

ALONE ON THE RANGE? RANGELAND STAKEHOLDER PERCEPTIONS OF  
PUBLIC LANDS, COMMUNITY CHANGE AND MAINTAINING RURAL  
LIVELIHOODS

By

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## ABSTRACT

### ALONE ON THE RANGE? RANGELAND STAKEHOLDER PERCEPTIONS OF PUBLIC LANDS, COMMUNITY CHANGE AND MAINTAINING RURAL LIVELIHOODS

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Ranchers are a part of a rapidly changing rural western American landscape, and they play a special role in protecting and stewarding working landscapes. Rural communities in Eastern Oregon and Northeastern California have deeply rooted identities and economies connected to ranching and a high percentage of federal lands. The aim of this research is to: 1) document how ties to ranching are changing in communities undergoing social and economic change; 2) analyze the relationships and interactions between ranchers and federal management agency representatives; and 3) to identify how ranchers are maintaining their lifestyle under these circumstances. I interviewed representatives of the ranching industry, local government, public land management agency representatives and key community stakeholders in Susanville, California and Prineville, Oregon. These case studies have similar histories, proportions of public land, and natural resources, but differ in terms of their economic adaptation strategies. According to interviewees, their future well-being depends on proactive and collaborative engagement with public land agencies, continuation of heritage economies' roles in natural resource stewardship, and workforce pathways for the next generation. This research contributes to working landscapes literature of the American West by capturing

a regional account of local rancher, rural community, and public land agency relationships in an understudied area.

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## TABLE OF CONTENTS

ABSTRACT .....	ii
ACKNOWLEDGEMENTS .....	iv
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
LIST OF APPENDICES .....	x
INTRODUCTION .....	1
LITERATURE REVIEW .....	3
Working Landscapes: The landscapes that just don't quit .....	3
Old West → New West → Next West: Changing Socio Economics .....	6
Buck off, John Wayne: Transcending the Hollywood Rancher Identity .....	10
METHODS .....	14
Case Study Locations: A Portrait of Two Public Land Counties .....	14
Lassen County, California.....	16
Crook County, Oregon.....	17
Partnering with a Fellow Researcher .....	18
Participant Interviews .....	19
Coding.....	21
Document Analysis.....	22
Community-Engaged Research .....	28
Limitations of this Study.....	28
RESULTS .....	30

Heritage Economies: Culture and Identity Persevere .....	30
Ranching Identity .....	31
The Rural Urban Divide.....	35
Reluctance to Change .....	36
Rural Community Identity is Shifting.....	38
Perceived Threats to the Ranching Industry .....	39
Maintaining Social License in a Changing American West .....	39
Threats to the Financial Viability of Livestock Operations.....	40
Facing Climatological Threats: Drought and Fire .....	40
COVID-19 Impacts on the Ranching Industry .....	42
Living in California: Hostile Regulatory Conditions.....	43
Too Many Wild Horses.....	45
Corporatization of Ranching.....	46
Fractured Social Capital: Can you continue a legacy when everything is changing around you?.....	47
Land Rich, Money Poor .....	50
Ranchers’ Relationship to Public Lands and Federal Management Agency Representatives .....	53
Maintaining Social License and Economic Vitality: Public lands.....	54
Public Lands Centralization: Rural Communities Want More Local Control on Public Lands.....	59
Strengthening and Maintaining Ties to Public Lands Through Social Capital .....	61
A Look at Crook County: Let’s talk about collaborative public lands decision making.....	61
A Look at Lassen County: Lack of Community Collaboration:.....	64

Broken Trust and Frustration: Ranchers and Federal Land Management: .....	67
Social Capital and Mending Permittee Agency Relationships .....	69
Federal Agency Brain Drain .....	72
Opportunities for Ranching and Rangeland in Rural Public Land Counties of the American West .....	74
DISCUSSION.....	82
A Portrait of Two Public Land Counties (Continued).....	82
Why Are They Different? .....	85
Maintaining Heritage Economies: Social License.....	86
1. Local Collaboratives and Public Land Partnerships .....	88
2. Local Government: .....	89
3. Nonprofit Organizations: .....	89
4. Fellow Ranchers: .....	90
How Ranching Community Stakeholders Perceive Ranching (Non-ranching community, public land representatives and ranchers).....	91
Possible Opportunities .....	93
Reassemble the Resource Advisory Council (RAC) .....	93
Turn Over the Turnover .....	94
CONCLUSION.....	96
REFERENCES .....	97
APPENDICES .....	104

## LIST OF TABLES

Table 1. Crook and Lassen County demographics. Source: US Census 2016 .....	14
Table 2. Current or former occupations and community roles of Crook County, Oregon and Lassen County, California interviewees. ....	19
Table 3. Sources of document analysis data examined and what they cover. ....	22
Table 4. Comparison of community capitals of both Crook and Lassen counties to illustrate similarities and differences of communities. ....	82



## LIST OF FIGURES

Figure 1. Map of case study counties.....	15
Figure 2. Map of Lassen County federal land classification. Source: Arc GIS.....	16
Figure 3. Map of Crook County federal land classification. Source: Arc GIS.....	17
Figure 4. Interviewees included those who represented only the ranching sector or only the timber sector, and those who overlapped or could speak to both sectors. ....	20
Figure 5. Map of Crook County Bureau of Land Management grazing allotments. ....	54
Figure 6. Map of Crook County United States Forest Service grazing allotments. ....	55
Figure 7. Map of Lassen County United States Forest Service grazing allotments. ....	55
Figure 8. Map of Lassen County Bureau of Land Management grazing allotments.....	56
Figure 9. Illustrates the total authorized units per month (AUMs) in California and Oregon between 1966-2016. Source: US Department of Agriculture - Forest Service: Annual Grazing Statistical Report in all National Forest System.....	57
Figure 10. Illustrates the decline of total authorized operators (permittees) in California and Oregon between 1966-2016. Source: US Department of Agriculture - Forest Service: Annual Grazing Statistical Report in all National Forest System.....	57

## LIST OF APPENDICES

Appendix A.....	105
Appendix B.....	108

## INTRODUCTION

The United States has about 770 million acres of rangelands (USDA, 2020). Private individuals own more than half of the nation's rangelands, the federal government manages 43 percent of the rangelands, and state and local governments manage the remainder (USDA, 2020). Wilmer (2014) describes rangelands as the “in-between” lands, lands that are not forest or mountain, not cropland or city, but something in-between, including grasslands, savannas, shrublands, most deserts, tundra, alpine communities, marshes, and meadows. Rangelands provide a diversity of ecosystems and diverse and significant economic benefits and ecosystem goods and services. However, land use change in rangeland ecosystems is pervasive throughout the western United States with widespread ecological, social, and economic implications (Cameron et al., 2014). The aim of this research is to examine social and economic impacts associated with changes in management policies affecting ranching and livestock grazing on public lands surrounding two towns: Susanville, California and Prineville, Oregon.

Rangelands can generate jobs and contribute to the quality of life and enjoyment for many area residents and visitors by supporting open space, wildlife habitat and rural lifestyles (Bentley et al., 2018). Rangelands function as “working landscapes” where people make their living by extracting renewable natural resources and turning them, through ranching and forestry into wool, meat, and wood products (Charnley et al., 2014). However, according to Marty et al. (2014), while rangeland habitats are one of

the most extensive land types in the United States, they have received less attention from conservation efforts than other major habitat types such as forests.

In recent decades, the American West has experienced large-scale transition, with rapidly changing land use and migration patterns shifting rural communities from past reliance on ranching, mining, and forestry, to natural and cultural amenity-based development (Nelson, 2001; Winkler et al., 2007, Lybecker, 2020). This is described as a part of the “New American West”, due to these shifts in socio-political and economic dynamics from the primarily extractive-based, “Old West” industry – mining, logging, and ranching – to a primarily high-amenity recreational, tourism-based, urban, and high-tech industry (Winkler et al., 2007). As a result, there are changes not only to land use and socioeconomic patterns, but changes to individual and collective identities (Nelson, 2001).

Studies of ranching communities in the New American West tend to focus on regions classified as high amenity, which generally have high levels of in-migration, wealth accumulation, and built infrastructure for residents and recreationists (Ooi et al. 2015, Bentley et al. 2018). This suggests a need to address the social, economic, and social-ecological dimensions of ranching communities of non-high amenity areas of the West, and to understand more about the local perceptions of ranching and rangelands of community stakeholders, both involved and not involved in ranching.

My project fills this gap. Specifically, this research examines changing norms, community connections, local governance, and socio-economic status to understand how and why ranching in predominantly rural, public land counties could and, in the views of

stakeholders, should be sustained in the future. I use a social capital framework and frameworks developed to describe the changing American West to examine how ranchers are maintaining their lifestyles, their interactions with private and public lands, and their impacts on and interactions with nearby communities. Social capital consists of interactions within a specific group or community that involves mutual trust, reciprocity, groups, collective identity, working together, and a sense of a shared future (Flora et al., 2003).

Despite the presence of natural resources associated with tourism in both Susanville and Prineville, these towns and their respective counties would not be considered high amenity because of lack of infrastructure and connectivity (e.g., airports). Both have maintained strong ties to heritage economies (ranching and forestry), making them ideal as case study locations to examine how rural, lower-amenity communities are experiencing economic and demographic change and what ties remain to ranching and public lands following extensive resource management policy change. This thesis has two objectives: 1) to explore diverse perspectives about the importance of ranching landscapes through case studies of two rural towns in Crook and Lassen County; and 2) to critically examine ways in which Crook and Lassen counties' ranching industries have adjusted to significant resource management policy changes.

## LITERATURE REVIEW

Working Landscapes: The landscapes that just don't quit

Americans have long been preoccupied with the idea of nature as pristine and untouched by humans (Huntsinger and Sayre, 2007). Recognition of the active human presence and management to achieve conservation is relatively underdeveloped (Eaton et al., 2019, Ulrich-Schad, 2016), though the concept of working lands is not new to Native Americans, who have shaped the American landscape since time immemorial (Diekman et al., 2007). In this section I will cover 1) the “preservation versus production” debate, and 2) present and future threats to working landscapes.

There has long been a debate about how private and public lands should be utilized, centered around a preservation versus production argument, or an argument between natural resource production and ‘consumptive’ uses such as recreation, tourism and environmental services and amenities (Walker, 2006; Walker and Fortmann, 2003). Some researchers have stated that the elevation of the working landscape concept would seem to offer an alternative to the “preservation versus production” debate that previously dominated many discussions regarding natural resource decision making.

The term “working landscapes” is increasingly used to express land uses that combine agricultural and environmental benefits (Barry and Huntsinger, 2002; Resnik et al., 2006, Silbert et al., 2006). There is a normative component to working landscapes; for example, Huntsinger and Sayre (2007) propose that both public and private rangelands are better protected by ranchland owners through utilization and stewardship.

Brunson and Huntsinger (2008) state that interest has grown in creating an agricultural industry that can withstand development pressures and maintain open space and semi natural (working) landscapes. To further illustrate, Sullivan (2009) examines

the transformation of public perceptions on grazing impacts on communities, suggesting that ranching might play a positive role in ecosystem function, noting that cattle ranches may act as a buffer against the loss of open land to development. In this view, ranchers of the 21st century are thought to practice ecologically sound methods to both manage their cattle and manage natural ecological processes (Sullivan, 2009).

However, there are several risks to rangeland habitats. Gosnell and Travis (2005) state that as many as 45% of US ranches are being sold each decade. Ranchers are an aging population who are land-rich and cash poor, and the purchase or maintenance of a ranch as an economic operation is becoming less feasible. Habitat conversion is driven by population growth and associated residential and commercial development, casting doubt on the feasibility of maintaining ranch land at levels sufficient to conserve ecosystems (Gosnell et al., 2005, Marty et al., 2014). Therefore, many conservation efforts have shifted from protecting public lands from livestock grazing to protecting private lands from development by keeping them in ranching (Sayre, 2018). Both the private ranch land and public lands that make up working landscapes are under pressure. Large, open, productive ranchlands can give way to dense housing and to hobby ranches each with very different implications for habitat fragmentation, water quality, soil conditions, flooding, and biodiversity (Robbins et al., 2009). In many places, ranches are turning into home sites because private rangelands' "chief value" is not grazing but development (Sayre, 2008).

Working ranches are often promoted as means of private rangeland conservation because they can safeguard ecosystem services, protect open space, and maintain

traditional ranching culture (Brunson and Huntsinger, 2008). The view of the working ranch is further illustrated by White (2008), who says "the new ranch operates on the principle that the natural processes that sustain wildlife habitat, biological diversity, and functioning watersheds are the same processes that make land productive for livestock" (p. 1380 - 1381). White's statement reflects a shift in attitudes that ranchers could be seen as stewards of natural processes.

On rangelands, ranching is key to conserving working lands (Huntsinger et al., 2007). Charnley (2014) argues that it is important to conserve these landscapes to provide ecosystem services, biodiversity, wildlife habitat, foster relationships between people and nature, generate diverse revenue streams for residents of rural communities and to provide natural amenities such as open space and recreation opportunities. Additionally, it has been suggested that ranching families maintain and transmit intangible cultural heritage through their interactions with historic working landscapes (Knight, 2002). Sustaining working rangelands is dependent on ranchers' social values, management goals, resource options and capacity. Additionally, researchers argue that including the ranching community's perceptions, experiential knowledge, and decision-making is important to advancing the ongoing dialogue to create sustainable working rangelands (Roche et al., 2015).

#### Old West → New West → Next West: Changing Socio Economics

One of the potential threats to working landscapes is the transition to the New West economy. Researchers have asserted that the American West has relied on its close



links between natural resources and associated social, cultural, and economic structures for over 150 years (Winkler et al., 2007). Few rural communities remain heavily dependent upon industries such as ranching and forestry but are instead linked to other industries, including tourism and recreation (Winkler et al., 2007, Robbins et al., 2009, Travis, 2007). The purpose of this section is to describe the transformation of the American west, from what has been termed the “Old West” to the contested “New West” and examine what follows in the “Next West”.

The extent of the public lands in the western U.S. is a large contributing factor in both the changing socio economics and cultural values of the West (Lybecker, 2020). In these communities, public lands support social and economic connections to resources provided by these landscapes. However, public lands throughout the West are embedded in a mosaic of private lands. This is especially true for rangelands.

Most ranches in the western United States are mosaics of land tenure, combining grazing on both public and private deeded lands that usually originated as homesteads or federal allotments on National Forests and BLM lands under the passage of the Taylor Grazing Act in 1934 (Sheridan, 2007). Steward (1998) examines the term “welfare ranching” which stems from the low ratio of private ground in these public land counties, creating a dependency on use of federally managed lands for grazing. To understand the relationships between grazing and public lands, Schneider (2016) describes the general process of gaining grazing rights on public lands. A buyer purchases a ranch with an attached permit for a nearby allotment and upon acquiring the base property and associated grazing rights, the rancher is required to sign a ten-year permit with the federal

government. This contract gives the Forest Service or Bureau of Land Management the authority to regulate how that rancher manages livestock on federal land. This system dates to the Taylor Grazing Act of 1934, which split the open range into smaller allotments, each with specific regulations for management. Linking public and private lands together, both economically and administratively, has helped to prevent the conversion of hundreds of millions of acres of land to more intensive uses and has kept the West less fragmented and closer to its native vegetation than any other part of the continental United States (Sayre, 2018).

While many people of the West have supported resource extraction on public lands because of financial benefits (Lybecker, 2020), Walker (2006) suggests that the tensions between natural resource extraction and preservation on public lands led to the overarching political and cultural struggle that has affected much of the rural American West today. Additionally, the economic activity and levels of employment opportunities have waned in traditional extractive industries that once sustained most rural areas (Winkler et al., 2007).

The New West has challenged idealized visions of economic productivity in rural America. Rural regions of the country generally survive economically on one or more of three basic assets: (1) natural amenities for tourism and the services supporting those experiences (restaurants, breweries, outdoor gear retail), second homes, and retirement; (2) low-cost, quality labor and land for manufacturing, but also services such as prisons and extended care health facilities; and (3) natural resources for farming, forestry, and mining (U.S. Department of Agriculture, 2003). In general, the shift from agrarian

economies to postindustrial economies (those based on services, tourism, recreation, government, culture, education, and information technology) became noticeable in the 1990s (Power, 1996).

Despite these changes in economies, there remains a shared interest among those in the so-called New West in the qualities of the natural landscape. However, this interest in scenic landscapes, ecological values and rural amenities often puts the New West in tension with the Old West cowboys, loggers and miners who still value the landscape primarily as a source of economic production through resource extraction (Power and Barrett, 2001).

Academics have shown great interest in the growth and change of the American West (Shumway and Otterstrom 2001; Walker et al., 2003; Schnell et al., 2004; Gosnell and Travis 2005; Gosnell et al., 2006; Moss 2006; Winkler et al., 2007; Post, 2013; Ooi, 2013). The general characteristics of the New West's residents include retirees and individuals whose jobs are in a metropolitan area but who focus nonwork time on outdoor recreation. These western migrants are generally postindustrial middle class and have moved for quality of life and natural amenities, presenting a profound challenge to the extractive identity of the Old West (Krannich et al., 2011; Tracey et al., 2017). Additionally, Lorah and Southwick (2003) found a correlation between public and wilderness lands and rapid growth in population, income, and employment. Robbins et al. (2009) suggests that this growth is clustered near ski areas, national parks, and universities and colleges, indicating "a desire to live apart from large metropolitan areas without completely severing ties to them" (Booth, 1999: 384).

