by a preliminary and exploratory mixed-methods investigation: the creation of a “social-impact” index of land use change on elk winter range and a focus group with wildlife management experts. Our findings suggest that elk are encountering an increasingly diverse landscape with respect to land use, while new ownership patterns increase the complexity of social and community dynamics. These factors, in turn, contribute to increasing difficulty meeting wildlife management objectives. To deal with rising complexity across social and ecological landscapes of the Greater Yellowstone Ecosystem, future research will focus on property life cycle dynamics, as well as systems approaches.

Introduction

The 1990s ushered in a new period of land use in many high amenity rural areas with important conservation and biodiversity values. Alongside an expansion of new land uses (Sorice et al., 2014), new land use patterns (Gill et al., 2010), and rapid human immigration (Hansen et al., 2002; Gude et al., 2006; Gosnell and Abrams, 2011), mixed conservation outcomes have accompanied this amenity transition: a well-resourced cohort of advocates for conservation encourage rest and revitalization of some lands and waterways (Gosnell et al., 2006), while increased development and population growth contribute to habitat loss and increased pressure on regional ecosystem services. The amenity transition has also precipitated change in key institutions of resource management, as planning boards, conservation districts, and watershed groups show growing diversity in values and goals of their membership (Robbins et al., 2012). No longer a new but rather a well-established dynamic, the amenity transition continues to generate new land uses and community changes with important social-ecological implications and the potential for larger destabilizing effects.

Land Use Change in the Greater Yellowstone Ecosystem

The Greater Yellowstone Ecosystem (GYE) is one of the world's last remaining intact large-scale ecosystems and provides critical habitat for numerous iconic wildlife species (Marston and Anderson, 1991). Many such animals including elk, deer, pronghorn, bighorn sheep, and bison migrate across geographies that link the protected core of the GYE—Yellowstone and Grand Teton National Parks—with public and

private lands where human activities have a decisive imprint. Over the past 40 years, the region has experienced immense growth; the human population from 1970 to 1999 increased by 58% (Gude et al., 2006). As a result of the region's multidecade transition away from the dominance of primary industries (farming, timber, mining) into an economy reliant on services, amenity consumption, and nonlabor income, the GYE has witnessed a rapid expansion of amenity ranch ownership, as well as exurban, suburban, and urban development (Hansel et al., 2002).

These changes have important implications for how elk move on and use private lands in the GYE. Private land typically provides low-elevation winter habitat and important migratory corridors to (Burcham et al., 1999) and access to high-protein forage (such as cultivated hay and alfalfa). Elk also may use private land and/or housing structures as safe harbors from hunters and predators (Proffitt et al., 2011). Alongside changes to the physical landscape that shift the distribution of elk attractants and deterrents, new landowners may differ in their tolerance for the presence of elk on their property (largely expressed through different approaches to elk hunting). This heterogeneity can amplify conflict among stakeholder groups (Hegel et al., 2009). For example, elk in this region present a disease risk for the transmission of brucellosis to cattle (Cross et al., 2010), which can result in the depopulation of cattle herds or extended quarantines. The mixture of amenity and livestock owners and their diverse attitudes toward wildlife (Gosnell et al., 2006) can limit the options for wildlife managers. This note addresses transitions in the ownership and management of private lands that serve as critical seasonal habitat for elk in the GYE. Previous research has examined drivers of

regional development and land use change (Gude et al., 2006) and land tenure transition (Haggerty and Travis, 2006); however, the continued pressure of amenity migration on current wildlife management objectives (Cross et al., 2010) necessitates further investigation. This study enlists an exploratory, mixed methods approach as means to generate hypotheses and assess future research needs. The approach includes spatial analysis to assess recent land use trends affecting elk winter range in the Montana portion of the GYE. We also solicited expert opinion to characterize the range of ways that private landowners of elk winter range interact with elk and wildlife management. Here, we apply the results to updating and expanding the conceptual framework for understanding the interactions between the amenity transition, ecology, and wildlife management in the GYE (DeFries et al., 2007; Bennett and McGinnis, 2008).

Methods

We applied a mixed methods strategy to track ecological and social change on elk winter range in the Montana portion of the GYE. We spatialized descriptive statistics on the rate and volume of land use change across elk winter range in the study area. We then collected qualitative data from local wildlife biologists to capture their expert knowledge about the diversity of landowner approaches to land use. Elk winter ranges (EWRs) are spatial areas designated by state wildlife biologists using available location and habitat data; they represent the probable location of elk herds during winter (Foundation, 2014). Elk winter range units serve as the basis for analysis because they describe geographies with high likelihood of elk-human encounters. Within the Montana portion of the GYE

there are 28 unique EWRs consisting of a total of 3.3 million acres of land with 51% (or 1.6 million acres) in private holdings.

Quantifying Land Use Change

We quantified change in two land use characteristics relevant to elk movements and density (Hegel et al., 2009; Proffitt et al., 2011): the amount of new residential structures (and associated parcel subdivision) and the amount of center pivot-irrigated alfalfa. (For a detailed description of the data processing and computational approaches, see Appendix SI, available online at <https://doi.org/10.1016/j.rama.2017.11.002>.) Briefly, we derived residential housing patterns from Gude's, 2017 dataset (after their 2006 dataset), which associates residential structures to the quarter-section geography on an annual basis. A comparison of two versions of the Montana cadastral database (2007 and 2016) provided changes in parcel patterns (MSL, 2007, 2016). The alfalfa data were derived from the 2007 and 2015 U.S. Department of Agriculture's Cropland Data Layer (USDA, 2007, 2015). Using global information system analysis, we ranked each variable by relative and absolute change at the EWR level, sorted the distribution into thirds (tertiles), and aggregated all three variables into a "social-impact" index to identify winter ranges undergoing high, medium, and low levels of combined land use change.

Administrative Challenges for Wildlife Management

We used a map-assisted focus group to understand the social aspects of the changing private landscape and generate hypotheses for future work. Partners at the Montana Department of Fish, Wildlife and Parks assisted in selecting recognized experts

(n=7) in wildlife management who work at the local, regional, and state scales as participants. Experts were chosen on the basis of their official capacity in administering wildlife management policies and programs. Alongside maps of their associated management jurisdictions, we asked participants to consider how the quality of the “fit” between private land management and wildlife management priorities varies across private landscapes in the Montana GYE and to discuss the range of perceived motivations behind practices affecting elk winter range habitat and elk distribution and density. Maps were used to generate discussion; detailed notes were taken during the conversation and coded for emergent themes.

Results

Physical Land Use Change

Land use in the GYE is undergoing various levels of change including substantial increases across all three land use variables (Table 1). The number of new residential structures tracks closely with the region’s explosive population growth, which was 17% from 2005 to 2015 for the six counties (American Community Survey Office, 2016). Elk winter ranges associated with known amenity development such as EWR 108 (Madison Valley), 95 and 87 (Paradise Valley), and 122 (Big Sky Resort) show high rates of land use change across all three land use variables (Fig. 1).

Table 1. Summary and descriptive statistics of private land use changes within Greater Yellowstone Ecosystem (GYE) study sites. Change in residential structures and number of parcels is the decadal change (from 2004 to 2013 and 2007 to 2016, respectively). Given data availability, change in acres of alfalfa was computed over a 9-yr interval (2007–2015).

		Volume change	Percent change
Across Montana GYE counties	Acres of irrigated alfalfa	+51,000	288%
	Number of residential structures	+3,371	18%
	Number of parcels <320 acres	+2,355	5.2%
Within elk winter ranges	Acres of irrigated alfalfa	+22,368	351%
	Number of residential structures	+1,374	16%
	Number of parcels <320 acres	+1,524	8.6%

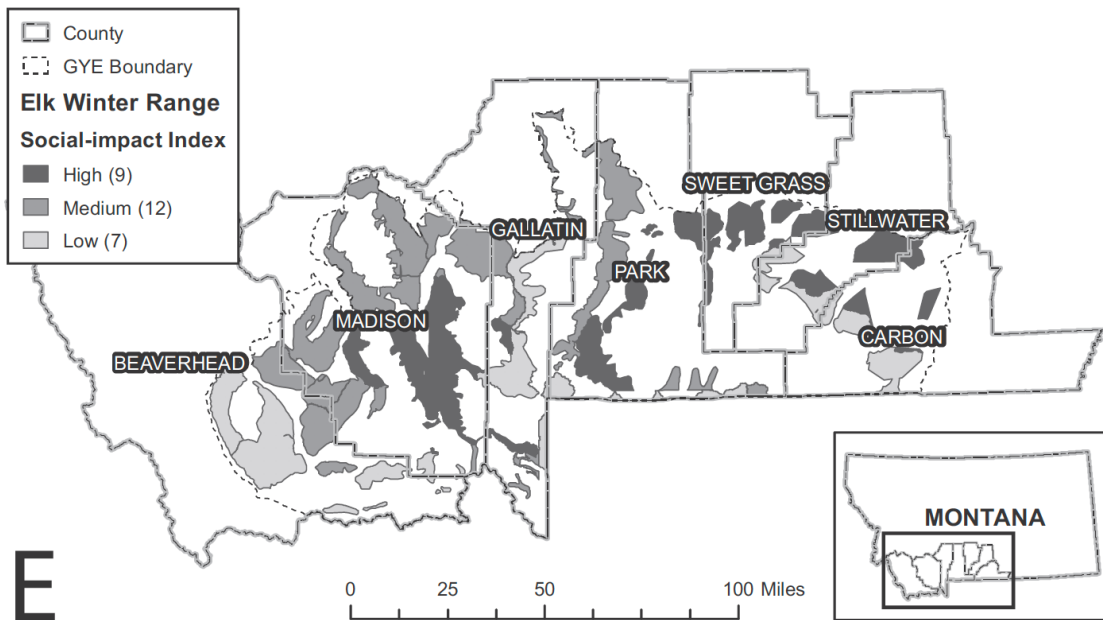


Figure 3.1 Map of aggregated land use changes compiled into “social impact” across Montana counties in the Greater Yellowstone Ecosystem. High, medium, and low levels were generated using tertiles of percent increases over years of analysis.

Land Use and Wildlife Management Conflicts

Wildlife manager focus group participants identify a complex pattern of land use and elk interactions on private elk winter range. Participants assigned the greatest potential for conflict between landowner and wildlife management objectives to “border areas” with opposing land management practices (e.g., a fence line and meadow managed by individuals with high tolerance for elk next to properties where elk are actively hazed).

Participants described a range of personal attitudes and values they perceived as key influences on private land management and the nature of conflict among neighbors and between landowner and wildlife management goals. We distilled these into three domains:

- neighboring: the value placed on harmonious personal relationships and communication with their immediate neighbors. Examples include consulting community members directly on land management issues rather than soliciting intermediary services, such as personal lawyers;
- heritage: the degree of personal investment in local conventions, such as public hunting access; and
- habitat: the extent to which landowners enhance properties for wildlife. In the case of elk, this can include harboring or hazing elk at various times of the year.

Not mutually exclusive and occurring in novel combinations, landowner positions with respect to neighboring, heritage, and habitat are dynamic over time.

Discussion

Agricultural intensification, increased residential development, and ownership fragmentation are important indicators of shifting human development and land use patterns (Hansen et al., 2002; Gosnell et al., 2006; Haggerty and Travis, 2006). The pace of new residential development was nearly as fast on elk winter range (a decadal increase

of 16% in the number of residential structures) as on private land generally (a decadal increase of 18% in the number of residential structures). Furthermore, the rate of new parcel development and thus potential subdivision on private land in winter ranges outpaced the growth rate on private lands countywide, suggesting that elk winter range has particular vulnerability to development. Most notably, our results show this increase in residential development occurs alongside—as opposed to instead of—agricultural intensification. Consider EWRs 122 and 108 that rank among the fastest changing winter range units in this study. Composed of large proportions of private land ($\geq 50\%$), these winter ranges are located in rural counties far from population centers and in areas with high concentration of elk winter range use (MTFWP, 2004). In these two EWRs, both home construction and alfalfa production increased by substantial volumes, indicating a pattern of mixed intensification and diversification of land use. Thus, in these types of EWRs, elk encounter both new houses with their associated attractants and deterrents and also an intensifying agricultural landscape with its attractant (high-quality forage). At the same time, elk share the landscape with a growing constituency of non-ranching landowners and residents. And while the expansion of residential properties conceivably increases the area of land hospitable to elk (through the exclusion of hunting and tolerance or solicitation of their presence), in these places elk also encounter growth in nuisances such as fences, automobile traffic, and pets. At a minimum, these data suggest elk are encountering an increasingly diverse landscape in terms of land uses.

Alongside shifting land use patterns driving elk onto private lands and out of administrative control (Haggerty and Travis, 2006), our focus group results suggest that

social landscapes across the study sites are increasingly diverse. Other research has also noted the difficulties of integrating amenity owners or nontraditional owners into production or traditional owner communities (Yung and Belsky, 2007) and the importance of improving landowner-hunter relations for wildlife management agendas (Campbell and Mackay, 2003). Managing populations based on wildlife stakeholder acceptance capacities is frequently practiced to reduce complexity and community conflict (Schusler et al., 2000). Our focus group results suggest that in regions with ownership change and turnover, the rural landowner cohort has increasingly diverse values, perspectives, and management priorities.

We see the emerging domains of interest—neighborliness, heritage, and habitat—not as a method of categorization but rather as axes of those social variables closely connected to and sharing feedback with material ecological change. Taking these domains in combination with our social-impact index, we can begin to prioritize areas for future social-ecological research.

Implications

In this research note we presented a relatively simple way to track land use change and explored how land use changes are linked with social transitions and wildlife management conflicts to motivate future research agendas. Our results suggest that the social-ecological landscapes of the Greater Yellowstone are becoming increasingly diverse, through intensification of historical uses (ranching operations, alfalfa production) and multiuse populations (amenity driven subdivision and residential development), and complex, through the integration of new landowners and their associated values,

perspectives, and management priorities. As these various elements of the social and ecological landscape are intrinsically linked, our exploratory and hypothesis generating work underscores the need to examine emerging amenity transitions in priority conservation regions through a social-ecological systems framework. Thus, driven from a systems perspective, we identify the following research tasks.

First, because shifting patterns of land tenure impact a suite of social and ecological processes from changes in hunting access to forage attractants, the GYE and other critical conservation regions need reliable ways to track land ownership change. From the perspective of wildlife management, adequately quantifying turnover and qualifying the characteristics of new owners will benefit planners interested in preserving wildlife corridors and equip wildlife managers with the demographic information needed to strategize priorities and improve collaborations with private landowners.

As a complementary strategy, future research should prioritize the identification of drivers of change in landowner approaches to land management over time. To date, human dimensions scholarship in the GYE has been dominated by the discrete categorization of landowner types (Gosnell et al., 2006) and stakeholder typologies through surveys (Metcalf et al., 2015). This work is beneficial for characterizing differences within the landowner cohort but offers a static picture that belies the highly dynamic nature of landowner experience. In addition, our focus group results suggest that landowners may defy standard typologies. In response, we see that the decades-long amenity transition in the GYE offers the unique opportunity to examine how landowners learn from, adapt with, and integrate into their local social and ecological communities in

both short- and long-duration cycles. Such an approach can yield new understanding of the role of social networks, personal experience, and the agency of nature in land use decision-making in the GYE.

A coupled social-ecological approach that recognizes the amenity transition in the GYE as a complex system has the potential to reveal and describe critical feedback loops between human and biophysical systems. With these feedbacks clarified, we can begin to address questions about threshold dynamics emerging in priority conservation regions undergoing amenity transitions.

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CHAPTER FOUR

WITH, NOT FOR, MONEY: RANCH MANAGEMENT TRAJECTORIES OF THE
SUPER-RICH IN GREATER YELLOWSTONE

Contribution of Authors and Co-Authors

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Co-Author: Julia H Haggerty

Contributions: Conceived the study; edited the manuscript.

Co-Author: Hannah Gosnell

Contributions: Edited the manuscript.

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Abstract

Despite the increasing concentration of wealth by high net worth (HNW) individuals and their rising influence as proprietors of natural resources worldwide, geography has only just begun to consider the interactions of the contemporary global super-rich with systems of environmental management. This paper addresses a gap in the literature related to the social and ecological implications of ranches owned by the very wealthy. Drawing from a life course perspective, we complicate static representations of landowners and examine the evolutionary dynamics of HNW ranch ownership in the Greater Yellowstone Ecosystem, an iconic conservation area in the U.S. West. Four stories about HNW ranches, compiled through a composite narrative approach, describe how ranch management practices and strategies play out over time and space. The result is a set of management trajectories linked to broader geographies of the super-rich yet also shaped by local ecologies, markets, property lines, and legal institutions. On ranches of the super-rich, social-ecological outcomes related to an ability to ranch with, as opposed to for, money reinforces the links between systems of finance, elite interests, and land control. Our findings underscore a need for future scholarly efforts attuned to HNW ranch management trajectories as consequential drivers of change in critical conservation areas.

Introduction

“‘If we were to throw you out here, they’d never find you,’ said Russell Gordy, as he piloted his helicopter over the Absaroka mountains, flying from his sprawling Montana ranch to his even bigger ranch in Wyoming.”
– Gamerman, *The Wall Street Journal* (2017)

Since he began purchasing ranchland in the 1980s, Texas oil magnate Russell Gordy has acquired 85,000 hectares (~212,000 acres) in three U.S. states, a portfolio that places him among the nation’s top 100 landowners (O’Keefe 2020). Gordy’s vast land empire demonstrates that unprecedented levels of control and influence over property accompany the growing concentration of global wealth by a small cohort of the super-rich (Piketty 2014). Given the extent and scale of their resources, landed high net worth (HNW)¹ individuals have become consequential actors in the contested sustainability transitions playing out in rural places (Marsden 2016), particularly in parts of the world noted for their global conservation value (Gosnell and Travis 2005; Mendoza et al. 2017). Previous studies demonstrate that the goals, values, and management practices of HNW landowners differ from their “land rich, cash poor” predecessors (Qin 2016). Yet the evolutionary dynamics of HNW land management are not well understood. Several decades into this expanding phenomenon, understanding how the strategies and land management practices of HNW landowners change over time is essential to assessing the increased influence of the super-rich as proprietors of natural resources.

¹ By convention, high net worth individuals own \$1m in investable financial assets; ultra-high net worth individuals control \$30m or more (Beaverstock et al. 2004).

This study responds to the call for detailed considerations of specific geographies of the super-rich (Beaverstock et al. 2004; Hay and Muller 2012) with an ethnographic and qualitative approach involving two sets of data collected over twenty years. Our focus is the ranch management strategies of HNW landowners in the Greater Yellowstone Ecosystem, a world-renowned amenity and conservation landscape (Johnson et al. 2003). We draw on life course theory to characterize how HNW ranch management articulates with social and ecological histories of ranch properties and their owners. An attention to the ranch management “life course” illuminates the durability of certain HNW management practices and the mutability of others. Ultimately, however, the ability to ranch with, as opposed to for, money emerges as a meaningful difference underpinning ranch management for wealthy landowners and signals a need to conceptualize ranch properties as sites produced by and relevant to broader geographies of the super-rich.

