

They Get Along, Share, and Mind Their Own Business: The Paradox of Rancher Adaptation

A Thesis

Presented in Partial Fulfillment of the Requirements for the

Degree of Master of Science

with a

Major in Natural Resources

in the

College of Graduate Studies

University of Idaho

by

Meredith Fisher

Major Advisor: Nick Sanyal, Ph.D.

Committee Members: Travis Paveglio Ph.D.; Jennifer Boie, Ph.D.; Erik Anderson, Ph.D.

Department Administrator: Patrick Wilson, Ph.D.

May 2016

Authorization to Submit Thesis

This thesis of Meredith Fisher, submitted for the degree of Master of Science with a Major in Natural Resources and titled "They Get Along, Share, and Mind Their Own Business: The Paradox of Rancher Adaptation," has been reviewed in final form. Permission, as indicated by the signatures and dates below, is now granted to submit final copies to the College of Graduate Studies for approval.

Major Professor:

_____ Date _____
Nick Sanyal, Ph.D.

Committee Members:

_____ Date _____
Travis Paveglio, Ph.D.

_____ Date _____
Jennifer Boie, Ph.D.

_____ Date _____
Erik Anderson, Ph.D.

Department
Administrator:

_____ Date _____
Patrick Wilson, Ph.D.

Abstract

Land use conflict in the western US is becoming predominantly a social issue. The influx of new land users is resulting in a new naturework. This study focused on the social construction of working rural landscapes and rural communities. The purpose of this study was to gain insight into how and why ranchers are adapting to social and ecological changes within their community. Using a semi-structured interview process, ranchers from three Southern Idaho counties revealed rancher adaptation strategies in four major themes: technology, economics, and farm density; farm succession and changing population; dissatisfaction and miscommunication about grazing policy; and ecological uncertainty and program success. Change, respondents recognized, is an uncertainty faced by every generation of rancher. The implications of this research is for resource managers and policymakers to recognize rural traditionalist knowledge as different, but not invalid.

Acknowledgements

I want to thank Nick Sanyal, whose guidance and support has been invaluable over the past four years I've spent at the University of Idaho. Thank you for investing so much time into making sure the Lost Baby Bird Grad Student found her way. If not for Nick, his wife, Ella, their daughter, Monica, and a fateful breakfast at Bloom, I might have never decided to pursue a graduate degree. Thank you all for believing in me.

I would also like to acknowledge the other members of my committee: Travis Paveglio, Jennifer Boie, and Erik Anderson for their generosity in both time and knowledge that has guided me throughout this learning process. I am so blessed to be able to interact and work with these outstanding individuals.

Lastly, to the best cohort a gal could ask for, thank you. I'll never forget the great times we've had together, and your support and friendship has made these past two years wonderful.

Dedication

I dedicate this work to the ranchers and farmers of rural western landscapes, particularly those in Adams, Valley, and Washington County who took the time to share their perspectives with me. Together, we've added to the collective knowledge devoted to protecting the rural land and way of life. For sharing your experiences with me, I thank you.

I also dedicate this to my supportive family: my mom and dad, Melodie and Dave, and my fiancé, Mathew. I would not be where I am today without your love and guidance. Every step I take is for you. Every step I take is because of you.

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1. Introduction

Land use in the western US is predominantly a social issue. Working landscapes are a cost-efficient way to preserve open space, prevent sprawl, produce food and sustain heritage.

Preserving working landscapes, therefore, is an issue that is important to society as a whole.

As the majority of ranchers reach retirement age, there is a socioeconomic need to assure sustained land management that can span generations (Brunson & Huntsinger, 2008).

Similarly, it is important for agencies and organizations with interest in land management to recognize the barriers preventing younger would-be ranchers from sustaining the ranch livelihood (Mailfert, 2006).

Private landowners, specifically ranchers, are important because their land is important wildlife habitat and its condition affects the ecology of the area in which they operate.

Promoting ecological management, regardless of public or private land designation, is essential to promoting landscape-level management and avoiding fragmentation. In addition to private land, many livestock producers depend upon grazing permits that allow them to graze on public lands. These producers are responsible for maintaining the health of their allotments--and implementing ever-evolving management practices aimed at reducing resource degradation (Kennedy and Brunson, 2007). Ranchers are directly affected when new management techniques go into effect on these grazing allotments. In many respects, they are partners in implementation: as permittees, ranchers are responsible for managing improvements such as creeks or springs, and are tasked with meeting management standards, such as moving their cows more frequently in drought years. Because of this pivotal role, they are critical partners in rangeland management.

It is essential to understand the concerns of ranchers and other livestock producers, and identify the areas where these concerns are in line with the goals and concerns of land managers as well as where their goals and concerns conflict with those of federal, state, and local agencies, and tribes. It is important to understand these things because they can affect the acceptance of or the participation with management plans, including endangered species recovery, range condition, and water quality. For example, if land use management plans were to conflict with a goal of a land user (grazing permittee), the land user would be more likely to protest it, attempt to fight it legally, or ignore it altogether. Meanwhile, the management objectives of the plan might suffer because of lack of participation, which stymies progress toward the goals of the proposed management (Sorice et al. 2011)

This study focuses on the social construction of working rural landscapes and rural communities that are experiencing social and land use change. Social construction is defined as the ideas and feelings about a landscape imbued with social meanings and symbolism, from the influence of other members of a social group and by personal interpretation, that in turn affects how it is viewed and treated by the individual.

The influx of new land users, both temporary users and permanent residents, interest groups, and public opinion is resulting in a new naturework (Fine, 1998), defined as “how we constantly work to transform ‘nature’ into culture, filtering it through the screen of social meanings that we have learned” (Capek, 2009). Differing natureworks become problematic when social construction becomes action that then results in conflict. Differing expectations lead to mistrust and strife (Koontz 2006). The diverse backgrounds and objectives of rural

traditionalists, exurbanite residents, and resource managers can lead to contention and mistrust where management alternatives are concerned.

Boyazoglu (1998) discussed livestock farming as a factor of environmental, social and economic stability, environmental stability, and agricultural sustainability. These are still major issues of concern to livestock producers in the United States (Stauder, 2016).

It is important to foster communication between ranchers and natural resource management agencies, because the ranchers are important stakeholders greatly affected by the decisions of the agency. Federal land management agencies are not the only actors seeking to influence ranchers and their land management. In recent years, conservation programs operated by non-governmental organizations, state agencies, local government agencies, and tribes, have begun to play a greater role in informing livestock operators and assisting them with the healthy management of their land (Merenlender et al., 2004; Brunson and Huntsinger 2008; Briske et al., 2011).

2. Objectives

The purpose of this study was to gain insight into how and why ranchers are adapting to social and ecological changes within their community. Specific objectives were:

1. To explore the factors and causal relationships between uncertainties or stressors that were forcing ranchers to adapt.
2. To find explanations of how these drivers of change had come to be in the first place.
3. To discover why the adaptation techniques that were being applied by ranchers were chosen. What made this course of action the course of choice?
4. To gain insight into the range of responses a rancher might have to stressors or pressures. What variations of strategies are being employed?

3. Theoretical and Empirical Context

To understand how and why ranchers were adapting, this study began with a review of literature that explored what factors had influenced ranchers' interest in adaptation, and the barriers and opportunities within adaptation strategies such as change in management practices and involvement with conservation programs.

Boie (2013) discovered that cultural worldview, defined as a framework of a culture's all-encompassing outlook on the world, explained Whitman County, WA farmers' and ranchers' willingness to participate in conservation programs more than demographics. However, earlier research shows that there is no predictive link between stewardship ethic and action (Curtis and De Lacy, 1998).

Wilcox and Giuliano (2014) applied the theory of planned behavior to cattle ranchers in Florida, Georgia, Alabama, and Mississippi, in order to find out if they could effectively predict the behavioral intent of cattle ranchers on the subject of conservation management. These findings indicate that perceived behavioral control was not a factor in predicting behavioral intent, but explain that this might be due to the assumption that they were wholly in control of whether they did or did not participate in these programs, since the programs to integrate wildlife and conservation management into cattle operations are largely voluntary. Thus, the landowner might feel in control either way. The rancher's attitudes and social norms tended to play a significant role in intentions to implement sustainable management practices, as did the ranchers' membership or nonmembership to groups, or those that offer voluntary programs in which landowners can participate. Examples would be groups like

Natural Resources Conservation Service, the Cattlemen's Association, and other organizations (Wilcox and Giuliano, 2014). Results also indicated that sociodemographics and ranch characteristics were not important to ranchers' behavioral intentions to implement certain management practices on their land. (Wilcox and Giuliano, 2014).

