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Contested Futures: Agricultural Climate Change Adaptation in Siskiyou County, California

By

Margiana Petersen-Rockney

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Environmental Science, Policy, and Management

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Kathryn De Master, Chair

Professor Lynn Huntsinger

Professor Nancy L. Peluso

Professor Christy Getz

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Contested Futures: Agricultural Climate Change Adaptation in Siskiyou County, California

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By Margiana Petersen-Rockney

Abstract

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Doctor of Philosophy in Environmental Science, Policy, and Management

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Professor Kathryn De Master, Chair

Farmers and ranchers work on the front lines of global climate change. This dissertation examines how rural farmers and agricultural advisors navigate the material and discursive risks of climate change despite many farmers' continued skepticism of climate change science. This research demonstrates the ways that farmers' decisions shape rural livelihoods, the relative effectiveness of conservation practices and policies, and the politics of everyday life in Siskiyou County, an economically marginalized and politically conservative region of northern California. Many farmers and ranchers understand land and water management practices as constitutive of politics rather than as responses to environmental changes due to climate, yet they necessarily adapt to droughts and wildfires. The micropolitics of adaptation to climate change, including how differentiated groups of farmers understand and publicly discuss the bases of their land use decisions and farming practices, are fundamentally reorganizing agrarian relations and landscapes. This research illuminates new possibilities for natural resource governance and climate policy that move beyond the notion that agricultural producers must be convinced of climate science before developing strategies to adapt to climate impacts.

Employing qualitative, ethnographic methods, this extended case study draws on more than 130 in-depth interviews with farmers, agricultural advisors, and county officials, as well as livelihood analyses of six multigenerational farm families. Additional analysis included regional historical and policy documents to situate localized climate adaptation practices and challenges within broader US rural contexts. This scholarship deploys concepts on risk perception and gendered social differentiation to analyze the new ruralities that these agricultural communities have constituted in response to climate change.

The dissertation analyzes how perceptions of different kinds of climate-related risks and the material realities of climate change structure adaptive practices and discourse. To the sociological scholarship on farming decisions in contexts of enhanced risk and environmental uncertainty, this research introduces the concept of *social risk perception*, focused on the potential social costs and consequences of deviating from culturally normative climate discourses and farming practices. Farmers manage perceived risks of exclusion from formal and informal farming groups, including loss of access to networks of reciprocity and public institutional services, and agricultural advisors often embrace regionally specific politics and

practices that reinforce climate change misinformation in order to build trust with farmers. Social risk perception of climate change encompasses physical and perceived risks; together these endanger the material worlds farmers upon which farmers rely.

This research also analyzes household livelihoods to reveal some of the ways that gender relations condition everyday practices and the micropolitics of land and water management. Gender differentiation brings explicit household analysis into the contemporary political economies of small-scale family farming in northern California. Despite attempts at exclusion from social and institutional networks by relatives, county officials, and agricultural advisors, women farmers often lead adaptation efforts. This research finds that women within multigenerational farm families may be less burdened by prevailing community norms and practices, and therefore perceive fewer social risks of adapting in novel ways that diversify farming practices and livelihood strategies.

This examination finds that, irrespective of farmers' beliefs about its causes, climate change is a material reality, and its manifestations are reorganizing rural relations into "new ruralities." Land and water use practices and policies become political terrains within which to contest visions of rurality and access. As the contours of farming change—including who is farming, which crops and livestock farmers grow, and the land and water use practices farmers employ—county-level officials attempt to define what is considered agriculture and who counts as a farmer. Maintaining narrow definitions facilitates the continued accumulation of benefits to a relatively exclusive group of established farmers, while preventing those who deviate from accessing resources. Adaptation thus offers opportunities for powerful local actors to benefit. Contestation over shifting rural relations catalyzes both unlikely alliances and incipient resistance efforts, yet uncritical calls for local control may retrench patterns of inequity.

To farmers and ranchers who care for the land as it changes

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Access to my family’s land has been an incredible privilege that has benefited me both personally and professionally. I grew up farming on the land of the Wampanoag people in what now southeastern Massachusetts. The benefits I gleaned from access to that land are part of a long and ongoing legacy of racialized land use policy that facilitates land dispossession on one hand and wealth concentration on the other. But these dynamics do not need to be inevitable in the future. As climate change reorganizes our lives, we also have opportunities to transform the drivers of inequities.

Chapter One: Introduction

“The state continues to encroach and encroach and encroach,” a farmer told me. “They know that water is the blood of land. If they control water, they have the ultimate say over what you can and can't do” (author interview 2018). In the summer of 2018, I interviewed a farmer in her early 30s. She had grown up on a cattle ranch in Siskiyou County, but now raised, along with her husband, chickens, pigs, sheep, and turkeys in rapid rotations. The livestock grazed and rooted nearby as we spoke. The farmers described two primary reasons they are adapting their farm:

To store as much water in the soil as we can, to get us as far into the summer as possible.
[and] The state's going to take the water eventually, so we might as well try to figure out something. (Ibid)

When I asked these farmers to explain more about their water management practices, the conversation became about politics, like nearly every conversation I had in Siskiyou County. One farmer described his impression of people in Los Angeles “turning on their faucets for whatever use whenever they want,” while “the government was demonizing farmers like they're using all the water” (ibid).

This is a case of agricultural adaptation to climate change in a rural, politically conservative county in northern California. California's most intense in a millennium has added another challenge for farmers to an already long list. The farmers quoted above described the difficulty of securing land, finding slaughterhouses, accessing markets, and accessing the benefits of belonging in an agricultural community with dearly held local norms of practice and politics. Siskiyou County, like many other rural places, especially in the Western US, has also become home to politics of division and far-right movements. Climate change is not only terrain in which these political struggles occur, but populism and other anti-government movements are enrolling climate change in their political agendas, causing new forms of division (Fiorino 2022). This is a case of the politics of adaptation, as people on the ground, including local government staff and officials, adapt to environmental uncertainty that will certainly increase.

Farmers have always adapted to change. In this dissertation I show that farmers perceive and adapt to climate change discourse as a component of larger political and belief systems. Farmers may publicly assert that they do not believe in climate change, while actively adapting to it. Farmers in places like Siskiyou experience unprecedented droughts and wildfires; adapting to these is adapting to the impacts of climate change, irrespective of their beliefs. Many, like Kerry and Kris, are structuring their farms and livelihoods in new ways. As differently positioned farmers adapt to the physical risks of climate change, they also navigate a complex landscape of perceived political and social risks, which shape the practices and discourses given authority by other farmers and public institutional actors.

In this dissertation, I examine how farmers, their fields and animals, and household livelihoods have changed as climate changes are affecting water supplies and creating uncertainties to unprecedented degrees. In turn, I examine the circumstances under which diverse and differentiated groups of farmers publicly and privately accept that climate change is occurring—or continue to publicly refute it. I argue that climate change is seen as politics rather than science

or fact to these farmers, and that understanding has had material consequences. To this end, I ask: How is climate change reconfiguring social and political formations in rural northern California? How do local politics of farming mediate farmers' experiences of and adaptations to climate change? What roles have intermediaries like agricultural advisors played over time? What risks do farmers and advisors perceive in association with climate change, and how do those risks influence their responses to droughts and wildfires? How are local-level government actors facilitating or constraining adaptation?

Through an extended case study (Burawoy 1998) in Siskiyou County, focused on a selected community of farmers and associated institutional actors, I argue that the micropolitics and everyday practices of adaptation to climate change—including the recognition of its physical, political, and social impacts—are fundamentally reconfiguring agrarian landscapes in rural places like Siskiyou County. Climate change has rapidly reorganized rural life, producing what Susanna Hecht (2010) called a “new rurality” marked by greater livelihood diversification, migrations, gendered work, and novel ways that rural and urban places blur. As farmers and other rural workers grapple with the impacts of climate change, such as droughts and wildfires, new relations and political alliances emerge.

Situating the case of agriculture and climate change in Siskiyou County

Climate change and US agriculture

Farmers and ranchers experience and confront climate change on the front lines. Their adaptation helps maintain food security, rural economies, and agroecosystem services. While crop and livestock farmers have always managed environmental uncertainty and vulnerability (Brunson and Huntsinger 2008; Coles and Scott 2009), the “increased rate and scale of climate change is beyond the realm of experience for the agricultural community” (Pathak et al. 2018, p 2). Rising temperatures, reduced and unpredictable precipitation, and more intense and frequent severe weather events like droughts and wildfires compound the portfolios of risks farmers and other rural food workers already face (Meraner et al. 2019; Karki, Burton, and Mackey 2020; Duong et al. 2019). Many of these risks stem from existing configurations of market and state power, including inequities in globalization (Liverman 2015) and market access (Morton 2007) with deep roots in colonial histories of extraction and contemporary capital accumulation regimes (Newell 2022). Climate change acceleration also exacerbates other global crises, like biodiversity loss and food insecurity (Kremen and Merenlender 2018), while simultaneously decreasing humanity's capacity to adapt to these challenges (Liverman 2015; Petersen-Rockney et al. 2021).

While climate change may create limited opportunities for select farmers in some regions (e.g., farmers in the Northeast US; see Lane et al. 2018), the impacts of climate change on global agriculture will be, and already are, overwhelmingly negative (Karki, Burton, and Mackey 2020; IPCC 2022). California, one of the most agriculturally important and diverse regions of the world, is already experiencing severe climate change impacts, including record-setting heatwaves, droughts, and wildfires (Bedsworth et al. 2018; Higuera and Abatzoglou 2020). These impacts negatively affect agriculture (Pathak et al. 2018; Woodmansee et al. 2021) and are

only projected to intensify (Karki, Burton, and Mackey 2020).

Mitigation (greenhouse gas capture and storage) and adaptation (adjustment to climate change and its effects) at the local-level shape global dynamics across spatial and temporal scales. When agricultural working landscapes are managed in ways that further simplify ecological and social processes, farming is a major driver of environmental change across the globe (IPCC 2019). Agricultural practice currently causes an estimated 23 percent of global greenhouse gas emissions (IPCC 2019). However, agriculture also has the potential to enhance adaptive capacity and mitigate greenhouse gas emissions, especially when diversification strategies are adopted (Kremen and Miles 2012; IPCC 2019; Petersen-Rockney et al. 2021). For example, field practices that increase soil organic matter can facilitate adaptation to precipitation variability by increasing the soil's ability to hold moisture (a relatively short-term benefit at a spatially localized scale), while also sequestering carbon (a long-term benefit at a global scale) (Gosnell, Charnley, and Stanley 2020). How farmers respond to climate change now not only shapes current resilience outcomes and carbon sequestration: it also structures future adaptive capacity (Wyborn et al. 2015; Petersen-Rockney et al. 2021).

Despite increasing scientific agreement that agrifood systems must transform to conserve biodiversity and support rural livelihoods, a wide gap remains between the biophysical understanding of climate change adaptation and mitigation practices and their adoption by farmers and ranchers (Schewe and Stuart 2017; Davidson et al. 2019; Gardezi and Arbuckle 2020). Many US farmers express skepticism about climate change's anthropogenic origins (Arbuckle et al. 2013; Liu, Smith, and Safi 2014; Grimberg et al. 2018; Singh, Eanes, and Prokopy 2020; Linda S. Prokopy et al. 2015a; Mase, Gramig, and Prokopy 2017; Niles, Lubell, and Brown 2015; Chatrchyan et al. 2017) and do not perceive climate change to be a significant risk to their farms (Stuart, Schewe, and McDermott 2012).

Disproportionate rates of climate skepticism are reported in rural areas (Howe et al. 2015), including among farmers and ranchers (Singh, Eanes, and Prokopy 2020). A prominent explanation for climate skepticism among rural and agricultural populations in the US is the fact that climate change is an especially polarizing topic in this country because of the larger party politics within which it is embedded (Kahan 2012). Further, farmers must muddle through unreconcilable, contradictory, and politically charged information sources, along with their own experiences of physical and perceived risks. Some research has shown that individuals' perceptions of climate change are most strongly shaped by their cultural group alignment (Kahan 2012). Social norms within groups are highly influential in forming and maintaining people's beliefs regarding politically controversial issues like climate change (Takahashi, Mano, and Otsuka 2019). Institutional actors are gatekeeping of material resources and influence farmer perceptions and beliefs about the changes they experience (Davidson 2016). Institutional practice and discourse then also structures how farmers respond to climate change.

My work in Siskiyou County, California, shows that public agricultural advisors—including Cooperative Extension farm advisors and county-level United States Department of Agriculture (USDA) staff (such as Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS) employees)—often play crucial roles as sources of information guiding farmers' responses to climate change. Working as intermediaries between farmers and institutions, such as land grant research universities and experiment stations, as well as with private industry actors

that farmers often trust (Arbuckle, Morton, and Hobbs 2015), agricultural advisors have been shown to increase the pace and scale of farmers' climate action (Wojcik et al. 2014; Arbuckle et al. 2013; Prokopy et al. 2015a; Haigh et al. 2015; Church et al. 2018; Niles et al. 2019). Institutional actors such as county-level USDA staff also administer programs that provide financial resources for farmers, such as low-interest loans and disaster relief programs. How these programs function—by whom and for whom—conditions when and how farmers experience and respond to climate change.

The Intergovernmental Panel on Climate Change (IPCC) identifies social and cultural constraints as some of the most significant barriers to climate change adaptation. The IPCC included sense of place, religious views, and gendered differences as influencing the adaptive capacity of people and communities. With “very high confidence,” IPCC authors report that factors “linked to societal values, world views, and cultural norms and behaviors” constrain adaptation and “influence perceptions of risk, what adaptation options are considered useful and by whom,” noting that this topic remains understudied (IPCC 2014, 915). This dissertation explores some of those cultural factors and specifically demonstrates that social risk perception impacts how US farmers navigate climate change.

Siskiyou County

Siskiyou County in northern California is one of the largest and most rural¹ counties in California (US Census Bureau 2022). Siskiyou has a low population density (7.2 people per square mile), majority white residents (85 percent),² and a poverty rate of 14.3 percent (compared to 11.6 percent nationally) (United States Census Bureau 2022). The unemployment rate in Siskiyou County is about twice the rate in California and the US (NoRTEC 2016). The largest city and county seat, Yreka, is home to just under 8,000 people (US Census Bureau 2022).

Agriculture is the fifth largest employer in Siskiyou County, although agriculture is still a relatively small economic engine in an economically depressed region (NoRTEC 2016). Yet farming holds an outsized political and cultural influence in the region. While Siskiyou County is officially home to just under a thousand farms, official census data systematically undercounts those who have been marginalized. For example, the 2017 USDA Census only lists two ‘Asian farmers, despite county own estimates of several thousand Hmong farmers by 2017 (Polson and Petersen-Rockney 2019; St. John 2017; Siskiyou County 2017b).

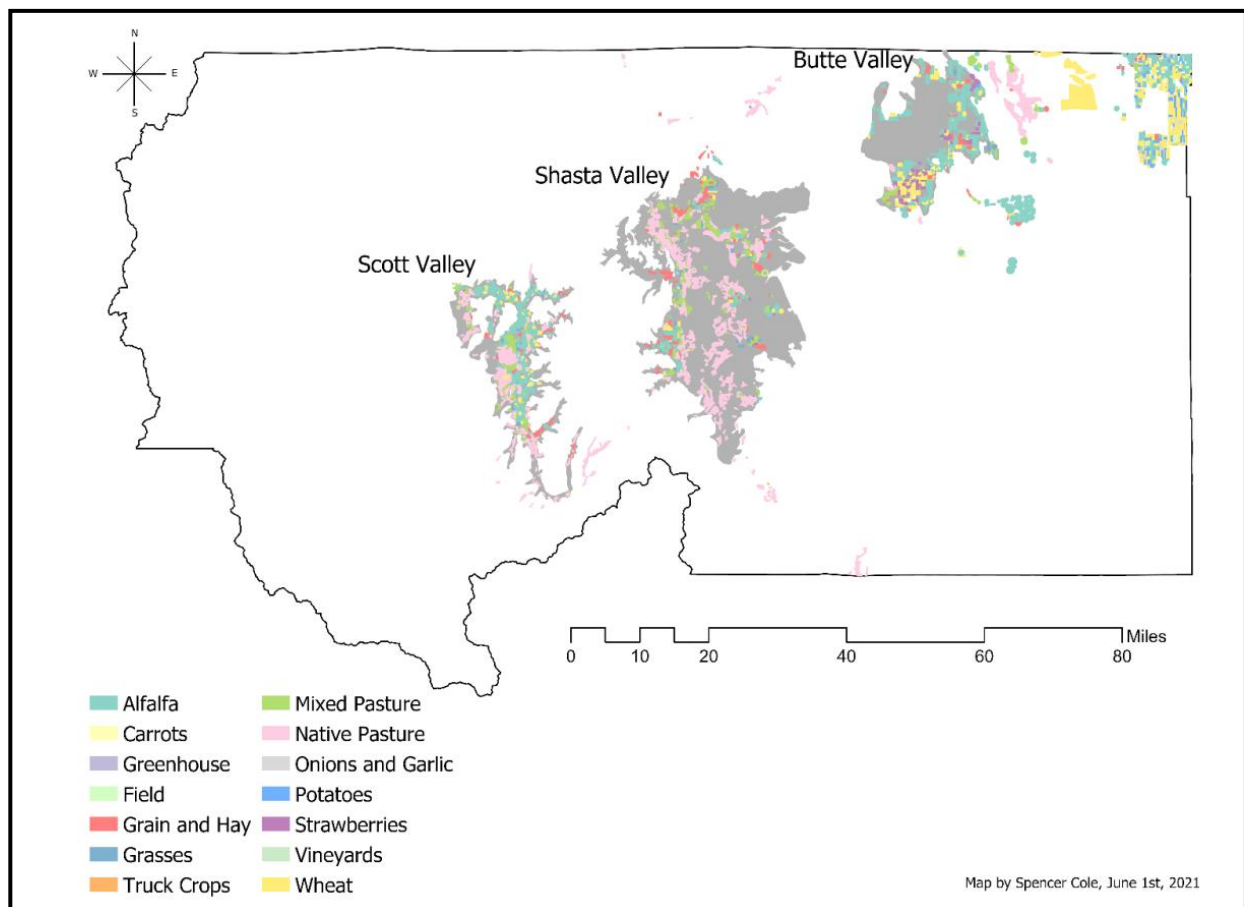
Many farmers in Siskiyou, even those not considered below the poverty line, struggle to reconcile their agricultural livelihoods with the economic and material constraints they face. As recently as 2012, farmers in Siskiyou reported an average net income of just \$10,331, compared to \$109,474 for the average California farmer (USDA NASS 2012). About half of farm principal

¹ The USDA's Economic Research Service defines Siskiyou County as a non-metropolitan area, comprised of ‘open countryside,’ rural towns with fewer than 2,500 people, and urban areas with fewer than 49,999 people (USDA ERS 2021).

² The 2020 US Census reported ‘Race and Hispanic Origin’ in Siskiyou County: 85.3 percent white; 1.2 percent Black or African American; 5.2 percent American Indian and Alaska Native; 1.7 percent Asian; 0.4 percent Native Hawaiian and Other Pacific Islander; 5.8 percent Two or More Races; 13.9 percent Hispanic or Latino; 74.2 percent White, not Hispanic or Latino. Accessed Nov. 2022.

operators in the county report farming as their primary occupation, and the majority of farm families rely on at least one off-farm income earner (USDA NASS 2017). Reported farm operators in Siskiyou and California are mostly white (98 percent and 92 percent, respectively) and male (62 percent and 68 percent, respectively), with an average age of 60 years. The USDA Census of Agriculture reports that one third of farmers and ranchers in Siskiyou County are considered “beginning,” defined by the USDA as having operated their current farm for fewer than 10 years (USDA Census 2017). The most prevalent, and still considered by many as “traditional,” agricultural products in the region are hay/alfalfa and cow/calves. Timber has also historically been an important driver of the local economy.

The western third of the county is primarily mountainous forest land, much of it federally owned.³ Outside the region, Siskiyou County is perhaps best known for being home to Mount Shasta, an active volcano that last erupted in 1786, its snowcapped peak visible from many parts of the county. The eastern side of the county is, ecologically, an extension of the Great Basin province of high elevation, dry ecosystems in the western US.⁴ There are three primary agricultural areas in the county, separated by mountain passes.



³ Over 60 percent of Siskiyou County's land area is publicly owned (Siskiyou County Website: <https://www.co.siskiyou.ca.us/naturalresources/page/federal-lands> Accessed Nov. 2022).

⁴ While the eastern side of Siskiyou County shares Great Basin ecological indicators, hydrologically much of this area is within watershed that does drain to the ocean.

Figure 1: Siskiyou County Map showing the three agricultural valleys (from west to east: Scott Valley, Shasta Valley, Butte Valley/Tulelake), as well as top agricultural crops by land area. (Source: Cole and Medellin-Azuara, Supplemental Information for the Groundwater Sustainability Plan, 2021.)

Shasta Valley is the largest agricultural area in Siskiyou County. Grazing beef cattle still dominate the valley's landscape. Interstate 5 was built through the middle of Shasta Valley in the 1960s, connecting urban centers and rural areas up and down the western seaboard. Just east of interstate five and north of Mount Shasta lies Mount Shasta Vista, one of the largest rural subdivisions in the county that has recently become home to many Hmong Americans and the center of debates about law enforcement, cannabis cultivation, and racial disparities. White cannabis growers have lived in the hills in the western part of the county and surrounding the valleys for decades (see Polson and Petersen-Rockney 2019).

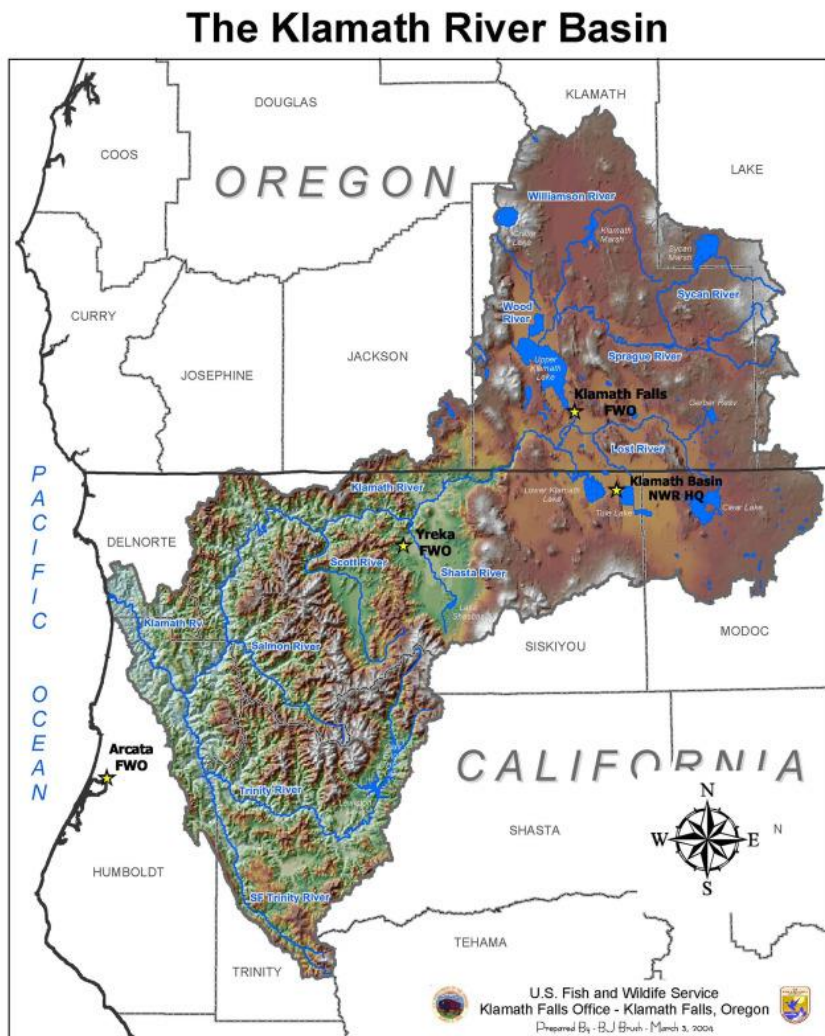


Figure 2: Map of the Klamath River Basin showing major waterways and county boundaries. From U.S. Fish and Wildlife Service 2013.

Just over the Marble Mountains, to the west of Shasta Valley, is the Scott Valley, a lushly irrigated patchwork of livestock pasture and alfalfa fields. Scott Valley is picturesque, with the Pacific Crest Trail skirting its southern and western edge and the charming towns of Fort Jones and Etna at its northern and southern poles. It is home to many of the recent in-migrant farmers, many of whom moved to the area during the mid-2010s, engaging in agritourism and operating more diversified direct-market farms (Chapter 6). Yet the majority of farming residents—primarily those who raise cow/calf pairs and grow hay, but also some who are diversifying their farms—proudly trace their family roots back five or six generations to the mid-19th century and follow a preservationist and isolationist local politics. They are predominantly white. Residents of the valley developed a watershed-wide land use plan that was approved by the county in 1980 and continues to govern land use, restrict development, and set minimum parcel sizes (Scott Valley Area Plan 1980).

In the northeastern part of the county, the high Butte Valley leads into Tulelake. This area is home to most of the county's commercial row crop enterprises. Butte Valley now boasts the most lucrative licit agricultural export from the county—strawberry plant starts. Grown by a few multinational firms, many of the California's strawberry starts are grown in Butte Valley's cold sandy soil (Aho 2010; Siskiyou County 2020). The eastern extension of this area includes the town of Tulelake, where the potato industry once boomed and now farmers grow some potatoes, but also onions, mint, horseradish, and other row crops (Turner 1988; Siskiyou County Crop Reports 1957–2020).

All three of these agricultural areas lie within the Klamath River Basin (Fig. 2). The Scott and Shasta Rivers are crucial tributaries of the Klamath River. Fed by cold water springs that bubble up through underground lava tubes, these two tributaries of the Klamath River are some of the last stretches of water in the lower 48 states where wild (and endangered) Coho and Chinook salmon still spawn. The Klamath Basin's watershed is unusual: most watersheds form a drainage of steeper and wetter areas that flow towards flatter and drier areas. But the Klamath watershed does the opposite: the upper basin, where the river's headwaters are, is dry and relatively flat and the lower basin is more mountainous and wet as the water flows towards the Pacific Ocean. Siskiyou County is in the middle (Fig. 3). Without the steep mountains and valleys more typical of upper basins, agricultural production has been able to expand in the watershed source areas and water runoff, capture, and storage have been limited in those agricultural areas (Doremus and Tarlock 2008).

The struggle for water, an ever-more inaccessible resource, is pitting the livelihoods of farmers against those of Native American tribal members, including the Klamath, Karuk, Yurok, and Hoopa Tribes, and has inflamed tensions between rural communities and California's growing urban centers. In spite of the decline in the number of small family farms in many regions of the US, Siskiyou County's lush, irrigated valleys are still home to many of these family farms and ranches (Labao and Meyer 2001). These farmers and newer in-migrants are diversifying their farming practices and livelihood strategies in response to compounding social and ecological crises. Siskiyou County provides an excellent opportunity to examine ways that everyday practices and livelihood strategies of farmers and those who work with them are affected by, and are adapting to, ecological, political, social, and economic change.

Theoretical debates

This dissertation contributes to scholarship on farmer decision-making and risk; the politics of agricultural differentiation; and a particular configuration of what Norma Giarracca dubbed, “new ruralities.”⁵ Climate change, I argue, is shifting our understandings of the social and socioenvironmental relations addressed in each of these three fields of rural sociology and geography. It catalyzes the rapid reorganization of rural spaces, as farmers and other rural professionals like agricultural advisors navigate perceptions of risk and respond to climate change’s physical, political, and social impacts. Farmers, across social divisions and irrespective of their beliefs about climate change are, nevertheless, adapting to its impacts. Adaptive field management practices and livelihood strategies are political, forming a micropolitics of practice that can differentiate farmers within their households and broader communities, while also forming contested political terrain. While to outsiders the transformation climate change has engendered in Siskiyou County may not appear spectacular, locally these relations are shifting rapidly and creating new ecological and political possibilities.

Climate change perceptions and decision-making through the lenses of risk

Scholarship on farmers’ decision-making has primarily focused on the adoption of best management practices that improve conservation outcomes, often used as a proxy to understanding adoption dynamics around climate change-related field management practices (Prokopy et al. 2019; Schewe and Stuart 2017). Much of this research continues to assume, explicitly or implicitly, that farmers are individual economically rational actors, despite evidence to the contrary (Hyland et al. 2016; Findlater et al. 2018). Farmers often make economically irrational decisions—to, for example, invest in conservation or retain unprofitable land holdings (Farmer-Bowers and Lane 2009)—based on factors like their socially constructed sense of identity, place, and culture (Lequin, Grolleau, and Mzoughi 2019). Following long-standing understandings of ranchers and farmers as “lifestyle consumers” as much as producers (Lacey and Workman 1986), Prokopy et al. (2019) call for research that “examine[s] both individual-level and structural factors” (p. 532) of farmer decision-making. Yet research that synthesizes scholarly understanding of farmers’ decision-making finds, for example, that Ajzen’s (1991) Theory of Planned Behavior remains an often-utilized, but unreliable, framework to predict farmer behavior based on farm or farmer characteristics (Prokopy et al. 2008; 2019). Individual farm characteristics (e.g., farm size or crop type) or farmer characteristics (e.g., farmer experience or age) fail to provide consistent explanatory power for farmer decision-making (Prokopy et al. 2019). Structural forces, like access to technical assistance or credit, and cognitive factors, like personal agency and beliefs, shape farmers’ decision-making most significantly (Takahashi, Mano, and Otsuka 2019). Environmental awareness and trust in information sources, for example, motivates the adoption of conservation practices, while insecure land tenure and negative perceptions are the most consistent barriers to farmers’ implementation of such practices (Ranjan et al. 2019).

Research on farmers’ decision-making regarding adaptation to and mitigation of climate change

⁵ The term “new rurality” is attributed to rural sociologist Norma Giarracca, and is “a home grown, Latin American approach to rural studies” (Kay 2008, 919).

increasingly focuses on attitudes about and awareness of climate change, emphasizing the relationship between perceptions and action (Findlater et al. 2018). Recent scholarship also calls for a greater emphasis on understanding *how* farmers and ranchers make decisions (Wilmer et al. 2019), especially how social constructs of climate change shape mitigation and adaptation practices (Nguyen, Seddaiu, and Roggero 2019). Understanding farmers' identity as co-constructed within a situated ecological and cultural context creates new opportunities wherein stakeholders—including farmers, researchers, and policymakers—can link individual and structural decision-making factors (Coughenour 2003; McGuire, Morton, and Cast 2013).