This paper begins by situating HNW ranch ownership in the geographic scholarship on amenity migration and relative to interests across the social sciences in the super-rich. The next section describes our research sites, methods, and analytical approach. We describe the paper’s findings in two parts. An initial set of composite narratives characterizing HNW land management trajectories precedes a thematic parsing of influences that shape the evolution of ranch management over time and space. A discussion of the difference that abundance makes concludes the paper.

Keystone Species of Gentrification:
The Super-Rich as Geographic Actors

Once “forgotten by the social sciences” (Savage and Williams 2008), wealthy individuals now find themselves the subjects of extensive social analysis (Piketty 2014; Giridharadas 2018; Farrell 2020). Geographers, too, have taken up the billionaire baton, identifying HNW individuals as agents of social and environmental change (Hay 2013; Hay and Beaverstock 2016). An increasingly gentrified and globalized countryside (Woods 2016), growing “rent gaps” (Nelson and Hines 2018), and the shaping of rural places into “private landscapes created for and by elites” (Roberts and Schein 2013, 148) are social transformations shown to accompany current patterns of HNW land acquisition. Other studies emphasize the influence of HNW individuals through social and philanthropic networks that position the super-rich as financiers of private conservation areas and donors to conservation non-profits (Brockington 2009; Holmes 2012). Taken in sum, this work validates a perspective on HNW landowners as a species of the global elite that commands a “keystone” position in the social-ecological trajectories of rural landscapes.

HNW Individuals as More
than Amenity Migrants

Rural land ownership transitions are best documented within the literature on amenity migration, which analyzes the relocation of those with wealth and mobility to rural places in search of improved quality of life and natural and cultural amenities (Gosnell and Abrams 2011; Argent et al. 2014). Much of this scholarship assesses how the differences in socioeconomic status and land-use priorities between amenity migrants

and long-time rural residents map onto changing land management practices. For example, amenity owners may rest (fallow) agricultural land, enact elaborate restoration projects, and manage specifically for desirable wildlife species such as big game and native trout (Gosnell et al. 2007). Geographers note that conservation outcomes of amenity ownership present both an opportunity and challenge. Though some amenity owners espouse stewardship goals in their management practices (Gill et al. 2010), for instance, Kondo et al. (2012) argue that a passion for protecting the “rural idyll” can come at the expense of more sustainable environmental practices. Other research suggests that amenity ownership accelerates natural resource enclosure, disrupts local resource management institutions and livelihoods (Yung and Belsky 2007; Robbins et al. 2012), and influences landscape-level ecosystem dynamics, such as wildlife movement (Gosnell et al. 2006; Haggerty and Travis 2006).

HNW individuals are unique among amenity migrants because of the scale at which they operate: individual landowners can control thousands to tens of thousands of deeded hectares and miles of streams and may affect management on adjoining public lands (Gosnell and Travis 2005; Gosnell et al. 2006). As a result, land management practices have the potential to leverage significant environmental change – or so practitioners of “private” grassland conservation hope (Louder and Bosak 2019).

Extensive ranch properties are also financial investments. Ranch acquisition as a portfolio management strategy of the world’s super-rich thus overlaps with trends in institutional investment in agricultural and timber properties worldwide (Gunnoe 2014). However, by nature of the model of individual ranch ownership, HNW ranch owners typically have a

more direct and personal relationship to land management decisions than institutional investors.

It is this unique ratio – in which single HNW individuals and families affect extensive geographies and associated social-ecological dynamics – that informs this paper’s aim: to extend scholarly understandings of HNW landowners as actors in social-ecological change in critical conservation landscapes. Here, we redirect attention from the novelty of HNW ranch owners and their arrival as amenity migrants to the *nature* of their tenure on the landscape as ranch owners. A fundamental interest in the life course of HNW management guides this study and its central research question: How does HNW ranch management evolve over time and space, and under what circumstances? As such, our objectives are to 1) identify and characterize emerging patterns in HNW ranch management; and 2) assess and analyze ranch management over time, particularly concerning the influence of *in situ* social and environmental forces.

Study Context and Approach

The Greater Yellowstone: An Iconic HNW Case Study

The Greater Yellowstone Ecosystem (GYE) straddles 10 million hectares and three U.S. states (Hansen and Phillips 2018). Celebrated as one of the world’s last remaining intact ecosystems (Johnson et al. 2003), the GYE features a core of protected public lands that includes Yellowstone and Grand Teton National Parks, seven national forests, three wildlife refuges, and multiple state-managed parcels. Despite making up less than one-third of the GYE’s total area, private holdings dominate the region’s low

elevations, valley bottoms, and most productive lands (Gude et al. 2007; Hansen and Phillips 2018). This geography reinforces a strong link between private lands and local communities and ecologies. Large, intact ranches support local agricultural economies, influence the ecological functioning of landscape, and provide winter range and critical connective corridors for the region's numerous migratory wildlife (Middleton et al. 2020).

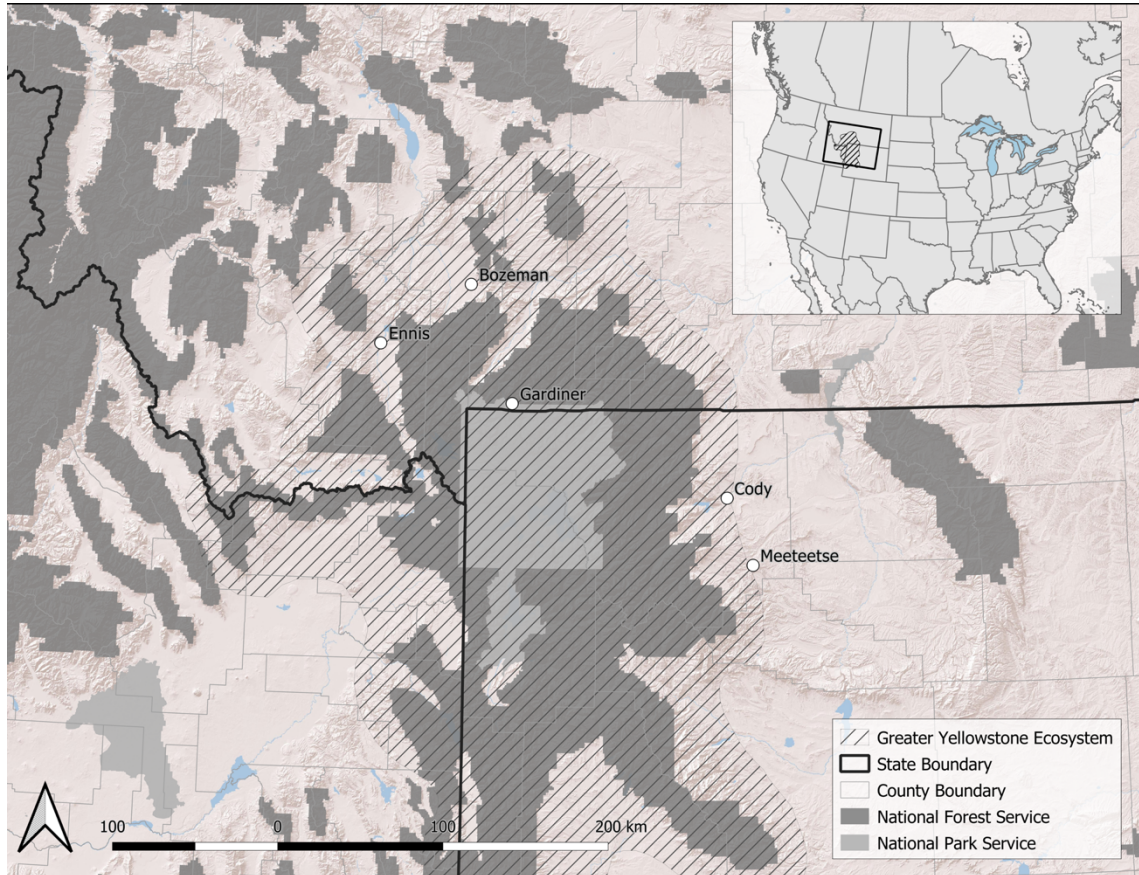


Figure 4.1. Map of the Greater Yellowstone Ecosystem. Data sources: MT State Library Clearinghouse, WY Geospatial Hub, NPS, U.S. Census Bureau, ESRI, USGS.

The GYE's scenery and charismatic qualities have attracted wealthy and elite individuals for well over a century (Righter 2008; Farrell 2020). Patterns of HNW ownership in the region appeared to reach a threshold, however, in the 1990s, when the decadal rate of ownership change from multi-generational livestock producers to HNW and other amenity-focused landowners exceeded 50% in multiple GYE counties (Gosnell and Travis 2005; Gosnell et al. 2006). Building on this work, this study provides an assessment of the evolutionary dynamics of HNW ranch management practices in the GYE as a perspective into the implications of HNW ownership change in critical conservation areas.

The Ranch Management Life Course

This study operationalizes the Property-Landscape Life Course (P-LLC) approach to ranch management, a systems-inspired framework (Epstein et al. 2019). The P-LLC draws from life course theory, which connects the trajectories of individual lives to broader structural social and economic change (Elder et al. 2003). Hurst et al. (2017) first applied life course social-ecological systems analysis in a study of ranchers in Texas. They showed that the management capacity and priorities of a cohort of ranchers shifted in predictable ways over their life course – and were intertwined with changes in the regional agricultural economy and land cover.

The P-LLC framework builds on Hurst et al. (2017) by hypothesizing that ranch management practices evolve within a landowner's life course (the particular life histories of individuals) and broader social-ecological contexts (Epstein et al. 2019).

Specifically, we conceptualize that ranch management at the property-level follows a *ranch management trajectory*, or a pathway comprised of strategies and practices. These trajectories have the potential to morph over time and space, and thus influence landscape-scale social-ecological dynamics. As with an individual's life course, ranch management trajectories can be shaped by *social-ecological experiences* or factors related to broader social, political, or economic contexts (Elder et al. 2003). When influences on management result in shifts or changes over time, the result is a *turning point* in the management trajectories. In this study, the P-LLC approach involves collecting qualitative data from key informants in HNW ranching landscapes to discern both the core practices that form trajectories and the social-ecological interfacings that shape them over time and space.

Data Collection

To capture a range of HNW ranch management trajectories across the GYE, we conducted semi-structured interviews with three categories of informants: HNW landowners,² ranch managers, and their intermediaries. As access issues are inherent in studying HNW individuals (Harrington 2016), we compiled data from more accessible informants (“intermediaries,” n=51) (Davies 2017), and triangulated interviews with HNW individuals and their managers (n=28). The first author conducted a total of 67 such interviews in 2017-2018, and co-authors provided interview transcripts (n=12) from

² Whenever possible, we verified the financial HNW status of landowners interviewed using publicly available data (e.g., Forbes lists) and other key informants.

a previous GYE research effort (Withheld). While the specific priorities of data collection evolved between 2002 and 2017, the overall approach to recruitment and engagement of informants remained similar. We sought interviews until we reached saturation with respect to the core objectives of the study.

We interviewed landowners and ranch managers over extended visits to ranch properties (often lasting multiple hours). Our discussions focused on the history of ranch management practices, shifts in ranch management over time, and motivations and values associated with ranch practices. Questions related to the life course of HNW landowners themselves (e.g., their personal life histories) helped to elucidate the values and motivations that permeated different ranch management practices. Employing a “walkabout,” or more apropos to ranch contexts, a “driveabout” method during ranch visits prompted interview participants to recall the circumstances related to shifts in management practices (Strang 2010). We conducted interviews with intermediaries in offices or restaurants, and discussions lasted approximately two hours. Interview questions focused on their perspectives of HNW landowners (e.g., HNW interests in ranch properties and motivations for management practices) and their personal experiences interacting with HNW landowners in community and ranch management contexts. When participants consented, interviews were recorded and subsequently transcribed; in all other circumstances, extensive notes were taken in lieu of audio recording.

Our dataset includes transcripts and field notes from 79 interviews representing 26 different properties. The combined data set provided opportunities to examine a range

of contextual factors over time, as well as an in-depth history on two properties sampled from both data collection efforts. For each ranch property, we created profiles and paired interview data with publicly available media coverage of ranch owners and managers. Our analysis used a deductive coding scheme based on the P-LLC to identify HNW ranch management trajectories and assess whether and how strategies and practices changed over time and space (i.e., what social-ecological experiences and contexts influence management). An additional round of inductive, open coding served to identify emergent and unanticipated themes.

A Composite Narrative Approach to HNW Land Ownership

Disentangling social-ecological complexity requires novel research approaches (Fernandez-Gimenez et al. 2019). To generate a compelling and “thick” description of HNW ranch management dynamics, we apply a composite narrative approach to our analysis and findings. This method combines data from multiple participants into a single story. While used infrequently in social sciences, the composite narrative approach aligns with other ethnographic methods that seek to “convey the richness and complexity of data” (Willis 2019, 200). Reporting qualitative information through composites, however, reduces the risk of revealing details related to specific individuals – a concern given the conspicuous nature of our interview cohort.

Our qualitative data yielded a set of thematic patterns that inform four narratives of ranch management over time. Importantly, narratives do not represent any individual ranch or ranch owner, rather they seek to meaningfully combine life course characteristics and dynamics into stories about HNW ranch management. We composed

narratives by closely following Willis' (2019) methodology. Each narrative derives from our interview data and represents the dominant characteristics, themes, and patterns that emerged from our analysis. All quotations come directly from the interview and, while the names of the ranches, ranch owners, and ranch managers are fictional, geographical details in the narratives come from interviews and are characteristic of our data set. Finally, we avoided imbuing narratives with judgements about the experiences of characters in the stories; all descriptions related to the motivations, feelings, or sentiments of individuals come from interview data.

The HNW Ranch Management Life Course

We address our study's core research objectives – to characterize HNW ranch management trajectories and assess the various influences that shape them over time and space – with two sets of findings. First, we share four ranch stories, composite narratives about HNW ranch management, to illustrate how ranch management trajectories unfold on ranches of the super-rich. As the stories demonstrate, trajectories vary in their relative dynamism and life course characteristics, as well as in their stage of development given differences in tenure amongst the HNW landowners they profile. Second, we evaluate key factors that shape HNW ranch management trajectories over time and space. We synthesize the implications of our findings in a discussion of the HNW ranching paradigm: a set of management trajectories linked with abundance and implicated within broader geographies of the super-rich.

Four Ranch Stories: Trajectories of HNW Ranch Ownership and Management

Our four ranch stories play out in different GYE ranching neighborhoods: The Stonefly Ranch in the upper drainage of the South Fork of the Shoshone River in Park County, WY; the Doublecross Ranch in Paradise Valley of Park County, MT; the Two-Buckle Ranch in southwestern Park County, WY; and Spring Creek Ranch in the Madison Valley of Madison County, MT. All four neighborhoods are long-standing amenity landscapes that continue to attract HNW interest and investment, though they vary with respect to the ratio of HNW landowners versus non-HNW landowners.³ Each ranch story focuses on changes and shifts in management concomitant with the P-LLC framework and features a HNW landowner, ranch manager, and description of the core strategies that comprise the ranch's management trajectories (Epstein et al. 2019).

The Stonefly. The Stonefly is a historic hunting lodge and ranch constructed in 1915 on the South Fork of the Shoshone River near Yellowstone National Park in Park County, WY. The three Thompson siblings are second-generation owners; their parents purchased the ranch in 1982. While all three siblings frequent the property for family vacations and reunions, Sarah, the eldest, started spending half the year on the ranch after retiring from the family real estate business in 2015. "Privacy" and an "escape from the rat race" are part of what Sarah loves most about the Stonefly; however, her passion is

³ For more information on ownership dynamics in GYE ranching neighborhoods, see (Travis et al. 2003).

preserving the property's heritage qualities. "There's a lot about this place that's all about traditions," says Sarah. "Partly in jest, but partly seriously [I have] referred to the [Stonefly] as a lifestyle museum because it's not only the fact that we have all of these great historic buildings and historic furnishings and stuff like that. It's also the way the ranch is used. It's quite traditional." She notes that her celebration of the historic is not unusual in the area: "a lot of these owners here came out as kids to [a historic dude ranch bordering Yellowstone National Park] and then fell in love with the Valley and were able to buy these places. So, they're trying to maintain that childhood memory."

In addition to maintaining the Stonefly's historic character and emotional landscapes of their childhood, Sarah and her siblings feel strongly about providing habitat for the surrounding wildlife. They are invested, Sarah reports, in keeping the Stonefly's 650 deeded hectares (~1600 acres) as "wild" and "natural" as possible. Jesse Olsen, a self-described "ranch-kid" from southwestern MT, is the Stonefly's caretaker and ranch manager. As Jesse describes it, the ranch is a "preserve and maintain kinda deal." The Stonefly's landholding intersects with historic migration corridors and critical wildlife habitat, and as such, much of the property's everyday management revolves around accommodating the wildlife that frequent the Stonefly's pastures and landscaped grounds. "It's nothing at the end of May and June to see elk calves bedded out in the lawns," says Jesse. "We're mowing lawns, and there will be a 30-foot circle mowed around an elk calf." According to Jesse, because the Stonefly's owners and their neighbors have "elk as their main priority," most prohibit public hunting. Frustrated local hunters, however, feel that elk are spending more and more time on private ranches.

Sarah admits, “hunting management has been a struggle” and that they’ve never found a “formula that really works.” Though they’ve allowed some public hunting in the past, Sarah will tell Jesse to “cut back on the hunting” if they “don’t see many elk for a year or two.” Jesse was raised hunting, but is sympathetic to Thompson’s vision for the Stonefly as a wildlife sanctuary: “I figure if [deer and elk] make it through the Wisconsin militia⁴ that guards between the ranch and the mountains...if they make it down here they deserve to live quietly.”

Jesse runs a small herd of 100 cows on the Stonefly’s rangelands to help “manage the area.” Over the years, Jesse has “reconfigured the fences” to “make water available” and to help the cows “do a better job utilizing the grass.” Jesse would like the Thompsons to do more advanced livestock management like “rotational grazing”; however, he says that “with the wildlife operation that [they] run,” it doesn’t make sense to put up more fences “if [the elk] are just going to tear it down.” In addition to their pastures, the Stonefly has access to a U.S. Forest Service community grazing allotment shared with three other nearby ranches, two of which are owned by HNW landowners. Even though the Thompsons do not run cattle “to make money,” staying active in the community allotment gives the Stonefly “an opportunity to have a management say in the Forest Service permit that surrounds [them].” Before that, Jesse notes, there “wasn’t any way for

⁴ Jesse uses the phrase “Wisconsin militia” to refer to a cohort of non-local hunters - some of whom are from midwestern states like Wisconsin, who visit Park County, WY for elk hunting. For more insight on regional hunting issues see (Metcalf et al. 2017).

us to manage right next to our fence.” Coordinating amongst the allotment’s owners is easy, says Jesse, because they all “have the same goal” and want to conserve a significant portion of the allotment’s forage for wildlife: “Last year we took [fed to livestock] 9 to 20% of the forage and left the rest for the antelope, deer, and elk.” Should the group encounter resistance to their plans, connections to the highest levels of the federal government help smooth the path, with one HNW neighbor able to call the U.S. Secretary of Agriculture directly if he needs anything.