However, many observers have challenged the existence of a coherent New West and have pointed to the overall continuities of boom-and-bust economies, the historic similarities between this region and others, the racial and ethnic imaginaries of a “white” West, and the urban character of the region (Robbins et al., 2009). *The Environmental Politics and Policy of Western Public Lands* (2020) states that over the past decade or so, we have seen hints that the future “Next West” is likely to encompass greater recreational use alongside a need for the resources produced from the extractive industries of the Old West and a romanticization of the independent western lifestyle. Lybecker (2020) states that rather than all-out change, the western United States has and is likely to continue experiencing a “layering—keeping of the old but adding the new, which now extends to the Next West” (p. 3).

#### Buck off, John Wayne: Transcending the Hollywood Rancher Identity

A typical rancher may evoke images of a big hat, tough attitude, and unwavering independence; this mythology of the ranching existence has been expressed in Wild West shows, western novels, silent films, western movies, and television (Steward, 1998). Even those minimally exposed to these portrayals carry a stereotype of rangeland as the old-time western landscape: sparse vegetation backdropped by panoramas of buttes and mountains (Travis, 2007). However, these stereotypes may not reflect the reality of ranching. Feldman (2016) states that the myths of the cantankerous, conservative, rugged rancher in Hollywood portrayals and opinion pieces thrive in their oppositional nature, turning ranchers and cowboys into archetypes of non-urban, non-modern, others. As the

ranching lifestyle becomes less economically viable due to changing contexts, including changes to social structure and shifts away from natural resource-based economies, it becomes more important to understand the realities of ranchers' livelihood strategies, and how they can be resilient and adaptive. The purpose of this section is to 1) link the identity of ranchers and range landscapes, 2) discuss public lands in connection to ranchers' lifestyles and 3) examine social networks surrounding ranchers.

Clayton (2003) proposes that an environmental identity is one part of the way in which people form their self-concept: a sense of connection to some part of the nonhuman natural environment that affects the ways in which we perceive and act toward the world. An environmental identity provides a sense of connection, of being part of a larger whole, and a recognition of similarity between ourselves and others (Clayton, 2003). Ogbu (1991) suggests that ranchers' environmental identities also have an oppositional component consisting of disapproval, dislike, and distrust of non-ranchers and their environmental agenda. Opotow and Brooks (2003) add to this argument by stating that although ranchers self-identify as deeply pro-environmental because they conserve nature of their own volition, they are hesitant of supporting any kind of regulation. Feldman (2016) suggests that the daily realities of ranchers themselves are inherently active and ongoing, generating an identity that is constantly reinforced. Similarly, Hurst et al. (2017) states that "ranching is a way of life that is passed down from generation to generation, not only through inheritance of the land but also through local knowledge and a feeling of rootedness to the land and lifestyle," (p. 2). This

research therefore aims to situate ranchers within the increased tensions over land use and economic uncertainty of a changing American West.

As the land base available for ranching decreases, social networks are impacted as well. Steward (1998) asserts that although ranching is high in risk and low in economic return, ranchers stay in the business because of values they associate with the lifestyle: freedom, hard work, family cohesiveness, and interaction with nature and the land. Ranchers, particularly those with multi-generational operations, value the land as part of a “functioning ecosystem” because of its importance to their family heritage and way of life, to their children’s future, and to their ability to maintain profitable business operations (Benoit et al., 2018). To better understand the future of ranches, Knight (2002) examined family ranches and found that they maintain a distinctive way of relating to the land, preserving historic sites, and continuing traditions that pass on local ecological knowledge. He suggests that ranching is a cultural heritage and is part of an integrated system that ensures that knowledge is passed on from one generation to the next. This passed on knowledge aids in generating a sense of identity and motivates younger generations to learn the lifeways of their parents and grandparents.

However, Huntsinger et al. (2007) found that the average age of a California Rancher was 59. There is an emerging problem with the transmission of ranches to the next generation, as some ranchers have children who do not want to ranch (Brunson and Huntsinger, 2008). Researchers have found that social networks beyond the family unit are important to maintaining ranchers’ lifestyle. Benoit et al. (2018) states that these networks also support economic values in the community that allow operators to benefit

from trading and cooperating with each other and to encourage a system that supports agricultural production as the basis of their livelihood. Through examining the social networks of new and longtime residents in ranching communities there may be an opportunity to maintain ranching in the urbanizing West (Starrs, 2002).

Here are the lessons from this literature review: 1) working ranches are often used as means for safeguarding ecosystem services, protecting open space from development and maintaining traditional ranching culture; 2) ranching plays a central role in the shift from the Old West to the New West, but ranching (and, potentially, rangelands) are at risk because of changing socioeconomic contexts; 3) both public and private landscapes are impacted by these changes; and 4) family and social networks support ranching and its economic viability. Therefore, my research questions are:

1. How do ranchers perceive their well-being in counties undergoing significant social and economic change?
  1. How are ties between these communities and ranching changing?
  2. How do non-ranching community stakeholders perceive ranching?
2. How do ranchers and federal management agency employees cooperate and conflict over land use and ranching practices?
3. What strategies are ranchers using to maintain economic viability, and how do public lands fit into this?
4. How do ranchers utilize federal land, and how has this changed over time?

## METHODS

### Case Study Locations: A Portrait of Two Public Land Counties

The case study locations of this research are Lassen County, California and Crook County, Oregon (Fig. 1). These locations were chosen because, though they had lost (much of) their timber infrastructure and industry, they had maintained ties to cattle, sheep, and horse ranching. In addition, both Lassen and Crook counties identified and pursued new industries to support their local economy after timber mill closures. These case studies offer insight regarding socioeconomic change, well-being, community-identity, and federal agency-town engagement. The following are brief descriptions of Crook and Lassen Counties' demographic, ecological, geographic, and economic characteristics.

Table 1. Crook and Lassen County demographics. Source: US Census 2016

	<i>Crook County</i>	<i>Lassen County</i>
Total Population:	21,334	31,945
Residents Under 18:	4,186	5,394
Residents Over 65:	5,160	3,916
Population that is White:	95%	72%
Population that is Hispanic:	0.08%	19%
Median Household Income:	\$39,583	\$51,457





Figure 1. Map of case study counties

## Lassen County, California

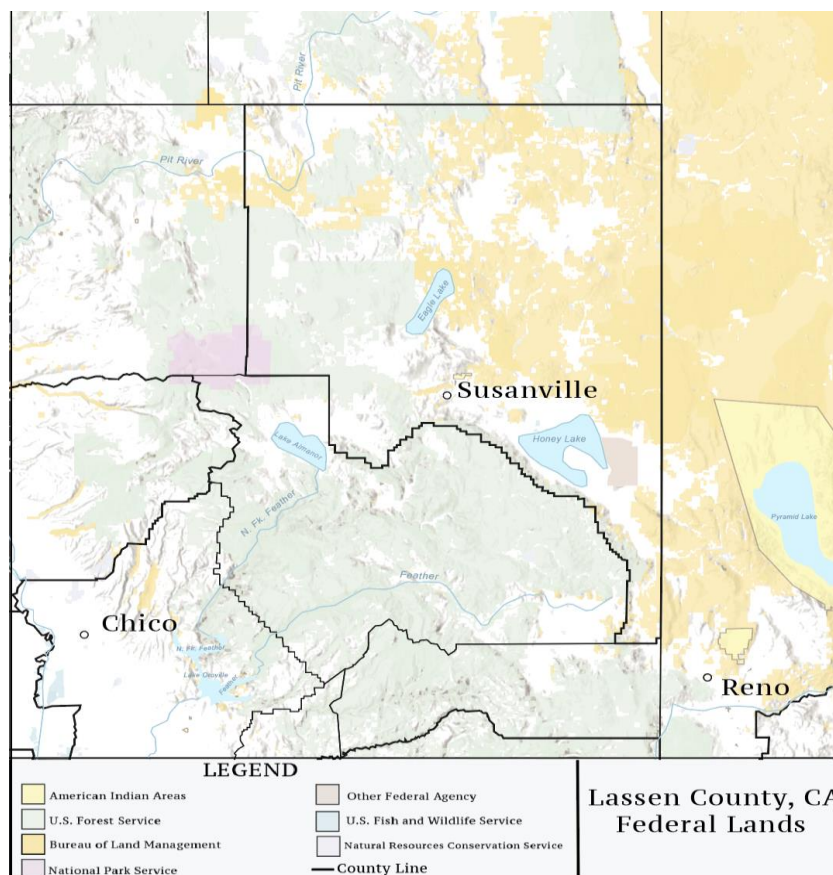


Figure 2. Map of Lassen County federal land classification. Source: Arc GIS

Geographically, Lassen County is in the northeastern portion of California.

Lassen County is primarily made up of forests and high deserts and sagebrush communities. Lassen County is 57% is federally owned by the Bureau of Land Management, National Park Service, and the United States Forest Service (Fig. 2). The county seat is Susanville. It is home to the Susanville Indian Rancheria, which is made up of members of the Maidu, Paiute, Pit River, and Washoe tribes. Lassen's demographics are described in Table 1. After Susanville's last mill closure in 2003, the county recruited

its third prison, Herlong Federal Prison, in 2007. Today the county's two largest employers are the prison industry and public land management agencies.

### Crook County, Oregon

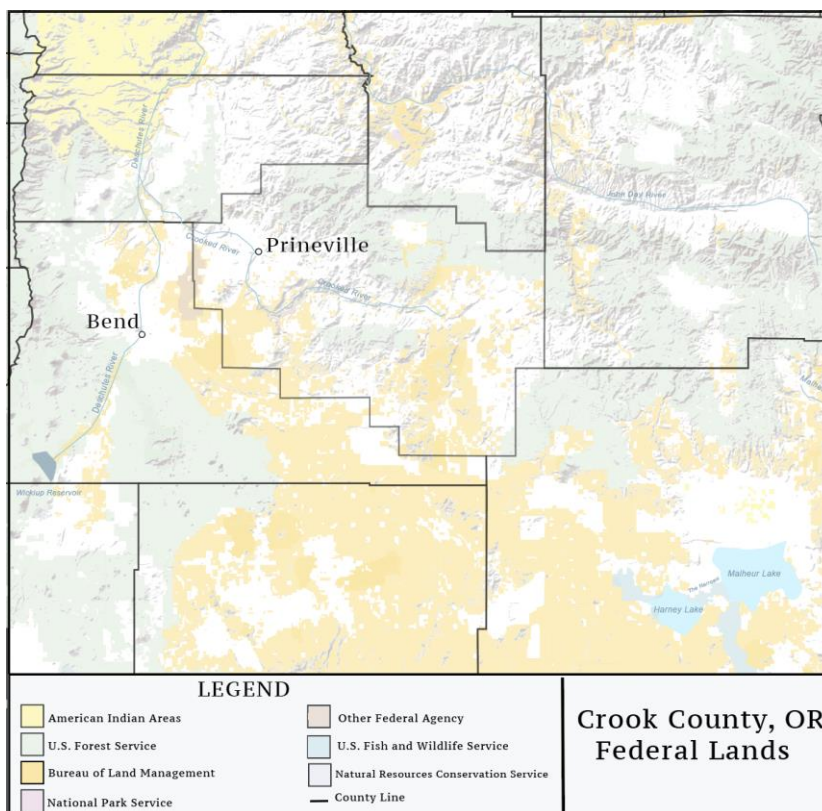


Figure 3. Map of Crook County federal land classification. Source: Arc GIS

Geographically, Crook County is in the center of Oregon (Fig. 3). Crook County is primarily made up of forests, deserts, and sagebrush communities spread over 1,911,881 acres. It is 49% is federally owned, by the Bureau of Land Management and the United States Forest Service. Crook's demographics are described in Table 1. The county seat is Prineville, Oregon. It is home to the Confederated Tribes of Warm Springs,

which is made up of members of the Warm Springs, Wascoes, and Paiute tribes. Prineville's last timber mill closed in 2001, and subsequently, Apple and Facebook data centers opened nearby. Now the county states that their economy is based on forest products, agriculture, livestock raising, recreation/tourism services, and a growing high technology industry (Crook County Natural Resources Policy, 2018).

### Partnering with a Fellow Researcher

I partnered with a fellow researcher whose project focused on former timber mill-towns in the interior northwest. After a series of pilot interviews, she determined that there was a need to evaluate the range communities in the case study locations. With the community's input in mind, my research partner and I teamed up to create a modified interview guide to incorporate local ranching perspectives and relationships with public land managers and corresponding agencies. We expanded our interview sample to include ranchers, rangeland managers, and local contacts who could speak to areas of timber and ranching overlap. Qualitative research in these regions allowed us to measure the depth to which these economic changes were felt by the ranchers and other ranching stakeholders, and in what ways they have and continue to respond to these changes. In the sections below, I describe the case study locations, participant interviews, the coding process, document analysis and community engaged research in the case study communities.

### Participant Interviews

We conducted 45 semi-structured phone interviews with community members connected to Susanville and Prineville’s ranching and forestry industries. On average, the interviews were 60-90 minutes in length. We selected interview participants based on their connections to ranching, community, and timber livelihoods in the two communities including representatives from land management agencies, county government, Tribes, the ranching sector, local industry, clubs, and non-governmental organizations.

Community members are defined as current or former residents of these regions or employees working in the region. Below is a list of interviewees organized by their roles within the community (Table 2).

Table 2. Current or former occupations and community roles of Crook County, Oregon and Lassen County, California interviewees.

<i>Community Role (Current or former occupations)</i>	<i>Lassen</i>	<i>Crook</i>
Private Ranchers	5	5
United States Forest Service (USFS)	4	3
Bureau of Land Management (BLM)	2	3
Residents/Non-Profit/Community Organization	5	4
Local Government City/County	4	4
<b><i>TOTAL:</i></b>	20	19

We used both targeted and snowball sampling to identify community members and stakeholders to participate in semi-structured interviews (Patton, 2015). Snowball sampling is an approach for locating information-rich key informants (Patton, 2015). We asked about ranchers' lived experiences, their perceptions of ranching, and their relationships with the immediate community and land management agencies. We used two separate interview guides, which varied based on the interviewees' occupation or community role (Fig. 4). Residents with roles in both timber and ranching were interviewed with a shared guide (Appendix A), while the other interview guide focused primarily on ranching (Appendix B).

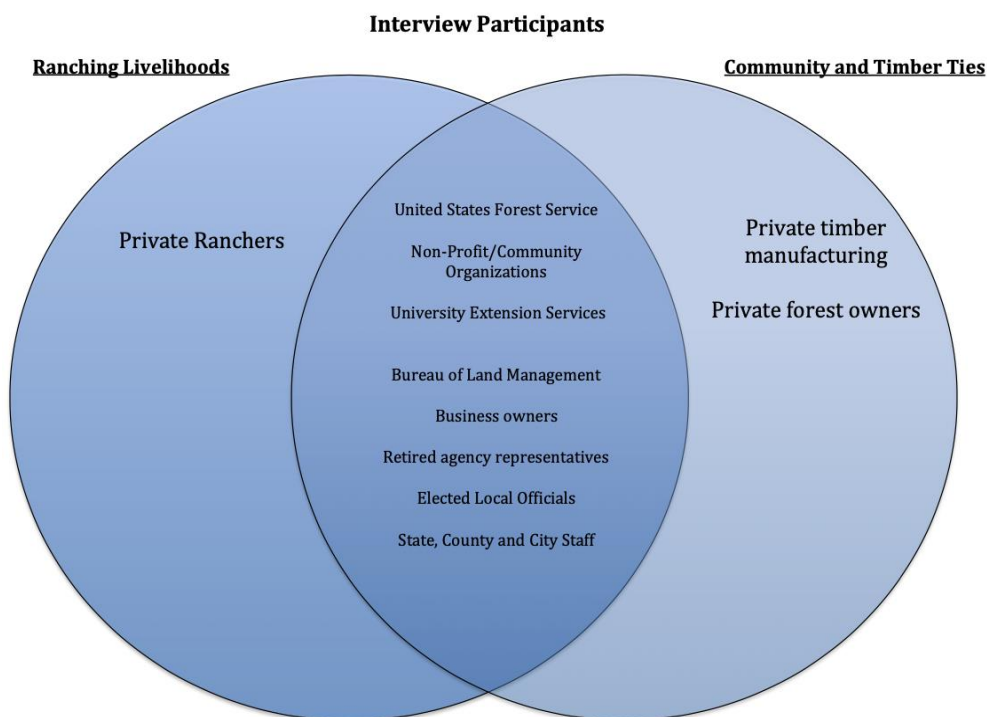


Figure 4. Interviewees included those who represented only the ranching sector or only the timber sector, and those who overlapped or could speak to both sectors.

We reached out to contacts via phone and email and scheduled interviews over a web-based platform or over the phone to meet COVID-19 precautions. Interview participants were given the approved IRB consent form that describes the project goals, our contact information, and grants interviewees anonymity. Participants were given the option to be audio recorded; if they declined, notes were taken by myself and my research partner. Interviews were transcribed for analysis. Each interviewee received a transcription of their interview to maintain transparency and avoid misconstruction of meaning. We also kept hard copy records of interview guides with notes in a shared folder.