Ghadim and Pannell (1999) found that "innovation adoption" was based largely on "subjective perceptions," the development of which could be divided into three major stages: "the process of learning and experience, the characteristics of the landowner within their social environment, and the characteristics of the practice" (Ghadim and Pannell, 1999, page 152). Similarly, Ahnström, Höckert, Bergeå, Francis, Skelton, and Hallgren (2009) identified a "wide range of perceptions" among their respondents about what conservation means and what the outcomes of conservation practices might look like. The researchers also acknowledged that the "perceptions and knowledge of nature" held by the farmers were often neglected, and that this was a weakness of conservation practice research. (Ahnström et al., 2009). Similarly, Didier and Brunson (2004) identified perceptions about government programs and regulations to be a barrier to conservation adoption. Their suggestion is that information materials may reduce the misunderstanding.

Educating landowners using agency-distributed information sources has proven to be ineffective. A study by McKensie-Mohr (2000) on the adoption of sustainable practices by farmers found that there was little correlation between public campaigns promoting the conservation program and success.

Some researchers suggest that a “culture of innovation” can be created through peer exchange. Through engagement with extension and agency personnel who have experience with nontraditional outreach, management programs that feature a holistic approach can be better fostered. (Kennedy and Brunson 2007).

What can be drawn from this information is that there is extensive research about what does and does not influence rancher’s land management decisions. There is a diversity of definitions among ranchers as to what conservation even is. While agency outreach has been suggested as a possible solution to providing more information and creating a cohesive understanding of the goals of managing land for the purpose of stewardship and conservation, studies have shown that agency-promoted information is not an effective influence. Another possible solution is an innovative peer exchange.

What will further strengthen this body of knowledge is the understanding of what external pressures are having influence over ranchers as they consider their operation’s management goals as a whole. Land management is certainly an important piece of these goals, but it is not the only one. Ranchers are managing aspects such as profit, ranch succession and estate planning, and social interactions between their peers, their community, and agencies. This study aims to gain more insight about rancher adaptability and its implications for the common goal of conservation as an aspect of land management. This was achieved by big-picture focus on the pressures put on ranchers and their operations as a whole.

4. Methods

A. Semi-structured Interviews

The purpose of qualitative interviews is to establish “patterns or themes between particular types of respondents” (Gubrium and Holstein, 2002,p. 85). This semi-structured interview approach facilitated “guided conversations ”(Kvale 1996). I collected data using a semi-structured interview process because it enabled me to capture the range of responses to questions about land management, information sources, ranch and family history, etc. Semi-structured interviews allowed me to flexibly modify my frame as new information arose. It was an inductive approach to discover the emergent patterns

Most of the interviews I conducted were group interviews, which consisted of talking with two or more people, with participants bouncing ideas and conversation off of each other’s perspectives. This was not an explicit study design, but rather a natural occurrence. I made contact with landowners, asking to talk to whomever on their operation was responsible for land management decisions. By their own volition, many of the respondents included their spouses and, in rare cases, even members of other generations, in the conversations that followed.

A chain referral sampling method was useful to identify potential subjects. I reached out to liasons who could put me in touch with respondents such as extension personnel, and former resource managers, as well as members within the sample population with whom I was already acquainted. I also asked initial respondents to recommend key informants fitting the sample population with whom I might talk. This allowed me access to members of the

sample population with an advantage of trust, which might not have been possible with other, more formal or random forms of sampling (Atkinson and Flint, 2002).

B. Substantive frame

Before entering the field, I synthesized decision-making factors derived from other relevant research addressing private landowners and their land management. The condensed list, which provided the substantive frame, colloquially the set of topics the study explores, for my semi-structured interviews (Table 1) was expanded into a series of interview questions that allowed me to explore land management and social factors affecting ranchers.

As this was a semi-structured interview process, these questions were not a strict script. The unstructured questions evolved naturally from the subject matter of the respondents' answers to more structured questions, usually seeking clarification about new phrases or elaboration into new ideas and themes.

The substantive frame details the structured, a-priori questions of the interview—the jumping-off point—that were set and standard for the interviews. These interviews were semi-structured, with the subject matter evolving naturally using the pre-formed questions of the substantive frame as a jumping-off point for more in-depth discussion. The frame is organized into subject matter, derived from decision-making factors, the question, and the information sought, explaining the impetus for asking the question, as well as unstructured avenues explored through the question.

Table 1. Substantive frame for the semi-structured interviews.

Subject matter	Question	Meaning/information sought
General introduction	<i>Can you tell me a bit about your operation?"</i>	Induction into ranching culture, establishment of beliefs and values, plans for ranch succession and give insight into management objectives.
Adaptation/innovation Management intentions/outcomes	<i>"Are there changes you've made to the operation since you took over?" Do you have management plans or big-picture goals?</i>	What the rancher is working toward, generational adaptations and changes, paradigm shifts.
Rootedness	<i>"What are some of the benefits of operating where you operate? Is your land special? What makes your land special?" "Why did your parents choose to settle here? What made you decide to ranch?"</i>	Establishes family history, motivation to ranch and sense of place.
Property heritage	<i>Is your land public/private/leased?</i>	Opinions on and experiences with things such as federal and state agencies, neighbor interactions, and exurbanite exposure.
Land stewardship	<i>How do you decide when/if changes need to happen?</i>	If ranchers who managed private land used measures and techniques similar to those who used agency-mandated practices.
Networks/Information sources	<i>Tell me about your interaction with your neighbors. Is there a source of information you depend on to get information about these things?</i>	Relationships with both ag neighbors and non-ag neighbors, and was a good jumping off point to talk about other relevant topics like litigation, cooperation, etc. Help discover the sources of information that the respondent relied upon, as well as their attitude toward outside information sources.
Organizational involvement	<i>Do you interact with any programs such as Soil and Water Conservation Districts, Water and</i>	Facilitated complete capture the respondents' interactions with land management programs available in the area, as well as

	<p><i>Irrigation Management Boards, Weed cooperatives?</i></p> <p><i>What does your interaction with the United States Forest Service/Bureau of Land Management/State Department of Lands/County government look like?</i></p> <p><i>Are you involved with agricultural interest groups, such as Cattlemen's Association, Farm Bureau, etc?</i></p>	<p>the involvement the respondents had with groups that represented their unique lifestyle.</p>
Land stewardship	<p><i>How do you know when/if your land is healthy?</i></p> <p><i>How do you take care of the land?</i></p>	<p>Insight into what land management standards or indicators the rancher was operating under, practical applications of land ethic.</p>
Societal expectations	<p><i>Do you feel like [your community]'s/ the general public perception of ranching is positive?</i></p> <p><i>Have you experienced conflict with the public on your private/permitted land?</i></p>	<p>How ranchers perceived their reception on differing scales, from community to nationwide.</p>

C. Respondent selection

The study sought to target a very specific Idaho population, rural ranchers. To target these respondents, I used criteria to determine who would be included in my sample, and worked with gatekeepers and liaisons to reach potential respondents.

Previous studies have allowed their population to self-identify as ranchers (Sorice, Conner, Kreuter, & Wilkins, 2012). For the purpose of this study, I defined a rancher as “The proprietor of an establishment maintained for raising livestock on land that naturally produces forage plants suitable for grazing.” In addition, I considered dependence upon land

for income and rootedness to the land (Sorice et al., 2012). Finally, I sought respondents who self-identified as ranchers, but also had the ability to make land management decisions on their operations. More specifically, I sought respondents who were full-time ranchers, with more than 50% of income coming from livestock, or more than 50% of working hours devoted to ranching. In addition, the participant had to be older than 18 and run livestock on their own land. Participants did not have to have their animals on their own land every month of the year—they might, for instance, hold grazing permits that allow them to run their cattle on Forest Service land from April to October.

The respondents represented 13 different ranching operations. I interviewed 15 men and 12 women, for a total of 27 respondents. Five respondents were 1st-generation owners of their operation, six were 2nd generation, ten were 3rd generation, and five were 4th generation. Although three interviews were conducted with a sole individual, the rest were conducted with groups of respondents, with group sizes ranging from two to four people.