Trajectory: A Preserve for Habitat and Heritage. Over the course of four decades, little has changed in the basic management of the Stonefly. Investments and energy put into the property focus on the qualities the Thompsons value the most: its historic character and abundant wildlife. Maintained as a veritable “lifestyle museum,” the property serves as a homage to a particular historical moment, rooted in both a mythic vision of the American West as well as the childhood memories of the Thompson siblings themselves. Cultivating habitat for elk and deer is part of the perceived landscape legacy of the property (Cooke and Lane 2015) and so takes precedence as a management outcome, though at the expense of livestock production and to the chagrin of local hunters. Here the fact that the Thompsons’ wealth enables them to forgo actualizing the production value of the property becomes an essential facet of the Stonefly’s trajectory, as the ranch is presumably managed at a loss. Importantly from a landscape perspective, the management trajectory of the Stonefly aligns closely with neighboring ranches. However, the property’s proximity to public Forest Service land, and the multiple-use mandates that accompany it, necessitates a more active strategy of participation to

maintain the property's explicit interest in wildlife. While Sarah's interpretation of and personal experience with elk on the property guides the Stonefly's hunter access (and thus the property's management), the ranch's fidelity to historical practices and aesthetics suggests a narrow range of choice when it comes to adapting to changing local conditions – such as elk calves in the front yard or improving cattle production strategies.

The Doublecross. The Doublecross Ranch is a 2,500-hectare (6,300-acre) property established in the foothills of the Gallatin Range in Montana's Paradise Valley in the 1870s. After decades as a large-scale cattle operation, the Doublecross added a guest ranch operation in 1929, capitalizing on the expansion of tourism to Yellowstone National Park. In 2017 Mason and Co., a privately held boutique investment firm, purchased the ranch. One of two ranches owned by Mason and Co. in the region, the Doublecross continues to be "a guest operation," but not for just any dude. Now the property is reserved for "private...non-paying guests" of the Mason family and Mason and Co. The Doublecross' head ranch manager is Lee Summers. Born and raised in a nearby agricultural community, Lee's family has been ranching in Southwest Montana for multiple generations. Mason and Co. allow Lee to run some of his own cows on the Doublecross to help manage the property's rangelands. Lee notes, however, that Mason and Co. are not focused on "cattle," rather the property is an "investment" for the company. When guests come, explains Lee, they "...can relax and do their own thing. They don't have to worry about who is going to see them here...it's very private."

According to Lee, the owners before Mason and Co. had let the ranch fall into disrepair. The ranch was a "disaster," and it took several years of improvements before

the property was “presentable to bring clients.” In the short time since Mason and Co. took over ownership, Lee has overseen the construction of several substantial capital investments to the property including an indoor equestrian arena and large barn complex. On a day-to-day basis, a significant portion of Lee’s time is spent landscaping the grounds near the ranch’s main house and other buildings. The Doublecross is a “showcase” property, explains Lee. Mason and Co expect the grounds to be “immaculate”: they want the “place to look nice and neat, and everything picked up, fences up all tight.”

Situated on a major tributary of the Yellowstone River, the Doublecross’s fishing access is a major draw for guests and clients who visit the ranch. As such, Mason and Co. consider the improvement of riparian habitat and trout resources a primary management objective. One of the ranch’s “biggest projects,” notes Lee, is “fighting the river.” To improve access to the river that flows through the property, Mason and Co. have authorized Lee to haul in “tons and tons of rock.” “You wouldn’t know it,” says Lee, but now the “riverbank is 100% built up.” Other projects around the ranch have been less long-lasting. “We used to feed the fish,” recalls Lee, to bolster the size of trout in one of the property’s ponds. However, when the excess feed started to attract grizzly bears to the property, Lee had to end the feeding. In his words, “[t]here is nothing you can do to keep grizzly bears away from food that is 44% fat. They will find it.”

Mason and Co. advocate for managing the Doublecross’s rangeland pasture with the local fish populations in mind. At times, notes Lee, “we will forgo irrigation in an attempt to keep instream flow.” However, the Doublecross is not the only operator on the

stream. “We’ve got first rights on about 7/8ths of the water that comes through this system. [However, if] we let water go to keep instream flow, somebody down the line [will say], ‘hey there’s water here. I’m going to take it.’”⁵ This makes some of Mason and Co.’s management priorities feel a bit like a “catch 22,” says Lee, as their efforts to conserve water for their fishery do not “always translate to other operators in the system.”

Overall, Lee acknowledges that compared with a “working cattle ranch,” Mason and Co.’s management priorities are “totally different,” especially given that projects have “unlimited funding.” Lee explains: I can present a project to them that seems worthwhile and is kind of working toward their goal, they don’t generally say no. I just had a wetlands proposal approved for \$50,000 and [they] just went, yeah, okay, sounds good, let’s do it.” Working without a budget sometimes feels “weird,” says Lee. However, he is not complaining. Rather he quips, “I’m basically ruined for life working for anyone else.”

Trajectory: An Elite Corporate Retreat. Where the Stonefly operates in a preserve and maintain mode, the management trajectory at the Doublecross focuses on rapid enhancement and expansion of the ranch’s amenity assets. Thus, management activity at the Doublecross has been busy, with owners Mason and Co. commissioning

⁵ For more information on water rights and management in the American West see (Gosnell et al. 2007).

projects on the property with unlimited resources – “without a budget.” The guest experience, and more specifically, their expectations related to ranch aesthetics and recreational offerings, inform the ranch management trajectory of the Doublecross, which includes continued improvement of the property’s appearance and securing exclusive recreational opportunities like blue-ribbon trout fishing. Because Mason and Co. purchased the property recently, it remains unclear whether the ranch’s trajectory as an elite, corporate retreat can generate the types of return on investment the owners expect, presumably in the form of social capital and prestige. More certain, however, is that conforming an agricultural property to the standards of elite guest experience requires a unique set of ranch and landscape improvements related to the consumptive quality of the place rather than the productive capacity of the land. Here, the neighbor’s water rights constrain the recreation and conservation potential of the Doublecross’s fishery, as does unwanted interaction on the property with local grizzly bears. As a result, the ranch management trajectory of the Doublecross includes a re-shaping of the property’s agricultural aesthetics alongside shifts in management to reconcile the ecological responses to and governance limitations of their landscape transformation agenda.

The Two-Buckle. With over 40,000 hectares (~100,000 acres) of deeded land and another 24,000 hectares (~60,000 acres) of public leases, the Two-Buckle is one of Park County, WY’s largest private inholdings. A multi-generational family cattle operation for most of the 20th century, the Two-Buckle was purchased by software developer and entrepreneur Tim Alder and his wife Rachel in 1999. Firm “believers in conservation,” the Alders bought the Two-Buckle because the property’s proximity to Yellowstone

National Park and extensive wildlands made it an ideal place to experiment with a “pro-wildlife” approach to ranch management.

Tim recalls that when they first started at the ranch, they felt that “wildlife [was] more important...than the cows.” Believing that fewer cows on the property would create more space for wildlife, Tim asked their head ranch manager, Scott Stevens, to cancel the neighbors’ grazing leases and reduce the property’s stocking rate. Scott notes that after that first year, there were some “deer and elk there,” but after a couple of years, the forage turned rank and overgrown with noxious weeds. Gradually, the Alders grew concerned that fewer animals were using the property. A trained wildlife and range biologist, Scott notes that it took a few years to convince the Alders that even though they “had this vision of this wild open landscape,” having a larger cattle herd to manage the property’s extensive rangelands would improve the overall range quality. As Tim notes, the Alders’ “vision had to be moderated...to make it work.”

A few years after moving to the ranch full time, Tim was invited to join a local landowner working group invested in conserving the valley’s rural character and natural resources. Learning from local ranchers and observing change on the property, Tim grew to appreciate grazing as a management tool and realized that the “all or nothing” approach to cattle was “probably not the way to go.” Instead, the Alders expanded their herd and focused on creating a ranching model that could generate income and accommodate wildlife. The Two-Buckle’s proximity to Yellowstone’s wildlands means that wolves and grizzly bears occasionally prey on the property’s cattle. Emphatic about embracing coexistence with predators, the Alders have urged Scott to experiment with

non-lethal management strategies. Scott describes one strategy involving “temporary electric fencing” to break up pastures into smaller units: “if we can keep our cattle in a tighter bunch, that is with higher stock densities, we can keep a better eye on the cattle and keep predators fended off.” A more ambitious set of strategies has involved the adoption of range riders, employees on horseback who accompany cattle while grazing to deter predators. Overall, it’s been “quite a learning curve,” says Scott.

In the early 2000s, “the tech bubble burst,” and the Alders took a large “financial hit.” Since then, Scott notes, they have shifted their management strategy: “There’s been a greater focus on cutting costs and trying to find new enterprises to bring in additional revenue.” We are looking at “wind power” and “bottled water,” notes Scott, “we’re looking at all kinds of new things that will provide a revenue stream to the ranch.” Despite the pressure on the ranch’s bottom line, the Alders and Scott feel that the management practices they use on the Two-Buckle have a lot to offer other producers in the area. “I go out and teach ranchers what we’re doing here,” says Scott, “how to live with predators...rangeland health monitoring, grazing planning.” However, a limitation to realizing the Alders’ conservation agenda, according to Scott, is the Two-Buckle’s size. Though the Two-Buckle is one of the largest private properties in the region, Scott feels like they are “just too small to pull off [a landscape-level conservation agenda] on our own.” “There’s a phenomenal migratory elk herd, pronghorn herd in the valley and they spend a fair amount of time on us, but a lot of time they’re not on us,” laments Scott. “We have to work with our neighbors and other organizations and entities... We’re just not big enough.”

Trajectory: A Conservation Experiment. When HNW landowners approach ranch ownership and management as an exercise in social enterprise or conservation philanthropy – the case of tech entrepreneurs Tim and Rachel Alder on the Two-Buckle Ranch – the management trajectory features a portfolio of ambitious experiments in wildlife conservation and ecosystem rehabilitation. More dynamic, and arguably more sensitive to the “cooperation” of local ecology, than other trajectories, the Two-Buckle’s management has focused on deploying and learning from progressive ranch management practices perceived to enable the ranch property to enhance ecosystem processes at the local and the landscape scale. Realizing the benefits of pro-wildlife strategies has involved trial and error with some significant changes over the Alder’s 20-plus year tenure, such as shifting stocking rates, unconventional fencing and predator management techniques, and the exploration of alternative ranch revenue streams. Observations of the landscape and the ecological transformations their management practices induce, along with a willingness to learn from their manager and local agricultural producers with long-term experience on the landscape, have influenced the Two-Buckle’s trajectory over time. With their outward-facing vision of the ranch as a conservation experiment, the Alders aim to demonstrate the feasibility of conservation-focused ranching to more skeptical neighbors. Yet, as their story details, they have not been immune to financial risk, and have had to consider their budget for endless experimentation. Ultimately, however, the Alders’ conservation agenda and the trajectory of the Two-Buckle is constrained by property size, and the owners’ ability to influence the social and ecological conditions beyond their borders.

Spring Creek Ranch. Situated in the foothills of the Madison Range, Spring Creek is a 10,000-hectare (~25,000-acre) cow-calf operation owned by energy magnate Ernie Russell. After accruing significant wealth in the oil and gas business, Ernie began buying ranch properties across the American West in the late 1980s. Spring Creek is one of Ernie's 11 ranches; he owns a combined 1.3 million acres in four U.S. states and Canada. Ernie purchased Spring Creek in 1996 from another HNW owner and ranch investor, and invited the then ranch manager, Cole McCann, to stay on and continue managing the ranch's cattle operation. An avid bird hunter, Ernie visits Spring Creek once a year, usually in the fall, but otherwise prefers a "hands-off" approach to ranch management. Cole recalls that Ernie approached him because of his experience on the property and a willingness to work independently: "He said to me, 'Look, I don't know anything about ag [agriculture], but take care of it.'"

Though Ernie is a "business type," explains Cole, he also has "land ethic" and wants to "improve the land." Shortly after Ernie purchased Spring Creek he put a conservation easement over a large portion of the property. Beyond the benefits to his taxes, Cole notes that the easement fits Ernie's initial expectation of ranch ownership. "That was his sense of what conservation and land protection [were] at the time, and that was kind of mainstream." However, according to Cole, the easement was a "big lesson" for the ranch. Stipulations of the easement limit the stocking capacity in the ranch's most productive sections, creating tension with the ranch's intent on profitability. "We wish...that the easement could be a little more adaptive;" instead it has been more of a "management nightmare," notes Cole. "[Ernie] will never put another easement on a

ranch! We're a financially-based operation...[these are] not ranches that you can just take pride in owning and if they lose some money it's okay...we have to generate a profit."

While Spring Creek's previous owner had run cattle mostly for "the tax break" that can come from owning agricultural land, Cole noted a shift in the ranch's management under Ernie. Cole recalled that Ernie wanted "strict accountability" around budgets and needed the ranch to "pencil out." Though each of Ernie's ranches is managed by separate ranch managers, Cole notes that Spring Creek coordinates with Ernie's other properties to exchange feed or move around cows based on forage availability. A large portion of Spring Creek's deeded land is prime winter elk habitat, and the ranch hosts a large herd each year that migrates down from their summer range in the mountains of the nearby National Forest lands. Cole explains that Ernie isn't necessarily a supporter of conservation organizations, but he enjoys seeing the elk on the property. It is a "management issue that we are constantly working around," explains Cole. To increase ranch revenue and as a solution to their elk challenges, Cole suggested that Spring Creek adopt a professional outfitting business to guide private bull elk hunts in the fall. "We're more than willing to have elk on the ranch in large numbers as long as we can manage them for profit for us, to replace the [forage for livestock] that we lose."

Recently, elk have started congregating in larger numbers and for a greater portion of the year on the ranch. Some of Spring Creek's neighbors who also run cattle operations have made complaints, fearing that the elk would damage their fences and crops, or worse, lead to the spread of disease from elk to their cattle herds. The state game agency held a series of public meetings to bring together the valley's landowners to

discuss potential solutions to the problem, but Ernie has been unable to attend. Cole explained that while Ernie wants the ranch itself to be involved in “community efforts” but that “he just doesn’t have the time” to participate in local issues.

Trajectory: A Strategic Investment. For some of the most well-resourced HNW individuals in the GYE, including oil and gas magnate Ernie Russell, ranchland is not only a strategic asset class that can bring diversity to investment portfolios but one that can be acquired at vast scales. Referred to by local real estate agents as “business-types” and “resource-guys,” HNW landowners like Ernie Russell are drawn to ranchland for both its consumptive and productive potential qualities. Although landowners like Ernie might ride, hunt, or fish on their properties, the ranch is first and foremost a “financially based operation,” expected to operate in the black. Spring Creek’s ranch management trajectory shows an evolving course of strategy cognizant of environmental stewardship goals and recreational benefits while also circumscribed by strict financial discipline. Balancing out potential income from elk hunting against lost forage for cattle production is part of the careful profit-driven calculus that drives the strategic aspect of Spring Creek’s investment-oriented trajectory. More so than other trajectories, Spring Creek shares with “traditional” ranch neighbors an investment in livestock production as a central ranch focus. However, Ernie Russell’s detached position relative to participation in the local community is a key difference, with consequences for social and governance-related issues requiring landowner participation, such as collaborative elk management. Unlike the other ranches, Spring Creek’s situation as one in a large network of properties creates opportunities to pursue economies of scale and to diversify risk. Correspondingly,

the management trajectory on the Spring Creek ranch should be viewed as one joined within a networked portfolio of Ernie Russell's properties – which is both regional and international in scale. The fact that Spring Creek must reconcile and respond to very local social pressures and conflicts while simultaneously serving as part of a broader constellation of strategic investments underscores how HNW trajectories negotiate tensions and opportunities across diverse scales yet ultimately remain grounded in the context of a particular place.

Dynamics in HNW Ranch Management Life Courses

Factors that Shape the Evolution of HNW Ranch Management Trajectories. The stories of ranch management trajectories demonstrate the heterogeneity of ranch management strategies and practices within the HNW landowner cohort. As each story describes, some aspects of management trajectories are more dynamic and initiate change, while others persist over time. Below, we describe factors that constrain, extend, or prompt turning points in ranch management trajectories over time and space.

Unruly Rangeland Ecologies. When HNW ranches operate near vast complexes of protected wildlands, management trajectories interact with a dynamic and, at times unruly, set of rangeland social-ecological ecologies – migrating wildlife; flashy, mountain-fed river systems; and, shifting grass-shrub plant assemblages. Some interactions with local ecologies are sources of opportunity in management trajectories. For example, a growing elk population at Spring Creek instigates the adoption of a private outfitting business, a revenue-generating operation aligned with the ranch's

strategic investment trajectory. Other encounters serve as moments to recalibrate. Hunting access on the Stonefly, for example, waxes and wanes with Sarah's observations of elk on the landscape. In both these cases, the fact that elk are relatively plastic in their movements, and highly responsive to changes to land-use practices such as hunting and livestock grazing, underscores the potential for HNW ranch management trajectories to instigate shifts in wildlife behavior and create challenges for landscape-level environmental governance (Haggerty and Travis 2006; Proffitt et al. 2013, Middleton et al. 2020).

Narratives also demonstrate how direct encounters with wildlife can instigate rapid shifts in management, such as when the Doublecross abandons their fish feeding program after drawing unwanted attention from an opportunistic grizzly bear. Other shifts in management occur over longer time scales. For example, a set of social learning opportunities and personal observations of changes in forage quality prompts the Alders to reassess their expectations of range management on the Two-Buckle. These patterns illustrate how management trajectories morph and evolve in response to gradual transformations in landowner perspective and insight as well as sharper shifts in thinking associated with "aha" moments and experiences (Gosnell et al. 2019).

Narratives also hint at how individual landowners may develop special interests in wildlife species or passions for particular ecologies that ultimately drive management trajectories and social-ecological change. The charisma of particular species links strongly with their conservation potential (Lorimer 2007, Brambilla et al. 2013), and idiosyncratic or ideology-driven passion projects are a frequent pursuit of HNW

individuals (Brockington 2009). For example, Wilkinson (2013) notes media mogul and ranch owner Ted Turner's long-time fascination with the American Bison as the motivation for his bison restoration and ranching initiative.