### Coding

All interviews were transcribed and uploaded into both a password protected Dropbox account and the coding software, Dedoose. Analysis took an inductive approach, where categories, concepts, and themes emerge from the data, rather than predetermined categories or concepts (Patton 2015). This approach required two phases: description and interpretation. Dedoose allowed us to initially open code, a first round of coding that focused on description, to analyze emerging patterns and themes. All interviews were coded by both researchers to ensure intercoder reliability and for one or more of the following perspectives: timber, rangelands, public lands, and community well-being. After open coding the interviews, I coded for interpretation, specifically to address my research questions. I focused on analyzing the data for major themes and codes that demonstrated local perspectives on these topics: ranching, public lands,

community, and rancher well-being. I used interview data in combination with document analysis to elaborate on findings of the case study communities.

### Document Analysis

Documents analyzed for this study include federal publications, land use plans, grazing permits, and local and regional plans (see Table 3). The documents analyzed were used to triangulate data from the interviews, to provide context for the case studies and to better understand the grazing processes on public lands. I used these public documents to substantiate reference material and to illustrate regional and community change in the case study areas.

Table 3. Sources of document analysis data examined and what they cover.

<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
<i>Public Lands Statistics</i> Bureau of Land Management (BLM) 2001-2019	An annual published document consisting of 80-plus tables dedicated to telling the story of the BLM's mission, programs, and accomplishments using numerical data and detailed footnotes.  <b>Region(s):</b> California and Oregon	Percentage of rangeland acreage and ecological use in case study regions.  Summary of use authorized grazing lease lands and districts  Animal Unit Months Authorized (AUMs)  History of grazing leases in region(s)
<i>Land Health Evaluation South Horse Lake Allotment</i>	This document evaluates the land health of the South Horse Lake livestock grazing allotment that	To evaluate existing uses, resources, and management of the



<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
BLM October 2018	is located approximately 20 miles northeast of Susanville, California. The allotment consists of approximately 41,720 acres of BLM-administered public land, 4,160 acres of private land, and 1,920 acres of state lands. Several ranches are scattered throughout the area.  <b>Region(s):</b> Lassen County, California	South Horse Lake allotment.  Establishing background of grazing districts and allotments in case study areas.
<i>Notice of Proposed Decision for Grazing Authorization</i> BLM 2010-2019	These documents are sent to permittees when grazing allotments are authorized by the Bureau of Land Management (BLM).  <b>Region(s):</b> Lassen County, California and Crook County, Oregon	Evaluating the management actions of actions for implementation on the leased grazing allotment.  Terms and conditions for the permit  Established grazing schedules  Existing and proposed range improvements
<i>Environmental Assessment Grazing Permit Renewal for the Indian Creek Grazing Allotment</i> BLM September 2020	The Indian Creek allotment (1,919 acres) is 97% BLM-administered public land and borders the Ochoco National Forest in Crook County, Oregon. This is an Environmental Assessment (EA) to address the livestock grazing permit to ensure rangelands meet multiple use management objectives.	To evaluate existing uses, resources, and management of the South Horse Lake allotment.  Establishing background of grazing districts and allotments in case study areas.

<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
	<p><b>Region(s):</b> Crook County, Oregon</p>	<p>Existing and proposed range improvements</p> <p>Evaluating the management actions of actions for implementation on the leased grazing allotment.</p> <p>Evaluate effects of permitted grazing and the local community</p>
<p><i>Interpreting Indicators of Rangeland Health</i> BLM, United States Forest Service (USFS), United States Geological Survey (USGS), United States Dept. of Agriculture (USDA) August 2020</p>	<p>This is a collaborative interagency document that is intended to be used at the ecological site scale or equivalent landscape unit, using ecological site descriptions, including site-specific state-and-transition models and reference sheets and ecological reference areas (when available) to conduct assessments of rangeland health.</p> <p><b>Region(s):</b> California and Oregon</p>	<p>Evaluate the methods and models of rangeland research being used by public land agencies.</p> <p>Attributes to rangeland health.</p> <p>Identifying site specific ranch planning protocols such as inventory and monitoring</p>
<p><i>Grazing Statistical Summary</i> USFS 1966-2019</p>	<p>An annual published document consisting of grazing data on National Forest System lands using numerical data and detailed footnotes.</p> <p><b>Region(s):</b> Pacific Southwest- Region 5 “R5”</p>	<p>Number of permitted and authorized livestock, AUMS and HMS Conditions, management and requirements of grazing permits on National Forest System allotments</p>

<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
	Pacific Northwest- Region 6 “R6”	
<p><i>Crooked River National Grassland Land and Resource Management Plan</i> USFS August 1989</p>	<p>The Grassland Plan introduces the general purpose, explains how the plan relates to the environmental impact statement, and provides a brief description of the Grassland.</p> <p>Additionally, the report addresses significant market goods and services on the Grassland, responds to the major issues identified during the planning process and it sets the management direction for the Grassland for the next 10 to 15 years. It presents goals, objectives, and desired future conditions directing resource management on the Grassland. Lastly, the report explains the methods for implementing the management direction, monitoring and evaluating implementation activities.</p> <p><b>Region(s):</b> Crook County, Oregon</p>	<p>To evaluate existing uses, resources and management of the Crooked River National Grassland.</p> <p>Establishing background of grassland grazing districts and allotments in case study areas.</p> <p>Existing and proposed range protocols and management</p> <p>Evaluating the management actions of actions for implementation on the grassland.</p> <p>Evaluate effects of permitted grazing and the local community</p> <p>Evaluating market goods and services on the grassland.</p>
<p><i>Ochoco National Forest Land and Resource Management Plan</i> USFS August 1989</p>	<p>The Forest Plan introduces the general purpose, explains how the plan relates to the environmental impact statement, and provides a brief description of the forest. Additionally, the report addresses significant market goods and services in the</p>	<p>To evaluate existing uses, resources and management of the Ochoco National Forest.</p> <p>Establishing background of forest</p>

<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
	<p>forest, responds to the major issues identified during the planning process and it sets the management direction for the forest for the next 10 to 15 years. It presents goals, objectives, and desired future conditions directing resource management on the forest. Lastly, the report explains the methods for implementing the management direction, monitoring, and evaluating implementation activities.</p> <p><b>Region(s):</b> Crook County, Oregon</p>	<p>grazing districts and allotments in case study areas.</p> <p>Existing and proposed range protocols and management</p> <p>Evaluating the management actions of actions for implementation on the forest.</p> <p>Evaluate effects of permitted grazing and the local community</p> <p>Evaluating market goods and services in the forest.</p>
<p><i>Lassen National Forest Land and Resource Management Plan</i> USFS 1992</p>	<p>The Forest Plan introduces the general purpose, explains how the plan relates to the environmental impact statement, and provides a brief description of the forest. Additionally, the report addresses significant market goods and services in the forest, responds to the major issues identified during the planning process and it sets the management direction for the forest for the next 10 to 15 years. It presents goals, objectives, and desired future conditions directing resource management on the forest. Lastly, the report explains the methods for</p>	<p>To evaluate existing uses, resources, and management of the Lassen National Forest.</p> <p>Establishing background of forest grazing districts and allotments in case study areas.</p> <p>Existing and proposed range protocols and management</p> <p>Evaluating the management actions of</p>

<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
	<p>implementing the management direction, monitoring, and evaluating implementation activities.</p> <p><b>Region(s):</b> Lassen County, California</p>	<p>actions for implementation on the forest.</p> <p>Evaluate effects of permitted grazing and the local community</p> <p>Evaluating market goods and services in the forest</p>
<p><i>Environmental Assessment for Multiple Grazing Permit and Lease Renewals</i> BLM 2014-2015</p>	<p>This Environmental Assessment (EA) considers the environmental consequences of a mix of proposals from 29 grazing allotments and an overlook of 29 permits or leases for those allotments.</p> <p><b>Region(s):</b> Crook County, Oregon</p>	<p>Evaluating the management actions of actions for implementation on the leased grazing allotments</p> <p>Terms and conditions for permitted grazing use on allotments</p> <p>Established grazing schedules and AUMs</p> <p>Existing and proposed range improvements for permitted grazing allotments</p>
<p><i>Crook County Oregon Natural Resources Policy (CCNRP)</i>  Crook County Board of County Commissioners 2019</p>	<p>The Crook County Natural Resources Policy states the positions of Crook County in regard to the use of and access to natural resources located on public and federal land.</p> <p><b>Region(s):</b> Crook County, Oregon</p>	<p>Evaluating shared principles for local government coordination within Crook County including but not limited to: Agriculture, Recreation and Tourism, Federal</p>

<i>Title/Agency/Dates</i>	<i>Description</i>	<i>Project Uses</i>
		Agency Partnerships and Wildlife  History of Crook County's ties to local natural resources

### Community-Engaged Research

Community-engaged research emphasizes the inclusion of perspectives, values, and questions of informant communities (McKenna and Main 2003, van der Meulen 2011). We asked each interviewee for input on how to engage the community with our research results. We will design and distribute presentations of results to meet each community's specific recommendations and COVID-19 precautions. The combined data and methods captured regional perceptions of community identity, land use changes, ties to public lands and contributed to the unique story of each case study location. Our final incorporation of participatory methods is to provide a presentation of findings to each case study community.

### Limitations of this Study

Case studies examining socioeconomic change in rural communities such as Crook and Lassen counties are valuable because they can illuminate the many ways that the Next West is occurring in different places. However, it is important to highlight limitations to this study. The following are limitations of this study and why more people should explore the subject further:

1. Case studies are a way of analyzing and identifying perceptions of change from community members, but they do not necessarily provide generalizable lessons. Although Lassen and Crook County share similarities, the results from the case studies do not apply to all ranchers or rural communities going through socioeconomic change.
2. Due to COVID-19, I did not spend a significant amount of time on either of the case study sites. What I know of the communities and their economies, geographies and characters was through remote interviews. This created even more distance between me and the interviewees than typical social science research. Though interviewees were very generous with their time, this distance meant that personal connections were impacted. Knowledge of place is a key theme of this research, and having the ability to interact within the community, attend community events and visit places discussed by interviewees, would have made the project stronger.
3. Due to the demographics of both communities and outreach limitations, people of color were not adequately represented in this study. Future studies in rural areas such as the case study locations, would be especially valuable to engage with underrepresented groups such as minorities, women, and indigenous populations that many times have been left out of rangeland connections.

## RESULTS

Both Lassen and Crook counties have many similarities, but in each of these sections I highlighted key differences in approaches and attitudes among interviewees. The results focus on three emergent themes: social license and perceptions of ranching; economics and regulations; and social capital and legacy. The subsections of the results are as follows: evolving rural identity and socioeconomic changes affecting the ranching community, threats to rangeland and ranchers' livelihoods, changes to ranching on public lands and agency partnerships, and adaptation strategies that ranchers and the range community are putting in place to maintain their livelihoods. Lastly, I examine opportunities for maintaining heritage economies and ranching culture.

### Heritage Economies: Culture and Identity Persevere

This section addresses the role of culture and identity of heritage economies in the two case study counties. I define heritage economies as economic systems closely associated with individual and community identity that have been built on land-based industries, such as forestry, ranching, and mining. When asked about their community's ties to the ranching industry many interviewees described ranching as a fundamental component of their cultural identity. Participants of both counties indicated that ranchers participated in city and county government to maintain presence at the forefront of community culture and to advocate for working landscapes. This is illustrated by the following interviewees:



When I think of Susanville, I think of the old families there. A lot of them are tied to ranching. To me, they're the heart and soul of Susanville.  
Lassen, Resident

We're kind of a rodeo town. We're called the cowboy capital of Oregon.  
Crook, Local Government

### Ranching Identity

All interviewees involved in ranching operations in both Crook and Lassen viewed ranching as a core part of their identity. Interviewees stated that they were “ranch born and raised” and “riding horses before they could walk”. One agency member from Crook County described it as:

I think, you know, a secure career choice is going to work for the federal government, right? I think there are many (ranchers) that don't care whether it is secure or not. That's what they feel like they were born and bred to do and so that's what they're going to do.

Many interviewees that were born into ranching families described similar experiences of going out into the world and experiencing life off the ranch, often away from their rural communities, then returning to the family ranch or often starting their own livestock operation. This rancher from Lassen County described leaving the family ranch in Lassen County and why they returned:

It's kind of all I've ever known .... It's a great lifestyle. I don't know, I never really thought about doing too much else. It did of course take about a year into college to realize that. But I was able to go out and see, then decided that through my college and everything that it was all I really wanted to do was be on the ranch. Specifically, this one.

Most of the rancher interviewees described the lifestyle as one that was often precarious and dependent on many outside circumstances. Combined with the often-challenging workload that comes with owning or working with a livestock operation it is,

in interviewees' words, not for the faint of heart. Maintaining cultural identity and connection to their livelihood was essential to participating in ranching, as this Lassen County rancher explained:

You got to be committed... If you don't have a passion for this type of a lifestyle, do something else... If it is not something you really have a passion for and love to do what to do. If you're miserable doing it, go do something else ... Don't do it to appease your dad or anyone else... But in my opinion, if you're doing something you love to do, which I've done, I feel very fortunate that I've spent 40 years doing what I'm doing and have liked it, I've never really had a bad day. Other than when I get bucked off of something.

Although both Crook and Lassen counties have a significant portion of rangeland, their economies do not depend primarily on agriculture. Interviewees stated that they believed the ranching industry still generated wealth and was seen as a major driver of economic growth because so much of the land in both counties is rangeland.

Additionally, many interviewees suggested that the communities' strong sense of cultural identity and pride in being agricultural counties is what really allowed ranchers to maintain their economic standing and continue to be in business. A Lassen County extension agent said:

You know, we're not, you know, "big ag" like Fresno, or, you know, Midwest, or anywhere like that. I mean, we're still kind of small potatoes, you know, it is important as it is in our local community. I would say that agriculture is a major driver in this county, and it used to be much more of a driver before the prisons came in but ranching is still alive and well. This county still depends on agriculture quite heavily.

Many interviewees indicated that ranchers of both Lassen and Crook maintained ranching livelihoods and the connections to ranching culture were still prominent because

the ranching industry had long term multi-generational family ranches. Interviewees emphasized the importance of multi-generational learning and the role that that plays in agriculture and maintaining ranching as an industry in both counties. Multiple interviewees conveyed this:

[T]hat family generational sort of deal of handing down or working with your kids and grandkids to provide that as a means. There is some ownership of that property, so I just think that maybe it's because they are in more control of their own choice on what they do for an income and they've just stayed with the ranching part of it. (Crook, Agency)

There's definitely an older age class in ranching. But in general, it tends to be more of a family business that's tied to the land that they own and manage. There always seems to be another generation coming up waiting to take over. (Crook, Nonprofit Organization)

There's still plenty of family operations where I can assign a number to virtually every single one of our neighbors who have children that have come back to the ranch so they're continuing. (Lassen, Rancher)

Interviewees primarily credited the persistence of these intergenerational ranching families in creating more resilience within the livestock industry as other heritage economies were disappearing. Particularly over the past three decades, these heritage economies were being replaced with new industries such as data centers in Crook, or the prison industry in Lassen. As these new industries became more prevalent in both communities, those involved in the ranching industry adapted and showed that their livelihoods were still economically and culturally important in their communities. A Lassen County extension agent said:

You know, knock on wood, it's (ranching) continued to be an economically viable thing to do, and you can sustain yourself...

And I think as we've evolved over time, people have seen or begin to understand that that's kind of a unique and cool thing... And so, it's just culturally important to the people that live here to sustain it.

Interviewees stated that as elders in traditional family ranches were aging, the families and operations became focused on succession for the next generation. But participants identified that the resilience of heritage economies in rural communities was also linked to how community stakeholders perceived those industries. Interviewees who were community stakeholders not directly involved with the ranching industry stated that they recognized the importance of ranching and rangelands as a part of their town's identity. This rancher from Lassen County stated that the community members enjoyed having the range:

Even if they live in town or live out in the country, they enjoy seeing these open spaces or like seeing cows. Obviously, I can't speak for everybody... Even when you bring up what you do, they're very interested, and they seem to appreciate what we're doing. And frankly, are fairly envious of our way of life and profession.

Interviewees felt that for the ranching industry to remain viable in both case study areas, residents needed to affirm family ranchers' social license to operate in their communities. Interviewees also highlighted that residents needed to recognize that their actions are inherently tied to the vitality of their local agricultural sector:

I think that the common thread of whether you're running a clothing store in Prineville, Oregon even though clothing is your business you're recognizing the importance of how the success of the farming, ranching community affects your business and we're all in this together kind of a thing. (Crook, Local Government)

### The Rural Urban Divide

Interviewees of both Crook and Lassen counties identified a similar theme of rural communities' voices going unheard in terms of federal and state policy making. Many described this as the "rural-urban divide," illustrating an "us versus them" mentality. An agency member in Lassen said: "Most of California's population lies within 100 miles of the coast. So, unless you are within 100 miles of the coast, most of your population doesn't consider you in voting choices. So that's a big problem."

Many felt that legislators from urban areas did not understand rural counties, especially in regard to heritage economies. As one rancher from Crook County said:

For both timber and ranching, the courts are legislating a lot without understanding what the reality is. Well, whether they do or not, but you know that they're, they're closing down and making it harder for, you know, for grazing on federal ground, for making it really difficult for logging.

Multiple interviewees from both Lassen and Crook identified a community strength as what they called "conservative values" or "rural values" suggesting some defined urban rural divide as closely linked with political views. In the words of one rancher from Crook County:

Threats for us are people moving into the areas that don't share the rural values. I am not picking on California by any means. We know we have a lot of Californians moving here and Portlanders moving over the valley. They're bringing their values over which is why they moved from their areas in the first place and now they're bringing those values to us and that really harms our small community.