Foundational scholarship on risk (e.g., Beck 1992) provides theoretical scaffolding to build a bridge between individual and structural decision-making and situate those decisions in material and cultural contexts. Risks drive or impede action. Risks do not form direct physical threats independent of contested cultural and cognitive constructs (Beck and Kropp 2007; Sjöberg, Moen, and Rundmo 2004). Instead, social contexts, cultural processes, and prior commitments to certain beliefs shape how people understand risks (Wilkinson 2001). Since risks are situated in everyday experiences and are experienced through perceptions, what Beck and Kropp (2007) term “virtual risks” do not need to physically exist to cause material social or economic losses. For example. Thus the “distinction diminishes and gradually vanishes between real risks and the perception of risk” (Beck and Kropp 2007, 7).

While scholars of risk tend to argue that risk is a socially constructed phenomenon that appears psychologically proximate (Beck 1992; Wilkinson 2001; Beck and Krop 2007), arguably climate change may be experienced as concrete but psychologically distant, leading many individuals to believe that it will not affect them (Singh et al. 2017).

I employ a cultural theory of risk in the context of farming in Siskiyou County, which situates individual understandings and responses to risk in group perceptions (Beck and Kropp 2007; McNeeley and Lazrus 2014). This framing allows for interpretations based on beliefs, ways of life, practices, and institutional discourses (Douglas and Wildavsky 1983). One's peers, for instance, influence each other's approach, understanding, and response to risks (Joffe 2003). Institutions—like the USDA and Cooperative Extension—also shape social perceptions of factual risk and individual responses (Beck and Kropp 2007; McNeeley and Lazrus 2014), including farmers' willingness and capacity to adopt specific management practices (Baumgart-Getz, Prokopy, and Floress 2012). Risk perception is often understood to include a person's cognitive experience of the nature, probability, severity, and consequences of a threat (Sjöberg 2004). These factors are shaped by the cultural and individual context in which they are perceived (Slovic 1997), including political ideology, subjective experiences (Marlon et al. 2019), beliefs about nature, social interactions, and cultural worldviews (McNeeley and Lazrus 2014). In Siskiyou County, a cultural theory approach helps contextualize individual farmers' decision-making in broader structural and political contexts, highlighting the entwined relationships between individual and group perceptions and experiences.

Farmers hold diverse perceptions and beliefs regarding climate change, its origins, and its impacts (Singh, Eanes, and Prokopy 2020), which foster differing responses in different cultural and ecological contexts (Karki, Burton, and Mackey 2020). Social factors not directly related to farming most strongly shape farmers' beliefs about climate change and its origins (Singh, Eanes,

and Prokopy 2020), as well as perceptions of its impacts and appropriate responses (Karki, Burton, and Mackey 2020). These include self-perceptions (Morton, McGuire, and Cast 2017) of agency (Inman et al. 2018) and identity (Morton, McGuire, and Cast 2017), social interactions with farmers and non-farmers (Knapp and Fernandez-Gimenez 2009), and political affiliations (Dunlap, McCright, and Yarosh 2016; Takahashi, Mano, and Otsuka 2019).

Climate change is a politically divisive issue in the US (Kahan 2012). Rural people often associate warnings and actions around climate change with progressive political and environmental groups (Singh, Eanes, and Prokopy 2020), groups that Prokopy et al. (2015a) argue US farmers often do not generally trust. Of course, physical impacts and risks, like droughts and heatwaves, are not the only effects of climate change that farmers experience. Peoples' cultural experiences of climate change, through media exposure (Findlater et al. 2019) and political affiliation (Dunlap, McCright, and Yarosh 2016), strongly influence climate change beliefs and perceptions. And those individual experiences—and the cognitive factors that form and are formed by those experiences—shape farmers' frames of reference through their role in society, group interactions, and institutional engagement (Burke and Stets 2009).

In Siskiyou County, like many rural places across the globe, the cultural and ecological contexts in which farmers experience, perceive, and respond to climate are changing. As physical climate change impacts become more extreme, farmers have little choice but to respond. Simultaneously, political polarization is reaching new zeniths with the rise of authoritarianism and far-right political movements, which increasingly enlist climate change as a culturally divisive topic (Fiorino 2022). As a political process, adaptation to climate change raises the stakes for some farmers as they navigate material risks and unreconcilable information and worldviews. Decision-making around adaptation is an especially good place to examine these dynamics and contradictions, given that adaptation is more locally influenced than decision-making around mitigation (Haden et al. 2012). Moreover, adaptation practices in response to actual or projected climate change impacts are often adopted before mitigation practices that sequester carbon (Arbuckle et al. 2013). Many adaptation practices also offer mitigation co-benefits (Gosnell, Charnley, and Stanley 2020; Findlater et al. 2018). I examine the power dynamics of adaptation and mitigation by analyzing the micropolitics of agrarian change resulting in the new ruralities of Siskiyou County. I situate my analysis of adaptation within the social structural contexts of place to avoid the pitfalls of adaptation discourses that present climate change crises as “natural” and apolitical (Camargo 2013).

Politics of agricultural differentiation

Differentiation is the process by which classes or other social groups form in relation to each other—farmers “establish their commodity enterprises at the expense of their neighbors who are poorer farmers” (Bernstein 2010, 108). Today, differentiation is driven by different forces than at its inception, yet still through processes of ongoing primitive accumulation, enclosures, and commodification. Enclosures, often known today as land or resource grabbing, leave former landholders no option but to sell their labor, to earn wages, and purchase rather than produce what they need to survive. These processes are intersectional with other forms of social difference, including gender, race, and nationality. Feminist scholar Silvia Federici wrote that

capitalism “has been above all an accumulation of differences, inequalities, hierarchies, divisions, which have alienated workers from each other” (Federici 2004, 115) and “planted into the body of the proletariat deep divisions that have served to intensify and conceal exploitation” (p. 63). Differentiation is the result of these processes that are “necessarily committed to racism and sexism” (Federici 2004, 17).

While gender differences and dynamics, for example, vary by class and localized histories and geographies, women’s reproductive labor is often under-valued (Federici 2004). In the US agricultural contexts, women do much of the mental and manual labor of household reproduction, including, often, food provisioning, yet generally control fewer resources and hold less decision-making power, both in households and wider communities, than their male counterparts (Allen and Sachs 2007). Households have never been sites of consensus or only collective interests; individuals in different positions within the household or the family also shift in their relationships to other household members over time, as they do to others in the community (Barlett, Labao, and Meyer 1999). It is therefore, necessary to explore the politics of differentiation within the household too. This case shows how women and younger members of multigenerational families are navigating their multiple roles in the household and wider communities, leading adaptation efforts, and asserting new kinds of farming in the face of water scarcity.

In the agrarian question tradition,⁶ scholars of US agriculture have largely explored questions of family farmer persistence (which Vogeler (1981) calls “proto-proletariat” and Akram-Lodhi and Kay (2010) call “proto-capitalists” or “capitalists of little consequence”). Family farms, in which family members provide most farm labor and decision-making (Labao and Meyer 2001), survive alongside, and are incorporated into, capitalist modes of production that exploit them without eliminating them. In the era of the 1980s farm crisis—a period of rapid rural farm reorganization—scholars articulated the ways in which capitalist agribusiness outsources the risks of farming to farmers and accumulates capital by controlling more lucrative upstream and downstream markets, skimming surplus value off products rather than replacing the producers (Pfeffer 1983; Vogeler 1981). More recently financial firms have found new ways to extract surplus value from farmers (Fairbairn 2020) and profit from risks of environmental and political uncertainty (Fairbairn et al. 2021). Farmers who comprise the middle class, including ‘middle peasants’ and family farmers, are in an especially precarious position, vulnerable to economic and environmental shocks that can further differentiate or displace these farmers (Bernstein 2010). Differentiation, along with the related phenomena of displacement, continues to drive dispossession (Araghi 2000). Today many of those farmers who have been made workers are

⁶ The agrarian question is concerned with the ways these processes unfold in rural agricultural contexts—particularly the barriers, forms, and extent of capitalism’s influence on farming (Akram-Lodhi and Kay 2010). The classic agrarian question debate—between Lenin, Kautsky, and Chayanov—focused on economic class through changing property relations, and how those changing class and property relations shaped the political role of 19th century peasants in Russia and Germany. The fact of peasant persistence was, and is, central to these debates. Lenin (1899) noted that instead of being antagonistic to capitalism, peasants were “its deepest and most durable foundation” (p. 131). Kautsky (1899) observed that large and small farmers “like capitalist and proletariat, they require each other” (p. 167). Chayanov (1986) argued that peasants were not motivated by profit alone, but also by a constellation of logics internal to the farming household. The peasant family did not therefore need to produce surplus value and could exist in what neo-Chayanovian scholar Van der Ploeg (2015) called “anaerobic” conditions that lacked the oxygen of profit.

landless, homeless, indigenous, migrants, informal workers, and hungry amidst abundance, forming the basis of contemporary articulations of the agrarian question (Akram-Lodhi and Kay 2010). Yet capitalist development is uneven and persistent; primitive accumulation is an ongoing process as capital erects barriers and creates crises only to gain in overcoming them (De Angelis 2004), climate change being a prime example (Borras et al. 2022).

Capitalist relations, the crises they create, and the responses to those crises, all spur social differentiation. This trifecta of processes is mediated through and facilitated by the state. As Bernstein (2010) writes, “The economic and social power of capital, rooted in a system of property and commodity relations, has to be secured through its political and ideological rule” (p. 116). Yet the politics of differentiation are contested on the ground. Those drivers of differentiation are experienced in heterogeneous ways, meaning that “the ‘translation’ of ‘social facts’ into ‘political facts’ is always contingent and unpredictable” (Mamdani 1996, 219, quoted in Bernstein 2010, 116). Debates about class formation must better address individual and local historical experience, agency, and variation. It is at this intersection of political and social perceptions and immaterialities that the politics of differentiation lies, shaping and being shaped by the state.

Over the last century, land grant institutions have fostered a division of labor in science, helped create technologies easily privatized, and extended particular modes of production that were often expensive and inaccessible to many farmers (Kloppenburger 2005; Hightower 1972; Vogeler 1981). State services like Cooperative Extension assistance, for example, can facilitate differentiation at the local level by heralding archetypes of “model” farmers deserving of these services at the exclusion of others (Taylor and Bhasme 2018). My dissertation underscores this scholarship by demonstrating how state interventions aimed at assisting farmers as they adapt to water scarcity may further differentiate farmers in Siskiyou County as: A) this financial and technical assistance is only offered to a narrowly defined subset of farmers (productivist producers of certain products, who are often white and male. E.g., Minkoff-Zern 2019); and because B) these interventions fail to address the underlying structural inequities or the process that drive those structural formations, serving where they do as important band aids, predicated on education of already knowledgeable farmers rather than, for example, restructuring farmland access and tenure (e.g., Calo and De Master 2016).

In addition to the state, the environment is crucial in structuring politics of agricultural differentiation. Bringing climate change into the agrarian question extends the work of agrarian scholars in proposing new articulations of the agrarian question (Akram-Lodi and Kay 2010), and may clear “ecological blind spots” (Taşdemir Yaşin 2022, 1358). The case of farmers and local government grappling with droughts and wildfires in Siskiyou County highlights the fact that climate change is not experienced as a purely physical or environmental problem, but also as a social problem. An over-emphasis on the physical and environmental aspects of climate change can, however, risk diverting attention away from the socio-political causes of climate-related crises, which may depoliticize disasters and fail to locate responsibility in institutions, policies, and decisions beyond the purely climatic (Lahsen and Ribot 2022; Camargo 2013). Instead, the politics of differentiation are central to the ways that farmers navigate climatic change. Not only does resource scarcity, as during drought, deepen social differentiation, but it also:

reveal[s] new social divisions that, in sum, can be seen as class formation... The

proliferating tensions and struggles between generations and genders, or between groups labeled by region, ethnicity, or religion, are intimately tied up with dynamics of division and exclusion, alliance and inclusion that constitute class formation. (Peters 2004, 291, 305)

This dissertation explores how divisions and exclusions, as well as alliances and inclusions all form in the contested space of climate adaptation. The environment, including climate change, has “become a central political terrain of rural struggle in the context of the world-historical expansion of extractivist agrarian accumulation” (Taşdemir Yaşın 2022, 6). As in many rural places, the politicization of nature and climate is pervasive across social groups in Siskiyou County. As my work illuminates, farmers are defensive, and sometimes non-compliant, yet nevertheless perceptive of risks associated with climate change.

New ruralities and rural reconfiguration in the context of climate change

The concept of new rurality emerged in the wake of market liberalization and globalization measures which, in the 1980s and 1990s, spurred rapid rural reorganization in Latin America. Building on the agrarian question, analyses of new ruralities help explain how small-scale rural agriculturalists “have not disappeared so much as diversified and hybridized, albeit with varying degrees of success” (Fairbairn et al. 2014, 659). Hecht (2010) argued that the transition of small-scale farmer economies was not “proceeding into traditional ideas of a ‘uniform’ modernity, but rather into a set of complex systems where traditional forms accommodate and transform contemporary conditions of globalization as they restructured rural landscapes” (p. 167). In the 20th century, small-scale farmers across the globe were not so much disappearing as differentiating and rapidly becoming “largely semi-proletarianized, semi-globalized and increasingly semi-urban” (Hecht 2014, 878).

Scholars of new ruralities developed a framework to understand multiscale rural reorganization as “the interaction of large scale and local forces, agrarian and non-agrarian livelihoods, formal and informal economies, national and international processes [which] interact to produce actions and politics” (Hecht 2010, 163). These actions and politics were both shaped by and adaptations to large-scale trends like market liberalization measures and trade policies, but also local-level dynamics such as agricultural livelihood diversification, migrations, and remittances (Hecht 2010). Some scholars, however, argued that new ruralities were not that new, but instead the result of “the intensification of long-entrenched processes” (Hecht 2012, 201; see Kay 2008). Others argued that the neoliberalism of the 1980s produced a fundamental rupture that required new perspectives.⁷ In an attempt to bridge this debate, Kay (2008) acknowledges that “nothing has really changed as the problems of poverty, violence, inequality, injustice, social exclusion, and so on, continue to exist,” while suggesting that the “reasons for such situations may differ from the past, and the new rurality approach might lead to changes in public policy which tackle more effectively some of the problems mentioned—or at least prevent them from worsening” (Kay 2008, 921). The theoretical power of new rurality was in an approach that gave persistent problems new priorities, and, in doing so also asserted “that rural life can be sustained” (Kay 2008, 928).

⁷ This rupture temporally aligns with food regime theory ruptures presented from a settler-state/hegemonic perspective (see Friedmann and McMichael 1989).

In this dissertation, I extend new rurality theory by arguing that climate change presents a rupture of global importance (see Hecht 2010 and Edelman et al. 2017), fundamentally re-organizing relationships in rural places like Siskiyou County, California. Bringing climate change into new ruralities sheds light on persistent inequities, such as who controls and can access resources, which climate change is exacerbating. In this case, the environment and politics around climate change are reorganizing forces in new ruralities, expanding opportunities for powerful local actors to benefit from changing land and water resources and the policy that shapes who can access those resources. Hecht (2010) suggests that the neoliberalism of the late 20th century was accompanied by the “ascendancy of global environmentalism and environmental justice movements” (p. 163), providing political impetus for changing ecological, state, and market relationships. In McKay’s (2022) study of smallholders in the Bolivian highlands, they show how livelihood diversification—a hallmark of new rurality—sometimes includes activities that are environmentally harmful, such as mining, which then threaten farmers’ ability to persist by “undermining the material basis” of production and reproduction (p. 1).

Similarly, climate change is not only fundamentally re-organizing rural spaces—it is also exacerbated by industrial agriculture and negatively impacts farmers. As a contributor to greenhouse gas emissions and land use changes, farming (at least in its dominant, capital-intensive form) is contributing to its own vulnerability. Climate change is inviting “nature” back through the farm gate in the form of environmental uncertainty and severe weather events. This kind of human-caused nature is an active participant in relationships of social transformation and rural re-organization (Camargo 2013). Not only is the climate increasingly unpredictable, making nature more difficult to adapt to, but the effects of climate change are exacerbating other factors farmers must contend with, like access to markets, water, and land. Nature-as-climate change can no longer be subsumed or predicted via the tools of previous ruralities, like infrastructural technologies or input substitutions.⁸ The politics around climate change, and climate change-induced “nature” itself, are qualitatively different than previous conceptions of nature in agriculture.

Dynamics of new ruralities

Though primarily applied to contexts in the global south (Kay 2008; Hecht 2010; 2014; McKay 2022; Nambi and Raghu 2022), key dynamics of the new rurality framework are also present in agricultural systems in the US, and yield new insights when applied in the context of climate change. These include: (1) *livelihood diversification* via increased reliance on non-agricultural incomes in rural households, often the result (or cause) of (2) increased *migrations*, and (3) the “*flexibilization and feminization of rural labor*,” which (4) *blurs urban and rural boundaries* (Hecht 2012, 201, emphasis added). Below I briefly outline how my case speaks to each of these dynamics.

⁸ While this contradiction is evident, it is neither the full story nor, I would argue, a politically helpful one. For one, agriculture’s contribution to climate change is less significant than certain other sources, energy production or cement manufacturing, and completely predicated on farming practices; with diversifying agroecological practices, agriculture can become a sink instead of a source. More importantly, blame discourse focused on rural individuals directs attention away from corporate and state actors who structure these broader conditions. Blame also leads to backlash, which makes nature and environmental action politically divisive.

Livelihood diversification in rural areas is a key attribute of new ruralities especially the importance of non-agricultural incomes for farmers (Kay 2008). In the US, farmers especially smallholders have long-been both producers and wage laborers (see Vogeler 1981), operating according to multiple logics simultaneously (e.g., Minkoff-Zern 2019). Farmers across the globe operate within “a variety of markets and have multiple linkages to urban areas” (Kay 2008, 922). Farmers in Siskiyou County, like those elsewhere, hold complex class positionings. Livelihood diversification as climate adaptation strategy is fraught with cultural challenges, especially in places like Siskiyou County where many farmers multigenerational identities are entwined with specific ways of farming and visions of who is a farmer.

Migrations are central in new ruralities, yet in scholarship to date they are almost exclusively discussed in terms of temporary out-migrations from rural to urban areas for work to help fill coffers back home (e.g., Kay 2008; Hecht 2010; 2014; Nambi and Raghu 2022). This case expands the importance of various kinds of migrations, especially in-migrations to rural areas, in the formation of new ruralities. (Migrations that produce remittances do occur in Siskiyou County—for example, some Hmong farmers I spoke to reported sending money to family members in the places they had most recently lived, like Fresno, California and St. Paul, Minnesota, to fund the urban educations of their children and grandchildren.) Climate change has spurred the in-migration of new farmers and new farming practices to Siskiyou County. This case highlights how in-migrations—including retired amenity buyers and young new entry farmers, many of them white, as well as Hmong farmers from places like Fresno, California and St. Paul, Minnesota—are actively shaping the new rurality of Siskiyou County. These migratory arrivals entwine with the onset of California’s worst drought in a millennium. My work illuminates how these in-migrations, and the changes in local cultural priorities and land values they incite, exacerbate rural anxieties about the loss of multigenerational cow/calf and hay farmers who exercise social capital and political power in the region. The difficulties of social reproduction on these farms have changed not only because of climate change, but also because of changing values and circumstances. Agricultural production in new ways is being reproduced, but in some new ways and by new people to the region.

Flexibility and feminization of rural work has been another consistent dynamic across new rurality literatures. In Latin America, permanent and better paid rural wage work done by men was increasingly being replaced by the poorly paid labor of women in the second half of the 20th century (Kay 2008; Hecht 2010). In the US context, women in farm families are also often the family members who seek off-farm wage labor (Barlett, Labao, and Meyer 1999; Ball 2019). In the context of climatic and political change that renders water less reliably available for irrigation in northern California, women in farm families are increasingly seeking more permanent off-farm work (e.g., in healthcare and government). Simultaneously, women in farm families in Siskiyou County often asserted decision-making as farming adapted. At the margins of establishment farmers’ social groups. Women within multigenerational farm families may exercise greater flexibility in adaptation, diverging from local norms of farm structure and management practices as they adapted to changing conditions.

The final dynamic identified across new ruralities literature is the *blurring of rural and urban boundaries*. In empirical cases in Latin America, scholars identified “important changes in the rural area that appear to mark a new stage in its relationship with the city and with society in

general, both at the economic level and in social, cultural and political terms” (de Grammont 2004, 289 in Hecht 2012, 201). Dichotomies between “urban” and “rural” are, in the contemporary era, more widely understood to be blurred (Fairbairn et al. 2014). Questions around new ruralities emphasize these processes, which the case of Siskiyou County exposes as contentious as new in-migrant farmers move to the region. Specifically, this work contributes to scholarship on the role of local county-level government, which carefully safeguards boundaries around who counts as a farmer and what qualifies as agriculture, sometimes in opposition to state and federal policy, resulting in disparity in access to the services these institutions provide.

Governments in Latin American played crucial roles in structuring crises of accumulation through dispossession via displacement (Akram-Lodhi and Kay 2010). Yet the new rurality framework has been critiqued for deflecting attention away from the politics that form the state and failing to center class analysis (Kay 2008; Ramírez-Miranda 2014). Employing new ruralities alongside literature on the politics of agricultural differentiation *and* farmers’ decision-making highlights how climate change and related state policies, facilitates the emergence of what DeMaster (2018) termed “new rurals,” which build on new ruralities by emphasizing novel cultural assemblages and configurations. As agricultural communities struggle to adapt to changing politics, demographics, and an increasingly harsh climate, this dissertation argues that new rurals are sites of contention and possibility.

Research approach

See methods appendix for additional details and data collection instruments.

My own social positioning is crucial to the work that I do. After growing up on a farm, operating my own personal farm, and working with farmers in non-profit organizations, I came to graduate school knowing I wanted to conduct climate change research with farmers. During the summer after my first year at Berkeley, I worked with UCANR Cooperative Extension advisors in northern California and specialists affiliated with the Karuk-University of California-Berkeley collaborative. With tensions over water high in the Klamath River Basin, Karuk Tribal members involved in salmon restoration helped guide research priorities around agricultural water use. By the beginning of 2017, it was clear that the intense drought was persisting, and there was not enough water for all prospective uses. Yet the number of new farmers and irrigated acres was increasing. Endangered salmon, crucial to the cultural livelihoods of Karuk, Yurok, and other Indigenous communities in the Klamath Basin, were in peril. Initial research on farmers’ water use practices and responses to drought brought me to Siskiyou County. Here I want to be explicit that I am not writing a dissertation wherein race is a direct analytical topic. Since topics on climate adaptation and agriculture do not exist in a vacuum free of systemic racism content on race ought to be included in all research.

Researchers are often drawn to cases by a personal connection—tangible or emotional—to them (Walton 1992), and this was certainly true for me given my farming background. The choice of a case, then is often justified either by it being like other cases, or by it being unique, or deviant, in some way (Walton 1992). Siskiyou County is both similar to many other places and unique. Like many rural places, the Siskiyou area is rapidly experiencing ecological, social, and political change. Yet those dynamics are extreme—wildfires and droughts portent the intensity of impacts

that climate models suggest many places will experience in the future. Additionally, the politics around climate change are conservative, divisive, and raw in Siskiyou County. Looking back on my dissertation research experience, I also feel certain that, as climate models portend, situating my research nearly anywhere would have been interesting. Siskiyou is similar to many rural areas of the US because people and places are complicated everywhere, and Siskiyou is unique because every place has its own milieu of situated and changing dynamics. Importantly, climate and agrarian justice struggles are place-based; even as farmers migrate or are landless, farmers are still land-based. Therefore, these struggles unfold in particular places that offer insights of broader importance in relation to land and “the particular social dynamics that shape the winners and losers from particular pathways, dynamics of extraction and value creation and how local sites of conflict are embedded within broader power relations” (Newell 2022, 919).

I employed an extended case methodology to locate everyday dynamics in broader social contexts, and to link micro and macro forces, enabling societal significance to emerge from detailed empirics (Burawoy 1998). An in-depth longitudinal study enabled me to take account of complex and varying social and ecological conditions (Findlater et al. 2018). I employed mixed, primarily ethnographic methods, including formal in-depth interviews with farmers (n=84) and key informants like agricultural advisors, government employees, and local business and non-profit leaders (n=54), livelihood analyses with extended farm families (n=6), and participant observation, which included attending local meetings and assisting in farm tasks. I contacted people through a social network sampling recruitment method (aka “snowball” sampling), which allowed me to trace social connections (Parker, Scott, and Geddes 2019). Qualitative methods helped elucidate farmers’ attitudes and values concerning the potentially sensitive topic of climate change (Takahashi et al. 2016). I transcribed the qualitative data for this work using Tring software. I hand-corrected errors and then coded my transcripts and research notes in MAXQDA, informed by a grounded theory approach (Thornberg and Charmaz 2013). To reduce confidentiality breach risks, some farmer details associated with specific quotes have been changed (e.g., gender or crop type), while maintaining a representative distribution of these characteristics across the manuscript. I used pseudonyms and generalized dates on interview citations (for formal and informal interviews) throughout this dissertation to protect the identities of the people I interviewed. This was particularly important because it was impossible to disguise the setting of the research. Institutional actors are generally referred to as “agricultural advisors,” representing an even distribution of staff at county-level Cooperative Extension, NRCS, and FSA offices.

I triangulated and extended my findings using several additional data sources and analysis methods. Each farmer I interviewed also completed a baseline demographic and farm management survey, though these results are not statistically representative due to my use of a purposive sampling frame (Yung and Belsky 2007). To understand historical contexts and ecological conditions, I also conducted textual analysis of archival and contemporary material. Quantitative data derived from government sources, including USDA census and county agriculture reports, helped provide historical context for how farming has shifted over time in the region.

As I spent more time working in Siskiyou County (with nine fieldwork trips between 2016 and 2019, and then again in 2022), more and more interesting dynamics emerged, or were made

apparent to me. Cases are “always hypotheses” (Walton 1992, 122) and what this case exemplified continued to shift over time, through data collection, analysis, and writing. Because I wanted my research focus to be farmers’ experiences and perceptions, and prioritize farmer perspectives (Soubry, Sherren, and Thornton 2020). While I brought my own set of life experiences and academic framings I had learned to the field, I also kept my research approach nimble and adaptable. This approach traded flexibility, commitment to keeping an open mind, and dedication to prioritizing interview subjects’ own framings of their experiences for neat categorization within a single theoretical framework.⁹ Like the everyday practices I studied, this dissertation is rife with daily variance, with numerous micro-arguments that contribute to a larger point that, at its core, is simple: rural places are more complex than often given credit for, and they are constantly changing.

I feel fortunate to have finished the bulk of my fieldwork at the end of 2019, immediately prior to the COVID-19 global pandemic. Fieldwork was often lonely. There were sweet moments of shared meals and shared tears with the people I talked to. There were also times when I felt unsure and even unsafe, when people made racist comments, showed me their gun collections in threatening ways, or responded to interview questions in sexually suggestive ways. I then spent the first year of the COVID-19 pandemic processing and analyzing my data.

As I summarize these brief notes on my methodological approach, I will return to my own social positioning. Sharing my history in rural agriculture enabled me to speak with people who often expressed their mistrust of outsiders, especially from academic institutions and politically liberal urban enclaves like the San Francisco Bay Area. The disclosure of my personal background—particularly my experience farming, being homeschooled, and growing up in a rural community—enabled me to relate, as a researcher, with the farmers of Siskiyou County. Though I was often initially met with skepticism, few people declined to participate in this study when asked, and nearly every farmer or agricultural advisor or county official became more comfortable and open about their experiences and beliefs as we talked, almost always thanking *me* for interviewing them—a testament, perhaps, to the human craving to be heard. In each interaction and research decision, both the object of analysis—often the farmer within their household and wider context—and I engaged in “a power-charged social relation of ‘conversation’” (Haraway 1988, 593), highlighting that all knowledge is partial, locally embedded, situated, and relational.

Dissertation overview

Climate change is not an outside force acting on local people and landscapes, but is rather part of contested social, political, and ecological relationships. This dissertation takes account of how climate change generates new visions and understandings of risk. Social risk perceptions, I argue, help explain the contradictions between physical risks and perceptions of risk by underscoring the material realities of both. Climate change also underlines processes of differentiation. Both impacts of and adaptations to climate change are differentiating farmers,

⁹ Julie Guthman’s *Agrarian Dreams: The Paradox of Organic Farming in California* (2004) and Daniel Jaffee’s *Brewing Justice: Fair Trade Coffee, Sustainability and Survival* (2007) are books that I greatly admire that are well organized according to Marxist and Polanyian scaffolding, respectively.

exacerbating existing inequalities, and creating new divisions that present opportunities for the already advantaged to benefit. Through processes of farmer decision-making and agricultural differentiation, climate change is reorganizing rural relationships. Like the neoliberal globalization that created new ruralities in Latin America in the 1980s and '90s, I suggest that climate change, including its physical impacts and political responses, is a global force that is—through specific historical, sociological trajectories—fundamentally reorganizing rural places like Siskiyou County today.

Chapter 2 presents a brief history of Siskiyou County through the in-migration of farmers to the region between the 1840s and the present. Over that period, the relationship between the state and different groups of in-migrant farmers to the region has shifted dramatically. The transition of perceptions of the state from friend to a foe in the eyes of many white multigenerational farmers at the turn of the 21st century is, I argue, key to understanding contemporary resistance to climate change discourse and action. The descendants of early farmers still benefit from their “traditional” status in the region, often acting as gatekeepers to local exchanges of knowledge, labor, and other forms of reciprocity in established farmers’ social groups. These farmers have grown embittered toward the very state and federal governments that granted their ancestors water and land through Homestead Acts, Bureau of Reclamation projects, and California water law. They see today’s state actors not as adapting to new demands on water across the state and new physical constraints on water (or lack thereof) due to changing climate, but as enemies restricting water entitlements. As I show in this chapter, farmers in the region have always been adapting to changing ecological, social, and political conditions.

Chapter 3 draws on data from my livelihood analyses with multigenerational farm families by examining the complex logics and divergent pathways of change within the farm families. Grounded in the political economy of family farming, and the persistence of these farms in Siskiyou County, I detail the stories of three multigenerational farm families who are adapting to changing conditions. I show how these adaptations are often inspired by recent in-migrant farmers who are farming and marketing their products in new ways. With a focus on labor and decision-making within the household, I show how differently positioned family members within multigenerational farms are adopting new farming practices and farm structures. Despite the fact that women are increasingly pursuing permanent off-farm careers that grants them financial power within the household, women within multigenerational farm families are often not taken as seriously by male family members or institutional actors. I argue that women within farm families are less burdened by past practices and can therefore adapt in novel ways, often leading diversification efforts.

Chapter 4 examines the relationships between climate change belief, experiences, and action. I show how farmers who hold multiple identities and complex class positions, even those who say they do not believe in anthropogenic climate change, are identifying and distinguishing between weather variability and climate signals. While farmers describe climatic impacts that align with meteorologic data and climate change models, they often frame these changes in terms of ongoing weather cycles and as the product of their region’s harsh geography. I find that farmers are adapting to climate change irrespective of their belief in its anthropogenic origins. These findings suggest policy-ready interventions that move past notions of convincing farmers of climate change. In addition to describing the field management practices and livelihood

strategies that farmers and ranchers are adopting in response to climate change, I show how these are re-gendering labor on family farms. I also argue that public agricultural advisors often reinforce farmers' beliefs about climate change and miss opportunities to support farmers in adapting to changing climate impacts.