Importantly, how and to what extent landowners interact with their ranch properties differs across narratives. Landowners who spend significant time on the ranch property, interacting with the local ecology and affecting everyday management practices contrast with those who are largely absent and rely heavily on the experience of on-site ranch managers to reconcile their ranch management values with the local conditions. Indeed, ranch managers on HNW properties appear to take on a variety of ranch management roles and responsibilities and, compared to their HNW ranch owners, share more in common with "traditional" operators who draw on place-based experience, self-monitor properties, and adapt management practices accordingly (Wilmer and Sturrock 2020).

Legal Institutions. In the GYE, an iconic conservation area with multiple land management agencies and a diverse array of private, government and NGO land use interests, HNW landowners encounter a legal context where institutions related to property rights can be in tension with customary resource use and environmental management (Fortmann 1990; Wilson 1997). In this context, interactions with and constraints produced by legal institutions shape HNW land-use dynamics. For example, a conservation easement may lower the financial risk of agricultural properties as well as offer social capital and cache for HNW landowners, especially in the Greater Yellowstone, where private land management practices are a contentious component of

regional conservation discourse (Shafer 2015). However, easements may constrain the productive capacity of operations and conflict with the investment orientation of a ranch's management trajectory, as they do on Spring Creek. Indeed, Ernie Russell's negative experience with easements suggests that our existing toolkit for large landscape conservation may be in tension with HNW ranch management trajectories that privilege productive output (Wilkinson 2013). Similarly, on the Doublecross, Mason and Co.'s attempts to bolster their local fishery are both enabled and constrained by the prior appropriation doctrine, which, thanks to recent reform, allows those with senior water rights to reallocate water historically used for irrigation to instream flow for native trout. Downstream neighbors with different values and management priorities, however, exercise their water rights in ways that undermine the owners' best-laid plans, suggesting consequential limitations for holistic water management within the current legal institutions and amidst diverse ownership patterns (Gosnell et al. 2007). At the same time, narratives also point to how other legal constraints are surmountable with the right combination of elite power and influence. The Thompson's neighbor, for example, stands ready to leverage social networks and connections with high-ranking land management officials for the benefit of their ranch management trajectories.

Markets. HNW landowners have immediate ties to financial markets both as a source of income and a factor in the place the ranch property occupies in their overall wealth (Harrington 2016). How financial market trends affect ranch management trajectories on HNW properties varies, however. While some properties appear to operate over long time scales with a benefit of sheltered endowments, inflections in financial

markets lead to radical turning points in land-use practices on others. For example, the Thompsons have subsidized the operation of their beloved family retreat for two generations without major shifts between spending or saving. At the same time, landowners like Mason and Co. justify nearly unlimited investment in large scale capital improvements in terms of expected returns in social capital and prestige. (The ability to ranch “without a budget” may prove to be dependent on particular market circumstances, however.) Notably, the Two-Buckle’s abrupt shift in management towards more income diversification following the market crash of the dot-com bubble in 2001 highlights how other HNW landowners and land-ownership trajectories are intimately connected to systems of global finance.

Property Lines. For HNW landowners who bring with them management values and goals that contrast with neighbor or community norms, property boundaries serve as consequential containers for HNW ranch management trajectories. For example, when management goals involve ecological processes and factors that extend beyond property lines, the ability to enact change is, as the Two-Buckle’s ranch manager Scott puts it, dependent on an ability to work in alignment with neighbors and neighboring ranch management trajectories (Travis 2007). If the costs and benefits of an HNW management trajectory spread unequally across property lines, conflict can ensue, as it does on Spring Creek when neighbors complain about the property’s large resident elk herd. Whereas the need for Spring Creek to participate in public discussions of elk management underscores the disproportionate role that individual ranch properties can play in landscape-scale social-ecological dynamics (Haggerty and Travis 2006), Ernie’s

relative absence in the community and on the property suggests open questions related to the viability of collaborative governance given uneven HNW landowner community participation. Importantly, the relative agreement of management practices amongst the neighbors of the Stonefly seems to promote the ranch's ultimate management goals. The Stonefly's ability to promote wildlife habitat on their community Forest Service grazing allotment, for example, appears dependent on the interests of the other HNW landowners on the permit. In this way, the configuration of like-minded properties in and around the Stonefly suggests that the emergence of HNW ownership regimes – property mosaics increasingly dominated by HNW landowners – may, in some ways, promote both the durability and expansion of HNW ranch management trajectories across the landscape.

The Difference that Abundance Makes

“Usually the difference between a traditional mom and pop making a living off the land...versus these guys... [is] they don't do it for the money...they ranch with money as opposed to for money.” - Local real estate agent

Armed with surplus capital and a more-than-production mindset for ranch management, HNW landowners described in this paper are managing with abundance, not only *for* money but *with* money. Opportunities related to abundance take multiple forms as HNW landowners approach ranch management with ample financial capital as well as social capital, and options to leverage diverse networks and elite actors and institutions. The ability to privilege non-productive land uses and experimental management practices, enact capital-intensive infrastructure projects, and leverage economies of scale are key differences in land use that managing with abundance makes. At the same time, managing with abundance opens up new and distinct management

vulnerabilities. Experiments and interventions are plagued by unpredicted encounters and unexpected results while unconventional management practices and acts of resource enclosure prompt social conflict.

The set of social-ecological connections highlighted in this account suggests that HNW ranch management trajectories nest into landscape-scale dynamics (Epstein et al. 2019). Novel wildlife ecologies are emerging alongside patterns of HNW ownership – elk bed down in front yards and large-scale restoration projects shift ecosystem flows in riparian habitat – signaling the potential for new social-ecological paradigms to accompany shifts in ownership (Barker et al. 2019). The ability for HNW owners to manage large and ecologically significant ranch properties means that management trajectories can also play out at very large scales in conjunction with and close to landscapes deemed critical to larger ecosystem processes (Gude et al. 2007). The privacy-seeking and remote nature of HNW landowners creates challenges for resource management strategies focused on extensive collaboration among diverse stakeholders, which typically require substantial time investments and a recognition of interdependence among participants. Though, whether and how HNW ranch managers fill critical social roles in communities and governance processes as landowner proxies remains an open set of questions.

When HNW ranch management trajectories occur within diverse ownership mosaics, the emergence of HNW land values and practices presents an opportunity for conflict between HNW land values and existing customs (Gosnell et al. 2006). While some HNW landowners integrate into local moral ecologies and lifeways and become

important assets and sources of social and financial support in their community (Charnley et al. 2014), others remain distant to neighbors and challenge social norms and local institutions (Yung and Belsky 2007; Haggerty et al. 2018). As HNW acquisition of ranches in the GYE expands in space and perpetuates through time, the result is landscapes where HNW ranch management trajectories coalesce across multiple properties and instigate a transformation in the social landscape related to HNW land uses and values. Here, regions like the South Fork of the Shoshone where HNW landowners own a majority of ground, demonstrate the characteristics of an HNW ownership *regime* where HNW management trajectories unfold en masse and can affect local customs and ecosystem processes. These end members of the GYE's ranch ownership transition offer a vision of the future pertinent to places where ownership patterns are currently a mix of HNW and traditional landowners. Though mixed ownership patterns may offer a multifunctional mosaic that accommodates elite consumption, agricultural production, and public recreation currently (albeit uneasily), they may be moving inexorably to one largely enclosed and elite-dominated. In such conditions, environmental conflicts may hinge less on an amenity versus traditional owner or "new-comer versus older-timer" dichotomy (Travis 2007), and more on the intraclass conflicts among HNW landowners and their particularities.

The rise and expansion of HNW landowners on the landscape also signal an important transformation of the ranch property itself, manifested as a repositioning of the ranch's role in global networks. The ranch management trajectories identified and analyzed in this paper demand a shift in perspective beyond the local landscape featured

in the P-LLC framework to the global horizon of the super-rich. For most of the twentieth century, the “typical” western livestock ranch operated as a node in *agricultural* production networks – social, ecological, and economic, its origins in imperialism and the industrial surplus capital of the 19th century and enduring mythic appeal notwithstanding (Limerick 1987). However, the HNW ranch trajectories revealed in this study point to a reorientation of ranches into new global networks of social and economic capital, a process that crystallizes a reconfigured set of linkages between rural landscapes and global processes (Woods 2016).

As elite enclaves where landowners enjoy exclusive access to recreation, aesthetics, and wildlife, ranches operate as sites of HNW consumption of abundance – and by extension, identity formation and social reproduction by the super-rich. The quality and depth of consumption of ranch amenities appears to vary with different ranch trajectories. Some owners connect deeply with many facets of the property, including its perceived historicism. Others, in contrast, invest heavily to facilitate consumption, frenetically building up their properties to endow them with abundant recreational activities. For yet another type of HNW landowner, it is a network of ranch holdings that confers identity and meaning; the owner may actively consume at the ranch for only a few days in the year. Ranches also operate as sites of HNW social reproduction, places where HNW individuals exert social influence and generate social prestige (Veblen 1988 [1989]). Our ranch stories show differences in how HNW seek and acquire prestige through their management strategies, ranging from Veblen-esque activities of the leisured class (shooting, angling, and horseback riding) to more outward-facing efforts to make

private ranches conservation demonstration projects. Regardless of whether HNWLandowners approach ranching as an opportunity for conspicuous consumption or conspicuous production (Currid-Halkett 2017), HNWL ranch management trajectories exemplify a mutually reinforcing connection between property and prestige and the long-standing link between elite status and prominence in conservation (Righter 2008; Linklater 2013).

As a final note on the transformation of ranch properties, the ability for HNWLandowners to invest in and benefit from conservation properties demonstrates what many geographers, among others, observe as a growing intimacy between conservation and systems of finance (Castree and Christophers 2015; Dempsey and Suarez 2016). HNWL land ownership, however, is distinct from schemes to commodify ecosystem services or internalize logics of finance into conservation philanthropy in that it tethers conservation outcomes to a set of idiosyncratic super-rich life course dynamics and a management cosmology organized by access to abundance. The set of vulnerabilities that open up for ranches with management trajectories decoupled from profits in agriculture and tied to profits elsewhere are hinted at in our life course analysis but are not yet well understood. A better understanding of the evolving relationship between financial capital and ranch ownership will be necessary to chart out the future of land ownership and environmental management in landscapes easily capitalized (on) by HNWL individuals and investment portfolios.

Conclusion

On the ranches of the super-rich, management operates within a sphere of abundance with corresponding implications for rural communities, environmental governance, and landscape-level ecological processes. Through the P-LLC framework, our study sought to forefront an in-depth description of HNW ranch management through a composite approach. Our four stories of HNW ranches in the GYE captured a range of HNW land management trajectories alongside insights into their evolution over time and space. Our findings suggest HNW ranch management comes with social and ecological consequences for critical conservation areas like the GYE, regions where continued HNW interest and investment will result in HNW ranch ownership regimes and a tightening of the circle between systems of wealth and finance, elite interests, and land control. While we have attempted to bring clarity to the life course dynamics of HNW ranch management, the particular mechanisms that underpin the acquisition of ranch properties remain unknown, as does an understanding of how rural communities and governance processes are contesting or adapting to the emergence of HNW ownership regimes. The trajectory of our current global political economy suggests that the accumulation of wealth by the world's super-rich will continue (Piketty 2014), and with it, the likely acquisition and management of agricultural properties. As such, the need for sustained efforts to “study up” (Nader 1969) and focus scholarly attention on the dynamics of HNW land ownership in rural landscapes and critical conservation areas has never been greater.

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CHAPTER FIVE

MANAGING WILD EMOTIONS: WILDLIFE MANAGERS AS INTERMEDIARIES
AT THE CONFLICTURAL BOUNDARIES OF ACCESS RELATIONS

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Abstract

The use of hunting as a tool for managing game species on private land is a cornerstone of wildlife management in the Western U.S. and depends on a set of institutional norms and cooperative practices between hunters, private landowners, and wildlife agencies. In rural agricultural landscapes where changes in demographics and land use accompany shifts in public hunting access to private lands, wildlife managers can have difficulty controlling the density and distribution of wildlife across the landscape. The result is often intense conflict between individuals seeking hunting access for sport, agricultural producers fearing economic loss from game damage and disease, and landowners harboring large populations of game species on private property. Drawing on ethnographic engagement with wildlife managers in rural working landscapes of Wyoming and Montana, I argue that a requisite feature of managing wildlife on private lands has become managing the private landowners themselves, and more specifically their fear, anger, and frustration with institutional structures. To assuage environmental conflict, wildlife managers use practices and strategies to deliberately modify and control the emotional experiences of private landowners. I code this labor as both emotional (Hochschild 1983) and affective (Hardt and Negri 2000, 2004) and use attention to the more-than-human to consider implications for the social and emotional relations connecting landowners, wildlife, and wildlife managers. Thinking through the affective and emotional labor of wildlife managers illuminates enduring challenges for wildlife governance in the Western U.S. related to the power of landowners to control access to private wildlife habitat. At the same time, the potential

for wildlife managers to generate and build alternative affective socio-natural relations suggests that relational approaches may improve the ability of wildlife management to negotiate governance challenges and work towards improved human/wildlife relations.

Introduction

Questions of access often go hand in hand with investigations of environmental conflicts (Blaikie 1987, Sikor and Lund 2009, Myers and Hansen 2020). While property rights and other “enforceable claims” to resources are frequently the de facto frameworks for examining the distribution of benefits amongst social actors, multiple factors can influence access. Indeed, critical scholars on property and resources increasingly position access, and the identification and demarcation of mechanisms through which social actors gain benefits outside of property relations, as important analytical terrain (Hansen et al. 2020, Myers and Hansen 2020). In this paper, I use Ribot and Peluso (2003)’s “access analysis” as a framework to explore conflict over wildlife management, and more specifically, how wildlife managers negotiate access to the elk (*Cervus canadensis*) on private lands in the Western U.S.

An iconic U.S. game species, elk are also a source of significant economic value. Nationally, elk hunting generates close to \$1 billion dollars a year (RMEF 2008). Opportunities for public hunters to access wildlife are core to the philosophy and practice of state wildlife management agencies. For species that move freely across public and private property lines—as elk do—the institution of wildlife management has relied on a set of mutual obligations between rural landowners and hunters to facilitate public access to private lands (Haggerty and Travis 2006, Eliason 2016).

Social arrangements or relations between resource uses and rights holders are an oft cited element of access, especially in contexts where property rights may otherwise constrain or limit the abilities of social actors to gain benefits from resources. However,

relations between people and institutions relative to access emerge within “particular political-economic moments” and thus can evolve and change over time (Ribot and Peluso 2003 p. 160). That the social relations facilitating access are dynamic and mutable makes the mere “mapping” of them insufficient to access contexts where shifts between the relative powers of social actors and their relational ties reshape the social pathways through which resource users gain access, regardless if the category of “access mechanism” remains the same.

Such is the situation with elk management in Montana and Wyoming, where over the last several decades, the socio-political relations amongst resource users and rights holders have shifted. Alongside growing public concerns over the ability of state wildlife agencies to manage effectively, intense conflict over elk and elk management has ensued (Haggerty and Travis 2006). I use this set of emerging regional dynamics around access, or rather lack of it, as a starting point for exploring an under-examined question in access studies. In this paper, I examine how this set of emerging regional dynamics around lack of access has reshaped the social pathways to elk access, and as a consequence the everyday practices of wildlife managers charged with managing elk on private lands. I consider reflections from wildlife managers about their work to build relationships with landowners in service of hunting access for the public and the administrative mandates of state wildlife agencies. As their work attempts to reshape the feelings of landowners towards wildlife and the institution of wildlife management, I code wildlife managers’ labor as both affective (Hardt and Negri 2000) and emotional (Hochschild 2012, Knights and Thanem 2017).

To orient wildlife managers' labor within the broader politics of access influencing elk management, I follow Sultana (2015) and others (González-Hidalgo and Zografos 2020), and put key concepts from access analysis in conversation with political ecology's "emotional turn." Theories on affect and emotion stress their power to shape individual and collective environmental subjectivities (Singh 2018). In attempting to both generate and maintain the types of social relations they deem necessary for access, wildlife managers too see their work as a method of subject-making. My analysis seeks to highlight the challenges of securing access to a public resource in an increasingly commodified private landscape and the "costs" to government agents often caught in the crossfire of resource struggles in the American West. At the same time, reading elk conflict through the affective and emotional labor of wildlife managers sheds light on access mechanism *mechanics*. This "view under the hood" of access relations and their affective and emotional dimensions can extend the explanatory and analytical power of access analysis in situations where shifting social relations influence access and the socio-political dimensions of environmental conflicts.

In the next sections, I describe access issues in relation to elk conflict in Wyoming and Montana and locate affect and emotion as conceptual tools for investigating environmental subjectivities related to resource use and access. After a brief discussion of this paper's methods, I turn to the work of wildlife managers and report how they perceive their everyday practices in the context of expanding elk populations, declining access, and an increasingly hostile social landscape. I conclude with thoughts

about the future of wildlife management and the potential for affect and emotion to enhance access analysis.

The Politics of Elk Access in Montana and Wyoming

Wildlife in the U.S. is a public trust, or the collective property of the people. This central ethos, the so-called Public Trust Doctrine, anchors the set of principles that guide the general approach and philosophies taken up by various state wildlife agencies charged with managing wildlife within their state borders (Organ et al. 2012). As a democratic ideal that advocates for access to wildlife as a public right, the public trust doctrine of wildlife management knits together the populist ideologies of hunters who advocate for hunting access as part of a set of claims and rights to nature and the conservation strategies of wildlife management seeking to maintain wildlife populations across the landscape (Posewitz 2001, Robbins 2006). Assessments of wildlife conflict, however, are often quick to point out a fundamental tension in the system of North American wildlife management. While wild animals are publicly owned, a large portion of their habitat is privately held (Watson 2012-2013). In Montana and Wyoming, like much of the rural American West, rural landowners have the ownership rights to dictate land use and access on their properties (Pincetl 2006). In “A Theory of Access,” Ribot and Peluso argue that whereas property describes the *right* to benefit from resources (MacPherson 1999), access describes the *ability* to benefit (Ribot and Peluso 2003). As such, access encapsulates the entirety of ways that people can benefit from things, including property rights and relations. This distinction has particular value for understanding elk conflict that unfolds within an access “grey zone” where what people have rights to differs from

what they have access to (Sikor and Lund 2009 p. 2). Stated otherwise, while the public enjoys a set of collective property rights to wildlife, they can be constrained in their abilities to access them.

As migratory grazers, elk move seasonally across the landscape between distinct summer and winter ranges (Middleton et al. 2020). In Montana and Wyoming, this journey almost always involves stopovers on private land where land use has strong influence over wildlife management. Rural landowners determine habitat conditions and can exercise “access control” over public hunting or science-related activities. The region’s two state wildlife agencies, the Montana Department of Fish, Wildlife and Parks (MTFWP) and the Wyoming Game and Fish Department (WGFD) have little regulatory power to compel access for public hunters and instead have long benefited from an alternative means of access. Historically, there have been two “mechanisms” arising from two general and interconnected sets of mutual obligations between rural hunters and landowners.