Operations included in the sample were primarily beef, with one sheep operation. The livestock management objectives varied from cow-calf operations, which use a permanent herd of cows to produce a calf crop that is sold after weaning, to breeding stock operations, which focus on producing animals that can be sold to other operations to integrate into their herd, to promote genetic diversity. In addition to pasture, most operations also grew hay, either exclusively for their own use or for commercial sale. Their land ranged from wholly private to partially rented to primarily United States Forest Service (USFS) and Bureau of Land Management (BLM) permits.

D. Data Synthesis

In qualitative research, “the initial plan for research cannot be tightly prescribed, and all phases of the process may change or shift after the researcher enters the field and begins to collect data” (Creswell 2009, pages 175-6). Such was the case with my study.

As mentioned, the study was conducted using a semi-structured interview process, with pre-conceived questions forming a substantive frame. These questions served as a framework to explore a-priori codes—areas of information that I knew I wanted to collect—in the respondent’s interview transcripts. Emergent codes came, often, from the answers to questions asked in-between the structured questions and from later analysis.

I used an inductive approach to synthesizing the data by “building patterns, categories, and themes from the bottom up” (Creswell 2009, page 175). I kept a record of emerging codes throughout the interview collection period, as well as during transcription. After the interviews had been transcribed, the codes were aggregated into code groupings based on data-centric and theme-centric analysis. I used a data-centric coding method that separated codes into broad categories, coding the interviews line-by-line.

Coding was done without the aid of software. A longstanding tradition supports manual coding; in inductive research, the interviewer is the model (Creswell, 2009). All interviews were collected and coded by a single researcher, with input from peers and supervisors, to maintain consistency while still allowing for outside input. Informal peer debriefing allowed for further insight.

I coded for implicit subjects, as well as subtext. Sometimes, lines or codes went into multiple categories. Next, the categories were examined and the codes were refined based on common subject matter. The refined codes yielded themes, which spoke to an element of the research question, or answered some aspect of it.

E. Study Area

I chose a three-county study area in Southern Idaho for its access to multiple gatekeepers and cultural liaisons. In addition to having gained access to this community, the first author had also established a working relationship with many members of the study population. This would positively affect trust and access (Cohen and Sanyal, 2008). Among the gatekeepers consulted were local University of Idaho Extension faculty members, ranching families, ranch proprietors, and retired resource professionals.

The purpose of this study was not to profile the population, rather I looked upon the counties access points for gaining entry and making contact with the research population. The study area was composed of diverse social and ecological features, as well as two National Forests. There are two Farm Bureaus, and a Cattlemen's Association is active in the area. There is a University of Idaho Extension Office in each of the three county seats.

The ranchers of this region of Idaho face similar challenges, such as a short growing season, mountainous terrain, and long, hard winters. Ranching has been a major livelihood in these three counties—Valley, Adams, and Washington County—for more than a century. The two northernmost counties, Valley County and Adams County, had significant logging and mining communities within them until the mid-to late 20th century. Additionally, the

northernmost county, Valley County, features a vacation-destination town with an economy supported primarily by tourism. This resort town serves as an epicenter for a growing exurbanite population. Exurbanites are the inhabitants of an exurb, defined as a region or settlement that lies outside a city and usually beyond its suburbs and that often is inhabited chiefly by well-to-do families (Spectorsky, 1955).

Table 2. Summary of county demographics, compiled from secondary sources

Criteria:	Valley County	Adams County	Washington County
NCHS Urban–Rural Classification Scheme for Counties ¹ :	“noncore” non-metropolitan	“noncore” non-metropolitan	“noncore” non-metropolitan
Total population (2015) ² :	10,103	3,483	9,984
Total population change (2010 - 2015) ² :	2.4%	-3.3%	-2.1%
Annual average wage per job (2013) ³ :	\$34,769	\$32,974	\$30,310
Unemployment rate (January 2016) ³ :	7.7%	9.6%	7.1%
Number of farms ⁴ :	117	234	559
Land in farms ⁴ :	61, 251 acres	136,227 acres	426,494 acres
Average size of farms ⁴ :	524 acres	582 acres	763 acres
Median farm size ⁴ :	80 acres	125 acres	78 acres
Total gross income, before taxes and expenses ⁴ :	\$908,000 (40 farms reporting)	\$1,127,000 (96 farms reporting)	\$2,643,000 (216 farms reporting)
Average income per farm ⁴ :	\$22,700	\$11,740	\$12,236

Table 4.2: County Characteristics

1: Ingram, D.D. and Franco, S.J. (2013). NCHS urban–rural classification scheme for counties. National Center for Health Statistics. *Vital and Health Statistics* 2(166). 2014.

2: Census Bureau QuickFacts. Retrieved from censusbureau.gov/quickfacts.

3: Indicators Idaho. Retrieved from indicatorsidaho.org.

4: USDA Census (2012) County Level Data.

This data illustrates how similar the three counties are in demographics, agriculture and employment. It is important to note that ranches and farms are not synonymous. The USDA

Ag Census collects data on farms. Most of the farms operating in these three counties, the census reveals, are managed as livestock production operations and ranches, but not all. Adams, Washington and Valley counties are considered as “noncore” non-metropolitan counties (Without a city of 10,000 or more). Unemployment is slightly more elevated in the centrally-located county, Adams County, which also has the lowest average farm income of the three counties in the study area. Farm income is higher in Valley County, but the county also has the fewest number of reporting farms contributing to its data set. However, it is important to note that Valley County has the fewest farms reporting and the lowest acreage in agricultural production. With a ratio of population to ranch of approximately 83 people per 1 farm. However, if the average farm income is statistically representative, it is possible that Valley County also has the most productive or highest-yielding ground.

There are more farms in Washington County, and while it also has the largest average farm size, the median farm size of 78 acres indicates that the majority of farms and ranches in Washington County are small-acreage operations. The ratio of population to farm/ranch is about 18 to 1 in Washington County, giving it the highest density of farms and ranches of the three counties.

F. Limitations

This study was not intended to be a representative sample of a geographic population. Its purpose, instead, was to explore and gather a range of perspectives from a difficult-to-reach population so that it might better inform existing research about land management and use.

While I sought input from the USFS offices for both National Forests in the study area, neither office ever responded to my requests for input. Therefore, the following findings have

no input from USFS personnel. I did not seek insight from the BLM, as a limited number of respondents reported having interaction in the role of grazing permittee with the Bureau.

5. Results and Discussion

A. Meta-influences:

Analysis revealed a number of universal considerations that had significant influence over facets of ranch life. These were generally shared across all respondents. These meta influences were, previous ranching experience, family history, and adapting the status quo.

Figure 1 illustrates these meta-influences and their relationships to the four most prominent findings of the study.

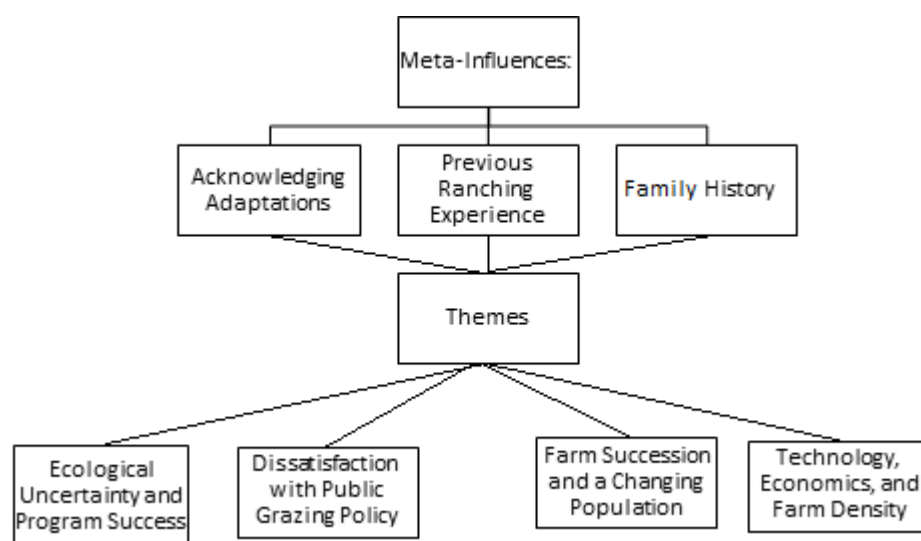


Figure 1: Forces Influences Rancher Adaptation

Across respondents, both those from multiple-generation operations and single-generation operations, previous ranching experience influences the ranchers' desire to ranch, as well as establishing an insider status, an induction into ranch culture. Likewise, family history affected respondents' desire to ranch by establishing a desire to pass tradition along. Family history also affects place attachment and establishes a conceptualization of how things have been done.