Chapter 5 describes the risks that farmers in Siskiyou County associate with climate change. While farmers articulated physical and policy risks of climate change well-documented in the academic literature, many also described perceptions of *social risks*. Social risk perception includes the potential social costs and consequences of climate change discourse and actions that do not adhere to local politics and practices. The potential loss of access to the benefits of membership in formal and informal farming groups, and associated networks of reciprocity, shapes how farmers talk about climate change and what adaptive responses are considered appropriate by locally influential farmers and officials. While perceptions of physical risks of climate change often spur adaptive action, perceptions of social risks slow the pace and scale of climate action. Farmers, and agricultural advisors, strategically navigate this landscape of risk as they respond to climate change impacts like drought and wildfires. I argue that social risk perceptions of climate change provide a bridge between physical and perceived risks, which may seem contradictory, yet together endanger material worlds farmers rely upon.

Chapter 6 turns to the role of county government actors—staff and elected officials—in defining and defending the boundaries of appropriate and deviant agriculture and framing or defining who farms, what they farm, and how farming changes. I trace local land use policy changes regarding three farming types that have become particularly popular as farmers adapt to a hotter, drier, and more fire-prone climate reality: agritourism, raising livestock other than beef cattle, and growing cannabis. Each of these adaptations became politically divisive in Siskiyou County in the 2010s. As the rapidly changing agricultural landscape forces confrontation between divergent visions of the land *within* local communities, I argue that socially differentiated farmers are experiencing slow violence that is both structural—in terms of biased laws—and epistemic, as categories are formed and boundaries hardened. Local government control may benefit some politically and socially powerful farmers, but produces disparities for others, especially those whose community standing is conditioned by racial, ethnic, gender, or newcomer difference. County government actors wield tremendous power to define and defend who can claim certain identities, places, and practices, even criminalizing those who deviate from legally sanctioned norms.

Chapter 7 offers concluding thoughts, particularly on the formation of unlikely alliances and political possibilities in agrarian change and crises. I revisit Siskiyou County in 2022 and offer some observations on how the region has continued to change through the COVID-19 pandemic and the ongoing intense drought. By bringing climate change into literature on the politics of differentiation, farmer decision-making and risk, and new ruralities, I show that unlikely alliances are not always emancipatory, arguing instead that new rural articulations—of people, politics, and practices—form and re-form at the local level.

Together, my research findings suggest new opportunities for policy and program efforts that increase the pace and scale of adaptation in more equitable ways. For example, it is time to depart from education-only efforts that attempt to convince farmers that climate change is real within a knowledge deficit model (Chapter 4). Instead, environmental and climate policy could

gain efficacy by understanding the complex social, as well as ecological, landscape that differently positioned farmers navigate as they respond to the impacts of climate change (Chapter 5). For example, climate education efforts in the context of social risk perceptions of climate change may lead to greater risks; whereas focusing on action instead of belief may reduce risks and facilitate farmer adaptation. Farm advisors and county government staff can also support farmers in adapting to climate change, especially if they structure equity-based resource access into local technical and financial assistance programs, and land and water policy (Chapters 2 and 6). Simultaneously, it is crucial to recognize that established multigenerational farmers and ranchers also stand to lose their livelihoods as the tenor of farm crises continues to change (Chapter 3).

This work adds to a growing chorus of climate equity and justice scholarship that highlights how, without broader-scale shifts in power, climate “solutions” will likely reproduce existing inequities (e.g., Newell 2022). This research complicates assumptions of rurality, farmers, and uncritical calls for local control. As an extended case study, this dissertation dives into one region marked by the political boundaries of county governance. Yet my findings and their implications hold broader societal significance. The physical, political, and social risks of climate change create new opportunities for capital expansion and far-right authoritarianism to gain traction across the world. These entwined forces drive divisions, inequities, and injustices. As rural formations shift, and their complexities and contradictions become more visible, so too will processes of micro-political formation, contestation, and resistance. Farmers and other rural workers in Siskiyou County are already navigating a climate future of an intensity that many other places will soon experience. We have a lot to learn.

Chapter Two: The “Right to be Rural:” A history of newcomers and new land uses in Siskiyou County

“Water is the real gold of the West”
– Siskiyou County Government, *Code of the West*, 2005

Introduction

In 2019 I was sitting in a rancher’s office, a tanned black bear skin at our feet. He explained why he thought long-time farmers in the region – themselves relative newcomers in contrast to the Indigenous communities who had largely been both dispossessed of their land—were concerned about new in-migrant farmers. The relationship between agricultural land uses and rural infrastructure is tenuous. Changes in who farms or how they farm may result in the loss of material and social infrastructures that farmers and ranchers rely on. “You can lose infrastructure ranchers rely on,” he said, “If there are 30 ranches and one disappears, you might lose the hardware store. Without that, another farm or two might go under, and then the feed store will close. That’s how the fabric of rural life can unwind” (author interview 2019).

The fabric of rural life and its relationship to farm structure and agricultural livelihoods has long been a concern of farmers and academics. Dearly held ideals that “small farms provide the basis for a richer community life and a greater sum of those values for which America stands” persist (Goldschmidt 1946, 283), even as owner-operated family farms have declined sharply since their height of prominence in 1935 (Kloppenburger 2005). Locally powerful actors, many of them multigenerational farmers and ranchers, a majority of whom are white (hereafter “establishment” or “multigenerational” farmers), and their representatives in local government, define and defend a culturally specific “right to be rural” (Siskiyou County 2005, 5, 1). Legal scholars who have worked in the region describe the rurality in Siskiyou County as nostalgic (Doremus and Tarlock 2003) and predicated on white agrarianism (Calo 2020). Yet culture is never static. The very act of asserting an “old rurality” rooted in the past creates new ruralities in the present. Attempts at the reproduction of a “right” to be rural is an enclosing and excluding process, a right afforded to some but not others. Those boundaries are then erected in reaction to change. They produce a new landscape themselves in an ongoing process of rural formation.

Although the value of Siskiyou County’s agricultural resource output is declining, the county’s agricultural livelihoods still shape dominant local values of self-reliance, hard work, and property rights (CED 2012; NoRTEC 2016; Doremus and Tarlock 2003). Even as who is using the land and in what ways constantly changes, the ideological inheritance (Barlett, Lobao, and Meyer 1999) of a particular white male vision of agrarianism (Allen and Sachs 2007) continues to structure how residents of Siskiyou County relate to each other, the land, and social-ecological change. Kathryn Dudley (2000) articulates the “culture of agriculture” as the “shared values that give meaning to the events and practices of everyday life” (p. xii). These shared values are constructed through an imagined collective past that “created a link between local people and

endured hardship, between local people and the special character of the place” (White 1991, 618). Smaller-scale family-labor farmers are especially important ideologically in Siskiyou County, “inscrib[ing] their moral character into the landscape” and representing a romanticized “imagined autonomy” (Dudley 2000, 8). For many such farmers there is a disjuncture between the imagined autonomy of the independent family farm and the reality of livelihoods dependent on government support (direct and indirect) and off-farm wage work, often done by women (Buttel and Gillespie 1984; Barlett, Lobao, and Meyer 1999; Allen and Sachs 2007). Farmers are then “betwixt and between” input and processing oligopolies (Constance 2009, 6), and dependent on government protections and (women’s) off-farm wage work. The reality increases the imperative to carefully guard a particular agrarian ideology. Belonging is asserted and re-asserted through a particular set of land use practices, such as irrigation to keep fields lush and herbicides to keep them clean, that are still understood by many in Siskiyou to “civilize” nature and the beings and bodies associated with it to “restore authenticity, moral order, and masculinity” (White 1991, 621).

In addition to distinct land use practices employed by farmers, the “right to be rural” is explicitly advanced by the Siskiyou County government as a fundamental concept in a document on the homepage of their website (accessed August 2022), entitled “A Primer for Living in Siskiyou County” explicitly for “newcomers” (Siskiyou County 2005, 1). The county describes locals as “rugged individuals” who value “integrity and self-reliance” and live “outside city limits” (Siskiyou County 2005, 1). By following “The Code of the West,” locals exert their “right to be rural” and “often consider city conveniences and amenities to be a nuisance or worse” (Siskiyou County 2005, 5, 1). The language of the primer clearly favors certain farmers (e.g., cow/calf ranchers, alfalfa farmers, and other “agri-business”), whose activities the county will defend. Indeed, newcomers are warned: “If you choose to live among the ranches of our rural countryside, do not expect county government to protect you from the normal day-to-day operations of your agri-business neighbors” (Siskiyou County 2005, 5). The Siskiyou County Management Plan, also on the county website’s homepage, states that Siskiyou’s cultural and economic stability depends on non-intervention from “outside groups and governments” and residents should be “subject only to the rule of nature and free markets” (Siskiyou County 1996, 25).



Figure 1: A hay barn proclaiming the State of Jefferson along Interstate-5 in the Shasta Valley of Siskiyou County (Photo taken 2017 by author).

The highways of Siskiyou County are dotted with signs welcoming travelers to the “State of Jefferson” (Fig. 1). Barns are adorned with the Jeffersonian flag, proclaiming a libertarian and federalist political position. Yreka, the county seat, was slated to be the state capital of the Jefferson when the secessionist movement first arose in 1941, with the goal of creating a 51st state comprised of parts of southern Oregon and northern California (Derrick 2014). Since its inception, the physical boundaries the State of Jefferson have shifted and expanded, leading scholars to often define the state as “mythical” or a “state of mind” (Derrick 2014, 4). However, the places and people that form the State of Jefferson have been united across time and space by a vision of rugged individualism, tied to notions of the landscape’s ruggedness and remoteness from urban centers and state power (Derrick 2014). Driven by a sense of taxation without adequate political representation at the state level, and concerns that the state of California would over-regulate water—the “real gold of the West” (Siskiyou County 2005, 7)—secession talk arose again in 2013. That year, the Siskiyou County Board of Supervisors voted four to one to secede from the state of California and 44 percent of voters in the county affirmed their preference to secede stating, “We declare the State of California is in open rebellion and insurrection against the government of the United States” (Kirsch 2021, accessed Nov. 2022). Matthew Derrick, a geographer at Humboldt State University (located in the State of Jefferson) argues, however, that an overly narrow focus on secession and definitions of the State of Jefferson as unreal in some way can:

...distract from the real-life and everyday struggles of economic transformation, political disputes over land (e.g., water rights, forestry practices, etc.), environmental concerns, and other pressing issues that are common to the region... obfuscating the hand of government in subsidizing the region's putative rugged individualism. (Derrick 2014, 7)

This chapter sketches the history of the region's economic transformations, political disputes over natural resources, and environmental concerns. I especially trace tensions and contradictions in the relationship between farmers and the state. Many multigenerational farmers who maintain political power and social capital in Siskiyou County have a fraught relationship with government: many vilify the state even as they rely on it. Government interference, though hated, enabled these in-migrants to access land and water necessary to farm. In interviews these farmers often described a federal constitutionalist stance, saw the state of California as their nemesis, and understood the county government as their defenders. This chapter tells the story of how farmers' relationship with the state (especially federal and California governments) shifted from friend to foe since California became a US state. As I describe this history, I argue that farmers have always been adapting to environmental, legal, and social changes. Unlike perceptions of state-facilitated blame for climate change today, farmers in the past were often adapting to those changes with discursive, as well as material, state support. Contemporary responses to climate change in the region are rooted in shifting perceptions of the state's allegiances over time, and undergirded by a sense of betrayal that could only occur where trust had previously prevailed.

In-migrants, water, and the state: from friend to foe

Multigenerational farmers and ranchers, especially the descendants of early colonists to the region of primarily European diasporas, still claim and exercise immense political and social power in Siskiyou County. State-facilitated resource access with little regard for other groups is part of this story, as is the idea of historically entrenched resource entitlement (Doremus and Tarlock 2008). For more than a century the US and California governments actively facilitated white farmer access to land and water (1840s-1940s). There followed a period of widespread privatization, poor resource management, environmental movements, and economic crises in the second half of 20th century that laid the groundwork for change (1950s-2000). Entering the 21st century, farmers in the Siskiyou region began experiencing state-induced restrictions on what had been nearly unfettered resource entitlements, breeding deep resentments, conflict, and hostility (The 2000s). With the onset of the current most intense and persistent drought in California in the 2010s, several new waves of agricultural in-migrants came to Siskiyou County (The 2010s).

1840s to 1940s: Homestead Acts and Japanese internment

The region's first white colonists were intruders to a landscape of complex political and ecological relationships. The upper basin was home to the Modoc and Klamath tribes and the lower basin to the Yurok, Hoopa, and Karuk tribes. In the violent process of enclosure to create an irrigated landscape for colonizing farmers, the federal government worked tirelessly to dispossess Indigenous people from their land, water, and livelihoods. These crucial histories, and their contemporary realities, have been described in detail elsewhere (e.g., Isenberg 2005;

Hurwitz 2014; Norgaard 2019; Thompson 2021). Given the scope of the colonizing project, I will not attempt to summarize this brutal history, or the incredible resistance and resilience efforts that shape contemporary landscapes and politics. Instead, I focus this chapter on those intruders – the in-migrants to this region.

In the late 1820s hunters and trappers traveled, mostly by river, to the region in search of furs and pelts. Many of them worked for the Hudson's Bay Company. It is to these men that the county government attributes the name Siskiyou, derived from the French *Six Cailloux* (six stones), a name Hudson's Bay Company trappers gave to several river fords in the region. By the 1830s, colonists were driving cattle from Mexican-controlled California to white colonist communities in Oregon along established Indigenous trails that became known as the Siskiyou Trail (which Interstate 5 roughly follows today).

In the late 1840s colonists discovered gold in Siskiyou County, bringing California Gold Rush era prospectors to the area. Gold rushers were the first colonists to claim permanent occupation of Indigenous land in the region. Gold rush towns were often erected along the banks of waterways, with mining activities carved into riparian ecosystems and nearby hillsides. For example, Upper Soda Springs, in what is today the town of Dunsmuir at the southern end of Shasta Valley, was a large gold mining area on a Shastan-speaking Okwanuchu salmon fishing camp. It perched above the banks of the Sacramento River, not far from its headwaters near Mount Shasta (LaPena 1978).

It is important to note that early in-migrants to Siskiyou County were not all white, and conceptions of whiteness have changed significantly over time. (As Wilson (2011) explains, for example, Irish immigrants in the 19th century were not considered white.) Miners came to California from across the globe, including those of Chinese descent who faced extreme anti-Asian racism in Siskiyou. Patterns of racial bias in law enforcement, particularly against Asian and Asian-American in-migrants persist into the present, spurring a 2022 class action lawsuit against the county government (American Civil Liberties Union 2022). That lawsuit cites an 1879 newspaper article about Chinese miners, stating that:

All countries having been troubled with swarms of Chinamen, have become disgusted with them, and regret the day that any of them were allowed to set foot on their shores. Where only a few arrive, their influence is scarcely felt, but where they come in great numbers, as on this coast, they degrade labor as well as morality and decency, besides breeding disease and hog like uncleanness. (Yreka Union, January 22 1879 in American Civil Liberties Union 2022)

The class action lawsuit pairs this text from over a century ago with quotes from a 2021 Board of Supervisors meeting when white residents made remarkably similar comments about Hmong farmers: "It's a cesspool waiting for an outbreak of disease and other health issues... they come, they destroy, they plunder, and they leave their garbage behind for us to clean up... Please use everything necessary to get rid of the cancer that has infected our community" (June 15, 2021 BOS meeting in American Civil Liberties Union 2022, 9). Though the precise contours have changed, more than a century and a half of local, state, and federal government efforts have systematically racialized resource access, especially through evolving water policy.

The newly formed state government of California had little governing capacity and "miners kept

a semblance of order among themselves by developing and enforcing customs for the allocation of resources” (Doremus and Tarlock 2008, 38). One of those customs was that the first person to dam or divert water had “senior” claims to it, and those arriving later might have to relinquish their water in times of scarcity to preserve access for those with more “senior” claims. This system of “prior appropriation”¹⁰ became state law in California and 18 other western states. Inspired by the collectivism of Mormons in Utah, California also adopted the principle of “beneficial use” in its water law, which requires that those with appropriative water rights continually use their water for purposes deemed by the state “beneficial,” such as irrigation, or risk losing their water right. Prior to this legal innovation, and in many other parts of the country, a riparian rights system was in place. This Anglo-American common law, established in the context of dams and mills, designated equal water access among all non-consumptive rights holders (generally those who owned land adjacent to waterways). This doctrine of prior appropriation diverged sharply from previous precedent, creating a hierarchy of water rights holders and a scramble to use, and therefore legally claim, as much water as possible.

Gold mining was also key to the second major legal innovation that characterizes California’s water law, which is immunity from federal intervention. The General Mining Law of 1866 and the Desert Land Act of 1877 together confirmed existing uses of public resources and opened new ones for mining claims, specifying that water not yet appropriated “be held free for the appropriation and use of the public for irrigation, mining and manufacturing” (43 U.S.C § 321). Coupled with the 1902 Reclamation Act’s acceptance of the doctrine of prior appropriation, this language was interpreted and re-interpreted by both Congress and the Supreme Court as freedom for states to use whatever water rights system they wanted, and a “promise never to assert federal water rights” over states (Doremus and Tarlock 2008, 39).

While California could determine its own water rights system, the federal government still owned much of the land area in the second half of the 19th century, from which it was eager to divest. Ranchers had arrived with miners and trappers in the middle of the 19th century. As an extensive land use, ranching facilitated claims to large swaths of land with relatively little labor (Walker 2004). In a remote area with little public infrastructure before the turn of the 20th century, the fact that cattle could walk themselves to markets was also important. Additionally, mining, trapping, ranching, and later timber harvesting (which slowly become economically feasible with the creep of roads and railways) often fit into a shifting web of seasonal work, remnants of which persisted through much of the 20th century.

While the newly formed state of California quickly passed its first legislation that facilitated homesteading in the spring of 1851 (the California Land Act of 1851), granting land to white men who had come to Siskiyou for gold, most of the state’s land was still in federal ownership (Placer County Archives 1851; Adams 1978). The federal government was eager to dispose of its land and settle the region with yeoman Jeffersonian farmers,¹¹ which it was able to do beginning

¹⁰ The prior appropriation doctrine provides a hierarchical legal structure of water rights allocation wherein the first people who used water for “beneficial” purposes acquire more senior water rights than those who might claim that water later.

¹¹ Popularized by Thomas Jefferson, yeoman farmers were envisioned as self-sufficient and independent, the idealized (white male) citizens associated with Jeffersonian democracy (see Calo 2020 for more on the Myth of the Yeoman Farmer).

in 1862 with the passage of the first Homestead Act.¹² The homesteaders formed two distinct waves of in-migrants to different parts of Siskiyou County. The first wave was in the second half of the nineteenth century through the turn of the century. Many homesteaders in the region were granted land in the Scott and Shasta Valleys where cold-water streams and mountain snowmelt provided accessible water for irrigation. Still referred to as ‘pioneers’ by many local residents, these newcomers raised cattle and dryland grain for market, as well as a diversity of other crops and livestock for household consumption. These early homestead recipients often ‘squatted’ on the public land first, then submitted a \$10 filing fee, and later received a patent for the land after building a house and living on the land for five years (Siskiyou County 1996). With limited surface water irrigation, these lower basin homesteaders often flood-irrigated the valley bottoms to grow hay for winter, herding their cattle to mountain pastures to forage during the growing season (Siskiyou County 1996).

For farmers in the upper basin (Butte Valley and Tulelake areas), without irrigation works, “The 160-acre homestead was an economic and biological impossibility” (Young and Sparks 1985, 92). Rangeland scientists estimated that 160 acres of unirrigated land could support just 13 cattle (Young and Sparks 1985). Later, additional Homestead Acts increased the size of homestead grants in different regions of California to 640 acres (1877 Desert Land Acts and 1916 Stockraising Homestead Act). This ecological difference may help explain why the first wave of homesteads in Siskiyou County, granted during the second half of the 19th century, were primarily in the Scott and Shasta Valleys, while the second wave of homesteads in Tulelake were not granted until the Bureau of Reclamation created vast irrigation works.

Box 1. Early waves of homesteaders in the Shasta and Scott Valleys

Across Siskiyou County, multigenerational farmers and ranchers expressed deep pride in their ‘pioneer’ roots. A few farmers in Tulelake, and more in the Shasta and Scott Valleys, claimed five, six, or even seven generations in the region. Below are a few short excerpts from interviews with some of the descendants of these first homestead recipients in the region.

Sitting in a windowless room in the County administration building, a county employee, Dylan, told me about how his great grandfather homesteaded in Siskiyou County in 1887. “He was part of the turn of the century great migration west... these young guys that wanted to get out and come west,” Dylan explained. “He was from Tennessee. He took a train to look for work in Wheatland, California. The train stopped in Gazelle to load cattle for market, that was a cattle hub, and he heard a dinner bell and was hungry. They said you can eat but you gotta work and he wanted to keep eating so he stayed.” With a laugh and shake of the head Dylan said, “It’s amazing how the West was won” (author interview 2018).

Another farmer told me how her grandfather came to Siskiyou from New Jersey in the 1890s “with \$7.5 and a mule to his name.” She explained how “in order to keep the homestead, you had to produce, you know, make something of the land, be a steward of the land and build and

¹² It is surprisingly difficult to identify how many homestead grants were given in the region, but one source identified 1,470 federal homestead patents granted in Siskiyou County between 1862 and 1948 (“Homesteading, Mining, Ranching, Logging In Siskiyou County, California” n.d.).

what have you” (author interview 2019).

While the federal government abdicated responsibility to states to determine their own water rights systems, it provided enormous financial and institutional resources to develop irrigation systems with the explicit goal of settling the West with white homesteaders (Wilson 2011). Prior to the turn of the 20th century, private irrigation companies had been at work with moderate success (Wilson 2011). Often speculative and unable to deliver the water they promised, many of these companies went out of business in the difficult years of the 1880s’ intense droughts¹³ and the economic downturns in both the mining and cattle markets of the 1890s (Stene 1994; Doremus and Tarlock 2008).

Partly in response to this difficult period for white colonists and the private irrigation industry, the federal government assumed responsibility for engineering and constructing large-scale water projects in the desert with Congress’ 1902 passage of the Reclamation Act. One of the first and largest reclamation projects was the Klamath Project, which permanently dedicated nearly all of the upper basin’s water to agriculture with little regard for other stakeholders. Spurred by progressive era utopian visions of a planned private society, ideas of exploiting nature as biblically pre-ordained, and enthusiasm for the seemingly limitless possibilities of professionalized science and engineering (Dupuis 2002; Pisani 2002; Worster 1985), the Klamath Project unfolded at a massive scale and quickly.

Approved and funded in May 1905, the project subsumed the pre-1909 individual landowner riparian water rights and several privately built canal systems that already irrigated approximately 13,000 acres (Bureau of Reclamation n.d.). One of the expressly stated goals of the Klamath Project was to reclaim the land beneath the Tule Lakes¹⁴ for homesteading (Bureau of Reclamation 2008). In the dry period of the 1880s, the Tule Lakes had receded to about 60,000 acres, and farming activities crept onto the rich soil of the exposed lakebed. The unusually wet period at the beginning of the 20th century increased the lake size to approximately 100,000 acres. Farm children took pedal boats to school, and farmers pressured the federal government to help manage the excess water (Most 2022).

Canals, dam, pumping plants, and drainage system¹⁵ construction on the Klamath Project began in 1906, with irrigation water deliveries provided to farmers the following May, just in time for the growing season (Bureau of Reclamation n.d.). Tule Lake, on the Siskiyou side of the Oregon and California boarder, began to drain with the construction of a series of dams from 1910-1912 (Bureau of Reclamation 2008). As the lake receded and irrigation infrastructure was constructed, the land was temporarily leased to local ranchers for grazing (Bureau of Reclamation 2008). As

¹³ One rancher in Scott Valley told me about family journals from the 1880s that describe how the rivers in the valley were completely dry and people used them as wagon trails, riding horses and driving wagons between farms on the dry riverbeds.

¹⁴ A note on naming: Tulelake is the name of the town (and surrounding farming area) that is on the drained land that was Tule Lake. The watery area that remains today is often referred to as the Tule Lakes because of the intensive engineering that forms a series of shallow lakes that move year to year. See the Walking Wetlands Program, for example.

¹⁵ Eventually the Bureau of Reclamation drained 80 percent of the original wetlands, constructing 516 miles of irrigation ditches, 45 pumping plants, 18 canals, and seven dams, which together irrigated 230,000 acres of farmland (Clarren 2001).

the Klamath Project drained the lake, the US Reclamation Service (later renamed the Bureau of Reclamation) hosted a series of 13 lottery draws to give away 160-acre or smaller parcels (Fig. 2). In 1917, thirty-five names were drawn from 180 applicants to receive a piece of the first 3,000 acres of newly exposed land; nearly all of these homesteaders were already living in northern California and southern Oregon (Bureau of Reclamation 2008). In 1922, returning WWI veterans were given homestead lottery priority, and in 1927 a board was established to examine applicants based on capital, experience, and character (Bureau of Reclamation 2008). In 1946, only WWII veterans with farming experience and at least \$2,000 in assets were eligible to enter. Eighty-six winning names were drawn from a pickle jar of more than 2,000 entrants (Wilson 2011), and winners moved from across the country to Tulelake (Turner 1988). In 1949, the Bureau of Reclamation hosted its last homestead drawing in the lower 48 states in Tulelake: five-thousand people applied for 86 parcels. In total, about 47,000 acres of exposed Tule lakebed was divided into about 650 homestead units (Bureau of Reclamation 2008). Farmers in Tulelake primarily grew potatoes, onions, cereal crops like barley, and most of the nation's horseradish (Turner 1988). The potato packing sheds provided seasonal work, especially for women.



Figure 2: *Left: Homestead winner and WWII veteran Robert Mertz with his wife in December 1946 overlooking Tulelake (Photo: US Bureau of Reclamation, Klamath Project Headquarters in Wilson 2011, 425). Right: A similar overlook of Tulelake in 2019 (Photo by author).*

The entire lake was originally slotted for drainage. But as the lake shrank and farming increased, the once abundant birdlife in the basin nearly disappeared, bringing plagues of crop-eating grasshoppers that now had no predators (Most 2022). Additionally, there was no natural drain for the irrigation water in the lake, posing a severe flood risk to new farms (Bureau of Reclamation 2008). Spurred by ecological necessity, President Coolidge created what is now the Tule Lake National Wildlife Refuge in 1928. A few years later in 1932, large swaths of the refuge were engineered into a series of sumps and drained land that could be used for flood control and leased to farmers (Bureau of Reclamation 2008). Over 20,000 acres within the National Wildlife Refuge are still leased to farmers for irrigated crop production. Managed in collaboration with the US Fish and Wildlife Service, this 'Lease Land Program' forms the only large-scale commercial crop production system within a National Wildlife Refuge in the US (Bureau of Reclamation 2008). Including the more than 20,000 acres in the Wildlife Refuge and nearly

50,000 acres of Tulelake homestead land, by the late 1950s the Klamath Project was obliged by Congress to provide irrigation water to 300,000 acres of farmland in the upper basin (Doremus and Tarlock 2008).

Much has been written about reclamation and the federal government's plan to create an irrigated agricultural Eden for white farmers in the American West (Walker 2004; Pisani 2002; Mitchell 1996; Worster 1985). Reclamation was a racist venture that created a racialized landscape. Predicated on formal and ongoing dispossession of Indigenous people from their land and water resources, the beneficiaries of these projects were almost exclusively white. Geographer Robert Wilson argues that:

The development of irrigated homesteads in the Klamath Basin was a racial project in which the federal government constructed an agrarian landscape for white settlers... [and] facilitated the spatial separation of whites and other groups in the process helping construct and reify racial categories. (Wilson 2011, 428–29)

Explicit land regulations, like California's Alien Land Law of 1913, prohibited Asian immigrants and later their children from owning and even leasing land in California during the period of homestead giveaways in Tulelake. In addition to laws, practices like minimum capital requirements and 'character' evaluations of homestead applicants systematically funneled resources to white farmers.¹⁶

Slated for homesteads but still owned by the federal government, Tulelake's recently exposed lakebed became the site of the US's largest internment camp in WWII. As a small plaque along the roadway reads, "Tule Lake was one of ten concentration camps established during World War II to incarcerate 110,000 persons of Japanese ancestry, of whom the majority were American citizens, behind barbed wires and guard towers without charge, trial, or establishment of guilt" ("California Historical Landmark 850-2: Tule Lake Relocation Center" 1979). From 1942-1946 the Tule Lake War Relocation Center imprisoned people of Japanese ancestry. At its height, more than 18,000 people were imprisoned in the barracks at Tulelake. Of the ten euphemistically named 'relocation centers' that the War Relocation Authority constructed, three were on reclamation projects (Wilson 2011). These sites were chosen because they were already owned by the federal government and were accessible by rails or roads developed for their construction, and they were in remote and desolate areas far from coasts and outside of exclusion zones. Most importantly, reclamation projects had irrigation infrastructure, which was necessary for those imprisoned who were "expected to produce vegetables, grain, meat, and other agricultural products" (Wilson 2011, 131; Fig. 3).

¹⁶ It is important to note that conceptions of race have changed considerably over time. For example, Czechoslovakian immigrants were not considered white at the turn of the century and did build homesteads in the nearby Klamath Project area of Malin, Oregon (Turner 2002). Many scholars examine the structuring of whiteness as a racial category and the ways that development of spaces and places is part of that development (see e.g. Wilson 2011; Mitchell 1996; Schein 2003).



Figure 3: Images from the National Park archives of people imprisoned at the Tule Lake “Relocation Center” digging potatoes (left) and feeding the camp’s garbage to hogs (right) between 1944-1946 (Source: National Park Service and Department of the Interior. War Relocation Authority: Stewart, F. L.).

As federal projects to construct the landscape in specific and racialized ways, incarceration and reclamation “brought to the surface preconceived notions about the proper racial character of the region” (Wilson 2011, 448). In early 1942 Tulelake residents, many of them homesteaders and WWI veterans who had been given their land in the preceding 25 years, expressed their concerns about the location of the center in blatantly racist terms.¹⁷ A local group wrote that “the Tule Lake area was settled and developed by Caucasians and it would be obviously unfair to deprive them of rich farm land in favor of the Japanese” (April 10, 1942 *Klamath News* article “Army Mulling Tule Lake Jap Camp Program” in Wilson 2011, 434). Eventually farmers accepted the camp, in part because of the extreme labor shortage they faced and their hopes that imprisoned internees would provide cheap labor. But local white residents were adamant that, as the editor of the largest local newspaper at the time wrote:

The local authorities commit themselves NOW to the removal of Japanese from this district when the emergency is over. This country has been developed by white citizens, many of them native-born. These people have a right to demand that the government abstain from a policy which will change the character of the population of this territory. (Editorial: Weekend Roundup 1942, 4)

Indeed, when the internment camp closed in March 1946, former imprisoned internees there seemed to disappear,¹⁸ at least from the perspective of the whites who remained and claimed the

¹⁷ Wilson (2011), for example, cites a Tulelake Chamber of Commerce measure called “Chamber of Commerce Unit Opposed to Establishment of Jap Camp at Tule Lake” from 1942 in which local leaders insisted that there were no “orientals” in the region and their intention was to keep it that way.