The first concerns the burdens of hosting wildlife populations on private property. Elk are notoriously costly for rural landowners and, in particular, agricultural operators, as they can compete with livestock for forage, damage fences, and attract predators (Beck and Peek 2005). Thus, landowners have traditionally permitted public hunting as an economic service where hunters serve as the means to both reduce and distribute local herd populations. While this economic arrangement with hunting and hunters was and remains frequent throughout agricultural landscapes of the Western US, the second set of mutual obligations is more unique to Montana and Wyoming. Here there is a cultural

allegiance to a regional hunting tradition based on the idea of collective ownership in wildlife. This second mechanism thus involves rural landowners offering public access as a “community social obligation” (Yung and Belsky 2007 p. 698). In this system, the role of wildlife managers with respect to access has focused primarily on duties of science and enforcement. Wildlife managers have been responsible for collecting data on the density and distribution of populations to inform wildlife policies related to hunting quotas and season setting and protecting public and private ownership rights from illegal takes and trespassing.

Serious cracks in the cornerstones of these access relations began to emerge in the latter half of the 20th century. One important set of trends concerned a regionwide shift towards more consumptive land uses and the emergence of a new rural landowner cohort more tolerant of elk than elk hunters (Haggerty and Travis 2006). Another concerned a more general loss of trust in the hunting public and the increased presence of professional outfitting and guiding services (Eliason 2016). These tandem patterns, where privately held elk habitat functions as either a wildlife sanctuary or an elite and exclusive hunting park, have changed the calculus for the social relations facilitating access (Burcham et al. 1999).

More Elk, Less Access

The “particular political-economic moment” in which elk are increasingly commodified by landowners has produced two closely coupled dynamics of access which are the fundamental context for this paper. The first is heightened conflict around elk and access issues in state politics as well as the region’s everyday political discourse. The

salience of access, for example, has made it a centerpiece of Montana's 2020 attorney general election (Van Middendorp 2020). The second implication of the conflict relates to the work of wildlife managers themselves.

Where landowners find themselves relatively empowered by their ability to control access, state wildlife managers are comparatively disempowered to compel specific land use practices, with hunting access one among several private land initiatives (habitat enhancement, etc.) that may ultimately shape conservation and management outcomes for the species they are charged to manage. However the power dynamics influence access and indeed elk conflict are not limited to the relations of rural landowners and wildlife managers. Despite their relative power to dictate use on their own properties, many rural landowners in Montana and Wyoming, and especially those maintaining multi-generational agricultural operations, feel disempowered relative to the larger economy (Yung and Belsky 2007, Bonser 2019). Volatile commodity markets and a general trend of decline in agricultural revenues over the last several decades has made family operations less and less profitable. Uncertainty related to a shifting climate, whether or not a family member will take over the ranch, and opportunities for operations to expand amidst rapidly rising land prices has made ranching in both states a decidedly stressful business (Haggerty et al. 2018a). Thus while many rural landowners report having strong wildlife values, the loss of critical forage or the potential for disease transmission from a passing elk herd can make rural landowners feel like they have very limited control to maintain the solvency of their operations.

As the economic and social contracts underlying public hunting access on private land have dissolved, elk populations have rebounded—creating and exacerbating social tensions around where they are and who can have access to harvest them. As of 2019, some hunting districts in Montana were as much as 800% over their established objectives (French 2019, MTFWP 2020). Wyoming’s elk populations reflect a similar pattern: the state’s 2019 population counts were 29% over the state-wide objectives (Thuermer 2019). Amidst a landscape with more elk and less access, landowners and hunters are mounting serious and sometimes virulent concerns over the administrative capacity of wildlife agencies to manage effectively. Wildlife managers face a professional responsibility to deliver access in a system in which the mechanisms for access haven’t changed, but the mechanics have. As wildlife management increasingly engages non-rational, non-instrumental motivations and meanings that landowners bring to questions of land and elk, the work itself has shifted to emphasize sets of skills and activities well outside the scope of counting and modeling wildlife populations. The work of access, it turns out, has a fundamentally interpersonal and emotional orientation, to which the analytical approaches developed within emotional political ecology are well-suited.

Affect, Emotions, and Resource Governance

While access has long been an object for political ecology’s historical materialist leanings, political ecologists are increasingly embracing the field’s “emotional turn” and incorporating affect and emotion into analyses of environmental conflict and resource governance (Haggerty et al. 2018c, Singh 2018, Martin et al. 2019). This so-called

emotional political ecology approach builds on indigenous understandings of relationality (Todd 2016) to align feminist and cultural geography perspectives on emotion and affect with more structural explanations of resource struggles (Peluso and Watts 2001, Peet and Watts 2004). An emotional political ecology views elk conflict as more than the product of instrumental goals and material outcomes by drawing attention to access issues as embodied experiences where emotions and affects are components of mechanisms that shape how social actors gain, control, and maintain benefits from resources. As Sultana notes, “emotions matter in resource struggles” (Sultana 2015 p. 634).

A central theme in emotional political ecology work is to understand the intersection of emotion, affect, and individual and collective behaviors related to resource governance and management. Much of this work has sought to ground resource struggles as part of the emotional conditions of the everyday (Sultana 2011, González-Hidalgo and Zografos 2017), and demonstrate ways that affect and emotion ultimately shape participation in collective resource management or environmental conflicts (Nightingale 2012, Vasile 2019). This type of thinking helps me frame the emotions as a consequential dimension of elk conflict, one that shapes the actions of wildlife managers, the interactions of wildlife managers and rural landowners, and ultimately the access relations between them.

To further unpack how emotions and affect interact within conflict over elk management, I draw on two concepts in my analysis of wildlife managers’ everyday practices. The first is emotional labor. Described by Arlie Hochschild in her study of the work of flight attendants, emotional labor is “the management of feeling to create a

publicly observable facial and bodily display” (Hochschild 2012 p. 7). For Hochschild, identifying labor as emotional clarifies how social rules and structures of power in the organizational context produce specific emotional experiences. While Hochschild uses emotional labor to emphasize the negative repercussions for emotional labor (estrangement, alienation, and subjectification), other studies note the importance of emotional labor as a productive component of care work and as a practice geared towards the creation of empathy, trust, and camaraderie in workplace settings (Humphrey et al. 2015).

Related to emotional labor is the second concept I leverage in this analysis, affective labor. In *Empire*, Michael Hardt and Antonio Negri (2000) argue that in the post-Fordist economy, an emphasis on services, information, and communication has privileged a set of labors the authors deem affective. Rather than factory goods, the products of affective labor are, in the words of Hardt and Negri, immaterial; they aim to create and generate “feeling[s] of ease, well-being, satisfaction, excitement, or passion” (Hardt and Negri 2000 p. 292). Affect for Hardt and Negri derives from a line of theory often attributed to the insights of the Dutch philosopher Benedict Spinoza. Spinoza crafts a particular understanding of the body as a site of dramatic and continual transformation. Penning the oft-cited claim, “no one yet has determined what the body can do”, Spinoza evokes what a body can become as opposed to what a body merely is (Spinoza 2006). More importantly, for Spinoza, the body is a site of affectivity, a conduit for relating to the world and a demonstration of worldly “in-between-ness.” Proceeding from this logic, affect represents the capacity for a body to affect and also be affected. While

emotional labor and affective labor share a common focus on creating and manipulating affects, it is the quality of affectivity that allows Hardt and Negri to view affective labor as generative beyond the level of the individual in that it can produce “social networks, forms of community, biopower” (Hardt and Negri 2000 p. 293).

I apply these insights on the role of affect and emotion as meaningful influences on social and environmental subjectivity to investigate the strategies and practices of wildlife managers and their work to build social relations with landowners. Because wildlife managers approach their relationships with landowners in a position of relative disempowerment, this study pursues a new transect across the terrains of emotional geographies. Unable to compel landowners to require access through regulatory measures, wildlife managers turn to social relations as their primary mechanism to secure access. This pursuit takes place within a fraught social terrain, where emotions are not only the outcomes of conflict but dynamic forces within conflict (Sultana 2011, 2015). In the case of this assessment of elk conflict, how landowners feel about elk is fundamental, but in ways that transcend conventional framings (Tilt 2020).

Instead of focusing on the particularities of what landowner emotions are, this study seeks to understand what landowner emotions do: how they transform the everyday work of wildlife managers. I approach this question from the viewpoint of the wildlife managers themselves, who as agents of the state, negotiate for access with property owners *on behalf of* the public. As such I focus on the “everyday” aspects of resource conflicts (Rocheleau et al. 1996), alongside larger structural conditions (wildlife policies, property rights, etc.) to better understand the consequences of access for conflict and elk

management broadly. In examinations of conflict from “the ground up” the foci of interest often sit at the opposing ends of an access relationship—either rights holders or the resource users (Nightingale 2012, González-Hidalgo and Zografos 2017, 2020). Wildlife managers, however, operate more as “boundary workers” in a liminal space between public hunters, rural landowners, and the species they are charged to manage (Lawson 2002). Building on and expanding beyond foundational work establishing the presence and importance of intermediaries (Fairbairn 2013), this study examines the form and function of negotiations by intermediaries working at the conflictual boundaries of access politics. I will argue that a critical and as yet underrecognized set of dynamics in this space operate in the realm of emotion, affect, and the labor/social relations they entail.

Methods

What follows draws on four years of engaged participation in and data collection about wildlife management issues in Montana and Wyoming. The first phase of research provided a broad context for understanding elk conflict. Attending multiple regional conferences and invited workshops enabled observation of individuals from various positions related to wildlife management, including state and federal agency personnel, members of the non-profit conservation community, and scientists researching wildlife, including elk. I also examined peer-reviewed and popular literature related to elk ecology and management, as well as official reports from each state’s respective wildlife agency, MTFWP and WDGF.

This preliminary work informed a focused set of interviews I conducted with 17 MTFWP and WDFW employees over the course of two summers (2018, 2019).

Interviewees included active wildlife biologists, wardens, and upper-level management personnel, as well as one retired biologist. Contacts from MTFWP and WDFW assisted in identifying personnel with experience relevant to the issues of research. Interviews with participants followed a semi-structured format: I asked participants questions about their roles and responsibilities, their perceptions of local wildlife conflicts, and the strategies they used to interact with landowners on issues related to wildlife. I conducted the majority of interviews in-person, often at the manager's office though several times I was invited for "ride-alongs." Schedules and availability required that three meetings occur over the phone. Our conversations lasted between 45 minutes and 2.5 hours. I used an audio recorder to capture interviews with all participants who allowed it and otherwise took extensive notes.

I sought out interviews with biologists and wardens specifically because they are often the face of the wildlife agencies for rural communities; they are the intermediaries of access conflict. Wardens and biologists operate as part of dispersed area offices and frequently interface with rural landowners about issues related to managing wildlife on their property. Importantly, game wardens' role in wildlife crime enforcement circumscribes their relations with rural communities in ways that differ from wildlife biologists, who often support the work of wardens but operate as scientists and researchers and are not officers of the law per se (Eliason 2011). However I discuss them together because they both serve as the face of wildlife agencies in rural communities and

often work in tandem on issues related to wildlife on private lands (Lawson 2002, Eliason 2014). Thus in this paper, I refer to biologists and wardens together as “wildlife managers” and by the shorthand “managers” for the remainder of the paper. This terminology emphasizes the insights from a focus on the shared labors of biologists and wardens, and alongside a set of pseudonyms, adds protection for my participants’ identities. Protecting anonymity is a valid concern given that there are relatively few state agency employees operating in rural communities across the region.

Data analysis followed a grounded theory approach. I analyzed field notes and interview transcripts through iterative rounds of coding to allow key themes in manager narratives to emerge inductively. To explain the social practices of wildlife managers I draw on affective labor and emotional labor as concepts useful to understanding ways that affect and emotion operate within workplace settings and also larger capitalist projects (Hochschild 2012, Singh 2013, Dashper 2020, Hardt and Negri 2000). Scholars have critiqued both terms for their assumed delineation between public and private spheres and their reinforcement of mind-body dualisms (Federici 2008, Head and Harada 2017). In this study, I attempt to use these ambiguities productively by first describing how the power of rural landowners to shape public access compels new types of social practices, what managers call “people management.” In this way affective and emotional strategies differ not from the private homelife or other care work of managers, but from their stated duties as science and enforcement-based professionals. I then use the respective differences between affective and emotional labor to loosely group their everyday strategies and practices. This allows me to differentiate between affective

strategies and practices that aim to shift the subjectivities of others—in this case landowners—and the emotional dimensions of labor which necessitate that wildlife managers address their own embodied positionalities.

Wildlife Management as People Management

“Fish and wildlife biologists manage wildlife populations and the habitats that support them. Understanding wildlife physical characteristics, populations, behaviours, and the impacts humans have on wildlife and wildlife habitat are all important in managing wildlife. Fish and wildlife biologists have many duties including planning and conducting surveys and projects, analyzing results, evaluating development proposals and recommending methods to minimize impacts, writing reports, and preparing hunting season recommendations.” *Description of a WGFD wildlife biologist position* (WGFD 2020).

“Collects and compiles data and performs biological activities for wildlife management strategies. Assists with management and operations of state parks and fishing access sites. Meets with landowners, members of the public and other agencies to explain and/or address concerns relating to department programs.” *Description of MTFWP warden position* (MTFWP 2020).

Wildlife management is often described as a project of science and descriptions of wildlife manager positions tend to follow suit. The published roles and responsibilities of wildlife managers working at WGFD and MTFWP emphasize data collection and analysis, effective counting, accurate population estimates, and logical estimations of forage ability. They also include preparing reports and recommending seasons and hunting quotas, allocating a number of tags and licenses for particular areas based on a set of established populations objectives. In generating information about the ecological and biological characteristics of wildlife, these activities support a set of wildlife policies that, at least in part, serve to facilitate access.

However, in interviews, managers were quick to point out the limits of scientific management on the landscape. Jack, a manager from Montana, described the dynamics in his region this way: “Out here, [we] can only support so many elk and that comes from what’s available for food...We can throw a number out there and see if it sticks all we want, but in all reality...[it’s about] landowner tolerance.” As Jack sees it, the scientific processes that inform wildlife management can generate “numbers” or population objectives derived from assumptions about how much a particular landscape may hold. Ultimately, however, wildlife management in regions with privately owned wildlife habitat is circumscribed by the landowner’s tolerance, or how many elk a rural landowner wants to host on their property. “You know we think we have more control than we do, more management control than we do but wildlife thrives at the landowners’ discretion,” explained Tim, another manager from Montana. “The sooner you realize that, the better for both wildlife and really your professional satisfaction. It’s just different. The data is critical. To collect and disseminate that is critical but it’s not everything. Especially if you want to influence conservation broadly.”

As Tim sees it, the power of private landowners to shape outcomes for wildlife determines the range of choice for wildlife managers charged with managing wildlife populations on private lands. John, a manager from Wyoming put a finer point on the link between relationships and access:

“Access is a large part of what we do in our position is to try to find a way to work with landowners to allow that access. Obviously, we’re an agency that does a lot of hunting related activities for game management. If you can’t get on a lot of these properties you can’t get harvest to keep numbers where they may need to be. It also applies to things like habitat conservation, if you want to do habitat improvement. Looking at wetlands

or larger scale type things, easements. You basically want to get something done, it needs to involve private land.”

Here, as John describes, a manager’s ability to affect management outcomes related to wildlife is not vested scientific observations about the density and distribution of wildlife across the landscape. Rather, the ability lies with managers’ ability to work *with* private landowners. In rural working landscapes where wildlife habitat is privately owned, the everyday practices of wildlife managers are focused on a set of relational strategies. In the words of one wildlife manager, wildlife management becomes “people management.”

Wild Emotions and Affective Labors:
The Pursuit of Good Relations

“We really do bend over backward to try to keep those relationships good. If you sour a relationship with a landowner, it can really hurt us.” - Sarah, a manager from Wyoming.

In this section, I report on how wildlife managers pursue “good” relations with rural landowners as part of their work to secure access through relational mechanisms. I code their work in two ways. Their labor is affective labor, in that it aims to shape the feelings of landowners towards wildlife management. Because managing the feelings of landowners requires wildlife managers to also manage their own feelings, the work is also emotional labor. I turn first to the affective dimensions of the labor and then the emotional.

Affective Labor and Navigating the Social Side of the Job. As managers understand it, their role as access intermediaries necessitates relationships with landowners. As one manager noted, “You’re either able to... build relationships... or you don’t. And you could be more or less effective depending on how well you navigate the social side of the job.” Below, I share examples of how managers approach their relational obligations. This work occurs within a broader set of occupational duties and tasks regularly assigned to biologists and wardens in the field. However, instead of a quantifiable product—number of elk counted, poachers apprehended, or wildlife policies produced—, this work strives to “navigate the social side of the job” by attuning to and shaping landowner feelings, orientations, and sentiments about wildlife managers and the institution of wildlife management.

“How do you approach building relationships with landowners?” I asked George, a manager from Wyoming. “Number one with them [is] trusting me as a person. I am someone who represents an agency, [but] they don’t trust the agency really. They have to trust the person first.” Keenly aware of this disadvantaged position in rural contexts, managers frequently cited trust, or rather lack of it, as an initial hurdle to overcome with landowners. “A lot of people that don’t trust the government [and] don’t like the government,” explained Sarah. Having landowners view them as “a real person” and “not just some [person] with a badge,” was thus a necessary entry point for future affective efforts.

To this end, managers described multiple strategies for reshaping how landowners perceive them as government agents and wildlife managers. Some noted that they needed

to generate the sense that they understood the agricultural context of their rural constituents. John described his strategy for creating an affective experience this way, “Fortunately for me, I grew up dairy farming... you know if you can talk about cows or you can talk about hay or complain about the weather together. It goes a long way if you have something in common with them, and you’re not just rolling in from... whatever metropolitan area, and you have no idea about anything out here.” For other managers, an attention to personal aesthetic was important for conveying the right kind of message to landowners. “There’s a reason I don’t wear a uniform, a state uniform that often. It’s automatically one way to get someone’s guard up when you’re knocking on the door. It’s bad enough that I’ve got a pretty obvious work truck, but I try to just wear normal clothes when I’m meeting with folks.” More than just looking the part, George emphasized a need to be seen as invested in the everyday aspects of agricultural life. “Ride with them, brand with them, barbecue with them, do anything you can. It really helped in our program, once again it worked.” As George sees it, strategically participating in the everyday life of rural communities contributes to a larger effort to shape landowner orientations towards government agencies and wildlife programs. In George’s words, affective labors “worked.”

When landowners approach wildlife managers about their individual problems with wildlife, the circumstances are often out of the direct control of the wildlife agency. An elk may have consumed a landowner’s winter hay reserve or damaged an expensive fence. At a minimum, these events pose a significant burden to landowners administratively, but can also feel dire for those who depend on the marginal profits of

agricultural production. In these situations, wildlife managers emphasized a need to demonstrate their commitment to the landowner's experience outside of producing material solutions. Sarah described her strategy with landowners this way. "The first thing is always to try to be super responsive... even if there's not like... an emergency or whatever, yep I'll come out and even just having a talk, go visit for an hour, even if you don't do anything, I think it's what makes it happen." For Sarah, the act of sitting down at the table with a landowner and visiting creates a sense of responsiveness that she feels like "makes it happen" despite not actually doing "anything," supports her relational work as a manager.