Other participants identified that the conservative values that were a strength of the communities were also intertwined in their rural identity. Some suggested that

residents were just “plain against government”, as if it was ingrained in their rural identity:

There does seem to be consistent, you know, almost a libertarian sort of streak. Kind of leave me alone, don't tell me what to do. Which I love. It's sort of, you know, like your business is your business. Don't make it mine. (Crook, Nonprofit Organization)

Most interviewees shared similar definitions of “rural values” as being resilient, adaptive and being community minded. This meant that not all interviewees felt that there was a political lens when defining rural values. A Crook County agency member said:

So, I guess, when I think about Prineville, I think some strengths with the community have been its resiliency. I think it is a community that has stayed. . . It stayed connected to its core rural values. I think it's a place that still connects around its schools, and its churches, and its community gathering places, in many ways. And I think from an economic development standpoint, it is an incredibly progressive thinking community.

Another element of rural values illustrated by participants was just being on a rural landscape, away from urban centers. Interviewees of both case study areas described the lack of “city life” and the open landscapes as a reason why they stayed in the counties. As one rancher from Crook County said, “You know you can still live the life that you used to live. It’s still family life. That you help your neighbor, and they help you...So, that’ s what I like. To be left alone.”

### Reluctance to Change

Most interviewees of both case study areas stated that they were open to change, but felt it was “much harder to adapt when you felt as if you were the only one adapting”. Interviewees stated that they felt many residents in both areas were still grieving the loss

of an integral part of their communities' identity and livelihood, and this was connected to a perceived reluctance to change. Participants stated that the main reason was fear of the loss of their rural values, landscape, or livelihoods:

Crook County is a very, very traditional county and it's a generational thing and I don't even know how many times I've heard "We used to have five sawmills in Crook County." I've heard that at least 100 times, maybe 200 or more. Like yeah so people are very much, and long-term residents of Crook County are tied to what it used to be. (Crook, Agency)

Other interviewees suggested that although the communities were still grieving, it was this reluctance of change that held back the counties' potential. After the loss of integral heritage economies, such as timber, participants felt that their communities were declining. Some participants described this decline as a "hiccup" in their community, hoping that the community was "stumbling a little but hopefully it goes back like it was". Participants of Crook County generally indicated that their community was overcoming this "hiccup". However, most Lassen County participants felt as if they were still trapped in a downward spiral. For example, this interviewee from Lassen County described how Susanville evolved over the past 30 years, "I've been to enough with these small towns across the country, like, they're all dying or are dead. I mean Susanville, I think is like this pretty much at this point, dead."

This was an important distinction between Crook and Lassen interviewees. Lassen participants were especially frustrated because they believed that their community could be doing more to adapt to change. In the words of one Lassen County agency member, "We need certain institutions to be present within the community if it's ever

going to recover, that currently do not exist ... And I'm hoping, maybe, in like 15 years Susanville might have some life again.”

### Rural Community Identity is Shifting

In both Lassen and Crook, interviewees perceived the newcomers entering the community as “removed” from the communities’ heritage economies. Interviewees described these newcomers as urban transplants; many were young people looking for places to settle or their careers had led them there. Additionally, participants felt that many of these newcomers had differing views of management of public lands and relationships to working landscapes.

Interviewees from Lassen County often identified the prisons as a significant cultural change in the community. Although they prisons were an important part of the county’s economy, many participants perceived the dynamic between long term residents and new residents as “strange” and “not coexistent”. Participants identified differences in perceptions of community identity, public lands, and how they upheld rural values. This agency representative stated that most prison employees were not originally from Lassen County, nor did they call Lassen County their home: “They've (prison employees) just sort of followed the job here and some of them settle here and some of them are just putting in their time so they can be transferred elsewhere and go back to wherever they came from.”

Interviewees from Crook identified the data centers as an epicenter of the shift in rural identity. Participants felt that although the data centers had brought economic



stability and good jobs to the county, the shift from a primarily timber economy to a tech economy was hard for some residents to accept or that it was going too fast for the community to keep up with; others felt that their livelihoods could be threatened by the incoming residents. Interviewees also worried that there was too much reliance on the tech industry and not enough on natural resources.

Well, because of the loss of infrastructure for timber and ranching. We're relying heavily on the tech thing you know, the Apple, the Facebook. Which we all know, just one little glitch in the giddy-up and they go out of business in a heartbeat. Crook, Timber)

### Perceived Threats to the Ranching Industry

#### Maintaining Social License in a Changing American West

As we explored in the heritage economies section, both counties saw ranching as an integral part of their community's identity. While everyone interviewed for this research was supportive of ranching in general, interviewees identified a loss of social license as a threat to the ranching industry. I define *social license to operate* as the perception that an industry is socially acceptable or legitimate. Participants identified the perceptions of livestock contributing to climate change as a threat to the industry. As one rancher from Lassen County put it, it was a challenge for the ranching industry because of links between ranching and climate change: "It's certainly an uphill battle because climate change is in the news all the time. And everyone is saying, 'Well, what can you do to reduce your environmental impact?' and the first one a lot of times, is stop eating red meat."

A large part of the loss social license was connected to differing views regarding the management of public lands. Participants felt that managing on the behalf of the public's interest while maintaining local ties to those lands was complicated. This was described by a Lassen County extension agent by stating "I think the biggest problem with public lands is they are public lands."

Participants reported that they felt that there was a struggle over how to manage competing interests (related to conservation, recreation, grazing, and hunting) on public lands. Interviewees described a gap between preserving public lands and understanding how to preserve the "working" part of landscapes: the economic and ecological importance of public lands.

### Threats to the Financial Viability of Livestock Operations

In this section, I examine threats identified by interviewees that impact their financial viability, including climatological, disease, and regulatory threats.

#### Facing Climatological Threats: Drought and Fire

Participants stated that wildfire and drought were two consistent financial threats to any rancher who had grazing permits through the Forest Service or BLM.

Unfortunately, in 2020, wildfire had impacted both Crook and Lassen Counties. The Frog Fire originated in the Maury Mountains on the Ochoco National Forest and burned through 3,700 acres of nearby private and public range and timber lands (Central Oregon Fire, 2020). The Hog Fire originated off Hog Flat Reservoir, West of Susanville in

Lassen County and burned through 9,564 acres of nearby private and public range and timber lands (NWCG, 2020). An interviewee from Lassen County told a story of fire that ran through the national forest, burning up an entire permitted allotment. The permittees lost most of their operation and every animal was lost as well. An agency member said, “they were finding the cowbells in the burned ash and burned over cows, with hooves only left and things like that.”

This loss of life and property was not a rare occurrence in either of the counties, but interviewees expressed that they understood the inherent risk to ranching operations because of drought and wildfire. Since ranchers of both counties depended heavily on permitted public land use, participants felt that permittees and agencies must plan for these occurrences because of the financial impact on operations that depended on public land. This interviewee from Lassen County described the aftermath of ranches that lost public rangelands:

They rely on these public lands to make up their operation. And when you lose 50-75% of the land that you rely on for grazing, you don't have an operation anymore, you don't have anywhere to put these animals. And then, you know, if you go through this situation and you lose animals, you do not even have animals. Now, hopefully, insurance covers something, but who knows. And so, these situations are really hard, financially hard.

Additionally, interviewees of both areas identified drought as a major threat to not only ranching operations but the counties. But interviewees directly involved in ranching operations emphasized that drought puts livestock operations at risk because they could not raise as many animals. This interviewee recalled that last drought that affected Lassen County between 2012 and 2017, “You know, droughts are always a threat. It really

impacts a lot, and it really can hurt an operation... A lot of guys had to sell a lot of their livestock. One guy who ran about 1000 heads had to sell half.”

### COVID-19 Impacts on the Ranching Industry

When asked “what is a threat to the ranching industry?” many interviewees simply pointed out the obvious: the global COVID-19 pandemic. Participants in both counties stated that COVID-19 had a severe economic impact on the ranching industry and rural communities. Participants stated that livestock operators in both counties saw a severe impact on the livestock industry following processing halts, meat shortages and surging cases of the virus.

Additionally, participants of both Crook and Lassen counties indicated that they did not have the infrastructure to support elevated levels of tourism because of COVID-19. An interviewee from Crook County said that on July 4, 2020, they saw over 100 cars go by on the seldom traveled road outside their ranch and credited this to the pressure of urban people needing to be out in open spaces. “In some ways [COVID] will have forever changed us because now we have been found... do we have a path for how to deal with that? And are communities ready for that? Nope.” They felt that this surge of tourism was directly tied to the travel restrictions and quarantine brought on by the COVID 19 pandemic and their community was not ready for it.

### Living in California: Hostile Regulatory Conditions

Interviewees said that throughout the West, livestock operations had been moving out of areas that were considered overregulated, especially California. When asked what kept their operation in California, rancher participants from Lassen replied that they were tied to their land and that it would be an overwhelming process to move. But several reported that if they could move somewhere with fewer regulations, they would.

I don't know, just picking up and moving a ranching operation to, you know, Idaho, or Montana or something. I mean we've been here forever and it's pretty tough to move an operation somewhere. You know, you have to sell all around buildings and everything. And then you'd have to find another comparable one and it's really difficult just to up and move. But we certainly talked about it. We talk about it all the time, honestly.  
(Lassen, Rancher)

According to rancher interviewees in Lassen County, the cost of living in California threatened their livelihoods. When asked about the threats to the livestock industry, most ranchers of Lassen County stated California as one of the primary threats. One Lassen County rancher said, “The obvious one (threat) is California, I'm sure a lot of ranches have told you that they know how to make it fairly difficult.... It tends to be tough for people to raise protein, raise crops in California.”

Participants stated that they faced hurdles including higher prices and lack of access for goods, transportation, and services because they were geographically located in rural California. According to interviewees, this made it difficult to maintain their operations and livelihoods.

It's one of the most expensive places in the nation according to the overall tax burden it's rated number two in the nation. And so, it's just the price of

fuel is the highest in the nation, the minimum wage is close to the highest, utility prices are the highest, taxes are the highest, DMV fees have the highest. (Lassen, Rancher)

In addition to the higher cost of living, interviewees stated that the ranching industry's regulatory hurdles such as labor law regulations put stress on traditional job roles of the ranch. This rancher from Lassen County suggested that the changes in labor laws in the last 10 years had made small livestock operations somewhat obsolete.

You have these hourly wages and then you have to have lunch breaks after five hours. Then here in the past three years anything over an eight-hour day goes into overtime. You know, it's just not a cowboy tradition. You go out and move cattle and you're done when the job's done and you know you don't like you getting off your horse and sitting down on some rock somewhere and taking a half hour break or something. Then cowboys would quit if you made them do that.

An example of regulatory burdens was the recolonization of gray wolves (*Canis lupus*) in both Crook and Lassen counties. Grey wolves were delisted from the federal endangered species list in 2020, and states were put in charge of gray wolf management plans and Oregon and California vastly differ. The presence of gray wolves was identified as an economic barrier that caused concern for ranchers' livelihoods. Interviewees, particularly from Lassen County, suggested that they were particularly concerned about the large predator because of the inconsistencies between federal and state laws. The Oregon Department of Fish and Wildlife (ODFW) managed wolves in two management zones with different rules regarding what they define as harassment and take (killing) of wolves. The zones included the West Wolf Management Zone, which was managed under the Phase I rule, then the East Wolf Management Zone was in Phase III. Crook County was classified as an Area of Depredating Wolves (ADW)

in the East Wolf Management Zone which meant that it was designated for the purpose of focusing non-lethal deterrent measures.

However, in California there was less data from recolonization than there was in Oregon. This suggested a one size fits all policy to counties with wolf presence. A rancher from Lassen County told me that they had lost a few cattle to what is known as the Lassen Pack, but were not in the middle of the pack's territory. So, they perceived that the issue was not about the presence of the large predators but instead the inconsistent policy that surrounded the protection of grey wolves in California.

### Too Many Wild Horses

Another common concern amongst ranching participants in both case study areas were wild horses on public lands. Participants stated that the population in some places had been double the allotted management levels (AML). One rancher from Lassen County stated they regularly sent photos to the public land agency representative to document the overuse on shared allotments:

I think our high number is around 800 horses we are supposed to have and we have over 2000 on our allotment. But they're aware of it and they've been trying to put the data together to get a horse gather. Hopefully we're on the books for next year to get something done. We try to work with them, I send them pictures when I see 150- 200 horses in an area that's been up real bad.

Participants from both case studies had described the feral horses as a challenge for livestock operations and pointed to management failures of both USFS and BLM, which were not proactively gathering. Participants viewed that the overpopulation of wild

horses in both Lassen and Crook counties were seen as a challenge contributed by the bureaucratic limits that local public agencies and people working on the ground had on the landscape. Additionally, interviewees felt that these bureaucratic limits had caused participating locals in each case study area to feel like their voice did not carry any weight on public lands in their home.

### Corporatization of Ranching

According to participants in both communities, corporate ranching had acquired many family livestock operations and changed the ranching business model to usually include absentee owners or ownership by another large company in their surrounding areas. Participants identified that in these operations the ranch manager was the one who was dealing with the local community. However, they expressed that there was a large level of disconnect on all sides of these relationships between the ranch managers, community, and local businesses. This agency representative from Crook County credited this disconnect to the lack of personal investment on the part of corporations:

In the past the owners poured their blood, sweat, and tears for years into land and cattle and so they have a huge personal investment in it and corporations [don't], right? ... Then some of these corporate ranchers or ranches turn over their managers really quite often. And so, there's no opportunity for that kind of bond and relationship to be made with local businesses.

Additionally, interviewees stated that corporate ranching did not circulate as much wealth back into the community or establish the same ties to the land as a family operation, which contributed to continued disconnect between communities and agriculture and rangelands. One Crook County agency member remarked that "I certainly



see a continuation of more and more ranches going to either large operators or corporations and fewer actually you know of family ranch, family farm type operations there. And just personally I find that almost horrifying. But certainly sad.”

Most interviewees that were actively ranching stated that they agreed that corporate ranching was a threat to the industry, their communities, and the health of rangelands. Participants stated that many times family ranches sold out to what they called “bigger corporation outfits” or some just gave up ranching.

The allotments around us, where there used to be, you know, six or eight families are maybe three now... That’s probably one of the biggest changes is you don't have the... in this particular area anyways, we don't have families to work with, like we did years ago. (Lassen, Rancher)

Fractured Social Capital: Can you continue a legacy when everything is changing around you?

Interviewees indicated that they were coping with development and population growth encroaching on rangeland. Participants of both Lassen County and Crook County expressed that they had noticed these trends. One rancher from Lassen County said, “There's a lot of houses... every time we go down there down to the valley or even over to the Reno side, I mean, it's encroaching... on a lot of the farm and ranch country.”

Interviewees stated that Lassen County was an outlier among rural counties in California because it was not facing immediate population or increased development. Participants suggested that this had created stable conditions for younger generations to take over family ranches, grow their operation or maintain their operation.

Some are downsizing a little bit. But for the most part, there's not a lot of growth in Lassen County. So, a lot of these places that have good farms

and good ranches are staying that way...Same thing for us, you know?  
We're glad that we're not selling. I am sure they are feeling the same way.  
(Lassen, Rancher)

On the other hand, ranch consolidation happened as “larger families” bought out smaller ranches that were no longer economically viable, often to prevent housing developments. One agency member from Lassen County noted this trend, saying “the smaller type ranchers reach out to bigger guys saying, ‘Hey, can you buy this? I do not want to see it turned into a housing development.’” Interviewees indicated that they felt that when faced with the option of being bought by a corporation or a larger family operation, many felt the latter was a better option. Although this was a way to maintain rural landscapes in the counties, interviewees also suggested that there was a weakness in monopolizing private rangeland and public land permits.

In contrast to Lassen County, Crook County participants expressed that encroachment of development was a major threat because of the population boom in Central Oregon, largely a result of the county’s proximity to nearby Deschutes County. There was concern amongst participants about what this boom looked like in terms of resources such as water, the increase of ranch sales and fragmentation. One agency member from Crook County saw the threat looming: “It’s (population growth) happening in surrounding areas, and I think it’s alarming some folks that their way of life, their livelihood may be changing around them.”

Additionally, interviewees suggested the absentee ownership paradigm had begun to sow its seeds in Crook County. Participants stated that they felt the effects of amenity migrants moving to Bend. Interviewees stated that the affordability of Crook County had

started to bring in people from wealthier urban areas wanting to have larger tracts of property or people looking for affordable housing alternatives thus creating pressure on rural ranching communities. This rancher felt that the loss and instability of multigenerational ranches was linked to the increased development of Bend:

I would say that the Crooked River community...the biggest threats are more related to development in Bend...So it seems to me that when ranches sell from multi-generational families to something other than that, you end up in that absentee ownership paradigm that's when I feel like we start to see some instability.

Interviewees defined ranchettes as small-scale ranches that did not have enough land to be economically viable as ranching operations. Participants described most of these operations as “hobby ranching” that were more prevalent in the part of the county nearest to Deschutes County: “The western part of the county, right, around Prineville, there's a lot of, it's a lot of turnovers, because we get a lot of really young people moving in and buying new places and then moving out and that kind of thing,” (Crook, Nonprofit Organization).

Interviewees stated that many of the ranchette owners were not ranchers full time or living purely off the livestock operations; they usually had another job or were retired. An agency member from Crook County noted that “a lot of what you see it's not their daily job. They just have an additional home with some livestock. So, it's not their primary source of income, at least, around a lot of these urban interface areas.”