“our lives have been dedicated to keeping this land going and making it better, and hopefully passing it on to the next generation in our family. I think about the generations before that made it possible that we’re here, and I want to honor that.”

Adapting this status quo to respond to changes, both socially and ecologically, was also a study-wide theme. Ranchers acknowledge that change is confronted by every generation and acknowledge social change in regards to land use on varying scales, from their communities, valleys, and nationwide. Many also identified the need to adapt to pressures from new and different social constructions of land, and new and differing land uses.

Additionally, while the respondents in the southern portion of the study area perceived their towns and communities to be receptive and friendly towards agriculture, that positive reception waned the farther north, and closer to Valley County’s resort and tourism town, their operation was located.

B. Theme 1: Rural Culture Suffers when Ranch Density Decreases

Figure 2 depicts the relationships between the codes that emerged and comprised the subject matter of Technology, Economics, and Farm Density.

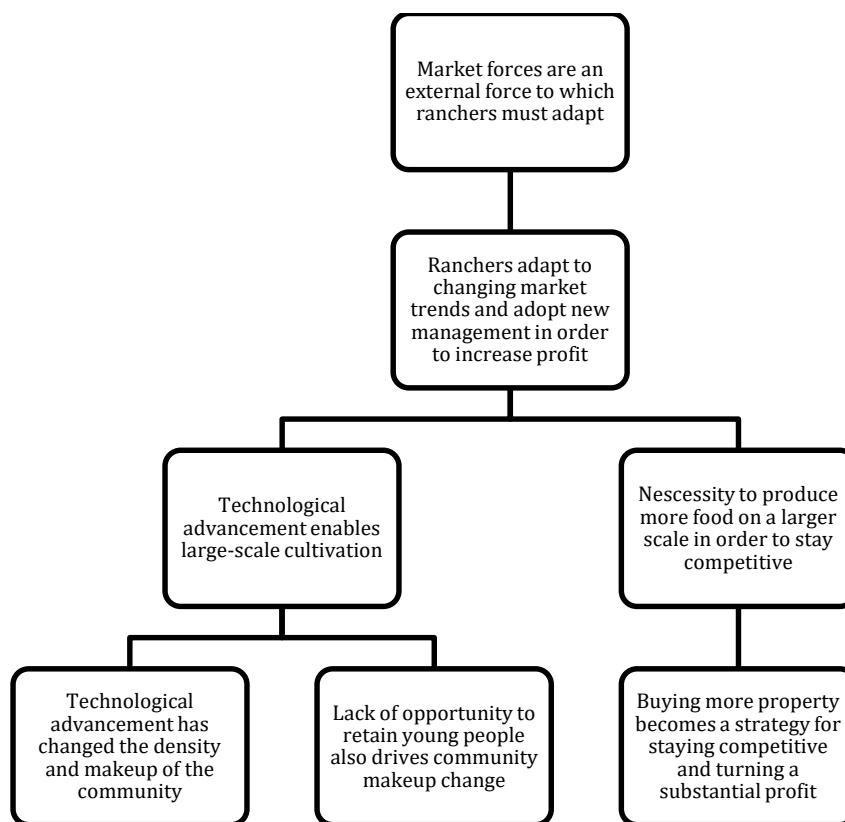


Figure 2: Relevant codes of Technology, Economics, and Farm Density

Though ranching can be considered a subculture of the American west, its purpose is, at its heart, to be a livelihood. Like any other form of production business, ranching is beholden to economic trends. Markets—primarily the cattle, alfalfa, and property markets—become yet another external force to which ranchers must adapt:

“Yeah, seen some booms and busts. They always seem to be the same. Doesn’t ever change, it just runs in cycles. The last one was an upswing for a long time, so it made it pretty hard when it hit bottom for everybody around here.”

Ranchers adapt to changing market trends and adopt new management techniques in order to increase profit. The ability to produce more food at a faster rate means ranchers and farmers have to adopt these new practices in order to stay competitive. This has been made possible through technical advancement, which enables large-scale cultivation. Advances in

technology have made it easier to work larger amounts of land with fewer people. Working larger amounts of land is important because as technology improves, so does production efficiency:

“When I was growing up, we had 17 hay men morning, noon, and night in the summertime. And they all boarded here, we had a bunkhouse here, my mom cooked for all of them, that’s how I learned to cook. When we moved here, we always had a couple of high school students during the summer, and it’s much more automated now, it’s big equipment, you don’t handle the bales. Then we reached a point when we bought all these other places. Now we have at least one full-time hired man, and usually two.”

Increased production efficiency also drives the market prices, nationally and internationally, since commodities that are high-volume and quickly produced are generally cheaper. As products become cheaper, producers are paid less per “unit” of good. This means more units need to be made in order to sustain a living wage:

“But some people think that all this land out here needs to be divided up into smaller places, so people can all have places. Well, you can’t survive with a small ranch in this country.”

In the case of ranchers and farmers, more “units,” like bales of hay or steers, requires more land. So, since more land is required to make a livable wage, ranchers have, since the later part of the last century, been buying up their neighbors’ land in order to increase production and stay competitive:

“Well, back then everybody had a homestead, 160 acres or 320. Then they got to the point where they couldn’t make a living on it, so part of them moved, and the others would buy them out. And a lot of the time for back taxes, because they couldn’t even afford the taxes to buy them out. And see, they used to crop a lot of these hills and stuff...But it was like [my wife’s] dad would say, we couldn’t make it on the wheat, so we started planting grass, and raising cattle and we started making it a little better, and the ones that stayed in the wheat went broke. So the ones who had gotten into the cattle ended up buying their neighbors out.”

When this happens, there are fewer ranches in the area:

“There’s fewer ranches. Same amount of acres, but fewer ranches. Of course some of the acreage is gone because they’ve developed it or whatever, but, the big picture, smaller number of people than land.”

What has resulted is a social domino effect: not only are there fewer farm hand jobs in the area—jobs like haying crews, cattle-drivers (cowboys), and herdsmen, there are also fewer established ranches and ranch families:

“Of course, everybody’s gotten bigger. There’s 6 ranches in our outfit now that used to be separate owners. So what you’re seeing is that the places have gotten bigger, but the personnel has gotten smaller, and there’s less people to go out and do those.” Agricultural support businesses—a tractor dealership, for instance, in the study area—are

leaving the area as well, their customer base having shrunk significantly.

“We used to have a tractor dealership here in town, but they’ve consolidated and moved to Nyssa. Now I have to drive all that way when I want a part, and most of the people I see in [the dealership] are from long distances away too.”

Thus, the decreasing density of ranches in the rural community is challenging the rural heritage of the area. And, it is leaving a void in land ownership and culture which primes the area for an influx of new ideas and sets the stage for strife over differing natureworks, which will be discussed in the next theme.

C. Theme 2: Difference in Naturework is Stratifying the Neighborhood:

Figure 3 illustrates the relationships between the codes that emerged and formed the themes relating to farm succession and the changing rural population of the study area.