When I probed Sarah further about the role that visiting plays in her overall strategy with landowners, she confessed that it required significant effort and also took away from her time in the field, conducting surveys and collecting data. However, as Joan describes, the products of her affective efforts are meaningful, even if they are difficult to quantify.

"But you never know, I don't know there's a lot of those times where...I visited with someone and...it's a good interaction,...and you think okay I'm probably never going to talk to this person again. And come to find out that because of that positive interaction that leads to something else. They're super supportive of the department, they remember that positive interaction, that might be the only time that they ever interact with Game and Fish. It was positive, they have a good view of the department, and there's been times where I don't know you see them later and someone is complaining about Game and Fish at a meeting and they're there and stand up and be like no these people are awesome. [Sarah] came out to the house...and it was amazing, something like that I think is good for the department overall."

In parts of Wyoming and Montana with extensive elk conflict, collaborative groups have formed around concerns related to wildlife policies that affect private lands

and access to them. Conversations can be contentious and emotionally-charged and it's not uncommon for participants—which can include representatives from hunting and conservation groups in addition to rural landowners—to organize around a shared demand that the agencies provide “solutions” to the challenges at hand. I spoke with Christine, a manager from Montana, about her participation in one such collaborative effort where a group of rural landowners was attempting to negotiate a shift in hunting seasons to reduce the number of elk on their property.

“I went and tried to actually do a pretty significant season change for them. And it didn't go through, the commission denied it but I really...and I kind of got dug through the coals a little bit by some of the local sportsman because they didn't like the idea of that season change because they thought I was kowtowing to landowners but I thought it would've been a good season change. But they saw that effort and they felt like they were being listened to. They felt like I was trying to do something for them, so that was a big one.”

Though Christine's initial efforts to effect change were thwarted, she felt satisfied with the affective outcomes of her labors as an access intermediary. Instead of a particular policy product, her work produced a set of landowner feelings about her work on behalf of the agency. This result is consequential to Christine's overall strategy for working with landowners; it was rather, in her words, “a big one.”

Emotional Labors and the “Feeling Rules” of Landowner Relations. When interactions with landowners are charged with intense emotions (as they often are), wildlife managers report a need to control and manage their own emotional displays. This labor requires a “management of feeling” and “publicly observable facial and bodily display” tasks that are fundamentally emotional (Hochschild 2012 p. 7). While emotional

labor is much like affective labor in that it seeks to affect the emotional experiences of others, emotional labor requires a particular type of performance informed by the “feeling rules,” social norms that dictate how an individual ought to feel or appear to feel about a social experience (Hochschild 2011, 2012).

According to wildlife managers, part of what necessitates their emotional labors is the intense emotions that wildlife and wildlife management engender. I sat down with Christine to discuss the particularities of wildlife conflict in her region. She was quick to note an especially potent set of emotional attachments related to elk. “I mean people go crazy over elk, whether you love them or hate them...the human brain just goes out the window and lizard brain when they see an elk kind of thing.” From Christine’s perspective, these emotional dimensions are not superficial, they are visceral, basal, and difficult to control.

Wildlife managers reported interacting with landowner emotions in multiple contexts. Landowners might engage wildlife managers at a public meeting or forum. A visit to a local property to assist with a game damage complaint might evolve into an intense discussion. “Once a year I get a phone call where I just get my butt chewed about elk,” admitted John. In each of these contexts, wildlife managers noted the need to attend to landowner emotions as a core to their everyday work. “People that have little patience or wear their emotion out on their sleeves can struggle as management biologists,” noted Jack. Tom, a manager from Montana, described the reality of emotional management this way:

“People are pretty passionate about hunting, ranching, whatever; you name it, they’re passionate about it. And sometimes...they might be expressing

their concerns that they have with something, and it can get a little heated, but almost always it's not directed at one person. It's directed at the department and us being the face of the department out here sometimes we get the brunt of that. But you just got to be like hey I hear you! Maybe I agree, maybe I don't, but I understand your frustration, let's work through this... You got to let them air it out, I guess."

Regardless of whether or not Tom thinks the agency may have a solution to offer an emotional landowner, he notes that his strategy is to "take the brunt of" landowners' emotions and let them "air it out." Tanya, a manager from Montana, shared a similar anecdote, "A lot of times there will be an emotionally charged situation or someone will call the office, and they are all worked up. They've gotten themselves all worked up about a certain issue... [In] those situations I learned you just need to let them vent, yup, yell at me, whatever, let them vent."

More than just a strategic pause in conversation, multiple wildlife managers described "letting a landowner vent" as an embodied practice, requiring careful moderation of their physical appearance and bodily display. Tom from Montana described his strategy this way: "When the landowner or hunter or whoever starts pounding their fist on the table or yelling, swearing or whatever... don't return it... Be open-minded; be calm." While efforts to control and modify their own emotional experiences differ from the affective labors described above where the focus is the landowners themselves, the relational products of wildlife managers' "feelings management" are much the same. As Sarah explained, "If you can survive that initial conversation that's going to lead to a... pretty good working relationship down the road."

Managing Emotions and Access Maintenance

The everyday practices of managing emotions described here illuminate how the labor of wildlife management is not only affective, but also deeply emotional. While a wildlife manager's ability to *generate* particular feelings, sentiments, and reactions through the manipulation of encounters and aesthetics emphasizes the affective components of their labor, the need to *moderate* and *control* personal feelings and actions in response to intense emotional interactions with landowners underscores the emotional management required in wildlife management.

Importantly, wildlife managers don't view these strategies and practices as discrete efforts but as part of a combined approach to social relations with landowners. And, these relations, in turn, served multiple purposes in the pursuit of access. For some managers, affective and emotional labors were a mechanism for access maintenance (Ribot and Peluso 2003), meaning that they viewed their work as essential to keeping opportunities for access open. As Sarah described, "Allowing hunting access is huge, so trying to maintain those positive relationships with people to keep allowing hunting is really important."

Other managers viewed their work as a mechanism for *gaining* access. For example, Jason explained that forging "personal relationships" with landowners was an initial step that could lead new access relations. In his words:

"I build a personal relationship with them first. [I want them to know I'm not some kind of a 3 headed monster...and then [I] work from there, [I] help them...Which in turn a lot of times has worked out to where they allow the public to go hunting or fishing or whatever on their private property which in turn allows me to help them with agency dollars and time."

As Jason's quotation suggests, access is more than just a generative outcome of improved social relations, it's the institutional axis on which the rest of wildlife management rotates. That MTFWP and WGFD only provide damage and other property restitutions to landowners who provide access raises the stakes for managers attempting to pursue (perhaps idealistically) the joint goals of wildlife conservation and public access administration. The potential for "contradictions" between wildlife conservation outcomes and the need for access were a frequent reflection for managers. As managers like John explained, a looming access requirement was at times in conflict with efforts to work effectively with rural landowners on wildlife conservation issues. "It's a tough discussion to have with somebody...even if they don't allow hunting, if they're supporting 500 head of elk that migrate up onto the national forest for people to enjoy in the fall, and we're telling them to suck it up when the damage is occurring in the private land in the winter."

The Emotional Costs of Access Relations. More than existential, the internal dilemmas of access politics, a need to "have empathy" and internalize the pressures facing rural landowners, was also a deeply felt challenge for managers caught in the crossfires of elk conflict. "On my good days I recognize it all comes from somebody's values and emotional investment. They care about what I'm doing and that's cool. On my bad days if people get emotional, having somebody cry is hard for me. Having somebody threaten me is hard for me." Another manager noted, "It's not uncommon to be called dirty names in a public setting or getting called out within the press...there is a value in being able to not be reactionary in those moments which is very hard to do." "The

emotions can be hard for me to process, I'm a scientist." These comments speak to the sense of personal conflict wildlife managers feel around their affective and emotional labor. While the necessity of building access relations with rural landowners was an accepted and expected part of the broader institutional mandates of the agency, many wildlife managers ultimately questioned their role in it. "You get all these introverts that want to be wildlife biologists and they spend their careers dealing with people."

The Implications of Affective and Emotional Labor
at the Conflictual Boundaries of Access Relations

This study investigated the strategies and practices of wildlife managers in Montana and Wyoming as a perspective on how social relations facilitate access within a broader context of conflict over elk management. In landscapes where declining public access for hunting has accompanied increased conflict over elk, a requisite feature of managing wildlife on private lands has become managing the landowners themselves, and more specifically the feelings of landowners towards wildlife and wildlife management. As a form of people management, wildlife managers' labor requires a special attention to the "social side of the job" and the subjective orientations of landowners, which in turn dictate a set of "feeling rule" managers must abide by in pursuit of access. Wildlife managers view the affective and emotional dimensions of this work as critical to both *gaining* and *maintaining* access in landscapes where landowners have significant power to control access and thus the social conditions requisite to effective elk management.

While this is not the first assessment of elk conflict in the region, the study's close examination of wildlife managers' work adds another facet to the region's political ecology of wildlife. Where past studies have noted the emergence of unlikely discourse coalitions and potential for both land use and elk themselves to reshape the region's ecological commons (Robbins and Luginbuhl 2005, Robbins 2006, Haggerty and Travis 2006), this study has emphasized the micropolitics of access relations to reveal another layer of conflict dynamics. The need for social relations to facilitate access is not a new characteristic of elk management in the region. Instead the fact that regional wildlife management has for years rested on a set of institutional relationships, largely outside of any official regulatory space, makes the focus of my analysis less about the importance of social relations in wildlife management and more about the types of work necessary to sustain social relations as an access to resources. To that end and to build productively on past scholarship, I would offer that the affective and emotional work of managers suggests two important points about the current context of elk management in Montana and Wyoming.

The first suggests that affective and emotional labors represent an obligatory *response* to the regions' emerging and largely intractable politics of access and the importance of private land habitat to both the conservation and administrative duties of the agencies. This perspective has permeated the paper but also is evident in the framing of wildlife managers' own perspective of their work—their view that their effectiveness depends on relationships with landowners and the ability to navigate the “social side of the job.”

Importantly, I do not see affective and emotional labor as a solution for the region's access crisis, nor do I think the managers I interviewed would either. Rather, their labor serves as evidence for the need of government agents to adopt adaptive strategies and other "situated social practices" to manage public resources under increased constraints and growing public scrutiny (Martin 2019 p. 9). Their work points to how the emotions dynamics of landowners and their relations with wildlife managers are bound up not only in a politics of access but a larger policy failure related to wildlife management. Here the inability of wildlife policies to adequately address the access crisis of the day—a need to facilitate public trust across a landowner cohort with increasingly diverse and conflicting land use practices related elk, hunting, and the social norms that connect them—plays out not only in the halls of wildlife commissioner meetings, but in the day to day interactions and experiences of rural communities and the government agents who serve them.

At the end of the day, wildlife management is but one example of many environmental governance institutions in the American West that finds itself as an object of social criticism and attack. Thus, the affective and emotional labors of wildlife managers are playing out within a larger context of scrutiny over the efficacy of resource agencies, ever declining amidst years of budget cuts, neoliberal reforms and environmental austerity measures, and other attempts at hollowing out of the U.S. environmental state (Dillon et al. 2019). To fill this institutional void, mainstream conservation practitioners have refocused their energies away from public lands management towards privately-led interventions on private lands. Reinforced by a

growing acknowledgement from conservation science on the critical contributions of private lands to ecosystem management (Knight 1999, Mahoney et al. 2015), specialized incentive programs, markets, and other financialization schemes are emerging as de facto management schemes (Robertson 2004, Clark 2012, Dempsey and Suarez 2016, Cole and Brumme 2018).

Private land innovations have percolated into elk conflict in the form of customized private land tools such as transferable landowner hunting tags and virtual hunting access marketplaces (Little and Berrens 2008, LandTrust 2020). While such strategies have been welcome additions to other elk contexts in the western and midwestern US, a still very vocal hunting public reacts strongly to their proposition in Wyoming and Montana (Robbins 2006, Henderson 2019), where their mere suggestion amplifies the conflict around public access and further entrenches the necessity of wildlife managers' affective and emotional strategies. Thus the affective and emotional labors of wildlife managers serve to distill further a number of concerning regional characteristics. While the emotional costs of hosting wildlife on private lands appear to grow ever higher, so too do the pressures on wildlife managers to manage effectively. How long the region's agencies can sustain a potentially vicious cycle of decreasing access is an open question.

My second point relates to the *effects* of affective and emotional labor on the managers themselves involved in elk conflict. Beholden financially if not also rhetorically to a vocal and politically active sporting public on the one hand, and an empowered agricultural landowner class on the other, wildlife agencies fearing

retribution (from one social faction or another) remain highly constrained in their ability to adapt wildlife populations to their stated objectives (Haggerty and Travis 2006, Haggerty et al. 2018b). This constraint plays out directly in the day-to-day work of wildlife managers, who, in pursuit of access, enter a social terrain fraught with social angst over the agencies' apparent lack of administrative capacity. While in the current context of declining access it's not uncommon for MTFWP and WDGF to suffer claims of dysfunction (French 2020, Capra 2020), the boundary work of wildlife managers serves as the ultimate container for the energetics of conflict.

In studies of rural community dynamics, government employees are a frequent but particular archetype, straddling (at times uneasily) roles as both embedded community members and government employees. This liminal space makes them a frequent target for anti-government sentiment, and, at times, even violent action (Wiles 2016, Davidson 2019), as the 2016 staged militia takeover of the Malheur National Wildlife Refuge and assault of the Bureau of Land Management agents who worked there demonstrates well (Walker 2018). While the managers interviewed in this report were emphatic about the affective and emotional dimensions of the work, they also reported its varied burdens—threats and intense, difficult-to-process emotional experiences. These everyday violences are framed as the cost of doing business. That managers also noted the “surprise” of wildlife's social side, and their lack of preparation for it raises questions about the sustainability of wildlife management from the perspective of labor: What is the long-term viability of a model where individuals assume the costs of policy failures and resource struggles?

In sum, this work has sought to follow in the footsteps of a feminist tradition in examining struggles from the ground up and as manifestations of everyday micropolitics, actions and experiences (Rocheleau et al. 1996). My study thus emphasizes a version of elk conflict that is decidedly emotional—a felt experience for hunters, rural landowners, and the managers who negotiate with them. As an analysis of access, I aimed to move past mapping the mechanisms of access by characterizing the psychosocial mechanics of access mechanisms. This examination of affect and emotion revealed the emotional cost to managers which in turn raises concerns about long term viability for managers and the future of public resource management. Affect and emotion are also useful explanatory tools for future studies on access. Whereas shifting social relations and access dynamics require connecting up the felt experiences of those on the ground, affect and emotion participate in larger shifts in the political economy to co-produce the determinants of access to resources.

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CHAPTER SIX

CONCLUSION

This dissertation has addressed HNW ownership regimes and their implications for resource governance. Its geographical focus has been the Greater Yellowstone Ecosystem, one of the world's most iconic conservation landscapes and no stranger to super-rich landowners. As earlier chapters note, the region's charismatic qualities have attracted global elites and wealthy individuals in some fashion or another since the late 19th century. Accordingly, this dissertation has not argued that HNW land ownership is a new phenomenon in and of itself. Rather, it has used the growing presence of HNW landowners elsewhere (Hay 2013), an increase in land holdings by the world's super-rich, and the recent rapid growth of the ranch real estate sector (Geisler 2015), as a motivation to consider the influence of wealthy landowners on systems of environmental management and in particular landscapes of great conservation significance, such as the GYE.

Drawing together insights from complex systems, conservation science, and the political ecology of resource management in the American West, this work has sought to advance an understanding of HNW ownership regimes as a fundamentally geographical problem by linking together issues of scale — the ability of HNW to control and influence vast territory through their inholdings — and the dynamics of social-ecological systems with the cultural, political, and economic networks of the super-rich. While not a traditional social-ecological systems assessment, the chapters speak to these qualities of HNW ownership from various angles — from investigations into the evolution of HNW

land management over time and space, to the iterative connections between land use and resource governance, and the adaptive strategies of resource professionals faced growing conflict over resource use and access.

Beyond the contributions of each discrete study, a number of synthetic findings emerge from the dissertation as a whole. Below I address three areas where this dissertation advances knowledge and understanding of how HNW ownership regimes influence and affect systems of resource governance. First, this work extends the literature on amenity migration by revealing that many HNW landowners defy previous typologies and straddle multiple categorization schemes (amenity, investor, corporate). Instead, a more salient distinction between HNW owners and their agricultural neighbors is their access to surplus capital in land management. The second area supports a theory of HNW land ownership regimes as geographically uneven, but highly consequential to local social-ecological systems. The third describes how current trends in HNW-dominated landscapes are increasing the complexity of resource governance relations. After considering these synthetic findings, I examine how this study's findings present a challenge to translating social-ecological assessments into conservation policy and action. Finally, I reflect on the study's overall design and process and offer lessons for future research on addressing elites as key actors in and influences on systems of resource governance.

Synthetic Findings

Advancing the Literature on Amenity Migration

This dissertation began with a discussion of amenity migration and its associated literature, a body of work that addresses the social and ecological implications of those with increased wealth and mobility migrating to rural places for improved quality of life (Gosnell and Abrams 2011). At the time of this study's conception amenity migration was the primary conceptual approach for understanding how wealth and wealthy individuals instigate social, political, and ecological change in rural agricultural landscapes via their land ownership patterns. A central operating assumption of this work is that amenity migrants approach land use and management differently than their "traditional" neighbors. Instead of the productive qualities of their land, amenity migrants are interested in amenities — recreation, aesthetics, and the consumptive opportunities that come with them. Accordingly, serious analytical investment has been put into categorizing various types of amenity migrants, their stewardship values, and their orientations towards land use and management.

While HNW landowners are often searching for amenities, this study also has revealed certain ways that HNW landowners defy previous characterizations. As the descriptions of landowners and ranch properties profiled in Chapter Four suggest, ranches of the super-rich are more than just amenity-rich outposts. HNW ranches operate as valuable financial assets in investment portfolios, theatres for social enterprises and passion projects, and as a metric to communicate and convey social prestige. Additionally, while some may live a portion of the year on their ranches, or appear to for

tax benefits (Farrell 2020b), others visit ranch properties rarely or even never. As such, terms like second homer owner, or amenity migrant, and the assumed unidirectional pattern of influence — from a less lifestyle-oriented place to more desirable — fall short as categorical containers of the HNW phenomena.