Interviewees stated landowners that had other day jobs sometimes created a gap between them and their small operation if they were grazing livestock. Participants felt that landowners with day jobs were not directly dependent on that plot of land so

“naturally there is less of a reason to do certain management requirements.” This interviewee described the disconnect between small landowners or absentee owners and large landowners:

They don't have a piece of land that they make a living off of. So when you start getting to the scale, where you're dealing with somebody who makes a living or makes a significant portion of their living off of their land, they become very interested in improving it.

Interviewees indicated that carving land into smaller plots made achieving management objectives hard because of the mosaic of land ownership and varying uses it created. This Crook County local government representative described this process of working with a large-scale landowner versus ten small scale landowners:

It's much easier to work with one landowner who owns 20,000 acres and has some timber and has meadow habitat, has some hay ground and has some range ground. And so, we can work with one landowner, develop one contract, and do all this work with just that little bit of interaction. Whereas when we come out here to the western part...you're dealing with ten landowners...Ten different sets of objectives. Ten different timetables.

### Land Rich, Money Poor

Participants of both counties suggested that family ranching was becoming obsolete because, though ranchers may own private land, equipment, and livestock, many family ranches were in “land rich, money poor situations”. An agency member in Lassen said that “they have a lot of things, but it's not a bunch of cash. It's not just money, they can go spend, everything comes right back in and there's a turnover of money going back into the operation.” Similarly, in Crook an agency member said, “I think in some instances, the land was the life savings account and so to actually stop working they had

to sell the land and the cattle... When they're being sold, someone's getting out of the business.”

Many interviewees stated that a primary threat to the ranching industry was the lack of succession in family livestock operations. Participants asserted that for most family ranches, it was only a matter of time before someone down the line did not want to continue that operation.

It's just a matter of how long some of these small guys can hang on... It's pretty, pretty rare to see it go five generations and last. Some way along the line that somebody doesn't have to heart in it as much as dad did. (Crook, Resident)

Whether it be succession, or other challenges, interviewees who grew up on ranches were seeing their neighbors disappear. Participants described their youth as “a lot more involved”, recalling barn dances, Farm Bureau events and more connection amongst rancher families. The same participants felt that the ranching community was still strong, but it was getting smaller by the year. One rancher from Lassen County said that “When I was younger, we were neighbors with probably about seven or eight different family ranches. And most of them are gone. For whatever reason some of them have sold out.”

Interviewees attributed this to several reasons: the ranching community itself was not as tight knit as the past, children were not interested in taking over or ranches were being sold. Interviewees also attributed the downsizing of neighboring ranches to the pattern of ranching operations having an older age class, described as “graying”. This was a common sentiment in many family operations because of the ties to the land the

families own and manage. The aging out of ranchers was seen as a weakness in the industry because there was not always another generation waiting to take over. A Lassen County agency member said, “I think one of the big weaknesses is the average age of the rancher/ranching community. That's a pretty high age and that there's not a whole lot of succession for all of them.”

Although Crook and Lassen counties had a great deal of success in intergenerational transfer of family operations, participants saw ranching as an extremely tough job. This suggested that many interviewees believed that younger generations were hesitant to become ranchers because of the difficulty of the work:

It's seven days a week... some years, there's not much money in it. You don't have weekends off, you don't have two weeks vacation. Maybe you can take a little time off and go play around... People didn't want to do it... Why do I want to work my butt off like this? And then have to fight the government and fight the drought and fight the prices and everything else that goes down. When I can just get a job in town, work 40 hours a week and don't have to live like this. So, it's not for everybody. (Lassen, Rancher)

Because of the graying of the ranching industry, an integral part of success on family livestock operations was estate planning. Many participants of both counties stated that inheritance and tax laws complicated the process of passing down the land and operation to the newer generations, suggesting that these flawed processes were a threat to maintaining family ranches and non-corporate ranching. Participants working in rangelands suggested that family livestock operations were most financially secure when they had estate planning in their business plans. Yet interviewees indicated that the process was expensive and complicated. In the words of one Crook County rancher,

“well, I think that our inheritance rules are really horrible, those laws, and you know, taxes and taxation...It makes it very difficult for long range planning for families. It costs thousands of dollars for us for lawyers.”

#### Ranchers' Relationship to Public Lands and Federal Management Agency Representatives

Both counties had cultural, social, and economic ties to the public lands in their proximity. For many, natural and open landscapes were a reason they stayed as well as a draw to live in the area, for others it was essential to their livelihoods. Although Lassen and Crook counties have large proportions of federal land, they differed in how they collaborated with public land agencies, challenges they faced and opportunities that were allotted because of access to public land.

### Maintaining Social License and Economic Vitality: Public lands

Grazing allotments vary in size and concentration in the two counties. However, over half of the landscape available for grazing is federally owned so the counties' ranchers depend on public land to maintain their livelihoods. Participants stated that ranchers' social and economic well-being in both counties depended on grazing on public lands, so they felt like they needed to be good stewards. An agency member from Lassen County said "They're here to stay and they've been taking care of it. But otherwise, they would still be here because if they were raping and pillaging, they wouldn't have any range to go back to the next year."

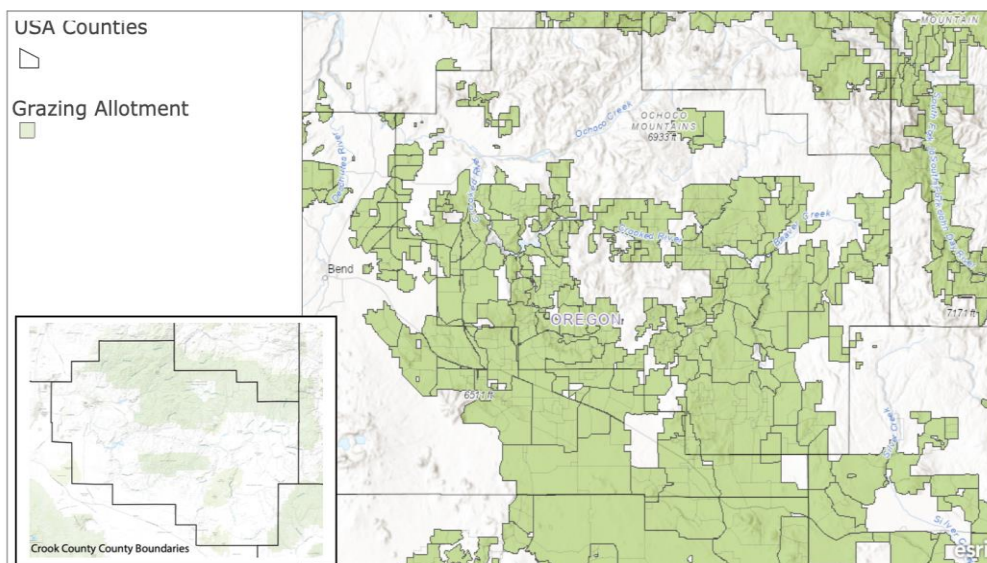


Figure 5. Map of Crook County Bureau of Land Management grazing allotments.



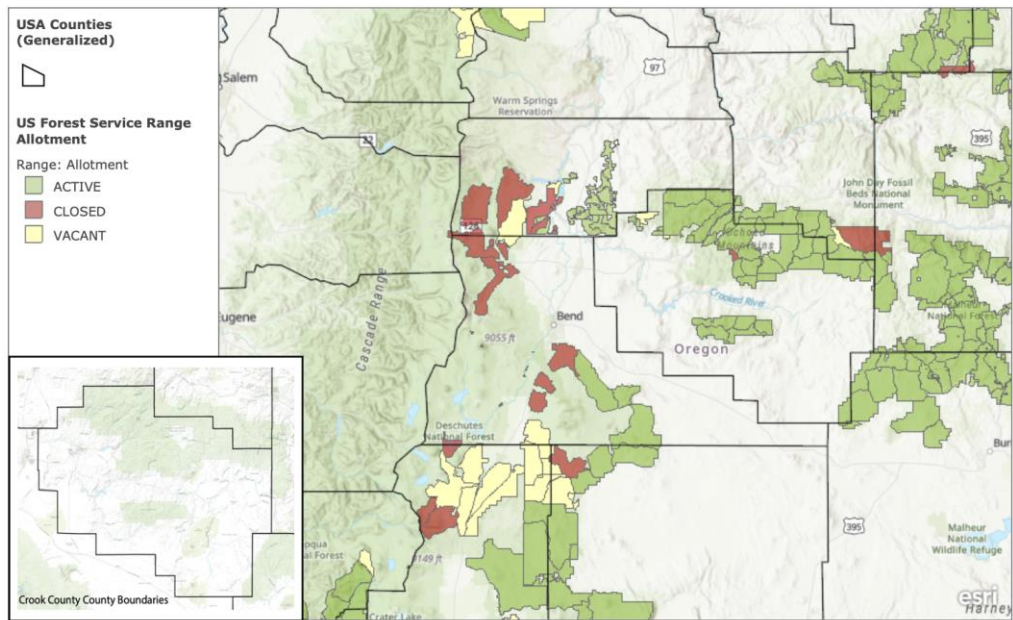


Figure 6. Map of Crook County United States Forest Service grazing allotments.

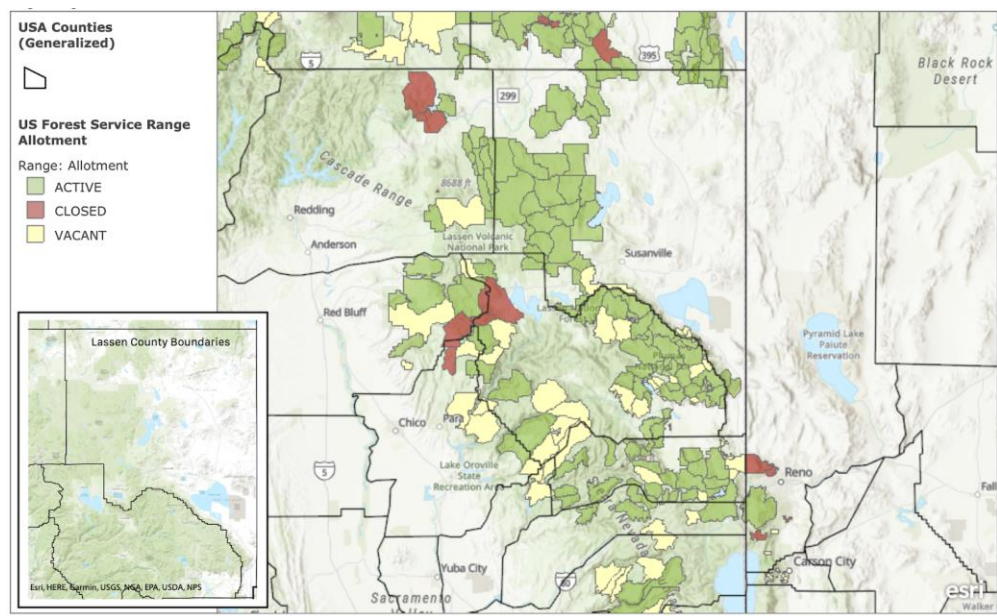


Figure 7. Map of Lassen County United States Forest Service grazing allotments.

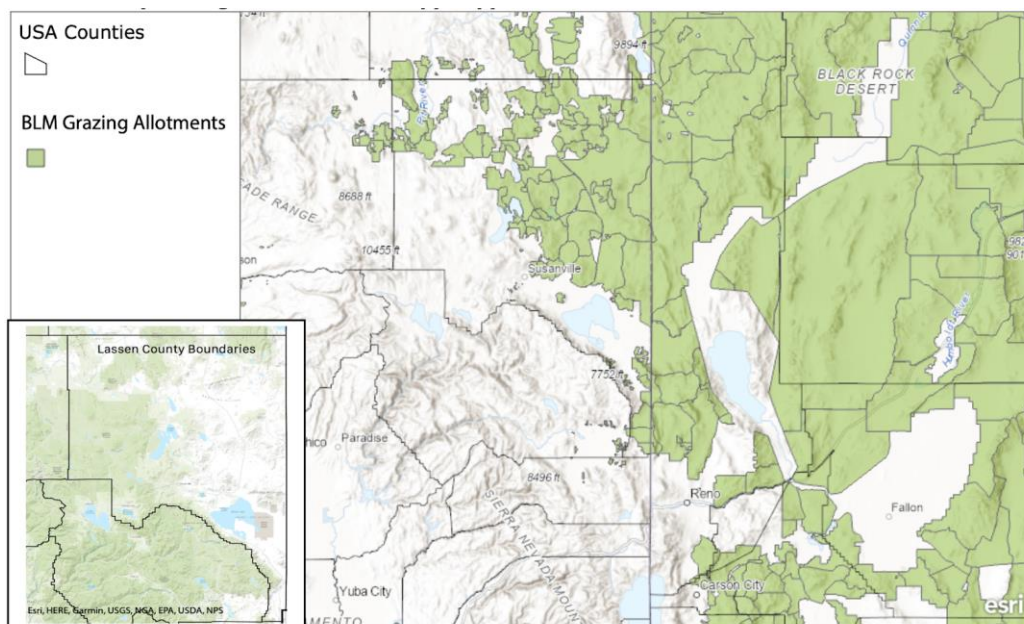


Figure 8. Map of Lassen County Bureau of Land Management grazing allotments.

Figures 5-8 illustrate that there is a significant amount of federal rangeland grazing allotments in both counties. To assess the importance of public land grazing to Crook and Lassen's ranchers, I analyzed data from both the United States Forest Service (USFS) and the Bureau of Land Management, comparing authorized permits and authorized AUMs on public lands.

Due to BLM data only going back 20 years, I used USFS data to better illustrate patterns in both Lassen and Crook counties. Overall, the grazing data taken from public lands at the state level suggests that AUMs in California and Oregon were not declining as much as perceived by interviewees, but instead the number of permittees was declining (Fig. 9 and 10). This suggests that, although there were similar numbers of animals

grazing, they were owned by fewer permittees. This substantiates concerns about consolidation of operations.

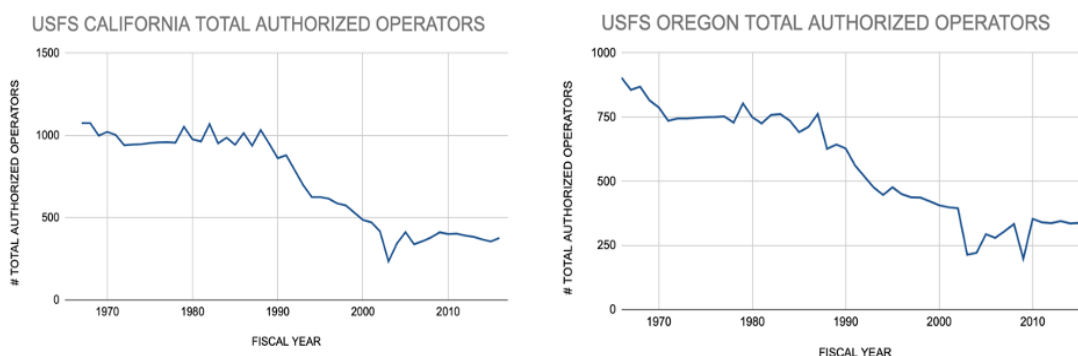


Figure 9. Illustrates the total authorized units per month (AUMs) in California and Oregon between 1966-2016. Source: US Department of Agriculture - Forest Service: Annual Grazing Statistical Report in all National Forest System.

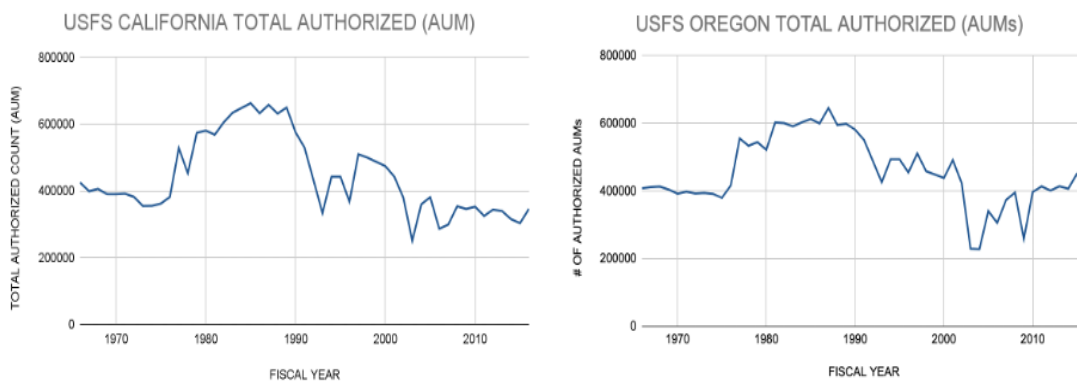


Figure 10. Illustrates the decline of total authorized operators (permittees) in California and Oregon between 1966-2016. Source: US Department of Agriculture - Forest Service: Annual Grazing Statistical Report in all National Forest System.

For many in the range community, permitted public land grazing went beyond the norms of government regulation and transcended into personal responsibility over one's livelihood. According to interviewees, the loss of grazing permits reduced the number of

economic opportunities for permittees and could have serious consequences for rural communities. As one agency member in Crook said, “They (ranchers) need the public land to operate. They are very dependent on public land in this area for sure to expand their operation, sometimes to make it a year-round operation, whereas it wouldn't be without it.”