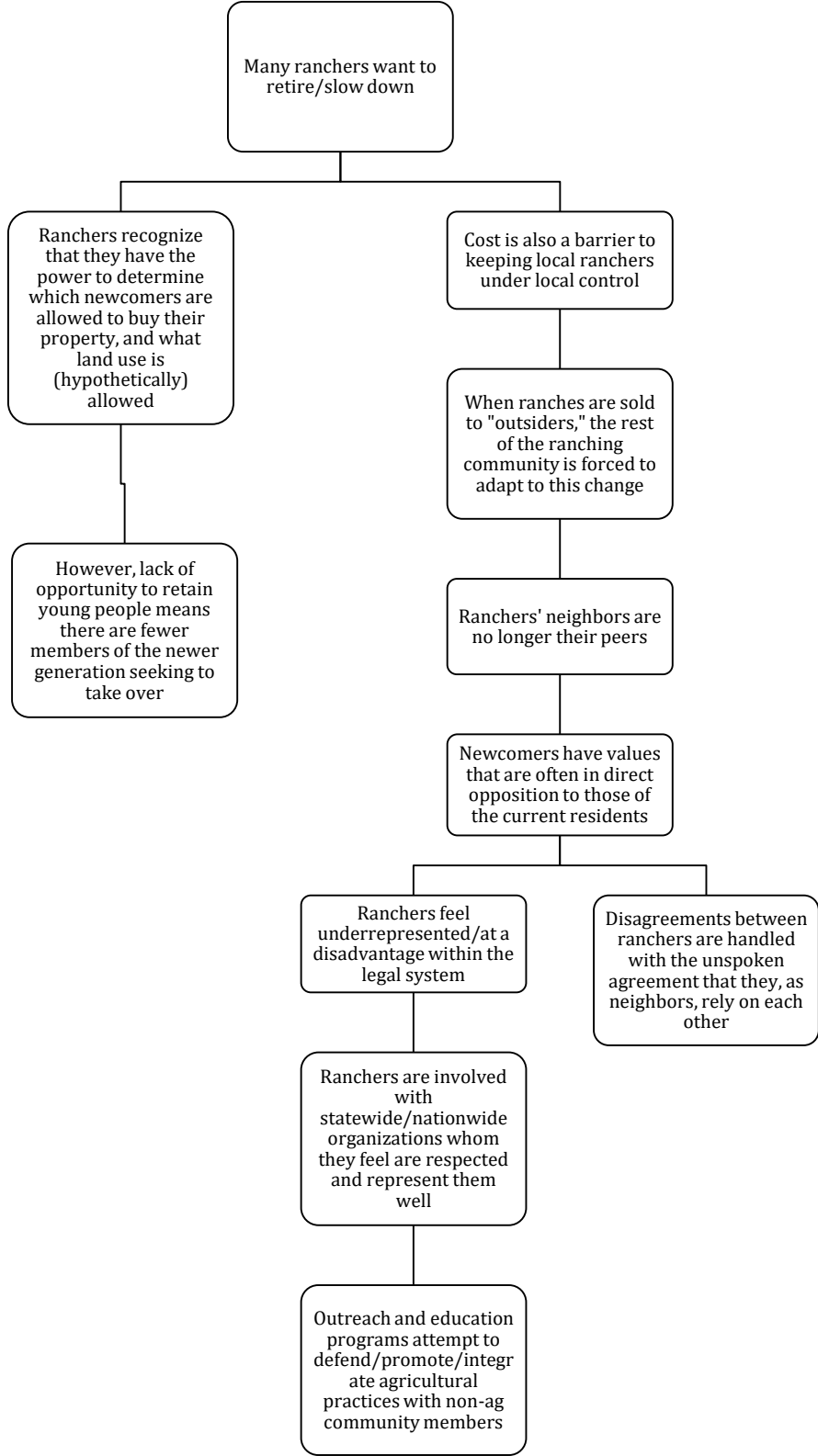


Figure 3: Relevant codes of farm succession and changing population.

The trend of depopulation in rural America is the single greatest driver in the changing social landscape of the study area. Many respondents referred to the idea of being “land rich and money poor,” conveying the idea that selling land is often a strategy for paying for retirement. If there is not another generation to take over, or an estate plan set in place, the rancher may end up wanting to sell their ranch.

It might be that there is no younger generation to take over the operation. Some respondents felt as though their ranches fell into a paradox of being too big to be run by only one family, but too small to support two.

“As I have told people, our success has been our demise because it’s too big for one of the kids to take over, but it’s not big enough to be split four ways.”

In many cases of ranch succession, the ranches must be sold. Ranchers recognize that they had the power to decide who gets to move into their place in the community, and what uses they might intend. Ranchers also recognize that they hold significant power in deciding who they will sell to, and who thereby, will be let into the neighborhood and the community as a whole.

“But it’s changing all the time too. You get different people in. And we have wonderful new people who have come in and then we have not-so-wonderful new people. It depends on why people move here. A neighbor who lives right back here...wanted to come and get involved. Then a little further down the road, we’ve got one who doesn’t want to have anything to do with anybody. So the purpose for coming here: to avoid people, or to get involved”.

When proprietors in the process of trying to sell their ranch were interviewed, they were asked if they felt that they were in a position that allowed them to influence who would gain entry into the community by deciding to whom they would sell. They reported they do recognize their unique perspective, and how they hope to use their influence:

“We try to portray [to potential buyers] that this is a community, you need to get in, everybody needs to do their part and so on... So we try to tell them that... the reason it’s good is because of the people who live here.”

One emergent theme was ranchers who reported that they would not be interested in selling to someone who did not plan to use the land for agriculture:

“It’s very important for us to stay in ag... [my husband]’s grandpa would drill me, he would test me to see what my feelings were for the land. It was important to him to know that it stayed [agricultural] and that I wasn’t going to subdivide it. So I kind of had to pass a test. It was very important to him that it stay ag. So that made him decide that they would want to sell it to us... So I feel like I have to put that test to other people, because we want this land to stay ag... it’s important to us to keep it as it is and keep it involved with ag, or at least not develop it.”

This is closely tied with the meta-influence of family history. Here, it is seen that family history, as explained in the explanation of meta-influences, is having a strong influence over the ranchers’ goals for their operation.

Furthermore, respondents expressed that they would not be comfortable selling their operations for certain types of agricultural use—specifically, large-scale conglomerates, colloquially referred to as “big ag:”

“Our neighbors right here are Simplot. We’re surrounded by Simplot... The neighbor’s father had been working with Simplot and was into Simplot for a lot of money, so when he passed away, it wasn’t long until Simplot just took it all over. The lady who bought [another adjacent piece] ended up selling to Simplot. I don’t want to sell to a big corporation like that that doesn’t have the care... like the individual family would.”

However, respondents reported that a lack of opportunity for “young people” in the area means that the next generation of would-be agrarians—perhaps even the rancher’s own children—is not able to live in the area.. Moreover, another emergent code is that cost presents a significant barrier to keeping the land in local control by, say, selling it to a neighbor.

“ I look at some of the most successful ranchers from the previous generation who have expanded and become large outfits...Those places will turn over, and they’ll not go to families in the area. They’ll go to investors. [Local ranchers] can’t spend that many million dollars and buy a ranch here. They are top outfits, but you won’t be able to afford them. The guy did a great job putting together a crack outfit, but it’s gonna be bought by someone who wants to be a rancher, who made their money some place else...And the ranchers selling are trying to get top dollar for their land, to support them and their families, and I can’t blame them for that, but it’s not always the best thing for the area.”

It falls, then, to outside interests to buy land. Usually the people who can afford to buy these lands are in a different economic class than those who inherited/took over it. The prominent trend is that ranches in the study area are being sold to exurbanite buyers or for suburban developers. This trend is particularly prevalent in the northernmost portion of the study area, where a resort town has led to an increase in exurbanite population. Many ranch properties have been divided into smaller ranchettes, many of which are second homes or vacation homes. The owners of these properties, the newcomers, are perceived as having a very different career background:

“They’re from a different place, way more aggressive... they didn’t get where they are by being nice.”

When the new interests enter, the entire community has to adjust. The adjacent neighbors are most seriously affected. This may be because of a difference in values, but what my research found was that it was due to a difference in social construction of the landscape.

“And people love to get out here, they see these wide open spaces and think they can come and do nothing. But they forget that there is work involved with being out here. They might be coming from a city thinking they’ll be out here where nobody’s going to bother them, we’re looking at it like they’re coming into our land, and they need to abide by our customs, and our culture and to have respect for that.”

This difference in worldview can lead to very different land management practices: weed management and fence management, things handled by tradition/culture/unspoken rules/little-known laws that are common knowledge to the longtime residents. Respondents reported that some newcomers take issue with agricultural practices like driving a tractor or livestock on a shared road or when cows get into their yard.

This changing makeup of community member affiliation has led to ranchers needing to adapt to a demography that no longer reflects them. Some respondents expressed mistrust in the legal system, for instance, because of having to face a jury of people who they do not feel are their peers on issues of land management and land use. This is resulting in a loss of cultural security, and a loss of a sense of place. Many respondents reported conflict over lack of fence maintenance and weed management by their neighbors.

“You can’t go to court, you try to mediate. Because if you go to court, who is going to be on the jury? It’s not going to be MY peers [emphasis mine], it’s going to be their peers, because we’re the minority. It’s 40 ranchers versus 4,000 other people. You’re not going to win.”