In Chapter Four, we also argued that because ranches are increasingly recognized and managed as valuable financial investments, HNW landowners share important commonalities with a growing cohort of institutional buyers with increasing influence over agricultural land markets. Institutional buyers are a diverse group of financial actors, including “pension funds, endowments, sovereign wealth funds, hedge funds, and private equity firms, among others” (Gunnoe 2014 p. 479). Gunnoe argues that, as key social actors in an emerging “neorentier society,” institutional buyers are a driving force behind a growing trend in the financialization of land, namely a pattern of ownership that transforms “the land itself into a profit center” (2014 p. 479). In this way, ranches serve as a type of “spatial fix” for the overaccumulation of wealthy individuals, a place to not only sink and also circulate capital (Harvey 2003, Knuth 2015). However, as insights from Chapters Two and Four imply, ranch properties are often highly *symbolic* for HNW landowners. In some instances, properties are more than simply assets to be capitalized upon; instead, HNW landowners may take up intimate and personal relationships with their properties and land management trajectories, a tendency that muddies their characterization as dispassionate and distant institutional investors.

Hence, this dissertation would suggest that HNW landowners straddle these two organizing schemes (i.e. interest in amenities and interest in investment), a position ranch

realtors account for with the term “recreational investor.” Ultimately, however, the discrete findings of this study reinforce an argument proposed at its inception — that the term HNW has important analytical potency in this current moment. Less subjective than the differences between amenity, investor, and corporate owner, the term HNW also connects these actors in rural change to the global political and economic trends they represent (Haggerty and Gosnell 2018). At the same time, the term also accounts for a real distinction between HNW landowners and their agricultural neighbors — their ability to leverage surplus capital in the everyday management of rural ranch properties.

The recent real estate trends of the COVID-19 pandemic have made the currency of HNW landowners as a category of interest especially clear. While millions of Americans were “locked down” in place, those with access to capital leveraged it and escaped to remote retreats, rural estates, and other far-flung hideaways to weather out the pandemic (Tully and Stowe 2020). The Greater Yellowstone was one such locale, where the pandemic’s rewriting of local real estate markets is ongoing (Loveridge 2020, Farrell 2020a). Amidst the flurry of the pandemic, yet another role for HNW ranch properties emerged – as emergency bunkers and luxury boltholes (Carville 2018). These events confirm the perpetual remaking of values around ranch properties, and along with them, the potential for shifts in land management and consequent feedbacks to resource governance.

While it is difficult to predict the qualitative characteristics of these transformations, the salience of considering access to surplus capital in investigations of resource governance in critical conservation areas will undoubtedly become only greater

still. At the same time, assessing trajectories of rural change in amenity geographies through the lens of HNW landowners is important methodologically. An attention to the HNW aspects of landowners re-centers analysis on elite dimensions of power – financial power, social power, and political influence (Sikor and Lund 2002) – and refocuses analytical attention on how networks of global surplus capital both “touch down” to and link back up from an increasingly global countryside (Woods 2013, Nelson and Hines 2018).

Advancing System Perspectives on Land Management

This dissertation has operated on the logic that HNW land ownership has consequential spatial qualities. The ability for HNW landowners to amass large and ecologically significant landholdings makes them influential actors in the management of their local ecological systems. Some aspects of HNW land management are contained to property lines. The ability to reserve water for recreational purposes, for example, in Chapter Four’s summary of the fictional Doublecross Ranch illustrates the limit of conservation influence. However, as the insights of wildlife managers in Chapters Three and Five illustrate, ranch properties are also highly permeable — wildlife move freely within and across property lines, and thus private land use ultimately influences larger landscape processes, including systems of resource governance like wildlife management.

Past work on HNW landowners has emphasized the ability of HNW land uses to directly influence resource management outcomes through their land management practices (Haggerty and Travis 2006, Yung and Belsky 2007). Building directly on this

finding, this study has proposed a new theory on the implications of property-level land use on landscape-level change. As a framework for social-ecological research, the P-LLC suggests at various spatial concentrations HNW land ownership patterns can serve as serious disruptors of resource management institutions — for both better and worse — and thus instigate changes in regional resource governance strategies.

As the geospatial analysis in Chapter Three demonstrates, HNW ownership patterns are intersecting with other land use trajectories across the study region's various elk winter ranges. However, these patterns are fundamentally uneven; when dueling trends in land use intensification and diversification converge in space, the intersection results in a decidedly complicated management landscape, at least in the minds of local wildlife managers. The geography of unlike fence lines, where landowners with different land use values sit adjacent to one another, underscores the spatial quality of what other studies have also noted as a pattern of conflict accompanying HNW land ownership change.

Intra-community conflict related to diverging resource management agendas, however, can morph and transform in regions with increasing concentrations of HNW ownership, as they appear to do along the ranches of the South Fork of the Shoshone, a longtime amenity landscape with a majority of landowners operating as non-traditional ranchers. Here, various HNW land management trajectories evolve but also appear to coalesce around a set of shared HNW values, for example in providing residents a sense of privacy, in preserving the aesthetics and conservation qualities of a landscape, and maintaining a traditional “character” or heritage quality of a landscape. Such seemingly

unconventional ranch land uses speak to some of the opportunities made available on properties that are managing with, instead of explicitly for, money. While HNW management trajectories are not immune to change or evolution — much in the same that any ranch management scheme can oscillate and shift over time (Wilmer and Sturrock 2020) — the study argues “managing with abundance,” and the magnitude of social and ecological change possible on HNW ranches, is distinct from less-resourced operations and characteristic of a HNW ownership regime.

Descriptive insights from Chapter Four also suggest that the amplitude and endurance of change possible on HNW ownership regimes has the potential to breach social and ecological thresholds. Elk, for example, are a welcome asset on many HNW ranches. When a high level of elk tolerance coalesces across a landscape, as it does along multiple properties along the South Fork of the Shoshone and other HNW-dominated landscapes, HNW ownership regimes have the potential to contribute to shifts in the life course of elk themselves, such as increased prevalence of partial migration or non-migratory behaviors (Barker et al. 2019). Thus this study advances a theory of HNW land ownership regimes as uneven, but highly consequential — as land ownership patterns that when operating as a mosaic around a shared set of HNW values, can instigate social and ecological transformation with the potential for lasting and irreversible change.

Advancing Research on Resource Governance

Past studies on resource governance in agricultural communities have often emphasized the importance of rural social relations in facilitating resource use and decision-making (e.g., Yung and Belsky 2007). In ranching communities especially,

social norms related to reciprocity and lending — exchange of labor on branding days, rights of use, and other moral ecologies surrounding resource access on private lands — are often bound up in a regional expectation related to the importance of “neighboring.” Findings from Chapter Three reinforce how wildlife managers view new and shifting ideas about neighboring and other heritage practices as a challenge to their administrative abilities to manage wildlife effectively. This research has thus engaged, both directly and indirectly, with the relational conditions of regional systems of resource management.

Chapter Five addresses this theme through the dynamics of access relations related to public hunting on private lands and notes the increasingly important role of wildlife managers in brokering with private landowners for access on behalf of the public. This study emphasizes that here HNW ownership change is just one of several intersecting factors affecting the region’s social landscape and broader political economy and subsequently, access relations. However, the affective and emotional labor that wildlife managers take up — a set of practices I argue represents both a response to and outcome of the region’s emerging access politics and the inability of wildlife policy to innovate in response — demonstrates the level of complexity that resource governance now addresses. As I argue, wildlife management has become less about managing wildlife than about managing people. Many managers feel that this set of social negotiations differs from both their expectations and professional training.

This dissertation also documents another trajectory of complexity in resource relations, albeit indirectly, related to the role of ranch managers in ranch land management and land use decision-making. Hinted at in the narrative descriptions in

Chapter Four, ranch managers employ a variety of strategies on HNW properties. They liaise between rural neighbors and the owner, they may anchor (either symbolically or otherwise) the property's land use to a more traditional and production-oriented management regime, or they may innovate a set of multifunctional approaches to land use that leverage the abundance and more-than-production mindset that landowners aspire to. Regardless of their specific role and influence, however, ranch managers perform, like wildlife managers, a type of boundary-work, negotiating the social-ecological constraints of place alongside the super-rich visions of their HNW land management trajectories.

Open questions remain around the specific nature of ranch managers' influence and the terrain of decision-making within which they operate. However, their emergence on the landscape as key actors in HNW ownership regimes signals an additional level of relational complexity, and one with important implications for the future of resource governance requiring the participation of rural landowners. Future research invested in understanding resource governance and the social-ecological dynamics of HNW ownership regimes should note the role of HNW intermediaries as one of consequence. Efforts to detail the scope and scale of their influence are ultimately essential to determining the practical range of choice of HNW land management trajectories and the systems of environmental management they influence.

Beyond the synthetic conclusions above, findings from this dissertation highlight important qualities about our current moment of "conservation" in the GYE and the American West more broadly. In the next section, I propose several challenges this

dissertation poses for social-ecological assessments and their translation into effective conservation policy.

**Bumps in the Road: Challenges for Linking Private
(HNW) Land Management to Conservation Policy**

On a warm spring day in early June, I sat at my computer in front of a screen of friendly and earnest faces. A collection of ecologists, wildlife advocates, policy experts, and social scientists, we were gathering as part of a multi-day workshop to discuss the challenges of conserving migratory ungulate corridors in the Greater Yellowstone Ecosystem. The meeting was partly inspired by the 2018 Secretarial Order from then Secretary of the Interior, Ryan Zinke, which established game corridors in Western U.S. states as a critical conservation concern (U.S. Department of Interior 2018). As impetus for a major round of public-private funding – in 2019 alongside several private partners the DOI announced over \$10 million for related conservation activities (DOI 2019) – the order had galvanized interest and activity across the region’s conservation community to think creatively about new conservation policies for migratory ungulates.

Hence, central to our charter that morning on zoom was thinking through policies for private land habit. Specifically, we were called upon to discuss how different policies and incentive structures might increase the stewardship potential of private lands for the benefit of conserving migratory species. As primary arbiters of private lands use, private landowners were the target of our analysis and the object of our central question: How could we incorporate state of art knowledge on the private landowner cohort, their needs,

interests, values, and perceptions, into effective policy design that might bring about improved conservation outcomes?

The workshop's emphasis on private land habitat reveals much about the processes of linking conservation science to policy today, a context where private landowners are increasingly the targets of, and to a lesser but also important extent, collaborators in, conservation policies. This focus on tools and toolkits for private land action is an outcome of multiple converging trends. Over the last several decades, growing investment in landscape-level approaches and acknowledgement of the critical role of private lands in larger ecosystem processes has shifted energy in the conservation policy community (in both the governmental and NGO arena) away from a historic emphasis on public lands towards those privately-held (Kamal et al. 2015, Mahoney et al. 2015, Drescher and Brenner 2018). A rush of financial capital and policy-making capacity towards the stewardship efforts of private landowners has followed (Clark 2012). Here conservation interests often align rhetorically with efforts to secure the long-term viability of agricultural communities and their ability to provide ecosystem services as a defensive conservation strategy against either the intensification (and assumed degradation) of agricultural landscapes or residential development (Sheridan 2001, Brunson and Huntsinger 2008). All this accompanies a general trend in environmental governance towards more market-based approaches and schemes that rely on "selling nature to save it" (Dempsey and Suarez 2016), what geographers often refer to as the rise of neoliberal natures (Robertson 2004, Büscher et al. 2012, 2014). As a result, conservation solutions have increasingly taken on very customized forms — policies,

incentive schemes and specialized markets, and other financial tools and arrangements — strategies that initiate a causal link between specific user groups, desired behaviors, and agreed-upon conservation outcomes (Goldstein et al. 2006).

In research efforts to translate complex social-ecological systems information into conservation action, qualitative information about private landowners, as the primary decision-makers of private land use, often serves as the explanatory variable for initiating some type of social-ecological change (Schulze et al. 2017). For example, in their assessment of rural landowners and forest management practices, Balukas et al. (2019) classified forest owners based on place-attachment and stewardship values to reveal that there is a positive relationship between the level of landowner attachment and the likelihood of adopting forest management plans as well as other conservation practices, such as improving local water quality. Not limited to forests, similar studies have examined landowner attitudes towards the conservation of land, water, and biodiversity, including wildlife (Sorice et al. 2012, Brenner et al. 2013, Bastian et al. 2014, Field et al. 2017). The efficacy of this approach in producing targeted conservation policies has spawned a large canon of human dimensions literature,⁶ as well as a substantial research

⁶ In their overview of conservation social science, Bennet et al. (2017) describe human dimensions literature as a subset of social science applications to conservation. They describe the field this way: “Human Dimensions (HD) is an evolving field that evolved largely out of the North American wildlife and resource management traditions. Historically, HD research involved application of social sciences (mainly sociology and social psychology) to address management

endowment aimed at capturing and categorizing landowner characteristics — demographic information, values, perspectives, religious and ideological orientations, among others — to inform predictive models of social and ecological change.

While not the explicit purpose of any single study in this dissertation, insights from this project's overall design, approach, and central findings suggest that the rising prevalence of HNW landowners will challenge the capacity of existing logic models, those analytical approaches requiring detailed qualitative characteristics of user groups, to provide viable results. First, as noted previously in this dissertation, HNW landowners are both by definition and in practice highly private. Elite and wealthy individuals are notorious in the social sciences as an elusive and largely inaccessible cohort of research subjects; I found the targets of my inquiry no different. This makes the gathering of personal information related to values, perceptions, and outlooks on land management difficult. Additionally challenging is the wide variability in the length of time and depth of experience that HNW landowners have with their properties. Some studies have sought to quantify such characteristics by typologizing landowners as more or less absent. However, as noted above, HNW ranch operations almost always include a ranch manager or caretaker. This additional layer of distance between HNW landowners themselves and land use on the ground adds a further level of complexity to the social

information needs and to find practical solutions. The field is becoming progressively more interdisciplinary and more broadly applied to a diversity of environmental contexts and issues” (2017 p. 97).

landscape informing land use decision-making. Indeed this reality, alongside the challenges of HNW inaccessibility, informed the central methodological thrust of this dissertation towards its “triangulation approach,” and the integration of HNW intermediaries as key informants of HNW land management practices and strategies.

Chapter Four provides a thorough summary of these efforts to pull together multiple strands of information into a cohesive narrative about the nature of HNW land management over time and space. The study also offers up four ideal types of ranch management trajectories. More than an organizing scheme or a functional typology however, each narrative vividly demonstrates the variability both of HNW land management opportunities and within the trajectories of properties themselves. This is not to argue that life course dynamics are only relevant to HNW ranches. In fact, research notes quite the opposite (Hruska et al. 2017, Wilmer and Sturrock 2020). Rather, Chapter Four highlights the extreme degree to which HNW land management practices can influence the local, social, and ecological landscapes. This suggests that efforts to characterize HNW land management practices will always require negotiating the life course dynamics of the super-rich and super-rich lifestyles. If a behavioral approach to conservation policy relies on a relatively consistent, or at least predictable set of choices (Cowling 2014), the potential amplitude of change possible on ranches managing with, instead of for, money confounds, or at least radically challenges, attempts at making clean and operable typologies.

Patterns of property turnover and acquisition also present difficulties for conservation policy. Research from our larger NSF-funded effort to assess patterns of

property turnover associated with HNW property regimes finds three emerging trends in rural ranch ownership. One is a continued trajectory of residential development. The conservation outcomes of this pattern, documented in Chapter Three of this dissertation, are well understood: Increased exurban development produces mostly negative outcomes for ecosystem service provisioning and habitat connectivity (Riebsame et al. 1996, Reeves et al. 2018). The second trend identified in this analysis is a pattern of rapid change and property turnover for properties under amenity ownership. A close examination of these dynamics in Park County, MT comparing ownership trends from the 1990s to the latter half of this decade finds that over half of the amenity properties that were identified in the first cohort have changed hands, and several multiple times. While high rates of ownership change pose multiple challenges to resource governance systems built on local practice and custom, they further dampen the power of conservation policies customized via the (already admittedly highly dynamic and idiosyncratic) particularities of HNW property mosaics (Haggerty et al. 2019).

The last trend of consequence for building effective conservation concerns agglomeration. Though patterns of agglomeration unfolded unevenly across our project's study area (a swath of eleven counties linking the northern portions of the GYE with the eastern extent of the Northern Great Plains), multiple counties saw their largest land holding increase in size over the last two decades, while all counties showed a decrease in the number of landowners owning large properties (Haggerty et al. 2019). Combined with the region's general trend of increasing land values, this pattern suggests a future trajectory in which the GYE's most intact and ecologically significant properties will be

available to and held by an increasingly small and very well resourced few. In following the logic above, a small data set from which to derive qualitative information will only trouble the enterprise of model-oriented conservation research. How many (or better stated, how few) landowners do we need, for example, to justify the creation of a specific conservation policy (cf. Wilkinson 2014)?

Too keen of a focus on the behaviors of individual landowners, however, ultimately distracts from the broader implications of this research, as ownership concentration, especially within the region's largest landholdings, presents a different set of challenges for resource governance. As noted in the final paragraphs of Chapter Five, HNW ownerships regimes are part and parcel to larger shifts in the social and economic landscape related to the privatization and increased commodification of resources on private lands. In this context, HNW ownership regimes often, and may well continue to, produce net positives for conservation, at least from the perspective of ecosystem function and wildlife conservation. Our research suggests, however, that these gains may come at a high cost for the social goals (such as public access) long embedded into the region's conservation ideology, and further entrench HNW ownerships regimes as a driving force in the region's ongoing resource conflicts. Thus, more than simply providing a confounding variable for conservation models, HNW land management trajectories call into question not the ecological, but the *social-ecological* values of private lands. In landscapes where conservation comes with the cost of public access, resource institutions will need to address HNW ownership regimes as but one factor in the regions new agrarian question by charting out and establishing policies and practices

that can reconcile social goals as part of conservations strategies (Kautsky 1988/1899). This requires a policy-making framework where resource governance focuses less on individual landowners and their particular characteristics and more on the political economies of critical conservation areas. Here resource governance would confront schemes that further concentrate access to capital and resources and would identify policies that reunite the social and ecological goals of conservation.

Lessons Learned and the Challenges of Studying Up

“What if, in reinventing anthropology, anthropologists were to study the colonizers rather than the colonized, the culture of power rather than the culture of the powerless, the culture of affluence rather than the culture of poverty.” (Nader 1969 p. 289).

As a way to explore the extents and limitations of this dissertation, I discuss below several “lessons learned” on the challenges of studying up and reaching out to elite research subjects.