¹⁸ Internment also served as a land grab. Many of those imprisoned had been landowners whose land was stolen during this period and never returned.

land and homes of those who had been imprisoned. As the December 1946 winners waited to move onto their new land, many lived in the empty camp (Fig. 4). The Bureau of Reclamation then offered homestead winners up to two barracks for \$100; many homesteaders eagerly accepted this offer and moved onto their new plots. *The Reclamation Era*, a nationally distributed magazine published by the Bureau of Reclamation (see Fig. 4) distributed plans for renovating barracks into homestead houses. Many of the farmers I interviewed in Tulelake still live in homes built from barracks.

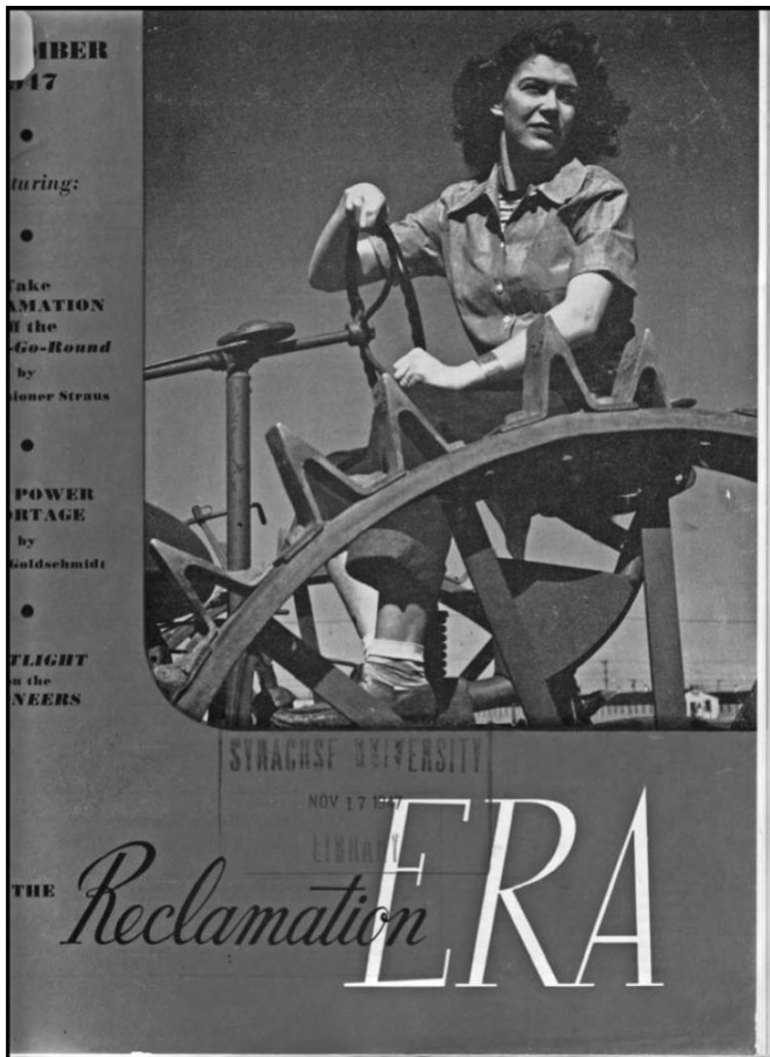


Figure 4: This cover of *The Reclamation Era*, the Bureau of Reclamation's national magazine, shows Eleanor Bolesta riding a tractor as she waits for her homestead. Note the internment camp barracks in the background. Bolesta served in the Navy's "Women Accepted for Volunteer Emergency Service" and was the first woman in the Bureau's history granted a homestead (Source: Syracuse University Library in Wilson 2011, 436).

Besides the barracks-turned-homesteads there is remarkably little left of the Tule Lake Relocation Center. Only the camp prison remains at its original location, which can be toured by appointment only. In a dark irony, the internment camp has been replaced by another set of barracks surrounded by barbed wire. These too segregate people deemed outsiders from the white farming community of Tulelake, making clear that the people inside the fence are only temporary in this place, only there as seasonal workers with few rights and no

claim to a space reclaimed for white farmers. Today H-2A¹⁹ farmworker housing surrounds the old internment camp prison (Fig. 5). Racist ideas find material representation in the landscape of small, shared farmworker homes fenced in with chain link fences topped with barbed wire. While few farmers in the Scott and Shasta Valleys rely on migrant labor, nearly all farms in Tulelake and Butte Valley do. These increasingly large and consolidated row crop operations require more labor than the predominantly cow/calf operations or the smaller scale farms to the west. Tulelake farmers continue to exercise the political power they hold as white male farmers, many of them military veterans who transformed a once-giant and supposedly degenerate wild

¹⁹ For more on the H-2A guest worker program see Bacon (2021).

marsh into an Eden of agricultural industry. The Klamath Project remains the most idealized Bureau of Reclamation project—many farms are still family owned and operated, aligning with the Bureau’s original discourse and vision of creating a landscape of family farms. Yet much of the labor here is done by Latino farmworkers who are invisible in the landscape they create (Mitchell 1996).

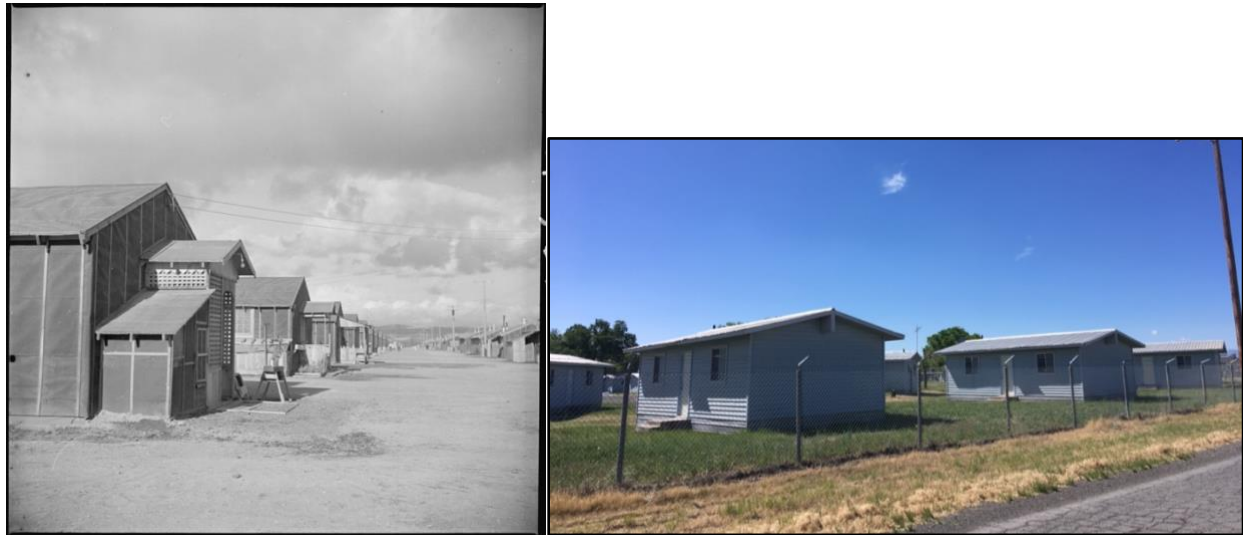


Figure 5: *Tule Lake Relocation Center barracks in 1944 (left, source: National Park Service and Department of the Interior. War Relocation Authority: Stewart, F. L.) and H2A farmworker housing in the same area in 2019 (right, photo by author).*

Across the West, reclamation projects were initiated and supported with Jeffersonian rhetoric championing family farms. These expansive public projects, rife with racist notions of social-environmental order (e.g., see Calo 2020), garnered broad public appeal in their promise to feed America through the hard work of small family farmers (e.g., see Vogeler 1981; Walker 2004). The Bureau of Reclamation never enforced farm size limits, however, and large agribusiness firms became the greatest beneficiaries of these publicly funded projects (Vogeler 1981; Walker 2004). Yet farms in Siskiyou, including those on the Klamath Project, remained family operated and relatively small, in contrast to many Reclamation Era beneficiaries. Legal scholars Doremus and Tarlock (2008) suggest this relative alignment with the Jeffersonian vision of reclamation helps explain the fervor of support for the Klamath Project and the outsized political power that white farmers in the Klamath Basin have maintained, despite the relatively few people who are still engaged in farming.

At a time when farming was rapidly consolidating in the post WWII era, the land of Tulelake was newly drained, and 160-acre homesteads were just being granted. Half a century later when the federal government shut off all irrigation water to Klamath Project farmers in 2001, many WWII veteran homesteaders were still alive to tell their story. Their land had neither been splintered through generational transfer, nor it yet been sold to large-scale investors. The Tulelake farmers were uniquely able to appeal to Jeffersonian yeoman family farmer ideals that had justified the reclamation projects, the water rights system, and the land giveaways of a century earlier.

The 2001 water shut-off laid bare a central contradiction of Jeffersonianism – a deep reliance, even trust, in the very government institutions from which many claimed independence. In 2001 Eleanor Bolesta, the first woman awarded a homestead, who was by then in her 70s (Fig. 4) told reporters, “Even if we get our water back, things will never be as they were... even the good relationships between neighbors have been harmed past reconciliation. I have been betrayed by those I trusted. I am angry” (Kunkel and Juillerat 2002, 147). But that betrayal, made sharper by decades of resource entitlement and privileged access to water, did not happen overnight. Next, I sketch the history of land and water use, and agricultural in-migrations in the second half of the 20th century that set the stage for the Klamath Water Wars of the 21st century.

1950s to 2000: Resource entitlement fray and farm crises build

Farmers in Tulelake are often called “project farmers,” while those in Siskiyou’s other valleys are called “off project” farmers, since they do not rely on land and water from the Klamath Project. Though both sets of farmers generally hold senior water rights (particularly those whose ancestors comprised the first and second waves of homesteader migrants), their sources are distinct. The project farmers in Tulelake received highly subsidized water from the Tulelake Irrigation District, which has been operating since 1952, as well as subsidized power to pump that water. In the 1950s the California Oregon Power Company (COPCO) proposed to build two dams on the Klamath river in the mid-basin area. Initially, local farmers were hesitant to support construction of the dams. Establishment farmers were concerned that these dams would benefit urban communities at the expense of rural ones, and that they would make the region’s water a target for export to thirsty agribusinesses in California’s Central Valley (Doremus and Tarlock 2008). Construction of the dams moved forward, however, after Congress approved the Klamath River Basin Compact in 1957, which prohibited most diversions of water outside the basin. The 1957 Compact also legally entitled project farmers to their water allocations each year, as well as cheap power from the hydroelectric dams.

Farmers in the Shasta and Scott Valleys did not directly benefit from the COPCO dam construction, but they did not actively oppose it if it was favored by more proximate farmers. The construction of the dams and corresponding ecological decline would, however, come back to bite farmers across Siskiyou’s valleys. The dams ended the Coho and Chinook salmon migrations to the upper Klamath River Basin. The water behind the dams in the remaining upper basin lakes grew stagnant and unhealthy for shortnose and Lost River suckerfish that need cool, well-oxygenated water. The Klamath River also became warmer and less hospitable to juvenile salmon. The Klamath Basin also became susceptible to toxic algal blooms that began causing attention-grabbing fish kills (Belchik, Hillemeier, and Pierce 2004).

Another factor that contributed to water quality decline in the Klamath Basin was increasingly nutrient-rich agricultural runoff. With the application of WWII technologies and state interventionist and protectionist policies, agricultural production and global markets boomed. The state facilitated markets for America’s agricultural overabundance. Food was processed into various durable goods and became a political weapon through aid programs (Friedmann and McMichael 1989; Friedmann 1992). As agricultural production helped shift global hegemonic power to the US, farmers were asked to grow more by enlarging their operations and adopting technologies that enhanced their efficiency (Friedmann and McMichael 1989). Midwest grain

farmers met this call to a spectacular degree, increasing production rapidly.

With oversupply a defining feature of this surplus food regime (Graddy-Lovelace and Diamond 2017), the price of grain began to drop. Project farmers, with their reliable irrigation, transitioned to row crops, especially ‘chippers,’ which were potatoes for the potato chip market. But many farmers in the Shasta and Scott Valleys still grew mostly dryland grain (Fig. 6). It soon cost these farmers more to ship their grain than they could charge for it. As farmers faced low grain prices and a variety of broader social and market pressures, many struggled to transition their farms to the next generation, and the 1950s and ‘60s brought the sale of some of Shasta Valley’s largest dryland grain farms.

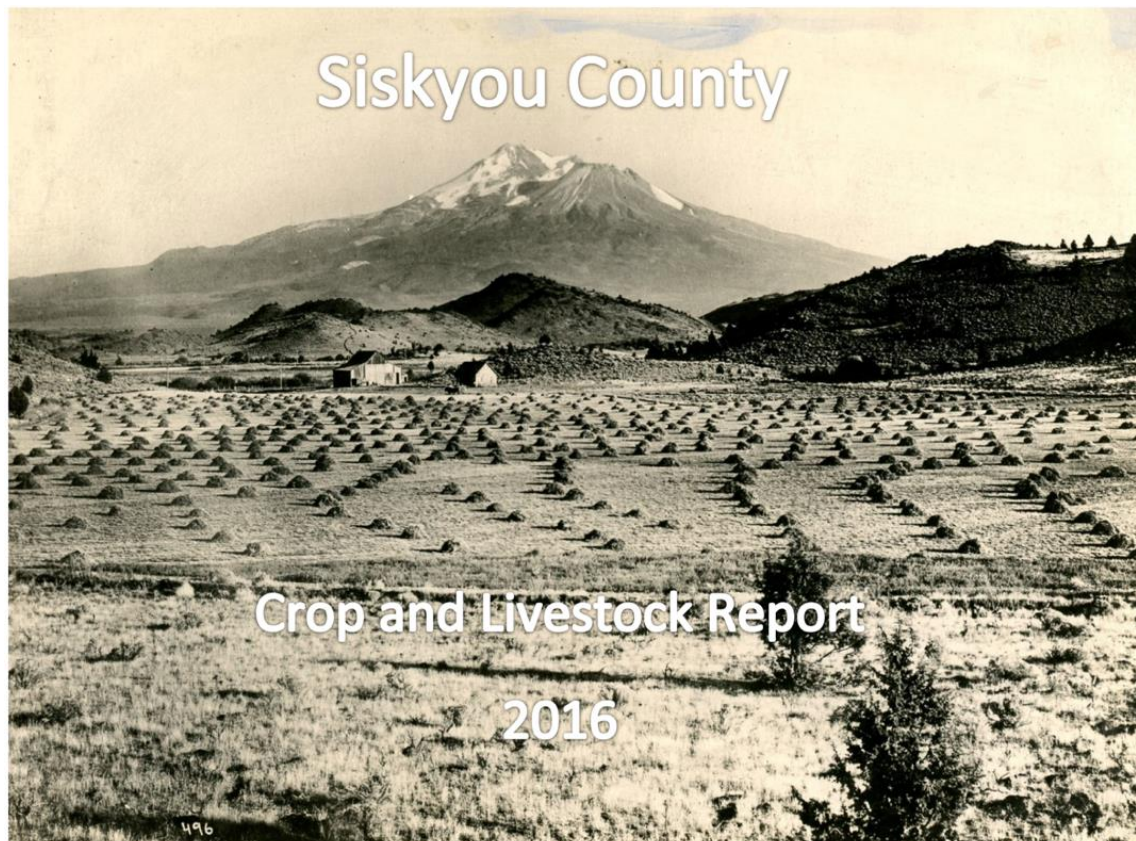


Figure 6: Siskiyou County chose this photo, dated to the turn of the 20th century, for the cover of its 2016 Crop and Livestock Report. The image shows dryland grain production in the vicinity of the Martin ranch in Shasta Valley, with freshly harvested grain mounds ready to be thrashed. The County only began publishing crop reports in 1957, at which point the County registered more than 100,000 acres of grains, which by 2016 had dropped to just over 20,000 acres (Source: Siskiyou County Department of Agriculture 2016 Crop Report).

One of those dryland farms that failed in the 1950s was owned by the Martin family. Robert Milton Martin, whose great grandfather had migrated from England in 1725, traveled from Tennessee to Siskiyou County in 1849 in search of gold (Martin IV 2010). In 1852, he was the first person in Siskiyou County to receive a land grant from the newly formed state of California

under the 1851 California Land Act and Act to Settle Private Land Claims in California (Placer County Archives 1851; Stat. 631). Over the generations, the Martins became successful cattle ranchers and dryland grain farmers, and their ranch, located in the middle of the Shasta Valley, grew and was divided between descendants. In the 1960s, as grain prices dropped, and the generational transition in one branch of the family faltered, a large tract of dryland grain fields and surrounding hillside was sold.

In November 1965, before coordinated county zoning or water access requirements, a developer from Los Angeles, George Collins, purchased a large tract of land from the Martin family and divided it into 1,640 parcels; each was an average of two and a half acres (Ward 2021). In the words of one long-time subdivision resident, Mount Shasta Vista and several other rural subdivisions that sprung up in the area at the same time, “Barely got in under the wire before vast regulatory changes made it impossible to spin out such bare-bones rural developments” (Ward 2021, accessed Nov. 2022). With no paved roads, water, sewer, electricity, or other services, Shasta Vista and the several other similar rural subdivisions that sprung up simultaneously would not have been possible a few years later. The 1970s ushered in an era of federal and state environmental and building regulations, as well as local land use planning and new zoning codes adoption that would require subdivisions to include infrastructure development.

Many people bought parcels in the late 1960s and early ‘70s for about \$800 as investments (which is approximately \$6000, inflation-adjusted to 2022). Only around 30 people lived in Shasta Vista in the 1970s (author interviews 2017-2022). One of those early buyers wrote in the local newspaper that, “Parcels were touted as private vacation lands, places of retreat for smog-choked city dwellers” (Ward 2021, accessed Nov. 2022). This resident described how, “With the heady sense of freedom living in such a back-country enclave... something of a libertarian, even anarchistic, spirit emerged” in the subdivision where “the happy illusion one could do whatever they wanted on their land” flourished (Ward 2021, accessed Nov. 2022). Some early residents identified as part of the “Back-to-the-land Movement,” which brought a small wave of immigrants to Siskiyou who raised diversified livestock and grew direct market crops and medical marijuana in some of the subdivision parcels and surrounding hills. Despite “varying degrees” of code compliance, this sparsely populated, majority-white community was tolerated for decades by ranching neighbors and law enforcement alike. That is, until “a disparate crowd poured in” in the mid 2010s and, as that early resident noted, “they’d want to pull up the drawbridge, keep the riff-raff out. They’d bank on code enforcement to protect the pioneering community from getting ruined by less sympatico newcomers moving in” (Ward 2021, accessed Nov. 2022).

Those “newcomers” were primarily Hmong Americans who began purchasing plots in Mount Shasta Vista and several other large, rural subdivisions around 2015 (Polson and Petersen-Rockney 2019; Lu, Dev, Petersen-Rockney 2022). Many of those plots had remained empty, since the Martin family sold that land, comprised of dry, rocky, gentle slopes that they could no longer turn a profit on by selling dryland grain. But while some multigenerational farming families like the Martins had sold and left the region back in the 1980s farm crisis, others had benefited from their debt and dispossession.

For those farmers who were able to hold onto their land through the decline in grain prices or were even able to “pick up ground” as their neighbors sold, the 1970s brought a boom in

irrigation to the Shasta and Scott Valleys. In the late 1970s, the United States Department of Agriculture's (USDA) Farmers Home Administration (FHA, later renamed the Farm Service Agency) encouraged farmers to invest in expanding production and efficiency on their farms (Dudley 2002). With major droughts in the mid 1970s, many off-project farmers in Siskiyou were eager to "take nature out of agriculture," (Reinhardt and Barlett 1989, 218), and the FHA was there to provide low-interest loans and technical assistance to install private irrigation infrastructure. Though these projects had the appearance of being private (and certainly the primary beneficiaries were) these USDA-funded programs were simply a new iteration of the massive public expenditures that continued to 'reclaim' the desert as a white agrarian landscape. Multigenerational farmers in the Shasta and Scott Valleys described how their families had taken advantage of the FHA programs of the '70s to dig deeper wells, level fields, and install complex flood irrigation or sprinkler systems, taking on low interest debt as they transitioned their farms farther away from dryland grains and range. Farmers in Siskiyou were especially eager to install wells and irrigation systems on the heels of the driest year in California's recorded history in 1976-1977. One rancher and County employee described how his father had worked for FHA in the 1970s and worked with farmers across the County to fund and install wells and wheel lines. Since the 2010s, a different agency, the Natural Resources Conservation Service, had been funding many of those same farmers to replace wheel lines with more water-efficient center pivots.

Many farmers who had been in the area described how their farms and farming systems had simplified over their lifetimes, with the late 1970s being an especially rapid period of simplification. The interlocking forces of crop and livestock homogenization, land consolidation, and corporate concentration (especially up and downstream of farming) compelled farmers to compete in an increasingly globalized market (Bernstein 2004; Clapp 2021). In interviews, many older farmers described raising multiple breeds and species of livestock and growing a range of crops in their childhoods and early farming careers. Through the late '70s and '80s, fewer families farmed for their own subsistence. Many of the grain mills, slaughterhouses, and other farming infrastructure that supported the more regional food system of Siskiyou's remote valleys disappeared.

Although Siskiyou's total agricultural acreage decreased by nearly 40 percent during this time (from over 1 million acres in 1968 to about 700,000 in 1978), production of export crops increased (SCCR 1957-2020). Alfalfa acreage, for example, increased from 50,000 acres to 70,000 acres, while the number of pigs, chickens, and other more locally consumed agricultural products decreased in the same period (SCCR 1957-2020). Many described how the federal government made them feel like heroes who could "feed the world" during this time (author interviews 2017-2019). They were given dirt-cheap loans and treated as patriots who could participate in global markets. Increasingly, they focused production on alfalfa and beef cattle (which held steady around 85,000 during that period). As one cattle rancher said, "We contribute to the continued survival of our nation. We got to have food!" (author interview 2019).

The 1980s farm crisis and sweeping liberalization devastated many agricultural communities, including those in Siskiyou (Fig. 7). Several older farmers described how the FHA's lending practices targeted young farmers especially. One farmer described the generation that left agriculture in the '80s as the "lost generation" who would now be nearing retirement and ready

to pass the farm on to their children (author interview 2017). One cattle rancher, whose grandfather had migrated to the region in the 1870s in search of gold, described his experience as a young 28-year-old farmer who nearly went bankrupt at the time. In the early 1980s he had borrowed \$100,000 to build his ranch business and add crops, but then interest rates jumped to 18 percent. “Even back then, 150 pair [of cow/calves] wasn’t enough to make a living on at eighteen percent” he explained. To reduce his loan to \$20,000, he sold all of his cows. His wife started selling insurance to cope, which he said was “still paying off the ranch” nearly 30 years later (author interview 2019).



Figure 7: *The 1980s may have ushered in a period of institutional decline in rural areas, but much of that remains. A sign at a closed Tulelake potato packing shed remains, in 2019, amidst overgrown weeds after the 1990s collapse of the potato market (left) and several abandoned storefronts in the Scott Valley in 2018 (right) (Photos by author).*

While describing the difficulty of the 1980s, many farmers in Siskiyou also shared that the 1980s farm crisis did not hit Siskiyou’s remote valleys to the degree that farmers they knew in the Midwest suffered (of course I was speaking to the farmers who had kept their farms through the crisis). Farmers in the region described the buffering effects of a number of factors. In the early 1980s many Siskiyou farmers had not yet fully divested from diverse farm incomes, as they were still raising more crop and livestock varieties than farmers in the Midwest and were less reliant solely on overproduced grains. Moreover, many were still able to earn cash in the region’s other natural resource economies, especially timber. Yet the region’s farming communities did struggle and the 1980s saw a spate of farm sales, consolidation, and new landowners.

Describing land consolidation, one older cattle rancher said, “During the ‘80s they all went broke... When I was growing up all of these small ranches could make a living, albeit not a great one, but they could all make a living. That all changed in the ‘70s and ‘80s to where you had to get bigger or you had to get out” (author interview 2018). A crop farmer said, “It’s all about consolidation. Those 55 and 45-acre homesteads—now you better have a thousand acres to start with... Their families have bought their neighbor, and bought their neighbor’s neighbor, and those 45-acre homesteads are now a thousand-acre farms. And some of them way bigger than that” (author interview 2019).

Wealthy amenity buyers bought foreclosed farms and farms from those who wanted out, primarily in Shasta Valley as second homes, investment properties, and tax havens. One cattle rancher observed, “Rich people outa the city bought a lot... It didn’t matter the economics of crops going in” (author interview 2019). A slightly less wealthy buyer, a retired veterinarian, described how she had bought land after the previous owners defaulted in 1985: “They ran it into the ground. They just didn’t have the money to keep it up” (author interview 2019). She described how her family bought the land because they “absolutely loved the mountains... It’s all emotion. Nothing to do with business” (ibid). Though not huge in number, these newcomers ranged in wealth and land holdings from white collar retirees who purchased a few hundred acres, to owners of department stores and medical companies, and even to movie stars who purchased tens of thousands of acres. These buyers typically hired farm managers to run their ranching operations, implementing conventional cow/calf management practices and selling to the rapidly consolidating beef industry.

This period was also important in laying the groundwork for a sea change in farmers’ relationships with the state. FHA debt and rocketing interest rates, and the gutting of rural institutions, were both problems manufactured by the federal government. Siskiyou County was not immune to the closures of community banks, schools, and hospitals that swept across the US (e.g., see Edelman 2021). Farmers often described Siskiyou County as “depressed,” and lamented, as one farmer phrased it, “A lot of people sitting around their homes collecting some kind of government check for welfare or whatever. And there’s no incentive for work because there isn’t any work to speak of. If you don’t own a ranch, the only other job is working for the County, Forest Service, or state or the feds” (author interview 2019).

Additionally, many farmers described the 1980s as a time when the federal government began to shift from framing farmers as heroes to blaming them for problems. One forage farmer, summarizing a sentiment many farmers shared, said in an interview, “The one thing I know is eventually, someday, there won’t be too many cans of beans on the shelf and then they’re going to wonder what the hell happened” (author interview 2018). The 1980s farm crisis may have laid the groundwork for anti-government sentiment, but the 1990s sealed the deal.

Many farming families in Siskiyou County described coping through the 1980s farm crisis, and other difficult periods, by taking what sociologist Patrick Mooney (1982) described as the ‘detour’ of temporary off-farm work. Older farmers I interviewed described how they and their neighbors in Siskiyou fared much better through farming crises (especially the 1980s crisis) than other farmers outside the region. Farmers attributed this to several factors, including a culture of conservatism that disfavored debt and was slower to adopt new and expensive infrastructure, as well as the fact that many farmers were able to find temporary work in the region’s timber industry. A dairy farmer described how, “A lot of people used to have 100 cows and a logging job” (author interview 2019).

But on the heels of the 1980s farm crisis, things changed. Low hay and cattle prices forced many farm families in the Butte Valley area, still struggling with debt legacies from the 1980s, to lease, and then sell, their land to a new set of newcomers: strawberry nurseries. Several large firms, including international conglomerates, like Driscoll’s, were drawn to the high elevation, cool climate, and sandy soils of the Butte Valley, which is ideal for growing strawberry starts.

Virtually nonexistent in the region before, the strawberry nursery business quickly became the highest-grossing agricultural enterprise in Siskiyou County (Siskiyou County Department of Agriculture 2000). By 2017, around half a dozen strawberry nursery companies accounted for nearly half of all farm sales in the county (USDA National Agriculture Statistics Service 2017).

Of greater impact to many more farmers and ranchers across Siskiyou, the 1990s also saw the near-total collapse of the local timber industry, as well as a sharp decline in the potato market. Sawmills in Shasta and Scott Valley and potato packing sheds in Tulelake disappeared nearly overnight. These farm-adjacent industries had been a stop gap for farm families, enabling them to generate seasonal or steadier incomes in hard times.

Though locally devastating to the Tulelake economy, farmers today attribute the collapse of the potato market to abstract market forces, leveraging little blame on anything other than perhaps consumer choice to eat fewer carbohydrate-rich foods. Perhaps part of why the collapse of the potato market was met with little resistance or hostility is that those who lost their ability to earn an income in the packing sheds were largely women. Their husbands, identifying as the “farmers” in the family, could transition to growing other crops like mint and onions. But the collapse of the timber industry built a resentment that continues to echo resoundingly. Farmers and ranchers universally attributed the collapse of timber and the closing of the local sawmills, and the social and environmental issues that have arisen since,²⁰ to one event: the listing of the northern spotted owl under the Endangered Species Act (ESA).

Certainly the 1990 ESA listing was crucial, but it was not the only factor that killed the region’s timber boom of the 20th century.²¹ By the 1990s, the price of timber had already declined significantly; like other rural institutions that provided healthcare, banking, and education, for instance, those that maintained public logging were in decline (G. Mann 2007). The state realized it did not need to be the farmer of forests; logging could be privatized.²² Operating primarily on private land, and with increased regulatory burdens, the industry consolidated quickly. This left little room for independent loggers, skidders, and sawmills that had diversified farmer incomes for so long. The industry had also depleted the region’s old-growth ponderosa pines, the trees that the local sawmills had been designed to process (Doremus and Tarlock 2008). With second-growth timber not yet ready for harvest, rural institutional decline, and the constraints of the Northwest Forest Plan (created to protect the northern spotted owl), the timber industry in Siskiyou and much of the region nearly disappeared. Farmers lost access to what had been, for more than a century, a steady source of necessary seasonal income. They also lost a kind of work that reinforced a masculine identity. Multiple farmers described how the loss of these jobs meant the perceived loss of independence and integrity. Farmers also expressed resentment about their reliance on public assistance and public sector jobs that many farm

²⁰ Wildfires, homelessness, and the opioid crisis were often mentioned by county officials and multigenerational farmers as directly cause by the ESA’s impact on the timber industry. For example, one cattle rancher echoed what many expressed saying, “The listing of the northern spotted owl really impacted this county. We’ve also seen a huge increase in substance abuse and criminal activity because when people lose their jobs, they feel destitute.”

²¹ See Geoff Mann’s *Our Daily Bread: Wages, workers, and the political economy of the American West* for more on the timber industry in Siskiyou County, particularly the in-migration of Black timber workers in the 1920s.

²² See Mann and Dickinson (1978) on differences in production time and labor time, which are especially distinct in timber farming as labor is not consumed (and therefore surplus value is not produced) while waiting for trees to grow.

families rely on. At the same time, as available jobs in the region shifted from timber to government, non-agricultural water users, including recreational and commercial fishing communities in the lower basin, tribal communities up and downstream, and the ecosystem itself, began asserting legal claims to water. After decades of unbridled agricultural water use in the Klamath Basin, a series of legal changes created opportunities for other stakeholders to challenge assumptions of agriculture's supremacy.