Ranchers talked about the dichotomy of neighbors in comparison with peers. Their peers, they asserted, had a common interest in being cooperative and supportive, even when doing so begrudgingly. Neighbors, the respondents perceived, did not have the same interest in collaboration because their income was from an outside source, not the ranch. Ranchers asserted that this gave the neighbors less incentive to rely on one another and cooperate. Furthermore, ranchers believed the neighbors would use their income to “hire specialists and lawyers” and change “the system” to reflect their interests and wants.

The respondents shared stories of conflicts involving neighbors when the ranchers' cows would come into the neighbor's yard. Several respondents reported neighbors' threats to sue or shoot the animal, despite the presence of a fence-out law in the state of Idaho, which states that if a landowner does not wish for cattle to come onto their property, it is their responsibility to fence out the animals and prevent their trespass.

In addition to these conflicts, the non-ag neighbors were seen as being derelict in their land management duties such as fence maintenance and weed mitigation. A method of adaptation that many ranchers have come to rely on is involvement with organizations that they feel are well-respected and represent agriculture and ranching lifestyle in a positive light, such as the Cattlemen's Association and the Farm Bureau. Many ranchers involved with these organizations see value in being involved within their communities:

"I've served on several different things, as most ranchers and farmers do. We wear many hats... Well, and any small community member that's trying to contribute is always on boards and stuff."

Often, these organizations seek to bring agricultural knowledge to members of the community who are not usually exposed to it. Many ranchers view this as a necessity, a way to combat negative impressions and what they consider to be media fear mongering about food:

"I see it as the modern-day rancher's community involvement...trying to educate the public so that they don't have false ideas and so they appreciate where their food comes from. Knowing a rancher may help, it brings it close to home and maybe they'd be a little more accepting instead of just seeing on TV all the hype about the bad things...I think that education is part of our mission as agricultural people these days. Fostering good feelings and good information."

The ranchers involved in these programs work toward this goal by providing outreach and education programs which attempt to defend and promote agricultural practices with an audience of non-agricultural community members:

“This year we have an ag promotion trailer... we were at the county fair with Maggie the Milk Cow. A kid can get down and milk this cow, she’s life-sized. Then we took cream and each kid made their own ice cream. It’s a hands-on thing. We do promotion and education... It’s fun to educate the public.”

D. Theme 3: Cultural Knowledge held by Ranchers is Largely Undervalued in Land Management and Policy.

Figure 4, graphically represents the relationships between the codes of the public grazing policy dissatisfaction and miscommunication.

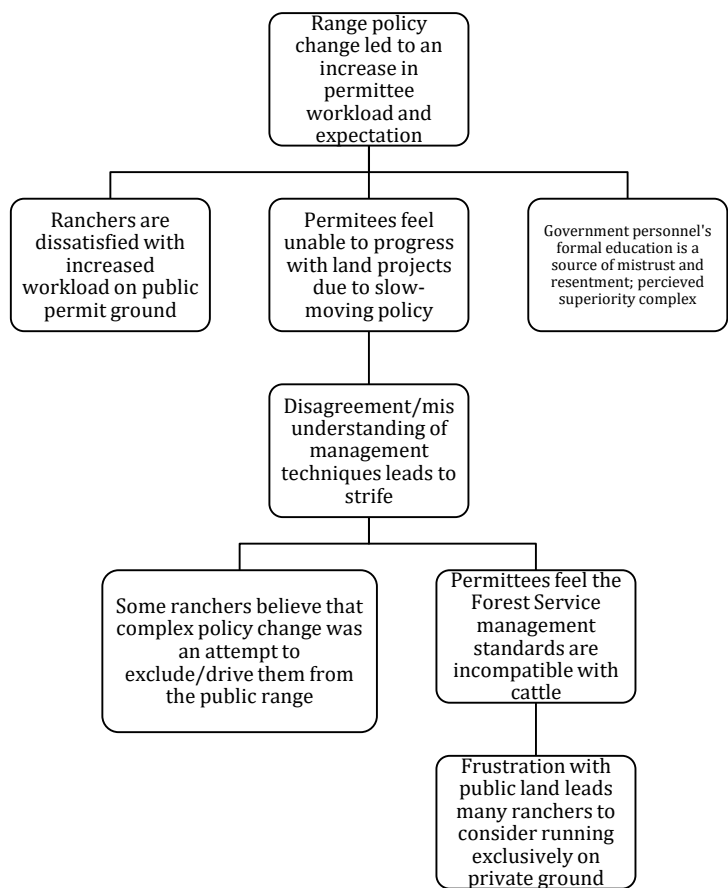


Figure 4: Codes relevant to Dissatisfaction and Miscommunication about Grazing Policy

Many of the ranchers interviewed held permits for grazing on public ground. These permits allow them to run a larger herd by providing their cows with summer forage, usually from April to October. Respondents verbalized many benefits and challenges to public grazing:

“Private pasture, you got a cowboy out there all the time, there’s someone out there all the time. If something gets sick, you can doctor it, they’re in an irrigated pasture, generally... When my cows go to the mountain, they are kind of on their own and I’m responsible for everything: salt, moving, fencing miles and miles and miles and miles. If you figure it back against the death loss of... compared to private pasture, irrigated pasture, out there, our death loss is horrendous. You’ve got predators, you’ve got leaf-eaters scorching up the road shootin’ them out of their cars... It really cuts into profits. But we have to have [public grazing] pasture, and it’s been part of this place, the ranch permit has been part of this place since time began, as far as I know.”

Many of these ranches have had these grazing rights for several generations. Usually grazing rights are sold in conjunction with ranch sales; many of these permits have spanned generations and different owners. In recent years, however, range policy has led to an increase in permittee workload and management expectation. In the study area, the majority of respondents who reported having public grazing permits also responded being dissatisfied with the increased workload on their permit ground:

“That’s where all our heaviest work is. We have miles and miles of fence to let down in the fall and put up in the spring, and these drought years we’ve had such water problems, this year especially! We’re riding constantly... It’s our hardest job. And while you’re busy haying here, they’re calling to say you have a cow in the wrong unit or the want you up in there riding while you’re doing other stuff here.”

In addition to this dissatisfaction, ranchers feel that they are caught in an unfair limbo when they are told by Federal managers that they need to improve or repair land features such as water tanks and water sources on their permits. Permittees often feel unable to progress with land projects due to slow-moving policy and bureaucratic project analysis:

“We have restrictions on how you can fix them and what you can’t do...they say ‘okay, you have to maintain this and provide water for these cattle, but then there’s a 3-year process before anything can be done about it... they’re pressuring us to keep them cows off the creek, we just can’t do it so we proposed to build the fence to help keep them off, but it’s still going through the channels...the process is just so stifling.”

To complicate matters further, many ranchers perceive that government personnel have a superiority complex. Justification for this usually stems from a mistrust and resentment of the government's perceived preference of formal education over hands-on experience and the ranchers' cultural knowledge:

“You’ve got these kids coming in here with all these degrees... Okay, first off, tell the little shits straight out of college that you’re dealing with people in an area that has been there all their lives. And they had a much more vested interest in preserving their way of life the way things have been than you’ll ever understand. You know, don’t just come in there saying ‘I’ve got a degree in this and this looks wrong,’ ... They come in here with an ‘I’ve been educated’ attitude and ‘you’re hicks and you’re trying to destroy the world and were gonna fix it...’ And that’s exactly word for word every one of them you ever meet.”

Ranchers want to be respected as professionals, and have their expertise acknowledged. They see government workers as being “more regulator than helpful.” Their rootedness and commitment to their land and the area in general, coupled with their hands-on experience and practical application makes them a valuable resource and worthy of collaboration, they assert.

The subtext of these conversations provides two very different social constructions (natureworks) of land use at play, with each side, the ranchers and the federal managers, each having a very different idea of what land management goals they should be working toward and what land management on these grazing units should look like. Specifically, disagreement and misunderstanding regarding management techniques often led to resentment and strife:

“The worst part of it is they wait until a certain grass height before they move them to the next unit. And they don’t measure in a few places and take an average, they measure right down next to the creek. Well, they’re cattle! So they’re going to go there. And when there is more water in the area, they’ll go into those higher places and graze, but in years like this drought, there’s nothing there for them. If they would

go everywhere in that unit and measure and average it, we would meet the standards every time.”

In fact, some ranchers believe that complex policy change is a thinly-veiled attempt to exclude them from their range, to make conditions so difficult to work with that the ranchers running on public ground move to private ground to avoid the frustration, seeing it as a political move.