HNW landowners pose unique challenges as an object of inquiry. They are classic examples of the call to “study up” (Nader 1969) or “look up” (Robbins 2002, Walker 2003) – to focus research attention on the structure and machinations of the most powerful actors in society. Yet, they are often difficult to study, especially in the context of their rural landholdings. As noted, and described in earlier chapters, privacy is a primary draw for HNW ranch ownership. Many of my interviewees who worked closely with HNW individuals expressed a need to protect their identities; some also reported signing non-disclosure agreements. Given the ethnographic goals of this study, HNW landowners themselves were formidable barriers for data-collection efforts. Having a

general approach for gaining access to research subjects is a recognized requirement of the ethnographic method, where scientific rigor hinges on a level of immersion or embeddedness in the phenomena of interest. The elite nature of the targets in this study, however, warranted that I develop a unique strategy of access. A number of significant partnerships advanced the formation of this strategy. An important initial benefit to this study was its project advisory board, a group assembled as part of the larger NSF project within which much of this dissertation sits (Haggerty and Gosnell 2018). Comprising regional experts in wildlife, land conservation, and real estate, the board advised on both research design and approaches for connecting with and contacting HNW informants. Also influential was the 2018 summer I spent in residence at the Buffalo Bill Cody Center of the West in Cody, WY. As a well-supported and beloved local institution, the Center of the West provided a valuable point of connection into Park County, WY's elite landowner cohort, as well as an opportunity to gain from the mentorship of Dr. Charles Preston, regional wildlife ecologist and conservation expert. Events held by conservation NGOs with existing connections to HNW landowners such as the Wyoming chapter of the Nature Conservancy and the Western Landowners Alliance were valuable experiences for observation and potential connection. The summation of these strategies in combination was six in-person interviews with HNW landowners.

Of course, I attempted to reach many more. Through the network I built, I received contact information for at least seven additional potential interview targets. While two of those seven contacts exchange phone messages with me, I was ultimately unsuccessful at securing additional interviews. Needing more information to understand

my case, I paired the efforts described above with substantial interactions with HNW intermediaries, individuals who work closely with or observe directly aspects of HNW land management. This list included ranch managers, real estate agents and rural land appraisers, employees of conservation NGOs, personnel from county, state, and federal resource agencies, and HNW neighbors and owners of family ranch operations in communities with HNW ownership presence. Here too I met challenges related to privacy and HNW landowners. For example, one ranch manager I interviewed kindly recommended to me another HNW ranch manager in the region who they thought might be willing to visit with me about their employer's operation. Shortly after inviting this ranch manager to be interviewed, I received this note: "the landowner I work for is a very private person and I wouldn't be comfortable having such an interview about his land and my observations over the last six years."

A general reluctance to disclose information about HNW employers and connections was characteristic of many interactions I had with informants, an indication of the social obligations and dynamics requisite to working with elites. Two managers, for example, preferred that I didn't record our conversations, citing similar concerns to the manager above. In general, however, I found the ranch manager cohort more accessible than their HNW landowners. And, while providing admittedly partial information on the intimate characteristics of HNW landowners themselves, these interviews were crucial to building a much richer understanding of case and context. In sum, the combination of insight and information from HNW landowners, their various intermediaries, and a specialized cohort of research advisors allowed us to study

influential actors that would have been inaccessible through traditional approaches – a demonstration of a triangulation approach, its value in elite interviewing contexts, and the importance of developing multiple strains of information and insight.

Beyond opportunities to connect with interview participations, the realities of access influenced data-collection efforts in other important ways. Because a central objective of this study was to understand how HNW landowners influence resource governance, an initial research goal was to collect data on HNW information networks. As a method for mapping and analyzing the influence of social relations on other cultural phenomena, social network analysis is deployed frequently to address resource governance questions that involve key actors and the flow of information between them. I hypothesized that HNW land ownership and resource governance presented one such case, as governance issues like cooperative elk management require a set of relations between private landowners and wildlife management agencies. I piloted a participatory social network analysis in the summer of 2018, by mapping ownership patterns along the North and South Fork of the Shoshone River in Park County, WY and collecting information about how HNW landowners interact with each other and also local wildlife managers. What I encountered was a complicated network of HNW intermediaries, and in particular ranch managers and other private land consultants who brokered information between HNW landowners. While this “access barrier” proved to be an important research insight in itself, it posed serious challenges to an attempt at completing a social network analysis, where the reliability and replicability of studies rests on a level of completeness of the network itself (Bodin and Prell 2011, Borgatti et al. 2013). Instead,

this study opted for a more qualitative approach to network analysis, a process that involved gathering descriptive data about where individuals received information, who they shared it with, and what sources were most influential to their management. This effort resulted in a new information about where and how HNW and HNW ranch managers receive natural resource information – a data set that will inform future manuscripts and studies.

Lastly, the challenges of studying up meant that research had to adapt to data availability and also the evolving nature of informant networks and their links to HNW interviewees in real time. An ability to assess, adapt, and harness opportunity when it made itself known was critical to this study, as was the ability to leverage a set of auxiliary data made available by Julia Haggerty and Hannah Gosnell. This data set provided a critical extension to my own data collecting efforts. While it is uncommon for ethnographic studies to “circle back” on older interview data, this study demonstrates the potential of repeat analysis. In sum, through this dissertation process, I gained an appreciation for how research projects evolve and can be made richer with an eye open to unconventional approaches and opportunities.

Future Directions

This dissertation followed a “logic of discovery” and aimed to generalize the phenomenon of HNW land ownership, rather than analyze a specific or discrete population of landowners. Its findings will be most applicable to other amenity geographies with longstanding yet also growing HNW influence. The work suggests important changes afoot for the critical conservation landscapes of the American West,

where the influence of HNW landowners and land ownership regimes will likely grow and expand, and along with them, another chapter of “New West” debates. At the same time, this work identifies HNW land ownership as a fundamentally global phenomena, where ranch properties and their owners are implicated not only in a politics of place but tied up as part of flows of capital and culture that span multiple amenity geographies and contexts. Looking ahead, future research should take as its starting point this characteristic of HNW landowners – their ability to serve as a conceptual link between issues of local and shifts in the global. The findings from this dissertation additionally illuminate several important lines of inquiry.

First, this research has revealed a unique set of social dynamics related to resource governance accompanying the rise of HNW ownership regimes – a growing cohort of rural intermediaries (ranch managers, ranch realtors, etc.), evolving moral ecologies related to resource use and access, and a steadily growing agricultural rent gap. These factors in combination suggest that more social change is yet to come for the GYE and other critical conservation areas attracting HNW investment. Like many rural communities in the American West, those in the GYE and its peripheries face challenging questions related to the sustainability of agricultural systems in rural economies, the viability of rural infrastructure, and role of private lands as a community asset, both ecologically and economically. For communities invested in rural lifeways and livelihoods, increased understanding of these three axes of HNW ownership regimes – shifts in rural labor, social norms, and land values – and how they intersect with each

other and other patterns of rural change, is a critical step in charting out the opportunities and constraints of HNW ownership trajectories.

Second, while this research has identified the consequential connections between HNW ownership regimes and the broader political economy, the explicit structure of these relationships – whether and which legal and financial systems and institutions facilitate ranch ownership – remains largely unknown. Unpacking this “black box” of HNW ownership through a careful examination of tax codes, investment instruments, and other financial tools and institutions will make land investment and ownership more coherent and legible. Such understanding will be critical to effectively develop resource governance and conservation policies that need to meaningfully intersect with HNW ownership in order to meet the social-ecological goals of conservation.

Lastly, this dissertation has identified the potential for considerable uncertainty in future land use scenarios, given the observed dynamism of HNW ownership trajectories. In combination with the observations of the region’s resource challenges, and particular, the intractable condition of wildlife management and access, this research suggests that resource managers will need to look beyond any single policy “fix” or reactive policy strategy. Instead, the region would do well to consider a more speculative and experimental approach where invested stakeholders build and deliberate over various pathways that delineate a broader vision of social-ecological thriving – one that includes key ecosystem processes (e.g., migratory ungulates), human well-being (e.g., socially and economically vibrant rural communities), and viable resource institutions that support the management of the region’s multifaceted public resources. Such an approach would

allow the region a degree of self-determination and intentionality as well as a method for including the implications of “managing with abundance” as an important component of conversations over the future of resource governance in critical conservation areas.

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APPENDICES

APPENDIX A

SEMI-STRUCTURED INTERVIEW GUIDE

Semi-structured Interview Guide

The following is an overview of interview questions used during semi-structured interviews. This protocol was approved under Montana State University IRB application number KE-121416. Not all questions were asked in all interviews and many were rephrased based on the context of the conversation and the background of the interview participant. Some questions are unlisted as they emerged organically based on the topic of conversation and the interests, knowledge, experience of the interview participant.

1. Questions for wildlife managers and other natural resource personnel
 - Can you tell me a little about how you started as a wildlife biologist/manager?
 - What were your motivations for becoming a wildlife biologist/manager?
 - What was your training like? (School, courses, experience, etc.)
 - What is your schedule look like (daily, seasonally)?
 - What are the tasks that take up the most time?
 - What are your responsibilities with respect to wildlife?
 - Tell me about hunting as a management tool.
 - How do you interact with landowners?
 - What is your relationship like with the animals you manage? (do you see them, know where they are...?)
 - How do you interact with landowners?
 - How do you manage various land use values?
 - How do you build relationships with landowners?
 - How would you describe your landowners' relationship to wildlife?
 - How have your strategies with landowners changed over time?
 - What types of challenges do non-agricultural or new landowners bring to wildlife management?
 - How does conflict manifest in your job?
 - How do you deal with conflict?
 - How is your work different than you expected/different than your training?
 - What kind of support do you receive for this work from the Agency.

2. Questions for ranch owners
 - Can you tell me a little about yourself?
 - Where are you from and how long have you lived here?
 - What do you consider your primary occupation?
 - Tell me about your property.
 - When did you buy it/inherit it?
 - What drew you to this property?
 - What type of time do you spend on the property; what types of activities do you do/value?
 - Do you hunt on the property? Do any non-family members?
 - What are some of your biggest land management priorities?

- What types of projects are going on? What types of improvements have you made since purchasing/taking over the ranch?
 - Have you made big changes to any of these improvements over time?
 - What have been some of your biggest land management challenges?
 - How have you addressed these challenges?
 - How did you learn about ranch management?
 - What are your most important sources of environmental information?
3. Questions for ranch managers
- Can you tell me a little about yourself?
 - Where you are from and how long you have lived here?
 - Do you spend time elsewhere during the year?
 - What are your main roles and responsibilities on the property?
 - Tell me about what's going on at the ranch?
 - What types of projects are going on? What types of improvements have been made since you started working?
 - What is hunting access like on the property? Do you hunt on the property? Do any non-family members?
 - How long have you worked on the ranch?
 - What is your relationship like with ranch owner?
 - How does this ranch owner compare with others you've worked with?
 - What types of changes has the owner initiated over time?
 - How frequently do you talk to the owner? What type of communication?
 - How active are you in the decision-making process of the management on the property?
 - How active are you in the local community?
 - Do you serve on any boards? Or do you volunteer your time in any way in the community?
4. Questions for private land stakeholders (including realtors, appraisers, etc.)
- Can you tell me a little about yourself and your role in this organization?
 - What are some of the ways you are involved in elk management?
 - What do you think is the best source of information about elk management?
 - What is your role with landowners in land management?
 - What type of landowners do you work with?
 - Can you tell me about some of your experiences working with landowners over time?

APPENDIX B

FOCUS GROUP PROTOCOL

Focus Group Protocol

The following is a research protocol and workshop timeline compiled for the group interview and focus group methods described in Chapter Three. This protocol was and approved under Montana State University IRB application number KE-121416. Names have been redacted when necessary to ensure the confidentiality of the study's research participants.

1. Project Introduction, 5 minutes

[Representative from MT-FWP] to introduce the PI and Co-PI

2. Project Overview, 10 minutes

[PI] to describe the background and context of the project.

[Co-PI] to describe & lead the following:

- What is participatory mapping?
- Introductions of the focus group members

3. Focus group discussion, 45 minutes

Materials: White board, white board markers, handout

[Co-PI] to introduce and explain the exercise

- The goal of the project is to investigate a range of change social and physical landscape changes in the GYE with respect to elk management.
- We want to explore the ways in which new land uses practices and ownership patterns influence the social relationships between communities and wildlife managers. The goal of our mapping exercise to identity 'sites' in the GYE that demonstrate a range of social-ecological change.
- Because landowners have a dominant role in setting the terms of wildlife management on their properties, we want to explore where in the GYE is there the best "fit" between landowner's decision-making and wildlife management objectives. This discussion is to describe the criteria that describe a 'best' fit' and a 'worst' fit between land use and wildlife management. For this exercise a 'site' equals a hunting district. If hunting district feels too big, feel free to split it into smaller sections

[Co-PI] to facilitate a discussion amongst participants and generates a list on a white board.

- Question 1: What are the ways in which land management can interact with wildlife management objectives?

- Question 2: Given your experience, what are the criteria that designate/describe an area of ‘best fit’ between land management and wildlife management objectives?
- Question 3: Given your experience, what are the criteria that designate/describe an area of ‘worst fit’ between land management wildlife management objectives?

[PI] to summarize findings and transition to next activity

- Using these criteria for ‘best fit’ and ‘worst fit’ we are going to split up into smaller groups and identify regions in the GYE that fit these labels.

4. Small Group Mapping Exercise, 45 minutes

Materials: Large print maps (Map 1, see below), 2-3 colored highlighters (*Best fit = Green, Worst fit = Pink), recorders/scribes, scrap paper

Divide up into two smaller groups, led by Co-PI and PI with a set of participants (2-4), one recorder/scribe. Maps posted on the wall.

[Co-PI] to introduce and explain activity in small groups

- Using the criteria we just established, we will collectively label each hunting district as either ‘best fit’, ‘worst fit’ or ‘na’.

Each small group works through the following questions recording answers on Map 1:

- Question 1: Would you say that this hunting district is a region categorized generally by best fit or worst fit between landowner decision-making and wildlife objectives.

[Co-PI] and [PI] to highlight each HD with either best fit or worst fit label/color

- If disagreement, discuss. Attempt to reach consensus. Repeat for all hunting districts

5. Large Group Mapping Discussion, 30 minutes

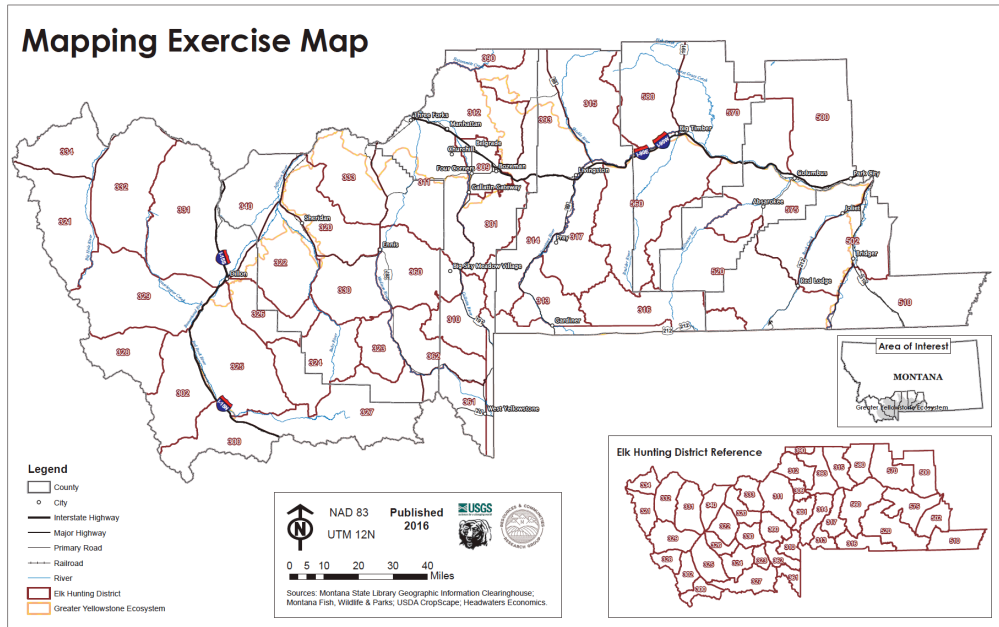
Materials: Large print maps (Map 2), colored stickies (2-3 colors), recorders/scribes, scrap paper

[Co-PI] to lead discussion about what each group discussed in conjunction with the spatial analysis on Map 2.

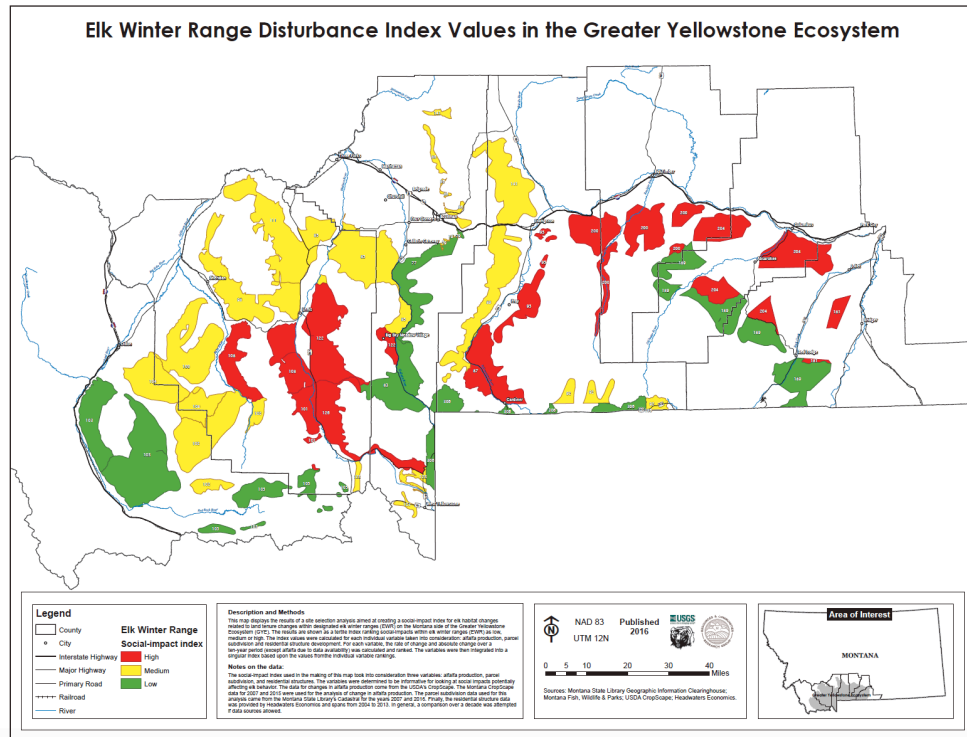
- Discuss as a group: How do the findings from our spatial analysis of land use change on elk winter ranges resonate with your experience of human induced change?

[PI] to discuss next steps

- The information we've collected here will be used alongside another variable we've mapped relating physical changes on the landscape. We will create and disseminate a workshop summary.
- Closing question: How can this research benefit your work?



Map 1. Hunting districts in southwest Montana. Data and map compiled by M. Stone, 2016. Sources: Montana State Library Geographic Information Clearinghouse; Montana Fish, Wildlife & Parks; USDA CropScape; Headwaters Economics.



Map 2. Results from spatial analysis described in Chapter 3. Data and map compiled by M. Stone, 2016. Sources: Montana State Library Geographic Information Clearinghouse; Montana Fish, Wildlife & Parks; USDA CropScape; Headwaters Economics.