The 2000s: Water wars and government betrayal

In the 1970s as the FHA facilitated the expansion of private irrigation infrastructure and continued farm consolidation, the federal government also passed a series of landmark laws that, as legal scholars Doremus and Tarlock (2008) observed:

... made the newly minted concept of environmental protection a legal responsibility of the federal agencies in charge of managing natural resources. These new laws endorsed what then seemed to many a heretical idea: that human beings might have to limit their demands on natural resources in order to ensure the continued functioning of the environment. The Endangered Species Act of 1973, in particular, imposed conservation duties on all federal agencies, including those, like the Bureau of Reclamation, that had previously had single-minded development missions. (Doremus and Tarlock 2008, 8).

While agribusiness had steadily reduced agriculture's reliance on nature (Mann and Dickinson 1978), agriculture's exceptionalism persisted – its simultaneous protections from state regulations and ongoing receipt of state support. As Doremus and Tarlock (2008) observed, “Farmers, however, were allowed to continue their historic practices, shielded by the view, endorsed by the National Research Council, that irrigated agriculture was not just another industry but ‘more a culture – the way people live and part of the national identity’” (National Research Council 1996, 17). Agriculture was exempt from some laws nearly entirely, like the Clean Water Act's channelized discharge permits, which other industries now needed, but irrigation return flows did not (33 U.S.C. § 1362(14)). It took some time for stakeholders and environmental movement organizers²³ to effectively advocate for the implementation of these new environmental laws, which came to rely heavily on litigation (Doremus and Tarlock 2008). Doremus and Tarlock (2008) argue in their legal history of the Klamath Basin Water Wars that, “Environmental protection came to the Klamath as a means to another end: the preservation of Indian tribal cultures in the face of a history of annihilation, dismemberment, and misguided efforts to impose whiteness” (p. 9).

Fish populations declined sharply in the Klamath Basin through the second half of the 20th century. Agricultural water use exceeded supply seven out of 10 years, even with little water left for the fish. Additionally, nutrient-rich agricultural runoff and waterway infrastructure like dams made it difficult if not impossible for migrating fish like salmon to spawn. In 1988 the Klamath tribes, along with environmental groups and state agencies, successfully petitioned the federal government to list two culturally critical fish species as endangered. Koptu and C'waam, or

²³ Heralded for its role in birthing the US environmental movement, Rachel Carson's *Silent Spring*, published in 1962 describes bird kills in Tulelake that Carson links to agricultural chemical residues. Writing of a large bird kill in the area Carson (1962) wrote, “All the waters of the wildlife refuges [of Tulelake]... represent the drainage of agricultural lands. It is important to remember this connection with recent happenings” (p. 49).

shortnose and Lost River suckerfish, were large, slow-growing, and long-lived lake fish that had been crucial to Indigenous diets and cultural livelihoods. With the Bureau of Reclamation's drainage of the "Everglades of the West," as the shallow lake system of the upper basin was sometimes called, these once abundant fish were only found in the Upper Klamath Lake. With the suckerfish listings, "project" farmers saw small reductions in their water deliveries beginning in 1988. These irrigation delivery reductions were mild, partly because "the irrigators enthusiastically embraced the theory that crisis can move policy" (Doremus and Tarlock 2008, 18) and successfully began filing their own lawsuits. In 1997, for example, irrigators successfully brought a citizen suit case all the way to the US Supreme Court to continue irrigating despite limitations proposed under the ESA (Bennett V. Spear, 520 US 154, 176, 1997).

Despite these setbacks, the Yurok, Hoopa, Karuk, and Klamath tribes, as well as other environmental advocates, continued to work for environmental protections and tribal rights in the Klamath. Beginning in 1997 Coho salmon began being listed on the Threatened and Endangered Species list under the ESA, region by region. By 1999 all of the rivers that salmon could still access in the Klamath Basin had been listed as critical habitat. Farmers in Siskiyou County were now squarely in the middle between endangered suckerfish in the upper basin lakes and endangered salmon in the lower basin rivers. With ESA law requiring water for each of those fish species up and down river, the extremely dry winter of 2000-2001²⁴ spelled disaster.

On April 6th, 2001, the Department of the Interior announced that there would be no water deliveries that year to farmers on the Klamath Project, based on biological opinions issued by US Fish and Wildlife and the National Marine Fisheries Service.²⁵ After nearly a century of entrenched water entitlements, tensions that had been building for decades exploded. When the federal government took the unprecedented action of turning the Klamath Project irrigation water off, the approximately 1,400 project farm families faced the harsh reality that societal goals had evolved (Doremus and Tarlock 2008). By prioritizing other water users alongside farmers, the federal government's power to undermine their livelihoods became clear, leaving project farmers with dry fields and a deep sense of betrayal (Wilson 2011).

On May 7th, a month after the 2001 decision, thousands of farmers and other residents from across the region staged a bucket brigade (Fig. 8; Owens 2013). Attendees wore blue and black ribbons to represent water and its loss and, as the director of the Siskiyou County Farm Bureau said, "The colors also illustrate the way most of the people in the Klamath Basin feel, bruised and beat up" (Siskiyou Daily News 2001a, accessed Nov. 2022). Forming a line over a mile long, people passed 50 buckets of water from hand to hand. Dipped from the lake right above a dam on the Klamath River, the water was dumped ceremoniously in a dry irrigation canal. One farmer, a veteran and homestead recipient, gave a speech to the crowd, saying, "In the 1940s our government's word was as good as gold. Today our government's word is meaningless... I stand here today to say that our government has betrayed us" (Siskiyou Daily News 2001b, accessed Nov. 2022).

²⁴ Surrounding mountain snowpack was 21 percent of normal levels in March 2001 (Clarren 2001).

²⁵ When the biological opinions came out Klamath irrigators sued the Bureau of Reclamation, as well as NMFS and FWS, for breaking the US Reclamation Project trust agreement to deliver water. A federal judge stayed with the Bureau of Reclamation decision not to deliver water, citing that doing so would violate the ESA (Clarren 2001).



Figure 8: *The press was standing ready to capture the bucket brigade as a farmer fills the first bucket (Source: Kadel 2006).*

People in attendance described the bucket brigade and other numerous early protests as having a festive, family-friendly atmosphere. Attendees brought their families, picnics and grills, and spent time chatting with neighbors. Many thought the water would turn on in time for planting, maybe delayed by a few weeks.

But the water shut off in the Klamath Basin soon became what Doremus and Tarlock (2008) described as a “problem shed,” in which anti-federal government activists from across the West focused their frustrations and anxieties. Protests became increasingly volatile, angry, and lawless. An organization called People’s Rights, founded by militant activist Ammon Bundy, worked with two Klamath Project farmers to purchase a small parcel of land next to the headgates and set up a round-the-clock occupation in what some compared to the then-recent far-right occupation of the Malheur National Wildlife Refuge (Dillemuth 2021). In July, a water pipe was illegally placed to bypass the headgates, which were themselves repeatedly forced open by men with crowbars and torches, letting water flow into the irrigation canals (Clarren 2001). The local sheriff refused to intervene or prosecute those who had taken matters into their own hands (Jehl 2001), writing “I’m not going to be party to enforcing a federal law on federal property that is destructive to the entire community I represent” (Deborah 2001, accessed Nov. 2022).²⁶ In fact, he joined the People’s Rights occupation adjacent to the headgates (Dillemuth 2021). With local law enforcement’s refusal to enforce the law, the federal government had to send FBI agents and federal marshals to guard the irrigation headgates. In late July several small allocations of irrigation water were released (the Secretary of the Interior was able to locate an accounting error in the region’s water budget), but when those deliveries stopped tensions redoubled.

A songwriter from Georgia saw the news coverage of the water shut offs and protests and wrote

²⁶ The County District Attorney and irrigation district officials also turned a blind eye to vandalism and trespassing on federal property at this time (Jehl 2001).

a country song for the farmers of the Klamath Basin “to let them know that they are not alone in this battle and that there are many others across this nation who feel their pain and anger” (sic, “Meet Brian Burns” n.d., accessed Nov. 2022). The song, titled “*Kill the Land*,” begins with a description of selling the family homestead, “takin’ down the photographs... sell it off a piece at a time... that’s a dollar and that’s a dime” (Burns 2001). As fiddle strings play, the chorus belts:

“Leaving this place I called home for so long.
Seven generations come and gone.
I wonder if they’ll sell or if they’ll burn it to the ground.
I never thought I’d see the day my country would kill the land.”

One of the verses captured the desperation, anger, and blame that many farmers expressed:

“What am I supposed to do? I didn’t have much time for school.
My daddy taught me what he knew and that was how to farm this land.
The politicians and the eco-freaks, they think they know what’s best to see.
I guess their schools forgot one thing, without water the crops don’t grow” (Burns 2001).

In late August of 2001, a “Convoy of Tears” was held in Klamath Falls, Oregon. Convoys of pickup trucks and tractors poured into the Basin from half a dozen western states, some with canned food donations and deliveries of livestock feed (Bailey 2001). One Montana man said he was bringing a 10-foot-tall green swastika that he was planning to burn on arrival saying, “People have to realize this green movement is based on Nazism” (Bailey 2001, accessed Nov. 2022). One attendee, part of a convoy from Malibu Beach, summarized a common sentiment when he told reporters, “Cutting off water is the same as legislating you out of doing anything with your land” (Bailey 2001). A local mint and cattle farmer said simply, “A lot of people are right on the edge of bankruptcy” (Clarren 2001, accessed Nov. 2022).

Some leaders of the tribes implored protesters from outside the community not to fan the flames of discontent, but to no avail (Bailey 2001). Others embraced the national spotlight. The chairman of the Yurok tribe told reporters, “One of the most offensive things to me is when I hear of the ‘poor farmers.’ When we get into the poorest of the poor, we’re gonna win that fight” (Clarren 2001, accessed Nov. 2022).

While the 2001 Klamath Basin water shutoff became a political stage for grievances of various kinds from various extra local communities, many people who lived in the basin suffered. Established farmers had no irrigation water for the first time. Tribal members and agency staff who also lived in the basin reported being refused service at local businesses in retaliation (Clarren 2001). Local food banks struggled to meet the demand of local families; cases of domestic violence and suicide rose sharply; businesses shuttered; and local school enrollments fell by 30 percent from one school year to the next (Clarren 2001). One farmer, a WWII veteran and 1949 homestead recipient, told reporters, “Fifty-nine years ago, we were welcomed home as heroes and asked to feed a hungry world. Today, we may be reduced to welfare recipients standing in line for rice and cheese” (*Siskiyou Daily News* 2001). Another Butte Valley cattle rancher farmer, described to me what he saw project farmers go through. Shaking his finger at me, he said, “Your government stepped in and gave them ninety-seven dollars per acre for dry land to forgive this and forgive that. But they all suffered that year. Twenty percent went out of business at least” (author interview 2019).

To this farmer, a government that could betray its promise to provide water to farmers like him was no longer his government. Instead, he described his perceptions that the federal and state government turned their backs on the farmers they had once supported, now preferentially serving urban and environmentalist interests.²⁷ Farmers described how the younger generation left farming and then left the region after 2001. One crop farmer said, “There [was] at least a decade where, you know, there would maybe be one or two, but nobody came back. Everybody after that point in 2001, all the kids went away to college or went somewhere else, and they did not come back here” (author interview 2018). Another farmer said, “Part of my concern is that my kids watch how much it takes for me to justify my existence and they say, ‘Wow, I don’t know if I want to work that hard’” (author interview 2019). While most farmers who went bankrupt at that time quietly took down their photographs and sold off what they had “a piece at a time,” as the song described, a few spoke and wrote publicly about their experiences.

In 2002, the year after the water shutoff, one third generation project farmer just over the state border from Tulelake in Merrill, Oregon met with elected leaders and wrote publicly about his experience of bankruptcy. He said that government aid, handed out to farmers through the USDA during and immediately after the irrigation shutoffs, was not enough. His hay and potato farm lost \$800,000 in gross sales in 2001, or about 80 percent of the farm’s income, forcing his farm into bankruptcy (Carleton 2002). Of the \$122,000 in emergency payments that farmer received from the federal government, he had to pay \$30,000 in rent for farmland, another \$30,000 in debt payments, and \$60,000 back to the federal government in taxes since the 2000 crop year revenue had been paid in 2001 and he did not have expenditures like fertilizer costs to write off for 2001. He described personally knowing at least seven other families who had filed bankruptcy and 15 more on the brink, only three of which held public auctions. Another farmer in Tulelake described how, during 2001 and the years shortly after, “There were people, they didn’t necessarily go bankrupt. They just sold their land to their neighbor and moved on. It wasn’t brought about by bankruptcy, but it was certainty brought about by necessity” (author interview 2019). In a context where farm failure can be understood as moral failure (Dudley 2002), farmers in economic distress may sell their farms out of social necessity before financial necessity, preferring to sell quietly rather than face public scrutiny in bankruptcy.

Environmentalists too were frustrated by the blunt tool they had to work with. Keeping water in the lakes and rivers for the three species of ESA-listed fish meant stopping water deliveries not only to farmers, but also to the Tule Lake and Lower Klamath wildlife refuges, with devastating consequences for countless species of wildlife, especially migratory birds who rely on this crucial stop along the Pacific Flyway (Clarren 2001).

Farmers, fishers, tribal members, and environmentalists are all, as Doremus and Tarlock (2008) summarize, “People striving to realize their differing but deeply held views about what makes a human life satisfying and worthwhile” (p. 10). Yet,

the law formally recognizes such culture-based claims on the part of Indian tribes, but not on the part of farming or fishing communities, which do not fit the model of racial, ethnic, or religious groups at high risk of majority oppression. Nonetheless, culturally

²⁷ People like me from environmental science programs in places like Berkeley, California, in other words.

based appeals from such groups may carry substantial political power. (Doremus and Tarlock 2008, 10)

Klamath Project irrigators were successful at appealing to powerful imagery of Jeffersonian yeoman agrarianism and presenting themselves as victims of an unjust government. More than a dozen veterans who had received homesteads (or their widows), wrote powerful letters to Congress in 2001 (Fig. 9). Nearly all the letters described arriving to the newly reclaimed lakebed in the 1940s with few possessions and working hard to make the land productive, build a community, and raise children. Most of these letters were handwritten and included photographs of the veterans who had originally been awarded homesteads (Fig. 9). Some included scanned deeds signed by President Franklin D. Roosevelt stating that Congress “assigns forever... water rights for mining, agriculture, manufacturing, or other purposes” (Original Deed, Showing Water Rights n.d., accessed Nov. 2022). One veteran letter, written by Fred and Velma Robinson (Fig. 9) described how, “We were provided this wonderful gift of land and water by the Dept. of the Interior, Bureau of Reclamation. They were our friends and did much to help us get started. Now, these government agencies are our enemies, taking from us what was awarded to us more than 50 years ago, and destroying the livelihoods of many” (“Fred Robison” 2009). The Robinsons compared April 6th, 2001, when the Bureau of Reclamation turned off irrigation water to project farmers, to December 7th, 1941, the day Pearl Harbor was bombed. The Robinsons wrote, “As the days have passed into the month of June, we are still stunned by the riling which seemed to have heralded the end of the world for our community and wonderful farm land” (“Fred Robison” 2009).

To the U.S. House Committee on Resources:
June 12, 2001

The day of April 6, 2001, was an infamous day to the people in the valley of Lakebed, as they (Pearl Harbor Day) was to the citizens of the United States. Boldly, and with some arrogance, the Bureau of Reclamation made a flat, unshakable statement: "There will be no irrigation water for the Klamath Basin water users." It has been a devastating blow. On the day designated as the month of June, we are still stunned by the riling which seemed to have heralded the end of the world for our community and wonderful farm land.

This land was opened to veterans of the Armed Services for homesteading. My husband, Fred A. Robinson, veteran of WWII, above his land, in the 1941 Department drawing (that was a truly exciting day) Fred's father, wife V. Robinson, veteran of WWII, was awarded his homestead in 1937. Fred and I have lived on this land for 55 years, through the good years and a few not so good years, and always appreciating our good fortune! In addition to raising potatoes, barley, wheat, alfalfa, sugar beets, we raised three children, we lived with nine grandchildren. The kids all grew up with a love of the land and knowing the purpose of growing food on the land to feed others.

We were provided this wonderful gift of land and water by the Dept. of the Interior, Bureau of Reclamation. They were our friends and did much to help us get started. Now these government agencies are our enemies, taking from us what was awarded to us more than 50 years ago, and destroying the livelihoods of many. It was written in Public Notes 7043, Klamath Irrigation Dept. Office, California, (Lakebed Division), U.S. Dept. of the Interior, Bureau of Reclamation, Washington D.C., dated Aug. 1, 1946 - that water would be available in the irrigation season of 1947, and thereafter. (Copy included below)

This is a good community and it needs us all to conserve what it might become without water. What a waste of good farm land - it could become a desert, and some portion of land turned into a wasteland. I am flying old there at our house - I think I should have a little reminder of all of this time, when we lived in liberty and peace for all? We have been betrayed by our own government!

Fred and Velma Robinson
1947 Lakebed Homestead, California



Sgt. Fred A. Robinson
U.S. Air Force
Nov 1942 - Apr. 1946

OUR FRONT COVER



FORTUNE SMILED on Fred and Velma Robinson. Because we started our readers to see that others shared their life, here is the left corner from which the cover was made. Although Fred had to wait until number 51 was done before having the good news, you can tell by those big grins that it was well worth it.



Figure 9: A letter written to the US House Committee on Resources on June 12, 2001, by Velma and Fred Robinson (left). The letter describes how Fred's father was a WWI veteran who received a homestead in 1937 and then Fred, a WWII Air Force veteran (top center photo), received a homestead nearby ten years later, on what they write in the letter "was a truly exciting day" (bottom center photo shows Velma and Fred when their names were pulled from the 1946 homestead lottery). The top right image shows Velma and her mother-in-law preparing a chicken for dinner outside their home, a barracks from the Tulelake internment camp. The bottom right image shows Fred and Velma in 2001 holding the February 1947 *Era of Reclamation* magazine that featured them on its cover (Source: klamathcrisis.org).

Farmers feared the loss of resource entitlements and political power they had long benefited from, as well as changes to "the culture that has grown out of the small western communities sustained by irrigation" (Doremus and Tarlock 2008, 10). Klamath Project farmers successfully leveraged "the rhetoric of minority protection," framing themselves as an embattled minority "to buffer themselves against threatening political and economic currents" (Doremus and Tarlock 2008, 29).

In interviews, farmers across Siskiyou County consistently connected the various ESA listings into a pattern that many feared had the explicit intent of dispossessing them of their natural-resource dependent livelihoods. A cattle rancher explained, "The Coho salmon has been viewed as the spotted owl of water in Siskiyou County, so there's a huge fear that we're headed down the same path as we did with the timber industry" (author interview 2017). Many connected the loss of other industries like mining and timber to environmental regulations, especially the ESA, and feared agriculture was next. Speaking in an interview of the federal government's Endangered Species Act, a local agricultural advisor and farmer said, "When they came for the spotted owl and shut down the logging industry, no one did anything to stop them. It feels like the same thing is happening with water and agriculture. Who is going to stand up for us this time as they try to put us out of business?" (Author interview 2019).

In addition to fear of future impacts of regulations, the ESA seemed to illuminate deep past hurts (Fig. 10). Regularly farmers described feeling unfairly blamed for environmental harms while their own conservation efforts and local ecological expertise were ignored by "experts" from environmental non-profits and government agencies. An agricultural advisor told me in an interview how the farmers she works with share that they do the best they can to steward the land and water: "There's not a farmer I've met who doesn't want to do everything they can to help their environment. But they get blamed as the bad guy by outsiders" (author interview 2017). A forage farmer described how, "The government agencies are making these decisions without looking at history... they send biologists up these riverbeds that historically go dry, and then there's a pool of water with struggling fish and now all of a sudden it's farmers—it's our fault" (author interview 2019). Cattle ranchers described being especially blamed in the past decade for emissions. One said, "Beef has been the bad guy in the world" (author interview 2019). A mixed row crop farmer described his experience of being a visible and locatable water user by saying simply, "We have an address where you can find me on the map" (author interview 2018). One older cattle rancher described a time when some US Fish and Wildlife scientists arrived at his ranch to evaluate the creek that ran through his pastures and monitor the fish screens he had placed at his irrigation ditch intakes. He said the scientists lectured him about salmon habitat, something he knew well having witnessed decades of spawning seasons, and then he described, "They asked if I knew of any experts in the area who might know something about the history of

the salmon here. I was like, ‘You’re looking at one!’” (Author interview 2019).



Figure 10: The front page of a local newspaper from 2001, photographed on the wall of the Scott Valley Resource Conservation District office (Photo by author, taken 2019).

Farmers often described negative ecological consequences when their local ecological knowledge was ignored, or when the science changed. Sitting at a picnic table in the shade at one multigenerational cattle and forage farm, the farm matriarch explained, “They create these models, and they have assumptions, but they do not have the facts” (author interview 2019). Her son added, “Every stream, every diversion is so different they think they have a fix for every situation” (ibid). Her husband then said, “And every year is different” (ibid). Another farmer said, “We absolutely see and feel and watch everything” (author interview 2018). Additionally, farmers often described a sense that, as one cattle rancher phrased it, “There is no credit being given to things that we’re doing that help” (author interview 2019). One cattle rancher told me, “All you environmentalists kick our ass big time... You’re born on a farm, so you know the farmers are the very best environmentalists and stewards of the lands we’re handcuffed and kicked in the butt” (author interview 2019).

Farmers also described numerous examples where the science changed around restoration efforts

or best management practices changed. Beavers were a commonly raised example. Farmers said they knew beavers were good for the ecosystem, that their dams helped slow rushing rivers, especially during early spring snowmelt, allowing more water to percolate and recharge the groundwater. But through the first decade of the 2000s government agency staff implemented a beaver eradication program in the area that was quite successful. Many farmers said they knew this eradicating the beavers would cause negative consequences, but the so-called experts would not listen to them. Indeed, the farmers were right and today those same agencies are installing “beaver dam analogues” to slow stream flows. One cattle rancher described how Fish and Wildlife officers came to his ranch in 2005 and “killed this gloriously beautiful beaver... they didn’t even ask us... And now they’ve changed their position on beavers. Before it was ‘get rid of all the beavers.’ Now it’s like, no, let’s keep the beavers” (author interview 2019). Farmers told many similar stories about “bad” science and mismanagement by experts – from the mismanagement of bank swallow habitat, to selecting the wrong pebble size for Coho and Chinook spawning, to preventing riparian grazing, to forestry practices that have created wildfire hazards, to barred owls that predate on spotted owls, to the transition away from flood irrigation and now renewed interest in flooding to recharge groundwater.

Indeed, the 2001 water shutoff in the Klamath Basin was one of these events. One farmer, a veteran of WWII and homestead recipient, described the 2001 water shutoff as “a shameful, shameful thing. I saw hundreds of thousands of acres of habitat that had been utilized consistently by hundreds of species, literally turned to acres that were inhospitable to any wildlife at all. It was all done in the name of ‘single species’ management” (“Fred Robinson” online blog 2009, accessed Nov. 2022). Not only was ecological disaster not halted, but it worsened the next year as the Klamath River and its tributaries experienced a massive fish kill. In September 2002, thousands of Chinook salmon came into the basin’s rivers to spawn. With little water released from behind the dams, flows were low and warm. Overcrowded fish in these warm, shallow streams provided the perfect conditions for fish parasites and bacterial pathogens to flourish, killing more than 60,000 salmon before they could spawn (Belchik, Hillemeier, and Pierce 2004). Many farmers interpreted this event as evidence that how they irrigated, or what they sacrificed not to irrigate, did not even matter. The fish still died.

With the 2001 Klamath Project water crisis fresh on farmers’ minds, farmers in the Scott and Shasta Valleys undertook a series of initiatives to try to prevent similar water conflict over the ESA. In an interview, one livestock and crop farmers described the ESA as “a 60-pound sledgehammer and it will break rocks. But if what you need to do is remove a screw... it’ll knock it out, but it’s not the tool you need for the job. It’s a big blunt tool that can actually do way more harm than good” (author interview 2018). While project farmers’ water use competed with water needs for endangered fish up and downstream, farmers in Scott and Shasta Valleys operated their farms where ESA-listed Coho²⁸ spawned, bringing additional concerns and legal risks with spatial proximity. With the spatial overlap of farming and salmon in the Scott River and Shasta River (and their cold-water tributaries), farmers were especially concerned about “take” liability. If an endangered species was harmed or killed, even by accident, a farmer could be fined \$25,000-50,000 per fish, or even face felony charges. At the same time, some of the most critical salmon spawning areas were in stretches of stream that ran through farms. Many farmers described feeling stuck between wanting to steward their land to support fish

²⁸ Chinook salmon also spawn in these rivers and they were listed under the ESA in 2021.

populations, but not wanting more endangered fish on their land that put them at greater legal risk.

In attempts to mitigate legal risks associated with ESA-listed salmon, farmers in the Scott and Shasta Valleys adapted their management practices and farm structures. To avoid using surface water, many farmers began relying more heavily on groundwater. When they did use surface water, farmers installed fish screens at the channel intakes to ensure that juvenile salmon would not accidentally be sucked through irrigation infrastructure. Farmers fenced riparian areas from their cattle (the fear of cattle stepping on salmon and killing them seemed to loom large). The Natural Resources Conservation Service funded many of these projects for qualifying farmers (especially those considered beginning or socially disadvantaged, including women) and the regional Resource Conservation Districts helped other farmers make these investments.

In addition to material infrastructure, local farmers and institutional actors tried several new legal tools with varying degrees of success. One institutional infrastructure allowed under the ESA is an Incidental Take Permit (ITP), which as a lawyer who worked on developing a draft ITP in Scott Valley told me, “Essentially says you, landowner, you're going to go do something that's going to kill species. You're going to do something bad. You need to mitigate for the bad thing you're going to do.... And in exchange, we'll give you 'take' protection” (author interview 2018). The ITP process, led by the local Resource Conservation District (RCD) in the mid 2000s, ended in calamity. People involved with the process described a situation so raw, so full of emotions of blame and betrayal, that the entire RCD staff quit. Additionally, several farmers received death threats from their neighbors, and at least one sold his ranch and moved. He claimed he was run out of the valley for his involvement in the ITP process. Unlike the Klamath Project water shutoff, Scott Valley farmers kept this implosion close to their chest. There were no public protests or media stunts. When I went to the local RCD office, five years after the ITP process fell apart, I saw three-ring binders of meeting minutes, public comments, and other materials lining their library shelves that dated back decades. But the shelf labeled for materials from 2009-2010 was empty. One of the new RCD staff said that period had been so hurtful that the records of this time period had been removed.

When I asked farmers about the ITP, a few were willing to share their perspectives. A crop and cattle farmer explained how, leading up to the ESA listing of Coho in 2000, farmers had come together and undertaken “some pretty extraordinary efforts to benefit Coho,” with the hopes they could keep the fish off the ESA. Within a few years nearly all the farmers in the Scott Valley had fish screens and riparian fences, for example. When the Coho were listed anyway, “people were done” (author interview 2019). What little trust farmers had in environmental NGOs and agencies fractured. Then, a few years later, in the late 2000s, when the RCD led efforts to set up incidental take permits, farmers were already mistrustful of groups like the California Department of Fish and Wildlife. The ITP was primed to fall apart, which it did after a few vocal amenity buyers began organizing the community against the effort. One farmer explained, “Most of the people who actually have skin in the game in production agriculture were saying, ‘show me how this could be the least amount of pain possible and I'll play,’ because we do that all the time, we have to do that” (author interview 2019). But, this farmer explained, several people began agitating against the ITP:

Most of them were what would call investment agriculture. These are people who came in with some dollars and bought a little ranch and have a horse or two and a cow and buy hay from me. Their goal is for those property prices to go up, and they will sell it. I would like to see property values go down so I can buy at least those places near my house. So when these people see an agency come in and they say, ‘you could hurt my property value,’ they have different goals. And they're not long term. (Author interview 2019).

Multigenerational farmers were already distrustful of environmentalists and government agencies. If water restrictions were implemented as part of the ITP agreement, local amenity buyers also worried the values of their investment properties would decline. These two groups formed an unlikely alliance, the farmer explained, “Eventually people started coming to those meetings – and my analogy is they were – carrying torches and pitchforks. You know what I mean? For years, they never put their pitchforks and torches down” (author interview 2019).

Safe Harbor Agreements provide another legal infrastructure to protect farmers from ESA take. The same lawyer summarized the framing of this tool, saying, “A safe harbor essentially says well, we know that you can do good things for the fish. And we want you to work with us to help the fish. And in exchange, we'll give you take protection” (author interview 2018). This difference in framing enabled Safe Harbor Agreements to begin in Siskiyou, though many people told me that there was a period of about five years after the ITP incident when virtually no conservation activities moved forward at all. An ITP and a Safe Harbor might result in similar land management practices and conservation activities but through completely different paradigms. As one cattle rancher involved in both processes said, under the ITP paradigm “you're a bad guy and you're doing evil by continuing to exist,” whereas, he explained, with a Safe Harbor the approach is, “You're right. You want the clean water for our kids as much as the fish do” (author interview 2019).

Box 2. Citizen Science

On a crisp November morning in 2019, I met a farmer and several high school students behind the local high school. It was early, before the school bell rang. We donned tall waders and packed supplies like knives and sample bags for the project ahead. For the past two and a half decades several farmers have been volunteering to survey salmon along stretches of the Scott River during Chinook salmon spawning season. This farmer walks the same four-mile stretch twice a week during the months of October and November. A few farmers, along with a rotating cast of local high school students, have been working with the Yurok Tribe to monitor the fish and collect vital data on their migrations and health. (While the Karuk Tribe has a subsistence fishery, the Yurok Tribe on the California coast has a commercial fishery. Many farmers described value alignment with the Yurok Tribe and expressed a sentiment that “If we can grow cows, we can help grow fish!” (Author interview 2019).)



Figure 11: Looking for spawned salmon in the Scott River in 2019 (Photo by author).

I could see my breath and hear the frosted grass crunch under my feet. We drove to a four-mile stretch of the Scott River that runs through the farmer's ranch, where we would be conducting a fish survey. With tall walking sticks to help us find our footing on the slippery rocks, we began walking downstream, the early morning sun warming our backs (Fig. 11). Whenever we spotted a salmon we would take a closer look to see whether it was alive or dead – a surprisingly blurry line for spawning salmon who disintegrate before their hearts stop beating. If the fish was alive, the farmer would record its location and visual appearance. If the

fish was dead, one of the high schoolers would scoop its rotting body with a net. The farmer would then take measurements and record various attributes of the fish, such as its sex and any signs of disease. He would then scrape some slimy scales into a sample bag to send to the Yurok Tribe for analysis, carefully tucking the samples into his vest pocket (Fig. 12). Once the dead fish was recorded and sampled, a high schooler would chop it in half with a machete, so it would not be re-recorded on the next fish walk in a few days (this was by far their favorite part).