Despite the perceived loss of social license from the public, and the perception that grazing allotments had declined, there was a common sentiment amongst rancher interviewees that local public land agency employees were supportive of grazing on public lands. Participants identified that this partnership between local public land agency representatives and permittees as essential to having resilient operations and sustaining their livelihoods. One Lassen County rancher said that “We have a good partnership with them (local public land agencies) now to be honest with you... The federal agencies are actually some of our more reliable partners.”

Similarly, participants that worked in public land agencies in both Lassen and Crook counties generally felt supported by their permittees to do their jobs. Interviewees stated that this support created the resilience needed to form meaningful partnerships to continue grazing practices in communities that rely on the social, economic, and cultural practices of ranching. An agency member from Lassen County expressed that “I think the strengths are that the working relationship with the federal land management agencies are pretty strong. And there's good support from both, for ranching from the agencies and for the federal land management agencies to do our jobs.”

### Public Lands Centralization: Rural Communities Want More Local Control on Public Lands

While interviewees indicated that local agency employees and ranchers had positive working relationships, they saw centralization of public land management at the federal level as a threat. According to interviewees in both counties, public land centralization put decision-making in the hands of distant bureaucrats, making it harder for local voices to be heard and caused frustration at a local level. One Lassen County agency member explained:

I think a big part of it is that the Forest Service used to be decentralized. You had local land managers that were very involved in the community and could be responsive. Now it's a very centralized organization and hurting in terms of participation in the community... Where in the past they had that flexibility to change management direction or project direction or, or what priorities their staff were working on in order to meet some community need.

Interviewees acknowledged that public lands belonged to all residents of the United States, but they said that in their communities, the lands had an integral connection to local industries that residents depend on.

Some interviewees felt that centralized public lands management harmed rural communities by not taking local stakeholders experiences seriously. One Lassen County agency member said that “Grazing is a primary use of these forests. So, we were trying to do it right. But we also must remember that, you know, they don't necessarily take a backseat to everybody else either.”

The USFS mandates state that resources provided by national forests include timber, forage for livestock and wildlife, mineral resources, energy production, and many

specialty products and to provide a wide variety of outdoor recreational experiences (USFS, 2016). The Federal Land Policy and Management Act of 1976 (FLPMA) for BLM declared that it is the policy of the United States to retain its public lands in Federal ownership and mandates that the Bureau of Land Management administer the public lands under the concept of multiple use, while protecting the long-term health of the land (Federal Land Policy Management Act, 1976). Knowing this, public land managers in Crook and Lassen counties said they were under mandate to manage diverse uses for all users of public lands, including grazing permittees.

Participants of both counties attributed their frustration surrounding multiple use restrictions on public lands to the control that urban centers such as Sacramento, Portland or San Francisco had over regional offices and local priorities. Although interviewees admitted that this “is a big ask”, one of the most frequently cited ways for local public land to improve management was to give local agencies more room to work with the community. Interviewees such as this Lassen County rancher told me how frustrating it was to know that decisions were made out of your local jurisdiction:

I wish that obviously that the federal offices could really kind of handle their own things. I understand there always has to be a boss, and the boss of the boss, but it feels like sometimes there has to be a lot of people talking above them to do a few things.

However, some participants felt that there may be a cultural shift on the way to balance local voices of predominantly public land communities while simultaneously managing for the public’s best interest. This interviewee, a Crook extension agent,

suggested that federal agencies may be catching on to the importance of community input at the local level:

I think the agencies at the national level have started to say “Hey gang, we need to engage the community in which we live and work. We cannot be isolated anymore!” And so it's a cultural sort of shift on their part to, you know, value communities and be a part of communities. (Crook, Extension)

### Strengthening and Maintaining Ties to Public Lands Through Social Capital

#### A Look at Crook County: Let's talk about collaborative public lands decision making

Participants in Crook County described the public lands as “their backyard”, and indicated they were concerned about what was going on in terms of decision making.

This was exemplified by two initiatives: the Ochoco Forest Restoration Collaborative and the Natural Resources Advisory Committee.

The Ochoco Forest Restoration Collaborative (OFRC) was formed in 2012. The collaborative focuses on forest management projects and works with stakeholders such as landowners, ranchers, economic development partners, city and county elected officials, tribal representatives, environmental groups, forest products companies and local, state, and federal agencies. According to interviewees involved with the OFRC, the main goal was to have a participatory process to review the plans for how federal agencies manage the Ochoco National Forest. This included timber harvests, stewardship contracts, and recreational goals. A county official said:

We (Crook County) have really redefined our relationship with, you know, all the federal agencies, but in particular the Forest Service. We tried to do

as a community to open up those dialogues and update the decision makers, whether you're a council member or a county commissioner, or a member of the school board.

Interviewees in Crook County also participated in a relatively new group, the Natural Resources Advisory Committee (NRAC). The NRAC was put together by the county court to improve communication with the Forest Service and have greater influence on projects that would directly affect residents. This group was a combination of local citizens, county commissioners, county leadership, and agency representatives from the BLM and the Forest Service. In the Crook County Natural Resources Plan, the Crook County Court stated that “federal agencies, and in certain circumstances state agencies, must fulfill their federal statutory mandate to coordinate with the Crook County Court” (2019).

Participants engaging with the Natural Resource Committee and the Ochoco Forest Restoration Collaborative highlighted that they were seeing positive effects from these new relationships. By having these groups active in Crook County there were more opportunities for engagement with all stakeholders of public lands management. When asked how local public land management agencies could be more supportive and helpful to the community, many participants responded that they felt their local representatives were doing all they could do. Many also emphasized that it was not just the agencies that need to be more supportive but also the community itself that needed to be supportive of local agency representatives. An interviewee said:

I think step one is being available and being transparent. You know, here's the challenges we're facing...and be able to be supportive and be on the same page as the collaborative and our district manager. If we are all



talking the same way there's strength in that and the ability to change for the better.

Participants emphasized that having these collaborative groups did not create a one size fits all solution, but instead the groups aided in addressing locally identified issues and solutions. These participants also felt that they could share valuable information to their permittees and the public but stated that they felt like permittees do not always make a point to go to the meetings. A Crook County agency member said that:

You know, people have to be willing to come and I understand that it is hard. There's always something you know, they're either haying or they're calving. Or there is a huge fire danger or, you know, there's always something going on. We realize that, but we try... So that's a really big opportunity that I think we will be willing to do again if we felt like we would have the turn up.

On the other hand, participants stated that federal agencies needed to make public meetings more engaging and encourage people to feel like their input is being heard. An interviewee recalled comments he has heard about public land agency meetings: "You'll hear whether it's true or not is debatable... I can tell the forest BLM what I think, and I don't get the impression that they're listening... The reason they had a public meeting was to check the box."

Whether it be federal agencies experiencing a cultural shift, the integration of local voices or increased advocating for public lands in Crook County, participants felt that their relationships with federal agencies were improving and continued to hope that this was a new turn for their local public land relationship.

It certainly has shifted from “I know I'll tell you, and then you'll know attitude” to sort of more of a shared learning but, you know, there still is part of the old culture in those agencies that there still are some people that say, “I don't need to interact with the community. I just need to do my job. I don't want to take the time to go out and hear what people's concerns are.” All those kinds of sort of attitudes create barriers. There is less today than there were 5-10 years ago. (Crook, Local Government)

#### A Look at Lassen County: Lack of Community Collaboration:

Interviewees in Lassen indicated that there were many common objectives regarding natural resource management among residents. However, there was also sentiment that Lassen County was suffering from lack of vision of how to get to that overarching goal. One agency member said, “I feel like we're all trying to get to the same point, it just looks different who does what.”

Interviewees described the Lassen County government as being behind the times, unwilling to “rock the boat” or not likely to go out of their way to address issues. Interviewees implied that there was a lack of partnership and collaboration between landowners, ranchers, economic development partners, city and county elected officials, tribal representatives, environmental groups, forest products companies and local, state, and federal agencies. However, interviewees identified two key organizations that they felt were embodying the strengths that the county needed to strengthen the relationship between public land agency management and the community: the Lassen Land Trust and Trails and the Fire Safe Council.

Interviewees highlighted the Lassen Land and Trails Trust as an important group leading projects and collaborations that benefited the landscape and the community.

Participants that were a part of the Lassen Land and Trails trust described it as “strong local group with many like-minded folks who appreciate the outdoors” and pushed for projects to improve the landscape and benefit the community.

There’s been a pretty strong push to expand the trail network around here, so we’ve got a lot of great trails. And so they’re doing things to try to attract, you know, potentially attract outside people to come in for recreation, including mountain bikers, we’ve done a great system of trails.  
(Lassen, Agency)

Another local group interviewees highlighted in Lassen County was the Lassen Fire Safe Council, which was a nonprofit public benefit created “to mobilize California residents to make their communities fire safe by utilizing combined expertise, resources and distribution channels of its and to empower grassroots organizations to spearhead fire safety programs locally” (Lassen Fire Safe Council, 2021).

Interviewees indicated that the Fire Safe Council had a stewardship contract with the USFS to reduce the threat of wildfire moving into developed areas and brought together Forest Service officials, county, other land management agencies, CalFire and private landowners. One agency member said, “It is one of the more successful fire safe councils... And so, there's good support for fuel treatment and protecting communities improving health for us.” According to interviewees, these groups worked because of substantial community involvement. However, beyond these small-scale collaborations, most interviewees indicated there was not a strong connection to federal agencies.

Participants in Lassen County described a gap in collaboration between the county and local public land agencies that put heritage economies and connection to

natural resources at risk. Unlike Crook County, there was more limited collaboration between the county and public land agencies. Many interviewees of Lassen County showed frustration at what they referred to as “passive or empty attempts” at collaborations between the county and public land management agencies. Residents wanted to see more proactive management and collaboration between these two entities. Some interviewees suggested that the responsibility for creating a tighter connection between the county and public lands falls on the residents:

I think the city and the county respond to their constituents. And if the public was more vocal in attending City Council meetings and County Supervisors meetings, I think there would be a path forward. I think they'd finally get the idea that we need to do something bigger because our citizens are asking for it. (Lassen, Agency)

Many interviewees also emphasized that they wanted to see USFS, and BLM representatives participate and be a permanent fixture at the table for making decisions. Many interviewees felt that federal agencies, particularly USFS, were not playing a prominent role in their communities. This interviewee from Lassen County described the Forest Service as being invisible in community collaboration:

They're really nowhere near what they once were, and what they can and should be. Hopefully, in the future we'll see this kind of proactive or active forest management efforts to be part of the community and participating in a variety of projects. But right now they're kind of invisible.

On the other hand, Lassen County residents stated that they saw more collaborative projects with the county coming from the BLM. This interviewee suggested that the approach of the BLM created more opportunities for engagement with the community rather than USFS's approach for involvement.

The Forest Service attracted people, at the beginning, and most foresters were more interested in working with trees than they were with people. They just didn't develop the social skills with the community as quickly as BLM...I mean, the BLM has had advisory councils, I believe, long before the Forest Service did. Their local district managers were trying to get public input, help them guide decisions so that they were more acceptable. The Forest Service took a different approach. (Lassen, Nonprofit Organization)

### Broken Trust and Frustration: Ranchers and Federal Land Management:

There's this historical narrative of ranchers and producers not agreeing with the government and not trusting the government. (Lassen, Agency)

According to many interviewees of both counties, there was broken trust and frustration that affected the relationships between ranchers and public land agency representatives. Many interviewees felt that although they felt they could trust their local federal representatives, they did not trust the federal agency. However, at least one agency employee recalled the shift of his relationships amongst his ranching peers when he began working for the federal government:

I was ranch born and raised, I worked on ranches in high school, in college, and then I transitioned and started working for the federal government. And people who would have rather choked on their own tongue, rather than lie to me when I was working with or for them as a private individual... as soon as I had the label of federal employee it was license to lie. I took that pretty hard. (Crook, Agency)

Many interviewees stated that they did not want to give up their livelihood and said their conflicts with federal land management agencies felt like they were wronged. Such as this rancher from Lassen County:

We've had our issues with the government and permits and fighting in court and all that stuff, too. That's pretty disheartening... And I think it's disheartening to people that they just finally after a while, give up. Why do I want to work my butt off like this? And then have to fight the government?

This extended to some interviewees feeling as though they were actively being targeted by public land agencies. Participants felt that as federal management representatives and mandates of BLM and USFS had shifted, communication was weak. Interviewees ranching on public lands since the 70s and 80s described the shift of range managers and specialists being “on the same page” and having a strong partnership, to suddenly feeling that agencies had “an agenda to get rid of us”. A rancher said that:

Back in the 70s, even early 80s, the BLM people would come out and ride with us and look at the cattle with us. You know, everybody was on the same page and then we had a stretch of 8-10 years where they would not do that. It was almost like they had an agenda to get rid of us. And it was a bad deal. (Lassen, Rancher)

Many interviewees recalled memories of what range managers and permittee relationships had once been. They reminisced about what they termed “the good old days,” when agency representatives were able to interact on a personal level with their permittees. A Crook County agency employee said, “You know the old school range cons would go to the ranchers house, sit at the table, drink their coffee or eat breakfast and you would do the turnout statement, you would talk about things.”

Participants employed by federal agencies reported that they were often met with antigovernment sentiment from ranchers. Interviewees described a sense of frustration when faced with hostility from permittees and the public. This interviewee from Crook County felt that the public sometimes has unrealistic expectations of federal land agency

employees but stated that they were trying to repair the broken trust: “Everybody thinks that we are bad... If you can just try and give them a positive experience. It really goes a long way for everybody's sake.” (Crook, Agency). The same agency member stated that there were lasting effects of distrust within the communities they worked and was working hard to rebuild that trust. He continued, “If you can do whatever is within your power to help them see something or understand something, or have a better outcome, you have this huge rippling effect... And when you can develop those relationships, you really have a rippling effect.”

#### Social Capital and Mending Permittee Agency Relationships

Interviewees suggested that their relationships with public land agencies were primarily formed from their relationship with their range managers and field specialists. Participants emphasized that there was a stark difference between working with agency members versus working with agencies. A Crook County interviewee said, “It's all about the people, not about the agency. It's all how they engage themselves.”

This became apparent when a participant from Crook County suggested to me that I needed to specify a question on the interview guide from “What is your perspective of federal land management agencies?” to “How is your relationship with your local range specialist?”. The participant stated that they thought I would get a different answer. In the long run, changing this question allowed a different conversation to emerge amongst interviewees: “I think if you asked about the range management specialist and how they

are to work with on managing where they're grazing. I think you'll get 'They do give us flexibility where we need it, where they can,' those types of things."

Interviewees focused on improving communication and building relationships with permittees and agency representatives that was lost in the transition from "old school public land management" to current public land management. Many interviewees felt that current public land agencies were not set up for success because specialists had become so overwhelmed by regulations that they were missing a key ingredient for success: partnership. A Crook County rancher said, "I think that there's a real need for the federal agencies to recognize that creating relationships and listening to people who've been on a land, especially if they've been there quite a while, is really critical to success in the future".

Interviewees perceived that by strengthening the relationships between ranchers and public land agencies, there could be better decision making for public lands. Interviewees highlighted that this was especially true for one-on-one relationships. A Crook County agency member said that "It is really helpful to be able to go and sit down with folks one and one and just have a conversation without it necessarily having to be a public meeting so that we can figure out perspectives ahead of time."

Interviewees that worked in public land agencies and ranchers that had leased allotments mentioned a recurring theme of trust and transparency in their partnerships. Most interviewees felt that these partnerships were what made their jobs worthwhile and created a greater opportunity for successful collaboration.



Ranchers stated that they wanted to be told problems directly so then there would be a better understanding of the issue at hand. Examples given included permittees getting a notice about a stray cow, overgrazing, or needed watershed work. A Lassen County rancher said, “People will always have concerns and I've always told them to just come to me first and let's go look at it together. There may be a time I'll go look at it and say ‘Yeah, we've been here long enough. We got to go somewhere else.’ We try.”

Many interviewees permitted to graze on public land allotments stated that although they felt they could trust their public land representative, they felt that trust was broken when approached by the agency rather than a face-to-face conversation with known staff. Interviewees suggested that, when possible, having the agency representative go and view the property and communicate one on one led to a better understanding of why things were a certain way. In one Crook County rancher's words, “I think a lot to do with dealing with the government is to have trust between the two of you. Like, I'm not going to if I did something wrong, I'm going to tell you I did it wrong. If I messed up... sorry, it's my fault.”

As one Lassen County interviewee said, “the truth is there's always room for improvement.” But in both Lassen and Crook, most of the interviewees grazing on public lands felt that they had a good partnership with their agency representatives, and many expressed that they had better relationships with their agency representatives than their ranching counterparts in other areas of the West. As one Lassen County rancher expressed: “When you hear people discuss their local BLM or their local Forest Service

and all the troubles that they have. You do feel fortunate that we get along so well with our local BLM.”

### Federal Agency Brain Drain

Most interviewees leasing allotments from public land agencies stated that their relationship with their public land agency representatives was positive. However, many interviewees stated that they were concerned by the expected turnover going in federal agencies. Interviewees perceived that this turnover occurred because in most positions the way to advance was by moving from location to location. A Crook County rancher said that “I think one of the problems that has always happened in agencies is that the agencies are set up in such a way that there can often be lots of turnover in the local range staff. So, I would like to see a continued effort within the agency system to really consider that.”