Many respondents reported that they feel that USFS management standards had, in recent years, become incompatible with cattle:

“Some of the standards they set... there’s no way you can run cattle out there and meet them! Now, you take them cattle off of there you might meet ‘em, but if you’re gonna run cattle there’s no way you’re gonna meet ‘em. The standards the Forest Service puts in are not obtainable, they can’t be done.”

In many cases, frustration with public land leads many ranchers to consider running their cattle exclusively on private ground. However, even when private pasture is a preferred alternative to public grazing, it is not feasible for the operation, thanks to cost barriers or lack of pasture being available:

“People say ‘just go get private pasture’ but what they fail to realize is that Idaho is more than 66% federal land. The land isn’t there, not private there to buy. Plus, people didn’t know where this world was going, with all the money we’ve spent, yeah, we could have bought some great pasture. But it wasn’t the problem that it is now.”

E. Theme 4: Program Success Hinges upon the People Involved:

Figure 5 introduces the relationships between the codes of ecological uncertainty and program success.

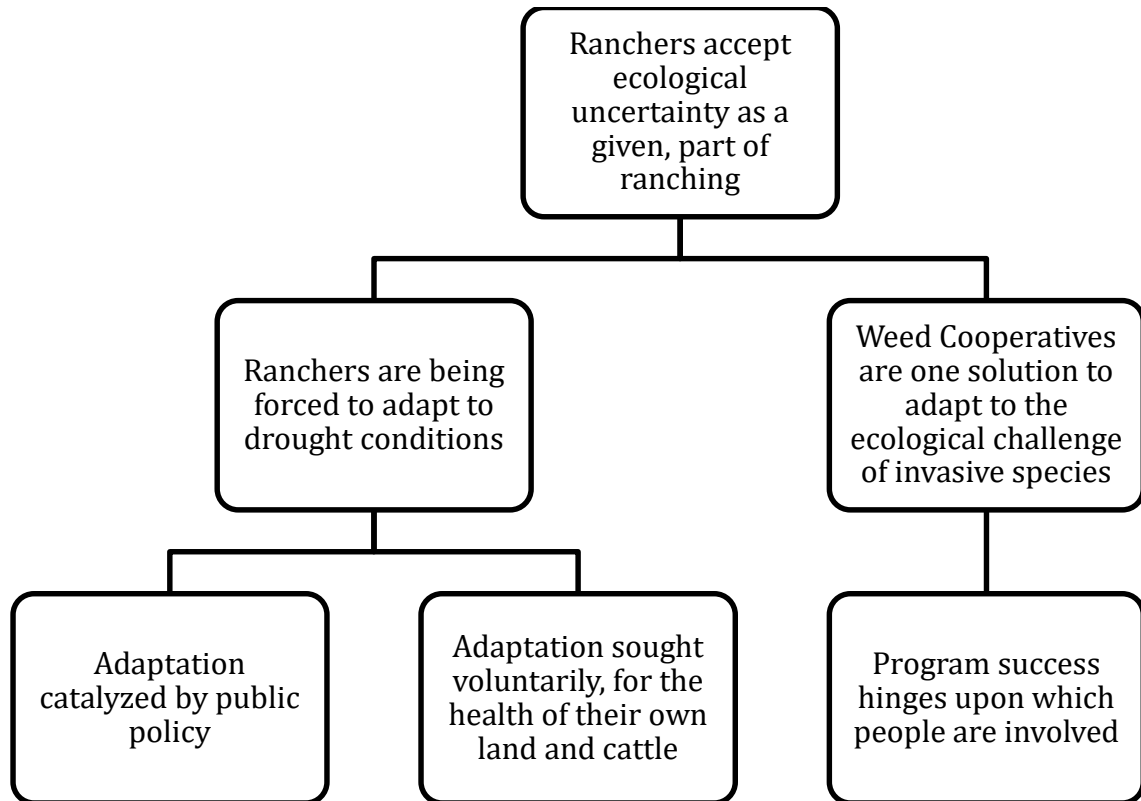


Figure 5: Codes relevant to Ecological Uncertainty and Program Success

Ecological uncertainty is similar to social uncertainty in that it forces ranchers to adapt.

Responding to ecological uncertainty has been approached through social means, by banding together and collaborating. It draws a parallel to rancher adaptation to social uncertainty, and the success of programs like the weed co-op might very well be a useful blueprint for adapting to other issues.

Ranchers accept ecological uncertainty as an integral part of ranching. In recent years, ranchers are being forced to accept and adapt to ecological stressors such as drought and invasive species.

Response to drought can be catalyzed by public policy, or voluntarily, for the health of their own land and cattle:

“These drought years we’ve had such water problems, this year especially. We has so many units that we move them through. There are too many. Hell, we’re just getting [all the cows] into [first unit] now, and in two weeks we’re supposed to be down on [second unit]! Today we’re still looking for about 5 pair we’re missing, I’m gonna try and find them and get them in there, so at least we have them all in one place before we start moving to the next! We’re riding constantly...”

Weed cooperatives are one possible adaptation to the ecological challenge of invasive species. Overall, they are seen as a highly-favorable alternative to past weed management, where bureaucracy and legal process often hindered the county’s ability to manage the noncompliant property before the weeds spread:

“It used to be that if you saw your neighbor wasn’t spraying, you’d turn him in to the county commissioners, the county commissioners would send a notice saying ‘if you don’t spray before this date, the county will’ and the county would go spray and it’d be added to your taxes. But by the time they did that, it was too late; the weeds have gone to seed.”

An emergent finding relevant to weed cooperatives is that program success depends on the people who are involved:

“We have a weed supervisor in Washington County, and she’s very good, very proactive. She’s good at getting people pulling together, pulling along trying using the law. Something about getting free pesticide if you show up on this day just brings people out.”

These opinions about success being contingent upon the people involved extended beyond the county weed offices and represented other offices and boards as well:

“Sometimes you get somebody who is very knowledgeable and very helpful, and sometimes you get frustrated. The forest service is much worse. We’ve had some very helpful people locally at the Soil and Water Conservation District.”

The success of Washington County's weed management program was noted by many respondents. It is important to note, however, that some respondents felt that if the person responsible for its success were to leave or retire, the successful program she had built up would not be as successful. They likened it to a trend of other extension professionals in the area, whose programs and proactive ideas had fallen out of practice once they retired or moved away.

In any of these processes, there is always a chance that the rancher will, for one reason or another perceive the politics as a hassle and withdraw from collaboration and insulate themselves.

"I'm sour on government. I've dealt with them long enough to know that you're always losing. Dad always said... just smile and go home and think about it long enough and you'll see the hook in it. If you lose consistently, for so many years, it's hard to be an optimist...Dad always said that he used to be an optimist, but he got tired of the pessimists always being right."

5. Implications

Rancher adaptation is a vein of research that needs further contribution in order to work toward the common goal of landscape preservation. As previously demonstrated, understanding how and why these landowners are adapting to social pressures is essential in understanding land and resource use as a social issue.

Through this study, we examined the relationships between and causes of uncertainty factors that were specific to our respondents, but perhaps are not unique to them and are more prevalent among populations in the American West. Further research is needed, perhaps research that had a broader study area, a longer timeline, and which incorporates a mixed-method approach that could indicate prevalence of these ideas statistically.

Through this study, I sought to explore the factors and causal relationships between uncertainties or stressors that were forcing ranchers to adapt, and to find explanations of how these drivers of change had come to be in the first place. Many of these stressors were identified by respondents, and through examining common codes, I was able to see relationships between these ideas and values and their implications in the respondents' communities. A more in-depth study of historical agriculture policy, including the impetus for shifts in policy, will add more context in the future by revealing the cause of uncertainty, and more fully form what led to the current situation.

This study lent valuable insight into the variations of strategies and the range of responses a rancher can have when faced with uncertainty and stressors. Discovering why ranchers

applied the adaptation techniques that they did gives land managers a more complete picture of how best to work toward common goals.

Ghadim and Pannell (1999) found that the ability of a ranch to sustain operation hinged upon adaptability. This research concurred; I think, particularly about one respondent remarking that the landowners who adapted their operation to raise cows instead of wheat remained, while those who did not adapt were bought out. It is a gamble for landowners to decide if a new approach will bring renewed success or go unrewarded. An interesting future study might be to use this study area, with its long-established ranching families, to examine what adaptations most often paid off, or didn't, and if factors such as early adoption of these adaptations affect success.