When we came to riffles with spawning salmon, the farmer would stop and point out features of the gravel (it must be uneven, not smoothly graded) and water flow that make that particular place ideal for spawning. The female Chinook created nest depressions by beating the pebbles into a scooped round nest with their tails until they shone ghostly, just bone-white lace.

As we waded through water, sometimes chest deep, the farmer explained how he had started doing fish surveys in 1995 to show that fish and agriculture can coexist. With rumors that Coho (and later Chinook) might be listed under the ESA, he wanted to document that the fish were spawning in the river that flowed through his ranch, "There are fish in the river and they are spawning. Good things are happening and it's happening right where agriculture happens" (author interview 2019). He also wanted to have legitimacy when talking to environmental groups



Figure 12: A rancher takes a sample from a dead salmon for analysis in 2019 (Photo by author).

and agencies and be able to say, “We farmers are part of conservation and should have a seat at that table too” (ibid).

For the past 18 years the farmer has taken high school students on these fish surveys. The farmer said he includes the students to encourage them to stay in the region after graduating and build skills for jobs in the County government and federal and state agencies, the largest employers in the region.

We came to one stretch of river with dozens of spawning female Chinook, the conditions just right, their bony tails gleaming. The farmer pointed to a hay barn up the bank. About a decade prior, he explained, a big flood had swept through the valley, and that farmer had used his tractor to push gravel around in the river to prevent his barn from washing out. California Fish and Wildlife had threatened the farmer with fines and jail time, charges that were eventually dropped, for disrupting the stream habitat. Now, the farmer said, “This is the hottest spawning bed” (ibid).

Continuing down the river, the sun warmer and higher in the sky, the farmer described how the conflict in the Klamath has been portrayed as “Farmers vs. Fish,” when it is actually conflict between people. After decades of stalemate, some farmers, Yurok Tribal members, and commercial fishermen formed what they called “The Coalition of the Willing” to find common ground. Some coalition meetings were open, while others were expressly closed to environmental groups and agencies who were seen as adversarial, with a history of pitting resources users against each other in the Klamath. The farmer described how these meetings “feel like there’s 100 elephants around the table and nobody’ll touch them because they’re too big and too scary” (ibid). Describing a recent meeting, the farmer said, “It came out that ‘We don’t necessarily want agriculture to be successful because you stole our land and killed our people.’ Good - throw it right on the table, Now let’s talk!” He explained how, “Environmental interests and government agencies are being parasitic on this negative relationship that we have with the Tribes, and it turns into an industry—this whole little fight is an industry... My goal at the end of the day is to see the users of the resources tell each other the truth, work our stuff out” (ibid).

After two miles of river, at about midday, we stopped for lunch at the base of a gentle bank topped with sagebrush. Self-consciously, I ate from my Tupperware of cucumber and farro salad with hardboiled eggs from the farm where I had been staying. The farmer and students ate Frito chips and Spam from a can. In my fieldnotes from that day I noted how the liquid in the spam can looked very much like the slime we had been scraping off dead fish all morning. As we ate, one of the boys, the son of a local rancher, told me how his dad heard wolves howling recently and said the government had put elk nearby in preparation for a secret release of wolves near ranches, to try to drive the ranchers out. Sipping yellow Gatorade, the farmer shook his head at the boy and gently offered an alternative to this conspiracy theory. He said, “I wish that was the case. But what scares me more is that wolves got here all by themselves because they can travel 35 miles in a single night” (ibid).

As we finished eating and set out for the second half of our river stretch, a flock of sandhill cranes flew over us. The farmer paused to show the students how to call to them. The birds

called back, delighting us all.

The 2010s: A new kind of persistent drought and new in-migrations

To many, the 2001 drought seemed like a sudden crisis, one that appeared quickly but did not end. The drought and the resentments it amplified lingered and grew. A few slightly wetter years in the mid 2000s took some pressure off of the ongoing tensions in the Klamath River Basin (Doremus and Tarlock 2008), but by 2011 a new wave of drought set in. The 2001 drought was, it turned out, only the prelude to what has become the worst drought in over 1,200 years (Williams, Cook, and Smerdon 2022). Still ongoing in 2022, California's record-setting drought has brought mega-wildfires, extreme heatwaves, and unprecedented water curtailments (Pathak et al. 2018; Higuera and Abatzoglou 2020).

In 2016, I was initially drawn to Siskiyou County because the region was experiencing an in-migration of new farmers *despite* the intense drought and the decline of economically viable rural livelihoods across the US. Moreover, multigenerational farming persisted in the region. Remarkably, land in agricultural production in Siskiyou County increased by about 20 percent during the drought period from 2011-2014 (USDA National Agriculture Statistics Service 2017).

Who were these new farmers migrating into Siskiyou? In this section I describe four categories of recent in-migrant farmers: large-scale alfalfa growers, diversified direct market farmers, cannabis farmers, and returning multigenerational farmers. I recognize that any attempt to categorize types is rife with complexities and contradictions. Yet these farmers are understood, by themselves and other farmers in the region, to form this typology. This typology does not hinge on characteristics often used by scholars to differentiate farms and farmers like farmer age, education, income, or farm acreage, capitalization, legal structure, or certifications like organic. Instead, I observed that the most important local distinction was farmers' inclusion within social groups: who could claim insider status and who was viewed as an outsider. Multigenerational farmers, especially those who have cow/calf operations and were referred to as "traditional" farmers, exercised the greatest cultural and political power. Their belonging and "insider" status in establishment farming circles (including both formal groups like the Farm Bureau and informal farmer-to-farmer social networks) in Siskiyou County was often presented as self-evident—by institutional actors and other farmers, including recent in-migrant farmers like the Hmong farmers. How agricultural actors in the region comprehend recent in-migrations, and the historical context in which they operate, is crucial in understanding changing farming practices and the contours of new ruralities that are emerging.

Large-scale alfalfa growers

During the drought of the 2010s, a prominent group of farmers moved to Siskiyou County to grow high-quality alfalfa for export markets (Fig. 13). Almost all were young, white men (author interviews 2017-2020). Many conventional alfalfa growers in Siskiyou specialize in weed-free alfalfa, which is primarily sold to international export markets like Japan and the United Arab Emirates (ibid). Some of these newcomers strategically bought or leased former dryland grain land that had been sitting fallow in the Conservation Reserve Program and could be quickly

certified as organic (ibid).²⁹ The recent surge in organic alfalfa production in the region has been driven by market premiums for organic forage sold to dairies in western US states (themselves driven by rising consumer demands for organic dairy products). Unlike many earlier waves of agricultural in-migrants to Siskiyou, these farmers did not concentrate in one geographic area, instead purchasing and leasing land across the county.



Figure 13: Alfalfa fields and storage barn in 2019 (Photo by author).

Several newcomer alfalfa growers told me that Siskiyou’s non-interventionist and libertarian politics were a significant draw to the region (author interviews 2017-2020). For example, several of these farmers told me that they had heard—through farming organizations like the Farm Bureau—that county-level staff at California Fish and Wildlife were not enforcing 1600 streambed alteration permits. The fact that local government officials firmly took “the side” of irrigators during the 2001 Klamath Basin irrigation shutoff (e.g., the Sheriff’s refusal to intervene when farmers illegally opened irrigation floodgates) was also noted. Such examples were taken as indicators that, as water became increasingly scarce and groundwater regulations at the state level seemed inevitable, Siskiyou County, with a pro-agriculture and anti-agricultural regulatory attitude, would be a good place for irrigators. Additionally, several alfalfa farmers noted that Siskiyou’s geography of valleys surrounded by mountains meant that the region had more abundant water relative to much of the state.

Siskiyou County also had land, and it was relatively cheap. As California’s Central Valley farmers were forced to fallow land in the droughts, and market pressures from almonds, pistachios, and other specialty crops drove up land values, farmers who grew low quality crops (especially water intensive ones) saw an opportunity to cash in and move out (author interviews 2017-2020). While a few of these farmers decided to start their farming career in Siskiyou County, the majority of alfalfa newcomers who I interviewed brought already established farm businesses to Siskiyou from the Central Valley during this period, selling their land to specialty crop growers (e.g., almonds and grapes) and investing in larger tracts in Siskiyou.

To local multigenerational farmers, these newcomer alfalfa growers highlighted contradictory

²⁹ Certified organic products must be grown or raised on land that has not been sprayed for at least three years. The CRP remains the largest set-aside program for resting land (and managing overproduction) in which farmers are paid a per acre fee by the USDA not to farm that land for a period of time. Funding for the program was shrunk under the Trump administration, meaning that many acres were coming out of CRP and available for cultivation during the second half of the 2010s.

tensions of community belonging. On the one hand, they were outside competitors, some with significant financial resources, driving land prices up and forage market prices down. On the other hand, these newcomers seemed to be accepted within establishment local farming circles. Many were already active in trusted organizations like the local Farm Bureau and commodity groups, making regular trips to Sacramento, California and even Washington, DC to lobby policymakers on behalf of capitalized agricultural interests. These newcomers quickly built relationships with local government leaders and institutional actors like Cooperative Extension and the Farm Service Agency staff (author interviews 2017-2020). In addition to turning to those public institutions for financial and technical assistance, these farmers often listed private consultants, especially agrichemical and equipment dealers, as important sources of trusted information. Many of these public and private farm service providers in Siskiyou County were members of agricultural families with deep roots in the region, reinforcing network relations quickly (ibid). Newcomer alfalfa farmers also often held political and ideological values that were dominant in the region, and they engaged in legible and accepted farming practices. Performing agricultural practices like waxing their tractors to keep them shiny and spraying their field margins to keep them neat and weedless symbolized being good, hardworking neighbors and farmers, eager to fit in.

Universally, alfalfa-growing in-migrants described their primary goals as increasing the size of their operation, buying or leasing as much ground as possible, and purchasing the most efficient technologies and farming equipment on the market (author interviews 2017-2020). These farmers, especially those still establishing their operations, often described carrying debt burdens of hundreds of thousands of dollars, but they generally did not express concern about their debt (ibid). They expressed a shared sense of confidence that their productivist strategy, and the government payments and crop insurance programs it made them eligible for, could keep their farm operations solvent (ibid).

Alfalfa is not a labor-intensive crop, and these farmers typically hired a few local workers as their primary labor source (author interviews 2017-2020). These workers were themselves often smaller-scale farmers in the area who needed an additional paycheck to supplement their own farm earnings (ibid). Whereas their multigenerational farming neighbors often relied on their mothers, wives, and sisters to manage the farm accounts and other paperwork, these newcomers often hired paid professionals to do that work and described their wives or girlfriends as not being directly involved in the farm operation (ibid).

Rather than asserting livelihood reproduction and the ability to pass the farm on to the next generation—a primary goal for multigenerational farmers—these recent newcomers consistently expressed goals of efficiency, yield, and profit as the primary motivators in their decision-making (author interviews 2017-2020). Several volunteered that they would happily sell their farms if or when that became the financially prudent option (ibid).

Diversified direct market farmers

Since 2011 highly diversified direct-market farmers have also moved to Siskiyou County (Fig. 14). Similarly attracted by Siskiyou's relatively affordable land prices, these farms vary in size, as well as ownership and management structure (author interviews 2017-2020). These farmers

grow and raise a diversity of farm products, employing a range of ecologically oriented management practices, and form a social group primarily with each other (ibid). There are several large-scale operations that raise pastured meat on tens of thousands of acres, their farm owners financed by lucrative first careers in finance or law (Pape 2015; Goodyear 2014). Yet the majority of these diversified farms are run by young couples or women (author interviews 2017-2020). Many are new-entry farmers who did not grow up in agriculture but chose to farm as a lifestyle, one they hope can (at least in part) financially support their families (ibid). Some of these farms are certified organic, some certified humane, and some are not certified but describe their specific practices directly to their customers (ibid). Direct marketing unites this group of farmers. Many sell at farmers markets in Ashland and Portland, Oregon, California's Bay Area, and local towns, as well as online direct-to-consumer sales (Fig. 14). These farmers often described a hope to capture more of the consumer dollar and build a relationship with customers who are willing to pay a premium for their products (author interviews 2017-2020).

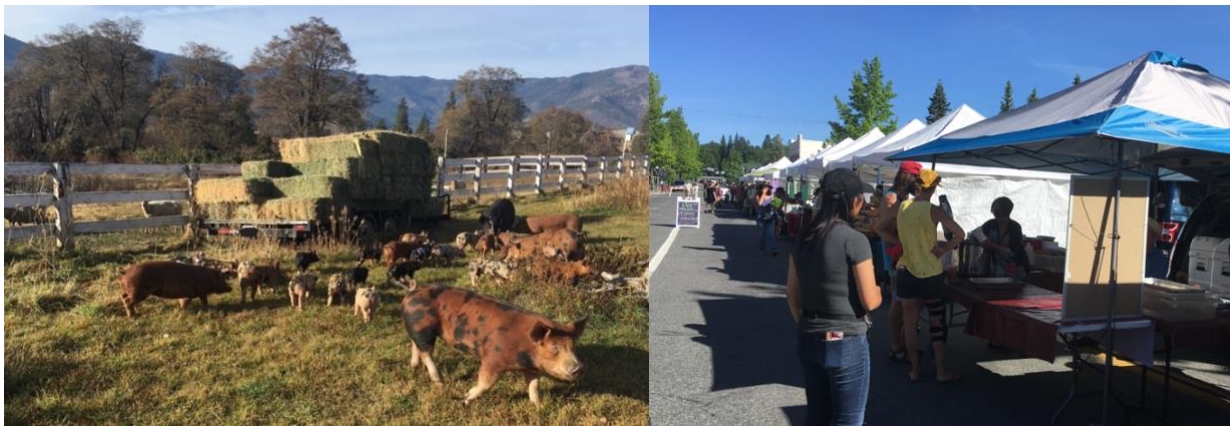


Figure 14: Diversified livestock and produce farmers, many of whom sell directly to consumers, have also migrated to Siskiyou County during the most recent and persistent drought. Pastured pigs and sheep (left) and the Mt. Shasta farmers market (right) in 2019 (Photos by author).

Although the specific practices vary widely, many of these newcomers raise mixed-species pastured livestock—including cattle, sheep, hogs, and poultry—and employ pasture management practices like rapid rotational grazing systems (author interviews and baseline farm practice survey 2017-2020). Several also engage in agritourism (see Chapter 6).

The larger operations with better financing tend to market under their own brand name to places like the Bay Area, Los Angeles, and even New York City (Goodyear 2014). Several even built their own USDA-certified slaughterhouses (ibid). Like the alfalfa newcomers, the owners of several of these large, pastured livestock operations describe “picking up ground” during moments when other farmers experience crises, especially as family succession falters during droughts (author interviews 2017-2020). These large-scale diversified farmers (or their hired farm managers) also assert belonging in the establishment farming community by taking on leadership positions in the local Farm Bureau, CattleMen’s and CattleWomen’s Associations, and by working closely with public agricultural advisors (ibid).

Greater in number, if not land holdings, are smaller scale and less capitalized diversified

newcomers (author interviews 2017-2020). These agroecological farmers are considered alternative by conventional farmers because of who they are, what they produce, how they produce it. Many of these farms are owned and managed by young women or young families. These farmers often espouse a land stewardship ethic, sometimes grounded in religious values. They grow and raise a wide variety of farm products from orchard fruits like cherries and peaches, to poultry like pastured laying hens and meat ducks, to mixed vegetables and even seed crops. Labor-intensive practices (without hired labor) like intercropping, grazing livestock under or between perennial crops, and intensive multi-species livestock rotations also distinguish these farmers from other farmers in the region.

Unlike the well-capitalized newcomers (alfalfa growers and diversified livestock raisers alike) who gained entry into politically powerful agricultural organizations like the Farm Bureau, less-capitalized diversified newcomers often expressed feeling dismissed or unwelcome in conventional farmer organizations and agricultural institutions (author interviews 2017-2020). Several shared experiences of being scorned as “hobby farmers” and denied technical and financial assistance by public agricultural advisors (some said they thought this was because they were women, see Chapter 4). Instead, these diversified farmers supported each other through a loose and informal peer-to-peer social network. Some described a tight-knit social circle based primarily at the farmers markets that many of them attended. Others found peer community and support among diversified farmers across the US, relying on social media to connect with similar farmers.

Though not openly welcomed by establishment farmers and their supporters, at least at first, diversified in-migrant farmers often expressed shared values with multigenerational farmers in the region (author interviews 2017-2020). In addition to a shared stewardship ethic based in their religious faith that many in both groups expressed, nearly all the diversified farmers I interviewed focused our conversation on family. Many described choosing to farm because it provided a meaningful livelihood they could undertake with their children, and a hope that their children would continue farming. These farmers often shared that their motivation in moving to Siskiyou was to settle in a beautiful landscape and in a community that valued family farming.

Cannabis farmers

Siskiyou has long been home to people who grow their own medical marijuana on private parcels, and some cultivators have larger operations on remote public lands (see Polson and Petersen-Rockney 2019). But in about 2014 a new group of farmers began buying parcels in the mostly vacant rural subdivisions (ibid). These in-migrants were primarily Hmong Americans, many of them older refugees (author interviews 2018-2022). Like the older white cannabis growers who had been drawn to Siskiyou County in small numbers since the 1960s, many Hmong elders who first moved to Siskiyou were military veterans, allies of the US during the Vietnam war (ibid). Now retired, Hmong elders described in interviews wanting to leave cities (e.g., Fresno and Minneapolis-St. Paul) for a rural life, where they could raise chickens and goats and grow gardens for food and medicine (ibid).

The three largest rural subdivisions in Siskiyou each had over one thousand one- to three-acre parcels, most of which were uninhabited and had no infrastructure (Fig. 15; Polson and Petersen-

Rockney 2019). Parcels were, according to residents of the subdivisions, inexpensive and available (author interviews 2018-2022). These subdivisions offered the promise of living in community with friends and family. The rugged landscape of the subdivisions also provided magnificent views of Mt. Shasta, which Hmong elders consistently described as reminding them of the mountains of their childhoods in Laos (ibid). Additionally, the county government had a reputation for supporting farmers and protecting private property rights (ibid).



Figure 15: Cannabis cultivation sites in Siskiyou’s subdivisions seen from Google Maps in 2019. Note the swimming pools, often used as water storage, the fences around the gardens to reduce visibility and complaints, and the lack of infrastructure such as houses. The larger dots are juniper trees. In the center left is a former cultivation site, similar to many that are left after a law enforcement raid (Screenshot by author, taken August 2019).

Like the white cannabis growers spread out in the hills above Siskiyou County’s valleys, many Hmong farmers who grew cannabis described the crop as medicine that some used in baths and poultices for chronic injuries from the war, and to treat arthritis and other age-related pains (author interviews 2018-2022). White and Hmong medical growers also gifted cannabis to friends and family, and they often described providing medicine for community members who were mistrustful of the industrial medical system, could not afford other medical treatment, or were not able to grow their own medicine (ibid). Several Hmong farmers told me stories of

helping to pay for their child or grandchild to go to college with assistance from their farming income when the illicit cannabis market was strong (author interviews 2018-2019). Early arrivals, in 2014 and 2015, could cultivate cannabis under medical legalization. Farmers—Hmong and white alike—who grew under the 99-plant state limit often nailed their prescriptions to their gates, and the county rarely checked or conducted enforcement activities (author interviews 2018-2022).

In 2016 California voters passed Proposition 64—the Control, Regulate and Tax Adult Use of Marijuana Act—which legalized commercial cannabis in California. Expensive licensing requirements, permitting fees, and hefty taxes meant that many smaller scale growers could not afford to transition into the legal market, especially those from socio-economically marginalized backgrounds (Holmes 2019). State agencies charged with permitting and regulating cannabis production had to grapple with their own rapid transition from law enforcers to civil servants (*ibid*). Additionally, Proposition 64 included provisions that granted municipalities local control over cultivation terms. As of November 2022, sixty-one percent of California counties and cities had re-banned cannabis cultivation (California Department of Cannabis Control 2022), often using environmental prohibitions to justify these bans (Lu, Dev, Petersen-Rockney 2022).

Parts of rural northern California have a long history of licit and illicit cannabis cultivation, and, as the region became increasingly known for cannabis cultivation, more growers, including some minoritized farmers, migrated to the region (Butsic et al. 2017). Ironically for a place with residents that openly claim to value personal liberties and market liberalism, Siskiyou County leadership took a firm neo-prohibitionist stance against cannabis cultivation at the same time that many Hmong farmers began moving to the region from places like Fresno, California and St. Paul, Minnesota in the mid-2010s (see Polson and Petersen-Rockney 2019). By 2017, the sheriff's office estimated that there were twice as many cannabis farmers as other farmers (Siskiyou County September 5, 2017; St. John 2017). When California voters, including those in Siskiyou County, legalized recreational cannabis in 2016, local governments were granted a high degree of local control to determine if and how cannabis could be grown (Polson and Petersen-Rockney 2019). The Siskiyou County Board of Supervisors quickly passed ordinances to prohibit cultivation and began innovating new law enforcement tools to eradicate illicit cultivation that persisted (see Lu, Dev, Petersen-Rockney 2022). In September 2017, the board of supervisors was the first county in California to pass a Local State of Emergency that prohibited cannabis cultivation and facilitated the Sheriff's Office access to state and federal resources to aid in its eradication (Siskiyou County September 5, 2017).

Despite the county government's focus on eradicating cannabis cultivation since 2015 (see Polson and Petersen-Rockney 2019; Lu, Dev, Petersen-Rockney 2022), cultivation has expanded. By banning cannabis cultivation, the county lost the opportunity to regulate how the plant is grown, including what chemicals and water sources are used in its cultivation, thereby facilitating environmental harms (Polson and Petersen-Rockney 2019). Through aggressive law-enforcement led efforts, and novel ordinances restricting water access to the Hmong community (Siskiyou County Ordinance 21-07 and Siskiyou County Ordinance 21-08), the county has shifted cultivation patterns. Some of the smaller-scale, medically oriented Hmong farmers persist, and, in interviews in 2022, expressed a desire to realize their dreams of establishing retirement homesteads with friends and family in Siskiyou's subdivisions. One Hmong farmer,

for example, said, “We want to live here permanently, build a community with a fire department, school, and health clinic” (author interview 2022). Yet low market prices and high law enforcement activity may have helped spur rapid bifurcation among cannabis farmers in the region: now larger-scale operations with multiple greenhouses exist alongside small personal or communal-use grows (author interviews 2022). As neo-prohibition efforts create new opportunities for capital accumulation outside the state’s regulatory reach, the risks of illicitness are most heavily borne by smaller-scale cultivators, like many of the initial smallholder Hmong in-migrants (Lu, Dev, Petersen-Rockney 2022).

In a place where water resources were already scarce and tensions over water already heightened, the arrival of new water users at the height of the drought raised existing anxieties (author interviews 2018-2022). The shifting legal status of cannabis and persistent stigmas did not help (see Polson and Petersen-Rockney 2019); nor did the fact that water trucks going in and out of the subdivisions made the water use in those areas highly visible (most other farmers applied water where it was pumped from the ground or it was transported through ditches, according to my baseline farmer survey, with water use for pasture and alfalfa normalized in the landscape). Additionally, Hmong residents became symbolically representative of the cannabis cultivation “problem,” made highly visible through enforcement practices, policy forums, and media discourses (Polson and Petersen-Rockney 2019). The county described these recent in-migrants and the crop some of them grew as threatening “our way of life, quality of life, and the health and safety of our children and grandchildren” (Siskiyou County Sheriff Office News Release May 25, 2016).

The subdivisions had provided cheap land (several farmers described purchasing 2.5-acre plots for under \$10,000, which county tax records corroborate), but their unique geography and sparse vegetation (Fig. 15) also made farmers growing cannabis more visible and vulnerable to enforcement (Polson and Petersen-Rockney 2019). Hmong farmers who live in the subdivisions, like Mount Shasta Vista, were also especially vulnerable to the impacts of climate change. Devoid of public services, the majority of people who live in the subdivision are reliant on water deliveries via water trucks, their tanks filled with well water purchased from the irrigation pumps several nearby alfalfa farmers (author interviews 2018-2022). This water was not just for farming, but for everything—drinking, bathing, watering pets and livestock, irrigating kitchen gardens, and for growing cannabis plants (author interviews 2018-2022). A subdivision resident and Hmong farmer said, “Without water we can’t live, we can’t water our livestock, we’ll be forced to leave” (author interview 2022).

In response to what the sheriff described as an “invading enemy” (Shulman 2018), county officials, led by the sheriff’s office, used a shifting set of tactics to arrest farmers, destroy crops, and create new fines and fees to eradicate cannabis cultivation. Yet cannabis cultivation continued to expand, spurring local leaders to harness growing fears of drought and wildfire to expand categories of environmental crime (Lu, Dev, Petersen-Rockney 2022). During the summers of 2020 and 2021, the county government focused on water scarcity. When asked in 2021 what he could do about cannabis by the county supervisors, the sheriff said, “I think the honest approach is looking at the water. It may sound simplistic that if you get rid of water you get rid of the plants, but ground water has been depleted [and] honestly, we need to start capping wells due to illegal use. That would really drop the number of plants” (Shelton 2020, para. 16).

In August of 2020, the county board of supervisors passed an ordinance prohibiting the use of groundwater for cultivating cannabis (Siskiyou County Ordinance 20-13, amended Sept. 2020 with Ordinance 20-15). In May 2021 the supervisors passed two more ordinances that prohibited the sale of groundwater without a permit (Siskiyou County Ordinance 21-07) and that prohibited the transportation of more than 100 gallons of water on certain county roads—roads adjacent to the Mount Shasta subdivision (Siskiyou County Ordinance 21-08) where an estimated 4,000 Hmong residents lived (Choy and Kinkade 2021). Despite these ordinances, people continued to live in the subdivisions, grow gardens, and raise livestock (author interviews). In September, the county sued one of the nearby alfalfa farmers who was selling water to people living in Mount Shasta Vista (People of the State of California v. Griset, 2021).³⁰ An alfalfa farmer who was well acquainted with these developments said that a “quick back-of-the-envelope calculation” suggests that over 400 million gallons of water are used each day to irrigate alfalfa in Siskiyou County (author interview 2022). This alfalfa farmer said that each truckload of alfalfa he sells carries away a harvest that used the equivalent of 678 water trucks worth of water, and he sells “a lot of truckloads of alfalfa” (ibid).

Subdivision residents and some local farmers told me they saw the county’s efforts as thinly veiled racial targeting that cynically leveraged concerns about cannabis use and water scarcity (author interviews 2018-2022). Discussion of racial bias in county policy became heightened when, on June 28, 2021, a wildfire broke out on the slopes of Mount Shasta (Whitcomb 2021). Over the next seven days, the Lava Fire, as it was named, flowed down the mountain’s slopes and through Mount Shasta Vista, burning nearly half of the subdivision (ibid). Many subdivision residents described government officials as slow to respond to the fire and, when the county ordered subdivision residents to evacuate, many stayed to fight the fire themselves (ibid). On June 28th, one of the Hmong men who stayed after evacuation orders, Sooblej Kaub Hawj, was shot and killed by police when residents say he tried to evacuate (ibid).

The killing of Mr. Hawj sparked national attention and local protests. In July 2021, Hmong farmers held several rallies and hunger strikes outside the new multi-million-dollar sheriff’s office building (Chandler 2021). Demonstrators held signs that read “Asians are being profiled,” “We Need Water to Live,” and “Stop Discriminatory Harassment” (ibid). On September 3, 2021, a federal judge granted a preliminary injunction that prevented the county government from enforcing either of the water ordinances it had passed in May (Dilevon Lo, et al. v. County of Siskiyou 2021). In August 2020, the American Civil Liberties Union and Asian Law Caucus filed a class action lawsuit against the Siskiyou County Government for racial bias in policing (American Civil Liberties Union 2022).

³⁰ The county’s lawsuit argued that the alfalfa farmer, Griset, was violating the new ordinances and causing a public nuisance by supporting suspected cannabis cultivation activities (People of the State of California v. Griset, 2021). The staunchly pro-business county also claimed this particular sale of water constituted unlawful and unfair business competition. The county sought to fine Griset \$1,000 per water truck filled under one ordinance, and \$5,000 per water truck filled under another ordinance (People of the State of California v. Griset, 2021). The county alleged that Griset filled 40 trucks each day, which would result in a \$240,000 fine per day, plus an additional \$2,500 fine per day for the nebulously argued claim of “unfair business competition” (ibid). The lawsuit emphasized estimates that these water trucks were using three million gallons of groundwater a day (ibid). The lawsuit failed to contextualize this number, which hydrologists working in the area told reporters were both unknown and not possible to connect directly to groundwater depletion issues in the area (Whitcomb 2021).

In addition to bearing disparate impacts of law enforcement (American Civil Liberties Union 2022) and water policy efforts, Hmong farmers have had little social group overlap with farmers and ranchers who do not grow cannabis. Though white and Hmong medical growers formed a political advocacy group (Siskiyou Alternative Medicine, see Chapter 7), cannabis farmers, especially Hmong, uniformly described being ostracized from establishment crop and livestock farmer groups and resources (author interviews 2017-2022).

Yet recent in-migrants, especially those growing cannabis, are breathing new economic life into Siskiyou County (author interviews 2018-2022). I talked to people who work at agricultural supply and hardware stores, as well as realtors and county officials who all told a similar story—local businesses have been thriving and expanding in recent years with an influx of new farmers and new crops. After describing his recent growth in sales, which he attributed to the arrival of Hmong farmers to the county, one local store owner suggested his complicated relationship with the store’s new clientele, saying, “I’d give up this new profit in a heartbeat for the benefit of our society” (author interview 2019).

Returning multigenerational farmers

With new economic opportunities in the county, it is worth mentioning in these pages another group of in-migrants—those returning to multigenerational farms and ranches. Siskiyou’s population held steady or slowly declined through much of the 20th century as the children of farming and timber families sought opportunities elsewhere (Doremus and Tarlock 2008). Many multigenerational farmers identified a new trend that slowly emerged throughout the 2000s and 2010s, as younger generations began returning to the family farm (author interviews 2017-2020).



Figure 16: *Young farmers returning to family farms and ranches often diversified beyond cattle and hay by adding new enterprises, like these pastured hogs photographed in 2019 (Photo by author).*

Members of the establishment family farming group, informal and comprised primarily of multigenerational farmers, almost universally expressed that their primary goal was passing the farm on to the next generation (Fig. 16). For some, this was even the definition of success (author interviews 2017-2020). When I asked how they were thinking about succession, I often heard three points.

The first was the importance of succession planning. Succession planning included legal actions like estate planning and Safe Harbor Agreements. Many older farmers had seen families who were forced to sell because they had not planned for generational transition. Another lesson farmers gleaned from observing other families lose their farms was the importance of including the younger generation in decision-making. Many farmers described how they had seen family farms fail because the shadow of the previous generation still loomed large: the father or grandfather would not allow the next generations to make decisions. Farmers often alluded to the “lost generation,” baby boomers who might have liked to farm, but their parents refused to cede control until the boomers themselves were nearing retirement age (author interviews 2017-2019). In multiple families I spoke to, the grandchildren were now taking over the farm from their grandparents. The third point that was frequently mentioned was an openness to daughters or granddaughters taking over the farm operation. Farmers often noted women taking over the family farm as new and distinct from the previous generation when many farms were lost because the family had no sons or no sons who wanted to farm.