Almost every rancher that we interviewed mentioned this phenomenon and most highlighted it as a weakness of public land agency partnerships. Interviewees stated that this turnover was especially hard on public land range permittees because of the strain it put on partnerships between the operator and their agency representatives. Interviewees felt that agency representatives needed to know their operations and how important public lands were to their operation, but the turnover made it difficult to maintain strong partnerships. A resident of Crook said, “We develop these relationships and understanding and the next minute, you know, they’re gone.”

Interviewees working for both public land agencies in Crook and Lassen counties stated that the turnover was promoted by the agency. Although participants said they understood the push to experience different areas and engage with other agency districts, many felt the turnover caused more harm than good in their districts. Two agency representatives from both Crook and Lassen counties expressed this view:

There's been so much turnover in personnel and the Forest Service has encouraged that. I mean you get into your first position, and they encourage you to move within the first three years and to move up you've got to go somewhere else.

It's unfortunate. The sad part is I went to an introduction to BLM, and they actually really advertise to you to move around different offices... They're kind of saying without saying it...like this is the only way you can move up is if you move around.

This high turnover rate led to many on the ground agency employees having about 2-5 years of interaction with ranchers. Interviewees suggested that during this time ranchers must exert time and energy to teach new employees about their land, business, and the community culture. Interviewees working for public land agencies also expressed that this cycle fed directly into the anti-government and broken trust narrative that agency representatives had been labeled with. An agency member from Crook County said:

You have grazing permittees who've gone through a dozen different range management specialists, and they are not going to trust what this one's telling them right now because they are going to be gone in six months or a year. I get that. I mean, we have set it up to where it makes it very difficult for them to be able to trust anything that we say.

Multiple interviewees described the same sequence of events: ranchers worked with the new agency folks, then the agency folks moved on to another area, taking that knowledge and experience with them. Interviewees described it as a cycle that negatively

affected their partnerships with public land agencies. A Lassen County rancher said that “By the time you get one of them educated on how this works, they have to transfer because that's the only way they can get more money is to transfer someplace else. And then you start over with a new guy. And that's always been a tough thing to do.”

Interviewees suggested that the strongest partnerships had been with the agency employees that were there for longer than average and built trust with their permittees. The trust could combat the anti-government narrative. This Crook County rancher described their present agency representative compared to what they had experienced in the past:

Normally, a range person stays a couple or three years, and then they move on. And that has always been a really huge problem for us because we just get to know them, and they get to know us, and how we run our operation and then they would leave. So, I guess that's part of the positive of having (names) because they've been here for a long time. They understand how we run our ranch and I guess there's a lot of trust between us and them.

#### Opportunities for Ranching and Rangeland in Rural Public Land Counties of the American West

I think we (ranchers) have proven to be a sustainable industry and we just have to do a better job of articulating it. (Lassen, Rancher)

Non-ranching interviewees of both counties told stories about their favorite trails through rangelands, seeing cattle along their bike paths and going fishing in a local rancher's pond. Interviewees suggested that some of the best ways for ranching to gain social license in changing Crook and Lassen counties was to create recreation opportunities alongside working landscapes. Interviewees in the counties have come to

expect cattle to be on or near their local trails and usually found it to be a pleasant, and often an educational experience.

If you're going to go riding in the Ochoco just expect cows. It is going to happen. Just don't be a pansy. Ride around them, you know, get them to move... You just got to handle it... So that was one of the things like "Have a good ride! Watch for cows!" or "Crook County, cow watch!". (Crook, Nonprofit Organization)

Participants from both counties suggested that intertwining recreation and private land ownership also provided opportunities for partnerships and projects between public land and private working landscapes. All while creating connections through collaboratives and allowing community members to see and experience working landscapes on the ground.

We've initiated partnerships to cross private land with a trail... So, when you come together, all of a sudden it opens the door to many opportunities that you may not have thought of, had you not talked with various stakeholders... I think your best successes are going to come by working together with the private landowners. (Lassen, Agency)

A second opportunity for building social license was through land trust partnerships, which were mentioned by many participants in both Lassen and Crook counties. These partnerships were described to preserve rural heritage and maintain regional agricultural economies, usually through legally-binding conservation easements designed to protect working landscapes. Interviewees identified that utilizing land trusts partnerships was a way of educating community members disconnected to working landscapes about the importance of ranching in the community both economically and culturally. Additionally, participants stated that maintaining open spaces for recreational use for residents in the area could also promote positive social license to maintain

ranching livelihoods. Participants stated that both Crook and Lassen land trust partnerships amongst ranchers were growing in the areas, but not many have formally partnered or engaged with land trusts. A Lassen County extension agent said, “There's interest in conservation easements ... Here I would say it's growing. But it's not you know something that everybody's jumped into yet.”

Participants indicated that the ranchers that were partnering with land trusts, either through conservation easements or private trusts, were building it into their ranch plans in accordance with how they want their property to be passed on to the next generation. Interviewees that indicated that they were a part of a land trust stated that they felt passionate about the path they had chosen for their land. A Crook County rancher said, “We want this land to be in this family for as long as possible... The point is, if our family on that board decides to get upset with one another and can't get along right, then our ranch will go to charity. So, we took the greed out of the land.”

Many interviewees, even the ones who were partnering with land trusts, also suggested that although trusts and conservation easements were significant opportunities for planning and maintaining working landscapes, there were legal hurdles that still blocked many ranchers from entering easement agreements. One Crook County rancher said, “It's not an easy needle to thread... there's not a solid enough path for people to be able to do this, be able to easily figure out, just this, the legal mechanisms and afford the legal mechanisms.”

A third opportunity for building social license was through university extension agencies, which were seen as a crucial partnership for connecting communities,

especially youth, to agriculture. Opportunities to see a rancher in action, walk on the landscape and build those connections was identified an asset to the range community.

This Crook County interviewee told me about a program once offered through a university and a local ranch to participate in ranching operations:

A lot of times the kids in that class, it would have been the first time they'd ever been, and met an actual rancher... But the professors now well, they don't have the funds to do it but it was certainly an opportunity for those students to get out on the land and actually talk to ranchers and actually see a working ranch... That's such an asset to the students and the university.

Participants from both case studies stated that they would like to see more extension agents and opportunities for young people and range.

A fourth opportunity was to create more ties to agriculture and have more food available locally in the community. Interviewees said that they have experienced interactions with their neighbors not knowing where items such as paper, produce, milk or eggs originated from, and saw an opportunity for immersive education practices.

I think that doing a really strong farm to table program here... Learning where their food comes from and how it gets on their table. I think that that would be an awesome program in this county... They have a farmers' market here. And those people just being able to tell their stories would be pretty awesome as well. (Lassen, Agency)

Many ranchers that were struggling economically turned to the local marketing models, sometimes incorporating holistic management, to create opportunities.

Participants in these groups stated the benefits of these programs were that they connected ranchers to local consumers and provided ranchers an opportunity to educate themselves and update their practices. A Crook County rancher said:

We attend (holistic management workshops) so we could educate ourselves and figure out how we could cut our costs, and how we could make our ranch more sustainable, environmentally... We have to do it once in a while so we can bring our head back into the game a little bit and get different views... and (the program) puts you with a group of five other ranchers from throughout the country... We traveled to each of the ranches and that was probably one of the better things we've done for a long, long time for education and growth.

Participant ranchers that focused on local beef and branded livestock products also shifted to holistic planned grazing. Interviewees stated that the shift focused on how to manage their complex operations and allowed for them to manage for land regeneration, livestock welfare, and economic profitability. Participants from both counties stated that rotational grazing, an approach utilized through holistic planned grazing, was a common practice for livestock operations. Interviewees stated that holistic planned management practices aided the shift of local ranchers in Crook and Lassen County when natural grass-fed beef programs took off in their communities. Many ranchers saw this as an opportunity to innovate their businesses and lifestyles. A Lassen County agency member recognized this, saying:

I think a lot of these local guys saw that (popularity of grass-fed products) and knowing that most of the beef they sell is grass fed beef. They started diving into those programs. It's been a game changer for a lot of them... So, they do like rotational type grazing and everything which has been successful. The grass is doing good, the soils are doing good. So that's been a different sense of change. (Lassen, Agency)

Participants saw the grass-fed beef model as a way of financially providing for ranching families while maintaining ecological integrity and even restoring landscapes. Interviewees involved in the Country Natural Beef co-operative stated that there was a



requirement to be innovative, and that participating ranchers had a deep love for the land and willingness to be as environmentally sustainable as possible.

You have to meet certain land standards... You have to pass the GAP certification which is third party certification on your humane practices on how you treat your animals, and you have to be hormone and antibiotic free and, you know, so you have to be willing to go market beef once a year in a city and talk to real consumers. So, it definitely weeds out people that are not going to be interested in innovating themselves. (Crook, Rancher)

Aside from the ecological benefits of participating in these programs, the ranchers were creating a connection to community members and (potentially) building bridges to people who may have disapproved of ranching. Interviewees stated that by participating in programs that were promoting holistic management and branded beef, they could build social capital with residents of urban areas who were disconnected from rangelands and livestock production. A rancher told me about Doc and Connie Hatfield, the founders of Country Natural Beef, and how they founded the cooperative to help family ranches that struggled to make a living and survive in the desert: “They got busy and figured out how to market beef directly to consumers... I think family ranches that are focused on those kinds of niche markets and meeting those niche markets have a much more resilient future ahead.”

However, there was a significant hurdle to local markets: a lack of a local processing plant. Interviewees from both Lassen and Crook counties stated that the lack of processing plants nearby was a hurdle to selling and distributing meat locally because there was no infrastructure in place to bring livestock locally. Participants stated that this was a hurdle because livestock products increase in price when operations must freight to

distant the processing plants. Interviewees from both counties stated that they believed local ranchers needed better local infrastructure for livestock processing. Participants felt that a local processing plant would create more opportunities for a more sustainable avenue for raising livestock and buying meat, contribute to the local economy by creating jobs, and strengthen ties to the agricultural community. Interviewees from both counties had similar reasoning behind local processing infrastructure. This Crook County rancher emphasized that the range community would be supportive in creating it:

The community needs to have a bigger processing plant or another processing plant... It would be a really neat thing for the community, I think. There are several ranches that would tap into that because it would help them. It couldn't totally take up the whole herd, but it would help subsidize some of them. And there's definitely a market for that here in Central Oregon.

Interviewees also felt that the residents in the counties that did buy meat locally would be supportive of local processing infrastructure due to the hurdles to getting local meat. A Lassen County agency member said, "Everybody here tries to buy their beef from a rancher, and everybody here knows a rancher who has cows he could buy beef from. But we have one butcher. One. He does it all. Or you got to ship it down the Reno then back."

A fifth opportunity for building social license was to promote the ecological values of ranchlands, potentially through payment for ecosystem services. Losing rangeland would adversely affect not only the communities that rely on livestock production, but it would disturb wildlife habitat. Interviewees stated that there were opportunities in both counties to provide financial incentives for ranchers to perform ecosystem services, especially on private lands. Both Crook and Lassen counties have a

significant amount of public land, however private lands were viewed as more endangered because of subdivision and fragmentation:

(Private lands) are maintaining open tracks of land that, well, life can use. Really there are very few economic production mechanisms that will allow for that, outside of livestock. If you start subdividing all of these, which is what's happening if you take it out of livestock production. (Crook, Agency)

Participants stated that they saw ecosystem services as site and operation dependent, creating opportunities for collaboration and innovation on rangelands. A

Lassen County extension agent said:

You know, we don't necessarily see a lot of payment for ecosystem services directly at this point. But I think that's going to continue to evolve. I don't think it's going to be exactly like “Okay hey I'm delivering five ecosystem services, give me \$30,000.00.” You know it's going to be more, you know, maybe you get specific money because you're a great place for migratory birds. Maybe you get some specific things because you're a great place for deer, maybe get something because you're in a key watershed and you know your watershed function is really good.

Participants of both Crook and Lassen saw financially incentivized ecosystem services as an opportunity for their ranchers because they saw it as a path to reducing grazing pressure while also maintaining ranching and open spaces.

## DISCUSSION

## A Portrait of Two Public Land Counties (Continued)

Crook County and Lassen County share many similarities but also display stark differences when it comes to how the communities function. Below is a table addressing the similarities and differences through a community capital framework. Flora et al. (2003) state that “every community, however rural, isolated or poor has resources within it. When those resources are invested to create new resources, they become capital” (p.9).

Table 4. Comparison of community capitals of both Crook and Lassen counties to illustrate similarities and differences of communities.

<b>Capital</b>	<b>Definition</b>	<b>Crook County (Prineville)</b>	<b>Lassen County (Susanville)</b>
Human Capital	Human capital consists of skills and abilities of each individual within a community (Flora et al., 2003).	The county has maintained younger generations of family ranches, and families are moving to the area for its affordability and land availability. Many of the new residents commute to neighboring Deschutes County for work, or work from home. The county has a community college, but when residents leave for four-year universities they often do not come back due to lack of job	Many young people are leaving the community due to lack of job opportunities. However, the county has maintained younger generations of family ranches that are now taking over the operation. The county has a community college that aids in keeping young people local and preparing them for the local workforce. However, after finishing college there are not many opportunities for

<b>Capital</b>	<b>Definition</b>	<b>Crook County (Prineville)</b>	<b>Lassen County (Susanville)</b>
		opportunities. The data centers employ both longtime residents and newcomers to the community, especially skilled workers, and laborers to build and upkeep the facilities. Meanwhile, many residents are fit for federal agency jobs, but the agency does not usually hire locals.	employment outside of the prisons, federal agencies, and ranching. The prisons employ a vast majority of young people, but the community lacks the diversity of different skilled labor and specialty jobs. Meanwhile, many residents are fit for federal agency jobs, but the agency does not usually hire locals.
Social Capital	<p>Social capital consists of interactions within a specific group or community that involves mutual trust, reciprocity, groups, collective identity, working together, and a sense of a shared future (Flora et al., 2013).</p> <p>Communities lacking social capital often lack the capacity to adapt to change (Flora et al., 2003).</p>	There are strong connections between community members in both the county and the city of Prineville. Residents described that groups such as Economic Development of Central Oregon (EDCO) and the Crook County Natural Resources work well together to create and support existing built and natural capital. But as collective identity is changing with incoming new residents, there needs to be an emphasis on including that	Participants felt like the county and particularly the city of Susanville lack trust and capacity to work together. They felt that this is a roadblock to creating defined goals of the community and local government. Many participants accredited this disconnect to the rotating prison guard population and agency representatives not staying in the community for long. However, collaborative groups such as the Lassen Land and Trails Trust, Lassen County Fire Safe Council are creating (limited) social

<b>Capital</b>	<b>Definition</b>	<b>Crook County (Prineville)</b>	<b>Lassen County (Susanville)</b>
		population in creating community defined goals.	capital to connect residents to working landscapes and promote collaborative decision making.
Built Capital	Built capital is capital that is transformed from financial capital and includes factories, schools, roads, habitat restoration, community centers, all of which contribute to building other capitals for communities (Flora et al., 2003).	The built capital in the county and city of Prineville is relatively strong. There are two Apple and Facebook data centers located in Prineville. The county has a community college campus and 10 public schools serving 3,000 students (Crook County School District, 2021). The county is adjacent to Deschutes County, which has a lot of recreational opportunities such as camping, biking, and hiking. Prineville is near the state highway system and has a railway. This is an opportunity for tourism, connection with their neighboring counties and potential for distribution of goods coming in and out of the county such as livestock, timber, etc. In addition, local government and	The built capital in Lassen County, particularly in the city of Susanville, is dilapidated. However, there is a community college located in the county and there are 17 public schools serving 4,500 students (Lassen County Board of Education, 2021). There is one state, two federal prisons that employ many members of the community and create revenue for the county, downtown Susanville has many empty buildings and closed businesses. Susanville is near the state highway system and may have an opportunity to create avenues for tourism and successful businesses in the downtown area. The state highways also create access to goods and distribution of goods created (such as

Capital	Definition	Crook County (Prineville)	Lassen County (Susanville)
		residents are involved in the planning for restoration projects such as the Crooked River Wetlands Complex and the Bowman Dam Hydro Power to create stronger built and natural capital in the county.	livestock, agriculture, etc.) within the county to other communities. The county is in proximity to Lassen National Park and the surrounding areas have lots of recreational opportunities such as camping, biking and hiking.

#### Why Are They Different?

We chose Lassen County and Crook County because of their similarities in terms of public land, their involvement in the timber and ranching industries, and their transitions into economies outside of natural resources. However, as Table 4 illustrated, the communities are very different in how they have developed their resources. My hypothesis is that Crook County, in particular Prineville, is successfully transitioning from a primarily natural resource dependent economy to a more diversified economic model because of its community strength to collaborate amongst different groups such as local government, public land agencies, community organizations and its residents. When the community was impacted by the closure of timber mills and economic distress, community members were able to work together, creating trust between disparate groups to realize shared goals and generate avenues to achieve these goals.

However, in the case of Lassen County, in particular Susanville, there is not the same trust and reciprocity between residents, community organizations, public land agencies, and local government. The community itself does not have the groups, or built-in processes to create shared goals, nor does it have the infrastructure required to successfully collaborate with one another. This may be a result of its chosen economic path: prisons. When the last timber mill was removed, and two federal prisons were developed in its place, there was not a consensus from the county's residents. Now, a significant number of people are employed by the prisons in the area, and there is a sense from participants that prison jobs are draining mentally and physically and do not allow for time to participate in the community. This could also provide a reason why interviewees in Susanville felt that newcomers were not involved in or interested in local natural resources, or community decision making.