Similarly to the study of Ahnström, Höckert, Bergeå, Francis, Skelton, and Hallgren, (2009) these findings revealed that the cultural knowledge of ranchers and farmers are largely undervalued in land management and policy. Mistrust of government, as referred to by Didier and Brunson (2004), was a barrier present in my study area. Mistrust of government prevented interest in conservation programs, and affected respondents' feelings toward management standards.

Change, respondents recognized, is an uncertainty faced by every generation of rancher. But next generation of ranchers is dwindling, thanks to many pressures like lack of opportunity, as the study learned through respondents' insights. The decrease in farm density is leaving a social vacuum, and in its place are coming differences in perspectives, natureworks, and opinions. What this indicates is that we are seeing a decline in the ranching industry for much

of this region—a potential “tipping point” where the influences on land use and ranch culture can no longer sustain the pressures.

In some respects, the influx of new perspectives is a benefit, as it prevents isolation and stagnation, though perhaps the ranchers interviewed might not see it that way. The public lands of the United States belong to everyone; they are as much the property of a businessman in New Jersey as they are of a cattleman in Idaho. However, there needs to be a balance, and a recognition that the naturework of these landowners is not an abstract or long-distance notion, but rather one of someone who lives and works in these areas—and is thereby, arguably, more affected by the policies and standards that govern them. Even more so than their new exurbanite neighbors who may live on the landscape, but do not work it. Exurbanites do not depend upon public grazing allotments for their livelihood.

The ranchers I interviewed believed the call for newcomers to respect the ranchers’ culture is not a preposterous one. This is not to say that they must abide by every tradition and code without adding their own voice to the community. But imposing an individual’s foreign values and laws on an existing culture is not favorable, and ranch culture is no different.

According to respondents, involvement and fostering mutual respect is critical:

“It depends on why people move here. A neighbor who lives right back here, they’ve jumped into the community, they’re in our Lions club, you could not ask for better neighbors. These people wanted to come and get involved. Then a little further down the road, we’ve got one who doesn’t want to have anything to do with anybody, doesn’t like anything, doesn’t like anybody. So the purpose for coming here: to avoid people, or to get involved.”

During my interviews, one of the most poignant questions I got to ask was “what’s something you wish the public understood about ranching?” The respondents gave answers such as “that we know what works” and “that we’re not the enemy.” There was a common theme of wanting to be accepted and valued, even if not fully understood. One respondent answered by treating me to some cowboy poetry he’d composed, reciting, “Well, all the talking in the world, and using big words too, could never explain to those city folks what it means to be a buckaroo.” It made me realize that, like many subcultures, there is value for the Western rancher in not having their lifestyles be fully understood by those considered to be “outside.” Understanding, truly “getting it” is reserved for those who have been immersed in the culture; paid their dues, so to speak.

So, then, the takeaway is not to seek to fully understand, but instead to recognize rural traditionalist knowledge as different, but not invalid. Considering the values and insights of people who use natural resources is nothing new to social sciences involved in conservation, but perhaps it is time for resource managers and policymakers in other fields to follow suit. For example, a more concerted effort should be made towards creating standards that are easily understood and adopted across stakeholders, including ranchers. Additionally, respondents expressed frustration over regulations that did not give accommodations for drought conditions, or that had fixed turn-out dates for their grazing allotments that were inflexible. Policy should work toward being more receptive to agriculture, and toward incorporating the needs and wants of agricultural professionals in their policy creation.

There is a lesson in the results of this study for grassroots managers who have personal interaction with ranchers like those we interviewed. It is that program success often hinges on a proactive motivator. However, this spearheading can have its downfalls: unless this manager can find a way to share the duties, knowledge, and power with those they seek to help, the program dies with them when they leave it. It is important to foster collaboration and community empowerment to ensure long-term success.

To those who do not find themselves in such a resource management position, I say there is still wisdom in valuing rancher insight, and recognizing the pressures they are under. After all, their concern is partially our concern, as consumers of livestock producers' goods.

Utilizing the understanding of rancher adaptation looks much like how ranchers treat each other: "they get along, share, and mind their own business."

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Appendix A: Exempt Certification for IRB Project 15-791

University of Idaho

Office of Research Assurances
Institutional Review Board

875 Perimeter Drive, MS 3010

Moscow ID 83844-3010

Phone: 208-885-6162

Fax: 208-885-5752

irb@uidaho.edu

To: Nick Sanyal
From: Jennifer Walker
Chair, University of Idaho Institutional Review Board
University Research Office
Moscow, ID 83844-3010
Date: 5/26/2015 11:59:08 AM
Title: Adapting scenario planning to explore information Influence in land management decisions
Project: 15-791
Certified: Certified as exempt under category 2 at 45 CFR 46.101(b)(2).

On behalf of the Institutional Review Board at the University of Idaho, I am pleased to inform you that the protocol for the above-named research project has been certified as exempt under category 2 at 45 CFR 46.101(b)(2).

This study may be conducted according to the protocol described in the Application without further review by the IRB. As specific instruments are developed, modify the protocol and upload the instruments in the portal. Every effort should be made to ensure that the project is conducted in a manner consistent with the three fundamental principles identified in the Belmont Report: respect for persons; beneficence; and justice.

It is important to note that certification of exemption is NOT approval by the IRB. Do not include the statement that the UI IRB has reviewed and approved the study for human subject participation. Remove all statements of IRB Approval and IRB contact information from study materials that will be disseminated to participants. Instead please indicate, 'The University of Idaho Institutional Review Board has Certified this project as Exempt.'

Certification of exemption is not to be construed as authorization to recruit participants or conduct research in schools or other institutions, including on Native Reserved lands or within Native Institutions, which have their own policies that require approvals before Human Subjects Research Projects can begin. This authorization must be obtained from the appropriate Tribal Government (or equivalent) and/or Institutional Administration. This may include independent review by a tribal or institutional IRB or equivalent. It is the investigator's responsibility to obtain all such necessary approvals and provide copies of these approvals to ORA, in order to allow the IRB to maintain current records.

As Principal Investigator, you are responsible for ensuring compliance with all applicable FERPA regulations, University of Idaho policies, state and federal regulations.

This certification is valid only for the study protocol as it was submitted to the ORA. Studies certified as Exempt are not subject to continuing review (this Certification does not expire). If any changes are made to the study protocol, you must submit the changes to the ORA for determination that the study remains Exempt before implementing the changes. Should there be significant changes in the protocol for this project, it will be necessary for you to submit an amendment to this protocol for review by the Committee using the Portal. If you have any additional questions about this process, please contact me through the portal's messaging system by clicking the 'Reply' button at either the top or bottom of this message.

Appendix B: Informed Consent

The University of Idaho Institutional Review Board has certified this project, *Adapting scenario planning to explore information influence in land management decisions*, as exempt.

- ❖ The purpose of this study is to understand the process of how you make decisions about what land management practices to adopt for your ranch.
- ❖ Understanding what information is important to ranchers will aid resource managers in their interactions with their rancher stakeholders. This information will allow future management alternatives to be better informed and designed with the values and concerns of ranchers in mind.
- ❖ You are being asked to participate in a semi-structured interview about your experiences in ranching. The interview could last from 30 to 90 minutes. These questions are not personal or prying and you will not be at risk during the study.
- ❖ We will only use your name, or the name of your ranch in our report if you agree to let us do so in writing. Otherwise we will use a blind code to refer to the insights you provide. You may end your participation in the interview at any time and we will agree to remove your information from our database. There is no penalty for this.
- ❖ With your permission this interview will be recorded (audio) and that recording will be transcribed and be used to ensure that my notes of our conversation are complete and accurate. The recording and the contents will not be associated with your name unless you give me permission to use your name in my report. Otherwise the recording will be identified with an anonymous identifying code.
- ❖ At the conclusion of the interview I may ask you if you would be willing to participate in a follow-up interview. You are free to decline this request if you wish.
- ❖ The data that I collect will be aggregated and individual responses will not be identifiable in the final publication/report. The aggregated findings will be shared with you.
- ❖ If you have questions about the study or interview, you can ask me at any time during the interview, when the interview is complete, or at a time you feel is appropriate.

I have reviewed this consent form and understand and agree to its contents.

I DO / DO NOT (*circle one*) give permission for my name and/or ranch name to be used in the written report.

Participant _____ Date _____

Interviewer _____

MEREDITH FISHER

775/750 3977

fish6560@vandals.uidaho.edu

College of Natural Resources

University of Idaho

Moscow, ID 83844-1139