In addition to succession planning, the majority of multigenerational farmers expressed a recognition that their operations needed to change to remain viable (author interviews 2017-2020). They often described the challenges of ‘agriculture of the middle’ (Lyson 2008). Their operations were too small to support a family from the thin margins earned by selling on commodity markets (often calves and/or forage), but they were too large to sell directly to consumers. More importantly for farmers in Siskiyou, though less well represented in the academic literature, was an experience of being caught in the agricultural middle in relation to the family’s ability to provide labor and management for the farm. These farmers often described their operation as too small to generate enough income to hire non-family labor or support multiple family members, and too large for a single family or family member to manage.

Recognizing a need for change, more than half of multigenerational farmers I spoke to described looking to recent in-migrant farmers as models (author interviews 2017-2020). Newcomer alfalfa farmers provided a model for scaling-up the farm operation without a need for significantly more labor. Newcomer diversified direct-market farmers offered a model for scaling down the farm operation but capturing a large share of the market value of farm products.

In the next chapter (Chapter 3) I present several cases of farm families who are changing their operations; they are looking to other recent in-migrants as models for how to change. In that chapter I show how women in multigenerational farm families are increasingly being recognized for their farm work and decision-making on the farm, often concurrently with generational change. On the margins of male-dominated farming networks and with less “ideological inheritance” of a particular set of farming practices (Barlett, Lobao, and Meyer 1999, 347), young women farmers have power to adapt. As one young woman, returning to her father’s cattle ranch to raise pastured laying hens, told me, “I’m in a lovely position where I’m a member

of this community, so I don't represent a threat to anyone's lifestyle, but I'm also choosing a different one" (author interview 2017). In the next chapter, I also outline the political economy of multigenerational farm families in Siskiyou County—those who benefit from historically entrenched resource entitlements and claims to political power.

Conclusion

Farmers in Siskiyou, like farmers elsewhere, have always adapted to changing conditions. Through the 170-year history of colonist farming in Siskiyou County, the ecological, political, and social landscape of the region has changed, and farmers have been important actors in shaping that change as they adapt. Though not contemporary anthropogenic climate change, with its polarizing political valiances, these historical changes necessitated response too. Farmers navigated social perceptions and pressures to adhere to particular practices and politics as they adapted. One key difference over time has been the relationship that many farmers have with the state, a relationship that shifted from friend to foe.

Land and water resources were colonized by the state for white farmers and ranchers, who benefited from unbridled resource access and entitlements beginning in the mid-19th century. The first half of the 20th century was an era of incarceration and reclamation as Japanese and Japanese American residents were imprisoned in internment camps like Tule Lake. White farmers, especially veterans of the World Wars, were gifted newly reclaimed land, complete with complex irrigation works via Homestead Acts and Bureau of Reclamation water projects. This period, from the 1840s through the 1940s, highlights the state's role in creating a racialized rural space of opportunity for white farmers to adapt and flourish, while dispossessing Indigenous, Asian, and other minoritized land and water users from those resources.

In the second half of the 20th century, the state facilitated broad privatization efforts. Farmers adapted as rural institutions declined and public assistance further differentiated farming communities. In the 1970s, the Farmers Home Administration encouraged farmers to take on debt and invest, especially in irrigation infrastructure, contributing to the debt crisis of the 1980s. As the potato market declined and public timber production plummeted, many farmers and other rural workers lost available income sources, and the county's public coffers were depleted. Unbridled water use, and a series of dams on the Klamath River spurred rapid decline in fish populations. The environmental movement of the '60s and '70s and passage of the Endangered Species Act in 1973 created new social and legal tools to assert the rights of water users other than agricultural irrigators. During this period, from the 1950s to 2000, the loss of rural institutions, farm debt crises, and ecological disaster frayed farmers' relationships with the state, which ruptured in 2001.

In the spring of 2001, the federal government turned off all irrigation water to Klamath project farmers. California entered a new period of drought that spelled disaster for endangered salmon and suckerfish populations in the Klamath and ushered a new wave of conflict between Tribal and farmer livelihoods, and between rural areas and California's growing cities. Farmers held public protests, leveraging their family farmer identities, and drew national attention. Disaffected (mostly white men) from across the country flocked to the area to fan the flames of anti-

governments grievances. Siskiyou's sheriff refused to intervene when farmers illegally occupied and opened irrigation works, asserting that the county government was on the side of agricultural irrigators. During the water wars of the 2000s, farmers publicly described the hurt and pain of being blamed for environmental harms. They adapted to what became a deep and lasting betrayal by a government that had long supported them.

By the 2010s, California was in a new intensity of persistent drought. With land relatively inexpensive in Siskiyou, and water more abundant than much of the state, several new waves of in-migrant farmers came to the region: large-scale export-oriented alfalfa growers; diversified direct-market farmers; Hmong farmers who grew crops including cannabis; and a new generation of multigenerational farmers and ranchers who wanted to return home and farm. Each group had markedly different relationships with state actors, but they all had little choice but to adapt to water scarcity and political polarization.

Farmers have always been adapting – not to a passive world around them, but one they are actively creating. Yet in the contemporary context, many farmers in Siskiyou do not want to be associated with climate change – neither blamed by the state for causing the climate change, nor associated with climate change belief by their peers. The resistance to climate science and practices today can only be understood within the historical context of farmers' relationship with the state, a relationship marked by betrayal as the state shifted from friend to foe.

Chapter Three: A political economy of family farm persistence in the context of environmental change and three farm families

Introduction

In June 2018, I met two young farmers in Siskiyou County who were, in many ways, very similar. Both had loose family connections to the region, had recently served in the military, and were farming on their own. Yet each was adapting differently to the local context and changing ecological and political conditions. They were navigating cultural and social norms of farming practices and politics in distinct ways, and experiencing different forms of gatekeeping within the establishment farming group³¹ they were on the edge of.

Colin was a young alfalfa farmer in Tulelake. He had just turned 26 years old. He moved to the area at 14 when his mother married a local farmer. At 18 he joined the military, and at 24 he started his own farm. Colin spoke frankly about feeling like an outsider, and carefully acting in ways that would signal adherence to local practice.

When he got married and began his own farming operation a couple years earlier, he refused financial help from his stepfather. He told me that he wanted everyone to know his farm was self-made. He sought advice from well-respected farmers in the community, and he made sure to follow that advice. He also made the fact that he followed their advice visible to everyone else.

Colin talked about spraying weeds in his fields and on his field margins, buying farm equipment from local farm dealers, and taking extra time to clean and wax his tractors until they shined. By engaging in these practices, Colin told me, he not only was visibly showing respect and deference to politically powerful farmers in the area, but he was also demonstrating that he shared their values of working hard and being a productive and efficient farmer. Strategically and carefully adhering to “local norms,” Colin said, was the reason he was able to get land leases in a competitive lease market³² and proved invaluable when personal crisis struck his family (author interview 2019).

The year before, his mother had become ill. Colin and his stepfather spent three months during the summer growing season with her at a hospital in Reno, Nevada, a nearly four-hour drive away from the farm. Other farmers pitched in to farm his land that season. On their own time they sprayed, tended, and harvested his alfalfa.

Dan, in the Shasta Valley, took over the family cattle operation from his grandfather in 2016

³¹ What I refer to as the “establishment farmers’ social group” consists of an informal social network of primarily multigenerational farmers, many of them considered ‘traditional’ by raising cow/calves and forage using conventional farming practices. There is considerable overlap between this informal group network and membership in formal conventional farming organizations like the Farm Bureau and CattleMen’s and CattleWomen’s Associations.

³² Tulelake has an especially competitive land leasing market and significantly more farmland there is leased than in the rest of the county.

after five years in the Marines. His grandfather was, as Dan described him, “burnt out,” after the ongoing twin crises of low beef prices and drought, and his father was nearing retirement himself (author interview 2019). One of the first things Dan did was transition the ranch from conventional practices to organic, “We were losing a lot of money conventionally every month and we’d go belly up here pretty quick if we stayed that route.” He told me how his grandfather, like many farmers in the area, had mocked organic farmers. When Dan’s grandfather heard about other farmers converting to organic, Dan told me he would say, “What an idiot! Why would anybody ever do that?”

As we rode through his fields to move electric fencing, Dan described his thinking about the conversion. “Now, I’m doing it! [And] I’m not somebody that goes and eats all organic or anything, but you need to improvise and adapt,” he explained. “Conventional [farms] are going out left and right. [The situation] was kind of a go organic or go out sort of thing.” Low cattle prices motivated him to pursue organic certification and the drought catalyzed his implementation of agroecological practices. Now, he says, he grows all his own feed with fewer inputs.

Dan planted his pastures with biodiverse and legume-rich forage mixes, he began intensively rotating his mother cows onto fresh pasture each day, he planted 200 acres into double-cropped corn and wheat for winter feed, and he started adding manure from the barn back onto the fields. These practices transformed his farm. Dan tells me how he now irrigates less and his forage mix is higher in protein. His cows have fewer health issues and produce better meat that demands a higher market price.

But, Dan tells me, he was surprised by the backlash within the farming community. “I find out my nickname is ‘a pretty boy from San Diego,’ even though I was just stationed down there [in Marines],” he told me. Since then, he said has not felt very welcome by the farmers of his grandfather’s social group—those who maintain political power in Siskiyou County, who are friends with the Board of Supervisors, who sit on the Planning Commission, and who advise the local Cooperative Extension and United States Department of Agriculture staff.

Dan said that he tries to remain inconspicuous within the establishment farmers network, “I just kind of stay out of it. I got enough to worry about right here. I got 400 girls to worry about [and] the 860 acres keep me plenty busy, besides getting involved in politics.” But his practices are inherently political. With a grin Dan tells me:

I did things like minimum no-till drilling and they said, ‘Well that’s never going to work.’ Well now people around here are starting to do no-till drilling because they’ve seen it work here. I started putting sorghum-sudan [grass] in and people said, ‘Oh, that’s never going to work up here.’ And now people are starting to put sorghum-sudan in. So yeah, it’s kind of nice to rub it back at them and prove them wrong.

In this chapter I explore the micropolitics of farming practice and discourse, which focus attention on farmers’ on-the-ground decision-making and local politics of differentiation within broader state structures (Bryant and Garnham 2013). Micropolitics of practice and discourse produce coercion and consent, which structure ongoing processes of hegemonic formation (Gramsci 1971; Howson and Smith 2008). Coercion and consent then operate through

micropolitics of practice and discourse. Colin and Dan's stories highlight the power of multigenerational farmers as gatekeepers of who can access institutional and social benefits of belonging. Farmers like Colin and Dan navigate the micropolitics of belonging through their farming practices and discourses. Climate change is itself also experienced and discussed as a coercive force. Many farmers in Siskiyou County have experienced coercion through regulatory changes that restrict their water access – from Hmong farmers denied water deliveries on the county's assertion that they are growing cannabis (Lu, Dev, Petersen-Rockney 2022), to multigenerational farmers whose irrigation deliveries have been curtailed by the State Water Resources Control Board (chapter 7). Coercion may also be more subtle. Like Nixon's (2011) definition of slow violence wherein actions are rarely grand or sudden, climate change itself is coercing farmers to respond, whether they believe it is occurring or not (chapter 4). Within Gramscian theory, powerful elite actors establish dominance not only through coercive actions, but by establishing consent among those who do not hold elite status. The violence of coercive policies especially works against conditions of consent, making it difficult for people to identify their own class interests and potential alliances (Gramsci 1971).

In this chapter, I ask: How are conditions of consent, or adherence to particular farming practices and politics, constructed in Siskiyou County agriculture? How do farmers who are differently positioned within their households adapt to changing political and ecological conditions?

I take a relational comparison approach, translating the original usage of terms like coercion and consent through more legible contemporary mechanisms – in this case, the micropolitics of everyday practice and discourse that farmers employ in response to changing ecological and social relations. The ways that farmers are experiencing and promoting coercion and consent through micropolitics is, I argue, deeply cultural. As relational forces, micropolitics create a cultural context within which certain ideas are able to take hold. By looking at the ways that farmers narrate their experiences of change and adaptation – what is observable to the researcher – we can see how discursive micropolitics shape the ways that farmers of different social positions are able to adapt.

The specific farming strategies—including enterprises, field management practices, and household livelihood diversification—that comprise the processes of adaptation hold meaning for other farmers and ranchers. Developing certain markets and not others, shaping the landscape with certain practices and not others, or shifting household roles (especially in terms of gender and decision-making) are not neutral acts, but rather imbued with cultural and political meaning. To understand how the acceptability of farming practices within farmers' social groups changes, Sutherland and Darnhofer (2012) employed Bourdieu's ideas of cultural capital and habitus (in their case regarding the adoption of organic farming practices in the United Kingdom). They argued that farmers engage in certain "good farming" practices to signal culturally relevant and economically competitive positions within their farming community. Farming practices then become symbolic of farm viability as a mechanism to facilitate the accumulation of cultural capital within farmer social groups. For the symbolic importance of farming practices to shift, these authors say, gradual "devaluation of existing ways to achieve cultural capital is essential to the development of new symbolic values," which they argue happens when previous "good farming" symbols are no longer consistent indicators of farm viability (Sutherland and Darnhofer 2012, 232). As rural relations re-order in response to climate change, the indicators of farm

viability, and their symbolic meaning, are open to new assertions.

By centering how farmers identify *themselves* in relation to others in their households and communities, I find that farmers' class relations are rooted in identities and politics of land use, not just land ownership. I argue that land management practices are understood by farmers as political. Discursive micropolitics include the power-laden ways farmers discuss their decision-making and navigate adaptation in relation to others – in their families, social groups, and the institutions that they rely on. Farmers' social group positioning sets the terms and the stakes of adhering or dissenting from certain farming practices, values, and politics. Social standing within farmers' social groups determines material benefits, like access to local institutional resources and peer knowledge-exchange. There is, therefore, social pressure to comply with locally dominant practices and the politics they represent. Climate change impacts create opportunities for farmers to change their practices as rural relations reorder. But climate change, as a politically continuous topic in the Siskiyou region, also creates additional pressures to comply with local expectations. As all farmers navigate change, some are in better social positions to diverge from local norms of practice. Women within multigenerational farm families and young farmers with multigenerational roots in the area can deviate from norms of farm practice and climate discourse. On the boundaries of conventional establishment farmers social groups, organizations (e.g., Farm Bureau), and institutions (e.g., Cooperative Extension), these farmers can introduce new ideas. Additionally, women farmers especially are often taken less seriously by intuitional actors (see Chapter 4) and men within their families and farming groups. Already excluded from parity in access to the resources these networks provide, women within farm families have relatively less to lose by deviating from dominant local norms than the men in their families. In other words, there is power *in* the powerlessness assigned to them by dominant social actors and climate discourses.

I begin this chapter by introducing the political economy of Siskiyou County's multigenerational farm families, who claim cultural and political power within both farming and broader communities. Rather than demonstrating general trends, my goal in this chapter is to go inside the household to highlight everyday micropolitics as farming practices change. I describe agricultural bifurcation and family farm persistence in the region generally, as a way to introduce the political economy of multigenerational farm families. I then present three ethnographic narratives of multigenerational farm families with whom I worked through repeated fieldwork visits. Through livelihood analysis, wherein I interviewed and engaged in participant observation with multiple members of intergenerational farm families in Siskiyou County over several years, I was able to explore the ways that global environmental change dynamics – particularly droughts and wildfires – were interwoven with migrations that brought new livelihood strategies, farming practices, and crops to the region. Each family is grappling with environmental change dynamics in different ways. These ethnographic stories offer a glimpse inside the farm household, where persistence of the family farm highlights the politics of differentiation among household members.

I focus on multigenerational farm families in this chapter who comprise a close-knit “establishment” social group that is both culturally and politically powerful in the county. Multigenerational farmers function as gatekeepers, some of them even self-describe this way, determining who may benefit from access to benefits of inclusion in dominant, establishment

farmers' social groups and access to institutional resources. The everyday practices and discursive politics of multigenerational farmers and ranchers are, therefore, the primary subject of this chapter and crucial to beginning to understand the farming milieu of Siskiyou County. Farmers belonging to this establishment social group who I interviewed (and conducted a baseline farm practice and demographic survey with) almost all trace their farming roots in the region through multiple generations, identify as white, raise 100–400 cow/calf pairs (nearly universally described as the 'traditional' farming enterprise in the region), grow at least some of their own forage (e.g., irrigated pasture, hay, or alfalfa), sell their calves wholesale once a year, and indicate that a primary goal for their farm is livelihood reproduction (Fig. 1). Facing compounding crises, they recognize that their current production model must change, and they are increasingly looking to relative newcomer farmers on the margins of their social network (Granovetter 2005) as models for change.



Figure 1: Cow/calf operations like this one are still prevalent in Siskiyou County and considered by many farmers and agricultural advisors to be 'traditional.' Note Mount Shasta in the background and the lush, irrigated pastures in the Shasta Valley in 2018 (Photo by author).

The two recent in-migrant farming groups that interact with multigenerational farmers are "conventional" commodity alfalfa farmers and "alternative" diversified direct market farmers. While Hmong farmers have also migrated into the county in a similar timeframe (since about 2014), Hmong farmers have been associated with cannabis cultivation (see Polson and Petersen-

Rockney 2019) and find themselves unwelcome in other farming groups (author interviews 2017-2022). Beyond the margins of establishment farmers' social groups in the region, I found little evidence of knowledge exchange or even interaction between establishment multigenerational farmers and Hmong newcomer farmers. (See Chapter 2 more on in-migrants and newcomers.)

Political economy of family farm persistence in Siskiyou County

Labao and Meyer (2001) describe the great agricultural transition of the 20th century as the “abandonment of farming as a livelihood strategy” (p. 103). Yet, while many small and mid-size farmers have left agriculture, others continue to persist. Those who remain within highly concentrated sectors – including the beef cattle sector – increasingly recognize their own precarity and also recognize their need to adapt in response to the crises they experience.

The dualistic nature of US farming systems consists of inequality between a few large farms that capture a large share of market value and many small farms that often rely on off-farm income for their maintenance and reproduction (Buttel 2001). This bifurcation is too often presented as a *fait accompli*, erasing resistance efforts and transformational possibilities (Giménez and Shattuck 2011; Fairbairn 2010). Largely overlooked are the ways that processes of bifurcation are ongoing, not only among new production and marketing regimes like organic agriculture (Constance, Choi, and Lyke-Ho-Gland 2008), but among commodity-producing family-labor farmers like the majority of farms in Siskiyou County. Expanding the idea of agricultural bifurcation beyond economic metrics (Constance, Choi, and Lyke-Ho-Gland 2008) and outcomes (Buttel and Lahsen 1982; Labao and Meyer 2001) by focusing on farmers' social relations and on-the-ground practices elucidates how bifurcation is an ongoing process. The roots of these social processes are formed within the farm household and made legible in the micropolitics and everyday practices as farmers navigate environmental change.

While the definition and even the existence of family farms is debated in the sociology of agriculture literature,³³ I employ Labao and Meyer's (2001) flexible definition of a family unit that provides most of the labor, management, and capital to operate the farm. Farmers in Siskiyou County rely primarily on family labor. There are notable exceptions, especially in the Butte Valley and Tulelake areas, where several large newcomer commercial strawberry nurseries hire migrant farmworkers. However, most family-labor farms in the region rely on limited seasonal non-family labor. Usually arranged through informal economic relations based on neighborly norms, labor exchange between farm families remains a key form of reciprocity in Siskiyou County, and an important benefit of access to establishment farm groups (see Chapter 5). Some farmers hire year-round employees, including the few dairies in the country, the largest cow/calf operations, and a few of the new, large-pastured mixed-species livestock farms,

³³ For some scholars, control of their means and conditions of production (Mann and Dickinson 1978) and the centrality of kinship networks (Reinhardt and Barlett 1989) are defining features of family farms. Family farmers are often characterized as petty commodity producers who engage in circuits of money, but not capital, to achieve their primary goal of livelihood reproduction (Bernstein 2004). For many researchers the absence of all or most wage-labor is key to this classification (e.g., Pfeffer 1983; Mann and Dickinson 1978).

although farms that employ non-family members are in the minority in Siskiyou. More often, a farmer might pay a few high school students, often children of neighboring farmers, for a limited period to help in the busiest times. These seasonal workers might run the swather during alfalfa harvesting or rope cattle during branding.

Farmers also told stories of bartering seasonal labor assistance with non-farming neighbors. For example, several ranchers described letting neighbors access their property to collect firewood or hunt game in the fall and winter in exchange for help loading hay or fixing fences. Most often, however, multigenerational farmers relied on other farmers in their social network for short stints of reciprocal labor exchange. Certain tasks, like branding cattle or moving grazing herds up into summer range, were routinely accomplished with community labor. Farmer A might help farmer B another catch and immunize calves this week, and then B might help A stack hay next week—both are tasks where more hands make lighter work. These remnants of reciprocity did more than accomplish work; they also helped stitch a tight-knit community together and delineate boundaries of belonging. Farmers described direct, informal labor exchanges as an especially important benefit accessible to those who adhered to local norms of neighborliness (see Chapter 5).

Many scholars discuss family-labor farmers as occupying a position “sandwiched between oligopoly input and output industries” (Lobao and Meyer 2001, 106). Empirically Siskiyou County farmers are semi-proletarianized directly through their reliance on off-farm wage work (and increasingly so; see Chapter 4) and indirectly – through both the accumulation of their labor’s surplus value by owners and shareholders of input companies and markets, and through indebtedness and financialization (Mooney 1982; Buttel 2001). While most farm households in Siskiyou County rely on an off-farm wage job, the gender dynamics of off-farm work varied. Multigenerational farm households most often relied on off-farm wage work of women family members, whereas in newcomer households, men also often participate in off-farm work.³⁴ Many of these jobs are in the public sector, with the county government and state and federal natural resource agencies (e.g., US Forest Service, California Fish and Wildlife) being some of the largest employers in the county.

Despite being squeezed by concentrated markets and input oligopolies, family farmers are often owners, entrepreneurs, and managers of seasonal (informal or formal) labor. They are therefore also “betwixt and between” class identities (Constance 2009, 6). Termed “disguised wagedworkers” and “agrarian proletariat,” these farmers are often described as self-identifying with aspirational membership in the petit bourgeois or owning class, while experiencing the dispossession of their surplus labor, land, and livelihoods as members of the laboring class (Buttel 2001, 19). But although family farmers may be “workers with the appearance of being owners” (Vogeler 1981, 289) we should not forget that most, especially in Siskiyou County are still owners.

³⁴ There are several potential explanations for the fact that newcomer households more evenly relied on off-farm wage work by men and women in the household. First, these newer operations often relied on two off-farm incomes during the investment-heavy farm start-up period. Second, women in newcomer households more frequently identified as the primary farmer (especially diversified Hmong farmers and white farmers operating direct-market farms).

Farmers in Siskiyou County – in aggregate and individually – did not fit neatly into class distinctions. While it was difficult for me, as an outsider, to gain access to a complete understanding of their financial situations, the aspirational nature of earlier characterizations of class identity seemed difficult to square with the contemporary sense of rural decline. Many farmers expressed a sense of economic loss, vulnerability, victimhood, and lack of control over their means of production. Like rural places elsewhere in the US, Siskiyou had experienced the ‘hallowing out’ of rural institutions that, at one time, provided healthcare, education, banking, and other services within the community (Edelman 2019). Perhaps what is most interesting is not so much how farmers can be classified based on external factors (e.g., wage labor) at the point of analysis, but instead how they *positioned* themselves in terms of class relations. Focusing on how farmers identify *themselves* in relation to others in their households and communities contributes to and expands on this sociology of agriculture literature. Understanding how farmers see their class relations beyond aspirational identities can help illuminate the politics of agricultural differentiation as farmers navigate a rapidly reorganizing rural landscape. Rather than clearly bounded categories, class in Siskiyou County operated like a mirage – taking shape differently depending on which mirror was held up, for whom, and by whom. For example, I observed that the same farmers might emphasize to me a sense of cash-strapped poverty, while with other farmers they might emphasize their persistent hard work and land ownership, and with agricultural advisors their formal education and farming experience.

The ways that class is self-understood within intersectional identities is complex. In Siskiyou, farmers often discussed their class relations through a kind of identity politics rooted in *land use*, not just *land ownership*. Deep structural conflicts and contradictions were manifest in an identity politics of land. Almost all farmers in Siskiyou County, for example, did not want to be associated with environmentalists or labeled as such. Yet many asserted deep knowledge and care for their environment. I began to see the power of discursive politics and the importance of positioning one’s identity in relation to land use, and how certain practices in relation to land were considered appropriate for social persistence in the region.

How and why family farms persist has been a central question in the sociology of agriculture literature. Some scholars argue capitalism often stops at the farm gate, beyond which production is too risky, costs too high, and circulation too slow for Capital, which prefers safer profits up and downstream, away from the whims of nature (Mann and Dickinson 1978). Farmers in Siskiyou County often expressed a sense that Capital’s preference for circulation up and down stream of them, where it can “skim the cream [of surplus-value] off the top” of family-labor farms, was merely smart business (Pfeffer 1983, 560). Cow/calf operations, a dominant production system in Siskiyou County, offer a clear example of this dynamic, wherein the rancher owns and manages the riskiest part of the conventional beef commodity chain—the stage of breeding and raising calves, which is subject to risks like severe weather and volatile feed prices. While the rest of the beef commodity chain is highly concentrated and vertically integrated—from feedlots to slaughter facilities to marketing firms—cow/calf operations are still primarily individual family-labor farms (Brunson and Huntsinger 2008). Calf breeding and rearing is also reliant on specialized animal husbandry knowledge and exhibits the greatest disconnect between production and labor time. In this conventional cow/calf system ranchers then have little choice but to sell their calves into the highly concentrated commodity market controlled by a small handful of firms that set low market prices. The majority of traditional multigenerational farmers

I spoke to described making 90 percent of their annual income in just three minutes each year as their calves were sold for whatever price offered by a few large brokers at a video auction, disappearing into the beef “industry,” one of the most highly concentrated commodity markets. Family farmers, including cow/calf farmers, often “capitalize without becoming capitalist” (Mann and Dickinson 1978, 469), although I would amend this by adding that there are a wide variety of business and household structures, strategies, and motivations that place many of California's “family farms” as both highly capitalized *and* capitalist.

Scholars have also argued that family farms are economically competitive with capitalist agriculture because of their greater labor flexibility and willingness to self-exploit through crises that would force pure profit-seekers to invest elsewhere (Reinhardt and Barlett 1989). Nearly all farmers in Siskiyou expressed pride in just such hard work and self-sacrifice, to which they attribute their, and previous generations', persistence. In fact, farmers often described hard work and self-sacrifice not only as what enabled them to persist through crisis, but as what allowed them to *thrive*, relative to their neighbors (who, it was often implied, did not sacrifice as much or work as hard). Multiple farmers across the county described how they had been able to “pick up ground” during drought periods (author interview 2017, 2019). Narratives that linked persistence and success during crises with hard work and sacrifice obscure material realities of, for example, who received public disaster relief payments or was indebted for various reasons. Family-labor farmers hold complex and contradictory class and personal identities, many actively accumulate and are accumulated from; are dispossessed and dispossess others.

In addition to labor and household flexibility, scholars have suggested that family farmers may have advantages over larger-scale firms from out of the region in their local knowledge and management flexibility, being able to recognize issues sooner, and innovate and adapt to changing conditions quickly. “The internal relations of the farm household create the shadow of the farmer on the land” that allow the family to avoid “diseconomies from information loss” that occur in capitalist agriculture (Reinhardt and Barlett 1989, 214). New technologies that deskill labor or state policies like federally financed irrigation systems “that take the ‘nature’ out of agriculture” reduce the comparative advantage that a farmer’s shadow on the land might lend (Reinhardt and Barlett 1989, 218). Family labor farmers in Siskiyou often described a growing disadvantage relative to larger firms, which they blamed squarely on environmental regulations, not production technologies. As environmental regulations become more complex and technical, farmers pointed out, meeting these requirements is increasingly professionalized.³⁵ A new industry of environmental consultants hired by farmers seemed to be springing up in Siskiyou County. Several farming families I interviewed had no hired labor *except* for recently hiring

³⁵ Many farmers in Siskiyou County described the burden of regulatory bureaucracy as crushing, and disproportionately so for smaller-scale or family-labor operations. While a large firm can hire consultants and scientists to implement, adhere to, and report on regulatory requirements under the California Environmental Quality Act (CEQA), the Sustainable Groundwater Management Act (SGMA), and the Lake and Streambed Alteration Program (commonly referred to as “1600-permits”) (three of the most cited examples of burdensome regulations), for a family operation compliance requires potentially overwhelming expenditures of time and money. Multigenerational farmers pointed to consolidation in other local industries spurred by regulatory burdens, especially timber. Older farmers remembered an array of independent sawmills, loggers, and skidders in the county. With costs of compliance associated with wildlife studies (particularity since the ESA listing of the spotted owl in 1990) rising, the biggest timber firms have persisted and have spread the cost of hiring biologists across their portfolios of investments. Farmers, especially older farmers who had seen this consolidation, compared such developments to agriculture and water policy burdens today.

outside help to complete air, water, and wildlife related regulatory requirements, monitoring, and paperwork. Simultaneously, nearly every multigenerational farmer listed ways this disconnect—taking the farmer out of nature, one might say—has led to unforeseen or environmentally harmful consequences. For example, several farmers described knowing that the weeds growing along the riverbank, now required to be fenced off from their cows, were trapping debris and reducing the quality of salmon spawning habitat (salmon like rocks, not organic materials). These farmers often expressed frustration in interviews; they had a tool that could manage this environmental issue—their cow’s appetite to graze those areas, but they were not allowed to. Instead, they had to hire consultants to monitor the streams and report compliance with, for example, the ESA (and related Safe Harbor Agreements and Ranch Management Plans).

Other scholars suggest that capitalist agriculture *benefits* from the persistence of peasant-like farms (Kautsky 1899), although the specific benefits identified have changed across time and context. Not so long ago, from the late 19th century to the 1990s, local farm families supplied a steady source of flexible wage labor to the local logging industry. Yet Capital is no longer directly provided with many wage laborers from farm families in the US. A contemporary, and perhaps subtler, relation of Capital and family-labor farms is one of exploited surplus value from and by these capitalist farmers in their own right. Rather than forming a cohesive group, farmers in the Siskiyou region, along with the public officials and agricultural advisors who work with them, actively form and maintain hierarchies of social division, critical for Capital’s functioning (Federici 2004).