#### Maintaining Heritage Economies: Social License

In the context of this research, I identified heritage economies as those built on land-based industries such as forestry and ranching. I want to recognize that the term heritage economy is problematic, both because it erases indigenous heritage economies, and because it seems to glorify the (Euro-American) past. However, it was a term that seemed to resonate with the interviewees of this project. My research contributed to literature examining how ranchers have adapted to social stressors and maintained their livelihoods in communities that are shifting toward New West economies. As Prineville and Susanville changed economically and socially, ranchers felt that there was a shift in



people's perceptions of ranching and rangelands. Nearly all the people that I spoke to saw ranching as important, but there was a perception that people *outside* the community (and some newcomers) may not understand how important ranching and rangelands were to their community's social and economic well-being. That is, they sensed a decline in social license. These perceptions were in line with Benoit et al.'s (2018) study of ranching landscape values in Calgary, Alberta. In addition, in the eyes of ranchers, many outsiders and newcomers did not understand the threats to ranching, which included development pressure, corporate ranch ownership and consolidation, shrinking access to public grazing allotments, and regulations. To address these concerns, participants stated that they felt ranching needed to do a better job of promoting itself.

Though interviewees did not use the terms, they described the process of promoting ranching as building bonding and bridging social capital. Bonding social capital was developed through rancher engagement in organizations such as Cattlemen's Associations; bridging social capital was developed through engagement in public lands collaboratives and non-profit organizations that bridged between distinct groups. This participation allowed ranchers to share knowledge, talk about their experiences and challenges as ranchers, and impress upon the non-ranching community the importance of stewardship and conservation among ranchers. Ranchers thereby built social license by deploying social capital in the form of community connections, allowing them to adapt to social and economic stressors and maintain cultural and economic ties to ranching. Wagner et al. (2008) stated that social capital may improve a group's ability to collaborate, manage risk, innovate, and adapt to change. Below, I elaborated how and

why ranchers of Crook and Lassen counties have built social capital through 1) local collaboratives and public land partnerships, 2) local government, 3) nonprofits, and 4) fellow ranchers.

### 1. Local Collaboratives and Public Land Partnerships

Collaboratives, which are groups of people coming together to provide input for public and/or private lands management, created bridging capital among community members, landowners, environmental groups, local government, tribal representatives, agency members, foresters, ranchers, and others. Examples of local collaboratives in my study area included Crook County's Ochoco Forest Collaborative and the Lassen County Fire Safe Council. Collaboratives improved social license for ranching by allowing ranchers to advocate for working landscapes while participating in efforts to plan for natural resource management (such as recreation planning, prescribed burns, or water quality). By including multiple stakeholders, these collaborative settings were an ideal way to build connections to working landscapes for residents that do not yet have that connection.

With more than half of the counties' acreage being federal land, it is near impossible to separate the communities from public lands. I define public land partnerships by the relationships between local public land agency representatives such as range managers and range technicians. These relationships are especially important because this was who ranchers were directly collaborating with on the ground. This connection between ranchers and agency folks were forms of both bonding and bridging

social capital. Often individuals who worked in public rangelands had connections to ranching in capacity which both maintained and created bonding social capital. However, working for public lands and running a livestock operation required significant bridging social capital to maintain communication and trust between both groups.

### 2. Local Government:

Ranchers in both counties were active in local government. Robbins (2006) stated that ranchers and ranching industry representatives had traditionally been active in local, regional, and national conservation and industry political processes, and are regarded as key stakeholders in the western United States. Ranchers in these cases frequently participated in local government to voice their opinions about matters that affected their livelihoods such as water quality, tourism, or development. Additionally, I found that participants of both Crook and Lassen counties saw more of the younger, “next gen” ranchers getting involved in local government and creating bridging social capital to connect with groups outside of ranching. The inclusion of younger generations also aided in improving social license of the industry.

### 3. Nonprofit Organizations:

Nonprofit organizations are legal entities organized and operated for a collective, public, or social benefit, in contrast with businesses that aim to generate a profit (Collins, 2018). I found that the main nonprofits that ranchers of Crook and Lassen counties participated in were land trusts, Cattlemen’s Associations, 4-H and Future Farmers of America (FFA), all examples are ranchers building both bridging and bonding social capital. Organizations such as 4-H and Future Farmers of America (FFA) are youth

programs that include those with a ranching background and those with no connections to ranching. When ranchers participated in these organizations, they created opportunities and shared knowledge with young people to create ties to rangelands or ranching. Conservation or community land trusts are often made up of members and landowners that share similar values such as preserving open space and maintaining productive landscapes and stewardship.

These organizations have elements of both bonding and bridging capital. For example, land trusts often tried to bring together people with diverse backgrounds to work toward common objectives. By participating with diverse stakeholders, ranchers had the opportunity to promote the benefits of their livelihoods. Cattlemen's Associations provided an example of bonding social capital because they were exclusively composed of ranchers. Ranchers I spoke with stated that they were a part of either California or Oregon Cattlemen's Association, which created a supportive community for ranchers, offering opportunities for networking and knowledge transfer. This research illustrated that there was value in creating connections through nonprofits with both people who do not have strong ties to ranching and those who were actively ranching to better illustrate the cultural, ecological, and economic importance of rangelands.

#### 4. Fellow Ranchers:

One of the main groups that ranchers sought connection with was their fellow ranchers. These connections with fellow ranchers were a form of bonding capital. I found that having fellow ranchers to share experiences, a sense of place and look to for support was invaluable to maintaining their livelihood. When ranchers have fellow ranchers to

turn to for advice and learn from one another, their interactions can promote positive social license for the local ranching industry. This can be noted from Eaton et al.'s (2019) research, which suggested that absentee owners often did not have the same ties to the community or fellow ranchers in the area causing a disconnect in both communication and management goals. When ranchers encouraged fellow ranchers to participate in community organizations, there was more involvement and residents that were not as familiar with ranching learned more about the industry. As rural areas see increasing numbers of absentee landowners, there may be a strain on this integral connection.

These community connections helped to build social license in ranchers' communities by 1) facilitating communication and pathways to create and maintain working landscapes, 2) creating connections for residents who do not have strong ties to rangelands, 3) and strengthening relationships with public land agencies.

#### How Ranching Community Stakeholders Perceive Ranching (Non-ranching community, public land representatives and ranchers)

Bruno et al. (2019) stated that many of the articles about socioeconomic change of rangelands focus on the important perspectives of ranchers, but frequently leave out other rangeland stakeholders, such as natural resource management agency employees and the (non-ranching) public. This research helped to fill a gap suggested by Bruno et al. (2019) to examine attitudes of multiple types of rangeland stakeholders towards ranching and rangelands. I spoke with people such as local government officials, non-profit

organizations, and public land agency representatives, all of whom are a part of a community that has ranching roots. Like Lewin (2019), I found that community stakeholders' and public land representatives' perceptions of and ties to rangelands and ranching were integral to the well-being of ranching livelihoods not only at the economic level, but the social and cultural levels. I found that although the "rugged, old time cowboy" identity was merely a stereotype, it was an important component to stitching the community together because of its links to community identity.

I found that 1) non-ranching community members, 2) ranchers and 3) public land agency representatives vary in the ways they interacted and what they gained from their relationships to each other. Non-ranching community members benefited from connections to ranchers because of the importance of ranching identity, which was central to many residents' sense of place and often why residents continued to call that place home. Additionally, non-ranching community members benefited from these connections by gaining access to local agriculture; they gained connections to food systems and to surrounding landscapes through ranching and ranching products. Specifically in places such as Crook and Lassen counties, non-ranching residents had the opportunity to strengthen local and regional economies (and benefit ranchers) by buying and distributing local food.

Ranchers benefited from connections with both community members and public land agency representatives because they represented an important linkage between public lands and the federal agencies responsible for those lands. They interacted directly with public lands representatives, but also interacted directly with the community through

their involvement with local government, non-profit organizations, and collaborative groups. This reflected what was found by Cornelis van Kooten (2006): ranchers built bridging social capital through connections with non-ranching community members, including newcomers. Ranchers of this study indicated that they were able to leverage resources of the community and advocate for their livelihoods when involved in wide social networks.

Lastly, agency members benefited from connections to ranchers because of ranchers' experiential knowledge of the landscapes. Agency members, who moved frequently over the course of their careers, could develop a better understanding of local landscapes because of the long-term knowledge that ranchers had developed. When ranchers and public agency representatives cooperate, rangelands may be more likely to maintain their resilience. Thus, the three groups who participated in this research all gained from connections with each other.

### Possible Opportunities

In this section, I provide an overview of two opportunities that could benefit the two case study communities.

#### Reassemble the Resource Advisory Council (RAC)

According to the Bureau of Land Management (BLM), RACs are citizen-based groups that meet two to four times a year to provide expertise over the management of public lands and resources. Each RAC consists of 12 to 15 members from diverse interests in local communities, including ranchers, environmental groups, tribes, state and

local government officials, academics, and other public land users. The John Day-Snake Resource Advisory Council (RAC) chapter is based in the Bureau of Land Management's Prineville and Vale District Offices. This chapter has 15 members; it has kept up with quarterly meetings and its success seems to be reflected in the ways the county, city of Prineville and public lands collaborate.

The Bureau of Land Management's Northern California Resource Advisory Council (RAC) is in the Susanville office. However, the Northern California RAC chapter has not met since 2018. As of February 2020, the Northern California RAC has five openings for citizens to represent their community. There is an opportunity to fill these positions and to reassemble the RAC to create more dialogue between working lands stakeholders, the Bureau of Land Management, and the local community. Additionally, by strengthening the RAC there could be an opportunity to strengthen ties between Lassen County, the city of Susanville and local public land agencies. As I touched on in the results section, there is a gap in collaboration between Susanville and local public land agencies. By creating, or in this case reassembling the RAC there is an opportunity for better representation for public land agency representatives, a platform for local voices and to create ties between working landscapes and local government.

#### Turn Over the Turnover

After speaking with participants about their relationships with permittees or agency representatives, the main takeaways for why the relationship was not successful were: 1) the agency representatives moved on after a couple of years; 2) the agency



representatives did not know the landscape; and 3) the agency representatives did not enjoy living in a rural area. This turnover of public land agency representatives was one of the main threats identified by participants in this study. I think creating more avenues to work on public lands for residents is an opportunity to create better working relationships in public land counties such as Crook and Lassen. These avenues could simply be more seasonal working opportunities, internships, or opportunities for promotion within the area for residents. This could also be a helpful component for creating jobs and keeping young people in the area. Lastly, creating a mix of public land agency employees that are both local and transplants to the area could create better insight when planning for multiple use.

## CONCLUSION

The year that I spent interviewing residents of both Crook and Lassen counties was an unprecedented one for all. Research in the Covid-19 era has been spent over Zoom, through phone calls and email exchanges. However, I feel that due to the emotional and physical constraints surrounding the Covid-19 virus, the participants of this research were more willing than ever to talk about their livelihoods, communities, and their surrounding landscapes. I cannot help but think that this research would not be as in depth or robust without the virus. Many participants that we contacted for an interview happily agreed due to being tired of their monotonous quarantine routine. I think that one of the only bright sides of research in the Covid-19 era was that it freed up our time and gave many a greater insight to what is going on in their communities and on the ground. In conclusion, I hope that I will be able to spend time in these places that I feel I have grown to know from the stories, photos and the genuine compassion shown through its residents.

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APPENDICES

## Appendix A

### Introduction

1. I am going to ask a lot of questions about “community”. Is it safe to say that [TOWN NAME] is your community?

*I would like to start by asking you to fill out a table (or discuss the table you filled out previous to the interview).*

2. When you think of [town], what strengths, weaknesses, opportunities, or threats come to mind?

Strengths	Weaknesses
Opportunities	Threats

### Personal

3. How long have you lived here and what brought you here?
4. In what ways (if at all) have you been involved with forestry, ranching, or public lands management?

### Community and Well-Being

5. Is there a strong sense of community?
  - a) *What does this look like?*
  - b) *What is an example of your community's shared values?*
6. In your experience, how has the community changed?
  - a) *Growth/population?*
  - b) *Residents?*
  - c) *Economic?*
7. (Revisit SWOT) Can you explain some of these to me?
  - a) *How can these be addressed?*
  - b) *What is the role of different agencies/industries?*
8. What is your vision or hope for this town?

- a) *(Revisit SWOT) What strengths of your town/city/region will you rely on to get there?*
  - b) *(Revisit SWOT) What areas need to be developed further to achieve this vision?*
  - c) *What role do federal lands/land management agencies play in your vision?*
9. (Revisit SWOT)\* What opportunities do you see for partnership between federal land management agencies and [town/city/county]/ community?
- a. *How can state and federal agencies be more supportive and helpful?*
  - b. *Where can they provide the most assistance?*
  - c. *What are some examples of community collaboration?*
10. What would you use as indicators of your community's well-being?
11. What have you seen in other communities that you would like to see happen here?

### **Forestry/Ranching**

[I'm interested particularly in how forest/ranching communities have changed]

12. What is the timber/ranching industry like today?
- a) *Employment?*
  - b) *Mills/infrastructure(forestry)?*
  - c) *How are lands managed?*
13. In your experience, how/why has this changed?
- a) *What major factors influence(d) these changes?*
14. Do you find that there are community ties to the timber/ranching industry?
- a) *What are they? How have these changed over time?*
  - b) *On federal lands?*
  - c) *Is there a sense of nostalgia?*
  - d) *Where has the community's attention refocused, if not on the timber industry (forestry)?*
15. What is your vision or hope for the forestry/timber/ranching industry here?
- a) *What would need to happen to get there?*
  - b) *What role do federal lands/land management agencies play?*
  - c) *What would be an indicator of your vision's success?*

### **Agency Relationships**

*I'm also interested in how the town/ranchers/timber industry and public land management agencies interact.*

16. How do you feel about your local public land management and ranching/timber harvests?
17. If you were to make a suggestion to improve management what would it be?
18. How do you feel about current communication between your local public land agencies (*district managers, range land specialists, etc.*) [**or local ranchers**] and ranchers/timber industries or foresters of **[town]**?
19. How do you think your relationship can be improved with your local public land management agencies? **OR** ranchers/timber industries or foresters of **[town]**?

### **Closing**

20. We've talked a lot about community. What does community mean to you? (How do you define community?) \*Optional
21. What other questions I should be asking?
22. How should I share my findings with you and [town/city]?
23. Who else do you recommend I speak with on this topic?
24. If there is community interest, we may organize focus groups (in-person or virtual as appropriate) to collectively gather community perspectives on ranching, forestry, public land management, and social changes. Would you be interested in participating in a focus group?
  - a. *What topics should be discussed?*
  - b. *Is there anyone you think we should invite to participate?*
25. Is there anything else you would like to add [or anything else you think I should know]?

## Appendix B

### **Introduction/ Personal**

1. How long have you been ranching/involved in the industry?
2. How long have you lived here and what brought you here?
  - a) What keeps you here?
3. Tell me about your ranch [or job].

### **Ranching Industry**

*I'm interested particularly in ranching in [xx] county.*

4. Can you tell me about how ranching as an industry is doing in this region?
  - a) *Who is ranching in your area right now?*
  - b) *Is it viewed as a secure career choice?*
  - c) *Is there a need for diversified/supplemental income?*
5. Do you have ways of diversifying your business?
  - a) *What are they?*
  - b) *How is it going?*
6. In your experience, how/why has ranching in [xx] changed?
  - a) *What major factors influence(d) these changes?*
  - b) *How do you see it progressing in the future?*
7. How do you think the community is tied to the ranching industry?
  - a) *Can you give me an example?*
  - b) *How have these changed over time?*
  - c) *Is there a sense of nostalgia?*
  - d)

### **Agency relationships**

*I'm also interested in how ranchers and local public land management agencies interact.*

8. What is your perspective on your local public land management agencies (*district managers, range land specialists, etc.*) [**or local ranchers**] - what are your experiences with them?
9. If you were to suggest to improve management, what would it be?
10. How do you feel about current communication between local land management agencies and ranchers in your community?

11. How do you think your relationship can be improved with your local land management agencies (*or representatives*)/ranchers?

- a) *How can state and federal agencies/ranchers be more supportive and helpful?*
- b) *Where can they provide the most assistance?*

12. What opportunities do you see for partnership between your local public land management agencies and [town/county] ranchers?

**Strengths, Weaknesses, Opportunities, or threats (s.w.o.t)**

13. When you think of ranching in [town/county], what strengths, weaknesses, opportunities, or threats come to mind?

Strengths	Weaknesses
Opportunities	Threats

14. (Revisit SWOT)\* Can you explain some of these to me?

- a) *How can these be addressed?*
- b) *What is the role of different agencies/industries?*

15. What is your vision or hope for [your ranch/or ranching industry]?

- a) *What would need to happen to get there?*
- b) *What role do federal lands/land management agencies play in your vision?*

16. What have you seen in other communities that you would like to see happen here?

**Closing**

17. What other questions I should be asking?

18. Who else do you recommend I speak with on this topic?

19. What other questions I should be asking?
20. Is there anything else you would like to add, or anything else you think I should know?
21. If there is community interest, we may organize focus groups (in-person or virtual as appropriate) to collectively gather community perspectives on ranching, forestry, public land management, and social changes. Would you be interested in participating in a focus group?
  - a) *What topics should be discussed?*
  - b) *Is there anyone you think we should invite to participate?*