Perhaps the most crucial way that Capital continues to benefit from the persistence of family-labor farms continues to be the “legitimizing function” they serve (Vogeler 1981). Family farmers ensure the legitimacy of corporate capitalism (Mooney 1982; Vogeler 1981; Buttel 2001; Bonanno 1987). They “present the illusion that large capital does not colonize farming” (Bonanno 1987, 111). Family farm rhetoric is widely used in the US agri-food system, and has been crucial to building and maintaining the hegemony of a certain kind of farmer (who is typically white and male). Public institutions like the land grant complex—state colleges of agriculture, agricultural experiment stations, and extension services—continue to gain public support under the auspices of assisting family farmers, while their primary beneficiaries have always been agribusiness (Walker 2004; White 1991; Hightower 1972). In another example, the US Bureau of Reclamation’s own 160-acre irrigation limit was proposed to coalesce widespread public support for family farmers’ access to irrigation water; however, at the request of capitalized agricultural interests, this was never enforced (Vogeler 1981). More recently, the Trump administration’s \$16 billion 2020 Coronavirus Food Assistance Program to aid farmers experiencing financial losses due to the COVID-19 pandemic employed family farm rhetoric to garner political and public support. Yet this legislation was structured such that the vast majority of benefits were easily captured by the largest agribusiness firms (National Sustainable Agriculture Coalition 2020).

Another explanation forwarded for the persistence of family farms is that they have multiple goals (Chayanovian logics), not just profit maximization, which include household and livelihood reproduction. In a place where success is defined, by nearly every farmer I spoke to, as the ability to pass the farm on and see the next generation continue their livelihood, change threatens already-precarious livelihoods. Indeed, it became clear, especially among

multigenerational farmers and ranchers, that this is what is at stake—why change is so often feared and resisted. Many farmers in Siskiyou feared that government regulations, especially those that employ water and wildlife conservation policy tools (with new fervor under climate change), would exacerbate the very proximate crises of generational succession, threatening to dispossess farmers and ranchers of their means of social reproduction.

Divergent arguments that explain family-labor farm persistence within agrarian capitalism are not mutually exclusive. Rather than non-capitalist enterprises somehow persisting within a capitalist economy, family-labor farms are capitalist actors embedded in particular social, historical, political, economic, institutional, and ecological contexts. Siskiyou County family-labor farmers are not the exception to Capital's march to enclose and benefit, but rather active participants in Capital's ongoing expansion by accumulation, dispossession, and differentiation.

Rather than posing a new set of questions, re-examining fundamental questions of farm persistence and adaptation in the context of climate change offers potential new answers about rural politics, land management, and capital intrusions. Climate change is creating new barriers and opportunities to overcome and profit by doing so (Tsing 2021; De Angelis 2004; Federici 2004). Uncertainty and risk can be fashioned into financial assets to yield significant profit (Li 2014; Fairbairn et al. 2021). In attempting to dismantle social and environmental protections, Capital both encloses and faces counter-enclosures as people resist efforts to separate them from their means of production (De Angelis 2004). Capital's drive to transcend limits requires ongoing primitive accumulation as movements and counter movements, commodification and decommodification, evolve. While this 'view from above' is crucial, climate change is multi-scalar, and how farmers navigate changing practices and discourse can highlight micropolitics and transformative potential. Buttel (1990) and Lobao and Meyer (2001) both pointed to a disconnect, or division of labor, within the sociology of agriculture, suggesting that political economy theory often misses how everyday farmer practices, agency, and politics shape larger transformations. Next, I describe how three farming families in Siskiyou County are navigating change through the micropolitics of discourse and practice.

Three multigenerational farm families in flux

In this chapter I focus on three multigenerational white farm families. These farm families, especially who have cow/calf and forage operations, are understood by many residents to hold the greatest claim on "traditional" farmer identities. Through repeated conversations over three years with multiple members of each extended family, I observed family members deal with crises. I also saw how those intra-household crises and responses constituted everyday micropolitics of discourse and practice, shaping how differently positioned family members responded to change, fueling social differentiation and agricultural bifurcation more broadly. Farmers like these three families engaged in the construction of consent – in local values, practices, and politics – through discourses and practices. As gatekeepers, farmers like these guarded who could access the benefits of inclusion in establishment farmer social groups and the institutions that serve them. For farmers who are denied the culturally and politically useful

identity of being “farmers,” like Hmong farmers,³⁶ the benefits of social standing are already inaccessible. Many women farmers, especially recent in-migrant direct market farmers, are seen as peripheral to the dominant cultural group that enjoys easy membership in the Farm Bureau and CattleMen’s associations.

I turn now to the stories of three multigenerational farm families who not only benefited from their access to establishment farming networks—they rely on it. I describe how each household navigates change: the first family looks to recent in-migrant export-oriented alfalfa producers as a model, the second to diversified direct-market farmers, and the third attempts both approaches as women withing the family lead diversifying efforts.

Sam and Susan: Simplifying farming practices towards productivist agriculture

Susan and Sam, farmers in their early 40s, both grew up in the area. Susan’s parents had a cow/calf and hay business that Sam joined as a laborer when he dropped out of high school 25 years ago. After they married, Sam became a partner in the family farm business. When I first met Sam and Susan in 2017, they worked full time on the farm with their two sons, aged 18 and 21. Their primary goal, which they frequently reiterated, was to ensure that their agricultural operation remain viable for their sons in the future. They believe that conventional commodity production offers them the best chance of achieving that goal.

We are sitting at their kitchen table for the first of two long interviews. It is a clear June morning and Sam and Susan’s newly built home has an open floor plan and a large window that frames Mt. Shasta in the distance. The screen door to the back porch is open behind us, a gentle breeze carrying in the yips and growls of several puppies playing outside. My two-door hatchback Toyota Yaris is nestled diminutively in the driveway between two large white pickup trucks, each sporting a matching “Trump Pence 2016” bumper sticker. Sam seems eager to talk, sitting comfortably in his chair and leaning towards me when he speaks. Susan acts more reserved and occasionally leaves the conversation to attend to things in the kitchen - a large countertop island between us.

“It didn’t take long to figure out we need to find a better way,” Sam says. “Families can no longer make a living just doing cows and hay” (author interview 2018). Talking about their peer group of multigenerational family farmers who use conventional practices to grow cattle forage and raise calves in a cow/calf model, and are therefore considered “traditional,” Sam explains, “I could guarantee you we’re a dying breed because it’s dusty dirty work with no guarantee out here, and you may or may not make it” (ibid). Sam and Susan have seen neighbors and friends leave farming, some by choice and others through bankruptcy. “They’re just being wiped out,” Sam observes (ibid).

³⁶ State legalization of cannabis cultivation – beginning in 2016 with voter approval of Proposition 64 and unfolding during the period of my dissertation fieldwork – spurred social differentiation for farmers who grow cannabis (see Polson and Petersen-Rockney 2019; Lu, Dev, Petersen-Rockney 2022). These cannabis cultivators, some of them Hmong, have been denied the politically and socially useful identity of “farmer” in Siskiyou County. They are excluded from establishment farming networks and the benefits they offer. Although I intend in future research to focus on Hmong farmers and farmers who grow cannabis, this rapid bifurcation in cannabis farming points toward the ways that bifurcation in agriculture is uneven and marked by alternating periods of more intense violence, crisis, and accumulation.

Sam and Susan emphasize that dealing with crises is a part of any farming operation and it is often difficult to pinpoint a singular cause. Yet there are some crises, like droughts, that impact the entire farming community, placing farmers in direct competition with each other for limited resources. The drought that devastated California from 2011 through 2014, and continues to the present, spurred Sam and Susan, like many farmers in their community, to actively re-evaluate how they farm.

Susan and Sam have seen some newcomers do well by focusing on cultivating large tracts of alfalfa for the export market. “Just three or four of the guys have just gotten the lion's share of the business,” Sam says; Susan adds, “We look over the fence” (author interview 2019). They have closely observed the strategies large-scale alfalfa-growing newcomers employ: they buy more land, invest in technologies to increase yields and efficiencies, and sell large quantities of conventional and industrial-organic alfalfa in wholesale markets. All of these strategies require capital or access to credit to succeed. “They've purchased a lot of land and taken it out of the production system as far as small families here,” says Sam. “Basically they are corporate farms.” Susan adds that these farmers are “gobbling up the smaller places around them.” While some farmers grumble about this strategy, many, like Sam and Susan, see competition and consolidation as “the American way,” and admire those who succeed via this pathway. To avoid being gobbled up, it seems to Sam and Susan, like many multigenerational farmers in the establishment farming group, that they should model their operation after the most successful farmers they see - those who are doing the gobbling.

Much of our conversation centers around land, or “ground,” as farmers in Siskiyou call it. Susan asks me to pause my recorder periodically, especially when we discuss details of land acquisitions, which are considered very private matters in Siskiyou. Early in our first conversation Sam explains, “We’re pretty motivated and we’re trying to position ourselves, so regardless of what corporate farming situation comes in here, my sons have a strong enough existence here and large enough base and presence in the valley that they can be here for generations and generations” (author interview 2018). Susan adds, “We’re basically running just as aggressive[ly] as we possibly can.” Handing me a glass of cold water straight from their well, which taps into lava-spring tubes deep below us, Susan explains, “It's hard to find a good piece of ground [but] you will pick up a little piece here and a little piece there and pretty soon you have a huge piece of the pie.”

Water access is what often distinguishes “good” ground. Historically surface water rights in various degrees of seniority have been instrumental in increasing farmland value (see Chapter 2). Although with increasingly frequent curtailments from the State Water Resources Control Board, and so little water that it routinely stops flowing in the rivers at some point each summer, surface water access has become precarious, even for those with the most senior water rights. Groundwater access has grown in importance and value as surface water supply has become inconsistent (hence fears of groundwater regulation and depletion, see Lu, Dev, Petersen-Rockney 2022). Just the year prior, in 2016, Sam and Susan purchased two new parcels. “We’re farming an additional 1,000 acres over what we were last year,” Sam tells me, and though these new parcels do not have surface water rights, the family successfully drilled several new irrigation wells. “We’re headed in the right direction,” he says (ibid).

Unsurprisingly, in a place where asking how many cows someone has or how big their ranch is marks you as a nosy outsider (as one farmer explained to me, “It’s like asking what’s in your bank account or how much your salary is”), a lot of farmland in the county never publicly comes up for sale (author interview 2019). This is especially true during shared crises like droughts, when farmland is sold quietly to avoid the public embarrassment associated with failing.³⁷ For Sam and Susan, this means ambitious farmers need to know the farmers in their community and be ready to seize opportunities to buy them out. “We have to depend on our network of on-the-ground knowledge and neighbor-to-neighbor, and we have to have an awareness of things prior in order to grab pieces,” argues Sam. Guarding information about quiet farm sales enables those in the establishment farming network to remain competitive with the alfalfa-growing newcomers who have greater access to capital and credit. As Sam explains, once conventional newcomer farmers find out about farmland for sale, “They write the big check, there isn’t much we can do.”

Part of gaining that prior knowledge of what land might soon be for sale involves reading other farmers’ landscapes. For example, if a farmer’s field margins are weedy or if they begin downsizing their herd or selling farm equipment, it may be read as a sign that the family may be reaching a selling point. Susan explains, “There’s a lot of families right here who you know the grandpa and grandma, or mom and dad, have either just died or are on the verge [and] the next generation has too many kids.” These families are often forced to split the land into parcels too small to support a family farming, or sell the farm outright. In some cases, one or two people in the next generation want to keep farming but cannot afford to buy out the other heirs. As this pattern emerges, Sam says, “We’re trying really hard to get ourselves positioned to pick up some of those pieces of property.” They are also working hard to ensure this does not happen to their sons. In 2016, Susan and Sam undersigned a large loan (about \$500,000 they tell me) from the Farm Service Agency for their eldest son, who was 20 years old at the time, to buy his first 80 acres. Sam’s sun-lined face lights up with a broad grin for the first time in our conversation as he describes, with pride, how his son who was only 20 years old was able to get a loan from the Farm Service Agency (FSA), “The FSA lady said this is the first time she closed a deal with someone she couldn’t have a beer with.” Sam and Susan described their infrastructure investments as a bet on the future, an investment in their sons’ ability to farm. But carrying such a large amount of debt meant that they needed to do everything possible to keep their operating expenses low.

“We’re nose to the ground all the time watching for a good piece of land,” Sam says. “The prices of land and our costs of production are high... You know the margins are really small, there’s not a big return.” With the “thin margins” they make by selling calves and alfalfa on volatile wholesale markets,³⁸ Sam tells me, “It’s production, we worry about production.” On the advice of their local Cooperative Extension advisor, an expert in alfalfa production, Sam and Susan rely on products they must purchase each year, like hybridized and patented alfalfa seeds and proprietary nutritional supplements for their cattle. They have also recently come to rely on

³⁷ A point which Kathryn Dudley discussed in *Dept and Dispossession* (2000).

³⁸ Like the majority of multigenerational farmers in Siskiyou County, Susan and Sam raise calves that they sell once a year into the commodity market via video auction. This means they make most of their income in just a few minutes, taking the price offered that day. They have also begun growing alfalfa for export markets. While not as concentrated as the beef industry, alfalfa brokers similarly set the terms and price of the market.

equipment like hardware and mobile application software that monitors soil moisture levels and makes deficit irrigation³⁹ calculations. Just last year they bought a new \$18,000 global positioning system (GPS) for one of their tractors. The Natural Resources Conservation Service (NRCS) has helped fund irrigation efficiency technologies like new pivots to irrigate alfalfa. But even with public cost-share grants,⁴⁰ these investments still require large outlays of capital, which means more debt for Susan and Sam now, and higher operating expenses thereafter. ‘Locked into’ a cycle of increasing production to keep pace with debt payments (Bernstein 2010), Sam and Susan were on a ‘technology treadmill’ requiring greater and greater investment in land, infrastructure, and inputs (Howard 2009). Yet these investments were not only driven by economic necessity, but also by a cultural desire to farm in a certain way. As Susan tells me at one point, “A farmer always wants to buy their neighbor’s place” (author interview 2019).

Susan and Sam also talk frankly about their position as gatekeepers of the benefits of inclusion in establishment farmers’ social groups. Speaking about recent in-migrant farmers, Susan tells me, “I mean we can keep them from getting started... It’s almost like the mafia” (author interview 2019). She continues, “I’m just saying, for some [farmers] that’s new to the valley and doesn’t know and doesn’t have the connection of the community, it would be challenging,” she explains. “Without sort of your foot in the door somewhere, you’ll get run over.”

As Sam and Susan scaled up their alfalfa and hay operation, they also diversified the services their farm offers. In addition to working their nearly 3,000 acres, they custom farm⁴¹ for other landowners who, instead of investing in their own expensive machinery, pay Sam and Susan’s family to till, plant, and harvest forage crops with their equipment. While custom farming can be a form of contract farming others’ land, Susan and Sam are typically paid at the beginning of the season, rather than being promised a share of the profits after. This redirects some market risk to the landowner. Sam says, “That’s one of the ways we’ve been able to own the equipment as well as make payments on property” (author interview 2018).

Sam and Susan were careful to keep up appearances by maintaining clean field margins and displaying new farming equipment to signal that their farm was well-cared for and not about to come up for sale. That is one reason that they added a trucking company during the 2011-2014 drought. Owning their own trucking business allowed Sam and Susan to have greater control over transporting their hay and cattle to market. Purchasing new equipment such as trucks and trailers also projected to their neighbors signs that Susan and Sam were doing well financially and able to adapt to change in ways that signaled that they were not environmentalists. This last point was particularly salient at the time, Sam tells me, as they added the trucking company

³⁹ Calculating, for example, that if you use 40 percent less water you can still expect 80 percent of your optimal yield.

⁴⁰ The USDA’s Environmental Quality Incentives Program (EQIP) program is the largest cost-share granting program for farmers to purchase infrastructure and pay for farm improvements that, theoretically, benefit the environment. Farmers generally must supply the initial capital for these investments and are then reimbursed a certain percent of the costs. Many farmers, like Susan and Sam, register the improvements under the name of a woman or young member of the family, therefore qualifying for advanced payment and a higher reimbursement rate under the USDA’s “socially disadvantaged” farmer definitions.

⁴¹ Custom farming is a business structure wherein farmers are hired, often by landowners or other farmers, to do a specific farming task, often because the custom farmer has a specific knowledge and skillset, or particular farming equipment needed. For example, a farmer who grows hay might hire another farmer to till and plant a new forage species mix. Pesticide application is another farm that some farmers specialize in and offer their services for hire.

when the California Air Resources Board (CARB) began implementing a suite of increased efficiency standards specifically targeting farm activities and engines.⁴² Farmers in the area expressed anger about these regulations and concern that they would be forced to pay for unaffordable equipment upgrades. (Since then, the CARB grandfathered-in used farm equipment and provided financial assistance to farmers who wanted to upgrade their equipment). While Susan and Sam's investment in capital-intensive infrastructure meant they were incurring debt. Yet these actions also asserted their anti-environmentalist position as insiders within the establishment farming community.

Similarly, the family bought several neighboring parcels between 2009 and 2012 as the local farming community organized against The Nature Conservancy's purchase of a nearby farm for endangered salmon conservation (Polson and Petersen-Rockney 2019). One of Sam and Susan's ranching neighbors heralded these land purchases in an interview. The neighbor described being glad that Sam and Susan were buying farmland and keeping it out of The Nature Conservancy's ownership, which this neighbor viewed as a political resistance effort.

Yet Sam and Susan have taken environmental action. Over the past decade they have converted about a third of their land (1,150 acres) to organic hay and alfalfa production. But, they emphasize – publicly – that this is purely an economic decision because, as Sam tells me, “the dollars and cents are better” in the organic markets (author interview 2018).

Sam and Susan also described the consequences of employing simplifying practices that reduced the biological diversity on their farm. For example, reduced crop rotations to focus on alfalfa production and regular herbicide spraying to field margins “neat” have increased alfalfa weevils, the primary pest of alfalfa. They have found that in some years, because of pressure from weevils and droughts, the expense of inputs like pesticides or electricity to run water pumps outweighs potential revenue on their poorest quality ground. This has been another driver for certifying those particular fields as organic and leaving them fallow in drought heavy years. “All those things,” Sam says, shaking his head, “just cost is prohibitive.” With the organic ground they just hope for a good year – if the snow melts slowly, rains last into the spring, and if the weevils do not infest those fields, they get a higher payout. If it's a bad year, at least they did not spend a lot of money on inputs. The rest of their land – close to 2,000 acres – is planted in grass hay or forage to graze their 200 cow/calf pair herd of beef cattle. Some of it is irrigated pasture, but most of it is un-irrigated dryland. These varied revenue streams in both conventional and organic markets, forage production and cattle, and most importantly the addition of agricultural services beyond farming itself – like hay trucking and custom farming for others – have been especially important in “our ability to survive the difficult times,” says Sam. “That diversity of marketing and trucking has allowed us to make ranch payments during the drought.”

On another visit we chat in their dining room, and Sam describes multigenerational farms nearby that are going out of business, “The cowherd looks like it did 50 years ago. They got a 1,400-

⁴² Low Carbon Fuel Standard: approved regulation in 2009 and began implementation on January 1, 2011; Amended Airborne Toxic Control Measure for Stationary Compression Ignition Engines (effective May 19, 2011) to include requirements for stationary and portable diesel-fueled engines used exclusively in agriculture; and in October 2013, the Board approved the State Implementation Plan Credit from Mobile Agricultural Equipment Regulation, which reduces emissions from mobile agricultural equipment.

pound cow weaning a 550-pound calf. We're running 1,200 pounders [mother cows] weaning 750-pound calves a month sooner" (author interview 2019). Susan yells out from the kitchen, "The industry has progressed!" She adds that, if you do not keep up, "You've got a big problem because there is somebody out there that's like us that's had to scrap and fight for every piece of our snarling old dirt that someone would let you farm and build your way up. [So] you have to have water balances and marketing strategies and manpower that is managed to a T." Otherwise, she says, "You're broke. It's very simple, you know?"

In addition to perceived differences in access to capital, another key difference between the multigenerational farmers like Susan and Sam and the capital-intensive newcomers they held up as models is that multigenerational farmers consistently expressed that their ultimate goal was to pass the farm to the next generation (livelihood reproduction). Most of the newcomer alfalfa farmers I spoke to did not share this goal. Without family roots in the region or a desire to keep the farm in the family, most told me that they would be fine selling their farms in the future. Some even indicated that their goal was to cash in at retirement by selling their farms and retiring elsewhere. Even as they shifted their production practices towards those of the newcomers, multigenerational farmers like Susan and Sam often expressed some discomfort implementing these productivist strategies.

With intergenerational roots and relationships in the region, farmers that claimed traditional network benefits often asserted that they were not greedy, that they were good environmental stewards, and that they were saddened when their neighbors sold, even if they directly benefited. Sam said that their farm was getting big, "Not because I want to make a ton of money and I'm greedy. It's because I love the land, I love growing the crops, I love producing the cattle, [and] you know, growing my boys" (author interview 2018). Susan and Sam were adopting the strategies of highly simplified commodity producers and internalizing the logics of capitalist production simultaneously with the ultimate purpose of reproducing their agricultural livelihood in Siskiyou. "We don't plan on selling it. We plan on being here and moving the next generation into this while we live here and watch them take over the farm," Sam explained (*ibid*). Defining success as the ability to pass their farm on to the next generation, Susan and Sam felt they had no choice but to try to buy more land, too. In this sense gain – of land, of enterprises, of capital – is not the ultimate or even primarily stated goal. Instead, accumulation of resources was understood in the multigenerational farming group as a pathway to family farm persistence. Productivist strategies visibly aligned with "traditional" values of hard work and clean fields. Further simplification was an already socially accepted pathway of change. Gain as a means towards the end of family farm persistence formed an agricultural milieu in which everyday values and practices may shift for those who guarded access to traditional network benefits.

Sam and Susan's story is not unique. Although the details vary from farm to farm (and some key details have been changed to maintain anonymity), the threads of their story wove through many multigenerational farmers' experiences in Siskiyou. For multigenerational farmers, there were three nearly universal, reinforcing, and socially accepted adaptation strategies that adhered to values, practices, and politics farmers understood as acceptable within that group: 1) buying more land to produce more products for sale in commodity-dependent markets, 2) investing in capital intensive inputs and technologies to increase production efficiency, and 3) expanding income streams to include farming-adjacent agricultural enterprises like trucking or custom

farming.

One aspect of Susan and Sam's story that was far from universal is that they were making this strategy of on-farm simplification coupled with livelihood diversification work. They had new pickup trucks, a newly built house, and were acquiring more land for their sons to farm. This was not the case for many farmers with whom I spoke, try as they might to guard their precarious access to the benefits of belonging in traditional farming networks, or shape a cultural context within which certain ideas are able to take hold. The unnamed "neighbors" who sold their land in this story are those farmers. As dispossession by class differentiation unfurled, the distinctions between those neighbors who were forced to sell their farms and Susan and Sam positioned to buy that land, were often small. Slight differences in household structure and the debt each was carrying when crises like drought, policy-driven restrictions of access to water, or family conflict during generational transition, loomed could easily tip fortunes toward one farmer and away from another.

Walking this precarious line, farm families exercised discursive politics in their everyday practices and responses to change. Sam and Susan guarded access to traditional network benefits, acting as gatekeepers of information for newcomer farmers while also looking to these newcomers as models for how to adapt their farm operation. Facing acute confluence of crises, or simply the crisis of knowing their farming system needed to change to survive, Susan and Sam, like many multigenerational farm families, grasped for ways to persist, exercising power and politics in the ways they adapted to environmental change. Other multigenerational farm families took a different path, looking to a different group of newcomer farmers - those who are considered "alternative."

Tim and Tiffany: Diversifying farming practices in response to ecological and market crises

While some multigenerational farmers draw inspiration from productivist alfalfa-growing newcomers and simplify their farms in response to crises, other multigenerational farm families exercise a different set of practices. Tim and Tiffany are a young couple—she a local, he born into a logging family in a distant region—drawing inspiration from a different set of newcomers to diversify farm enterprises, field management practices, and livelihood strategies.

As I pulled up to their modest but newly built bungalow in the Shasta Valley, I was greeted by four children between the ages of three and six playing tag in the large you-pick pumpkin in front of their house. Tim came to the door and greeted me with a shake of his head, "hooligans" he said playfully as he invited me inside (author interview 2019). Tim and Tiffany are in their 30s. Tim, with tousled wavy black hair and clear hazel eyes set in a kind round face, grew up on this farmland. Tiffany, tall and blond with a boldly striped sundress on, grew up in a mid-size town in Washington State. They met in college in Redding, California and, after short non-farming careers—Tim was an emergency medical technician (EMT) and Tiffany worked in marketing—moved back to Tim's family farm a decade ago when his grandfather passed away suddenly.

"Of course, my brothers and I are like, 'no one wants to sit behind a desk and push chemicals,'" Tim told me, alluding to his father's career spent as an agrichemical salesman hoping to inherit

the farm (author interview 2019). Although Tim's father was himself of retirement age when the farm changed hands, all five of his children wanted to farm and, in their 20s, the siblings inherited their parent's share and bought out the rest of the family. After a few challenging years, Tim and his siblings realized that the family farm could not support five people, let alone five young and growing families. Tim and one of his brothers then bought the other three siblings out of the farm.

Then water became scarce, especially starting around 2011 with the onset of recent and persistent drought. The two farming brothers were in deep debt and their ditches, once full of flowing water, now sporadically ran with a shallow trickle. The brothers started to realize they needed to change how they farmed. "The cow herd wasn't profitable the way we were running cows, which is kind of the way most people traditionally run cows. You put them on pastures for like four to five months out of the year, and then you feed them hay," Tim said (author interview 2019). Shaking his head, he added,

Cows are fun, you raise them up, and you sell them all at one time, and you get this big check for like \$270 to 300,000, you're like 'Oh, we made some money!' But then you start running your numbers and really digging into it, you find out really quick, like 'Oh, we're like breaking even or losing \$30,000.' [For] one guy to make an average wage of like \$60,000 a year we would have to bring up our cow herd by like 350 to 400 head and also expand land. (Author interview 2019)

Already deep in debt from buying their non-farming family members out of the inheritance, they could not afford to buy more land and increase the scale of the cattle herd. Instead, they began asking themselves some tough questions about farming. "Is [the pay] just going to be like a volunteer position?" Tim reported remembering asking himself.

A few newcomers had arrived in the area who were raising organic grass-fed beef on rotational pastures and selling it directly to consumers. "Well, there's an opportunity," Tiffany, who was folding a load of laundry at the table across from me, said she recalled thinking (author interview 2019). "I think that the more people that are doing it, seemingly doing it well, there's a wave going like 'Oh they do that and that works so I'm going to do that too.' [We] see a lot more farms in the direct-to-consumer space now, more than even five years ago." But, having grown up around the stress, anxiety, and volatility of beef markets, Tim and his brother decided to sell their grandfather's 200 pair cow herd and look for other farming enterprises. Additionally, Tiffany pointed out, "The amount of beef people eat is declining."

When I talked to Tim and Tiffany again a few months later, Tim broached a deeply personal, private, and pervasive issue among many farmers that had helped shape his decision to farm in a new way—mental health. An hour or so into our second conversation, Tim paused his kitchen task of cooking pork and cheese quesadillas for their kid's lunch ("We are spoiled by food. You know, we cook the best meat," Tim tells me). As the quesadillas sizzle, Tim joins Tiffany and I at the dining table for a few minutes. With his large and well-calloused hands clasped on the table between us, he said,

You also have to realize, you spend all day by yourself, totally isolated. Then also your markets go up and down. You're dealin' with family issues that hold you back from running your operation like you want because maybe your dad's 89 years old and you're

60, and he doesn't want to hand the farm to you yet. So that's a pretty remote and sad and depressing situation, especially when commodity markets are at a low and you have these mass weather systems coming through. (Author interview 2019)

He talked about other farmers in the area, families he grew up with, who are leaving agriculture, “And now [their] kids don't want to come back and those [farms] will roll over.”

As Tim turned back to the stove, he began listing off kids he grew up with, few of whom came back to continue their family operations. The reluctance of the previous generation to relinquish control was one reason he noted for the dissipation of family participation, as were the emotional and physical challenges of farming, all made worse by declining water availability and low commodity prices. Most importantly, Tiffany added, their peers did not *need* to farm. They were sitting on a pretty inheritance when the wealth of their parent's land ownership eventually became cash and they had better opportunities elsewhere. This conclusion, that keeping the farm in the family no longer made much sense, was rarely spoken aloud. It often felt like the elephant in the room during interviews with many multigenerational farmers. More than evidence of the “property fanaticism” Marxists have long noted among the peasantry (Kautsky 1899, 132), this hesitance to discuss the personal difficulty of farming and the opportunities outside farming openly highlights the power of discursive politics, even a type of slow violence, that structures what experiences can even be shared and discussed.

Now, Tim and Tiffany and Tim's brother and his wife have two connected enterprises. Tim's brother grows nearly 1,000 acres of hay and alfalfa, which is, as Tim pointed out, still dependent on conventional commodity markets through the volatile and financially troubled dairy industry. “It'd be nice at some point to be out of that commodity market in general,” Tim said, adding, “In my ideal world I wouldn't be a hay farmer because it really isn't the best for the soil or the environment” (author interview 2019). But after selling the cows, Tim told me, other multigenerational farmers seemed to be talking about their family in unflattering ways. The young couples were worried that they would lose access to some of the benefits carefully guarded by establishment farmers in the region. Tim mentioned growing conflict with neighboring farmers over water in their shared irrigation ditch. While it had been socially acceptable to use water for hay and cows, once they began transitioning to other enterprises like pigs and pumpkins, the neighbors seemed to assert greater claim on the ditch water. Tim and his brother worried that if they dissented from accepted local farming practices too much or too quickly their social standing in the community might be at risk. They expressed concern that they would not be welcomed at the local Farm Bureau meetings or assisted by agricultural advisors if they were farming in ways that deviated from local norms of what and how to farm.

Tiffany said that after they sold the cattle, they needed to capitalize on the resource they already had: land and some un-eaten grass (author interview 2019). But the land that was rapidly drying out as California entered the most devastating drought on record. “Pigs don't take a lot of water,” Tim explained. “The pigs were a backup plan, a failsafe if we got to a problem where we can't pull from the well anymore. You know, to grow grain crops is a lot less water than it would be to grow alfalfa. So that was the original idea with the hogs.” What began as a way to utilize un-irrigated ground during the first height of the now ongoing drought, 2011—2014, has now become Tim and Tiffany's primary enterprise. They raise 200—300 heritage breed pigs on rotational pastures each year with a goal to double that number in future.

The pastured pigs, an enterprise begun in response to environmental change, have themselves become an important management tool that the farmers now use to change the farm ecosystem. As Tim described his field management practices—including complex crop rotations and forage crop production—his eyes lit up. “Where the pigs were [the] growth was like a foot difference, it was huge!” he exclaimed. When alfalfa and hay prices are low, Tim says, he rotates his pigs onto his brother’s fields so they can graze the hay crop that would otherwise cost more to harvest than it would recoup on the market. Although he has to move them each day so that they do not do what pigs love most—root⁴³—Tim deploys this innate hog behavior as a management tool elsewhere. “We had a pig pasture, and it wasn’t a usable pasture because it was all star thistle, so we were like ‘Oh, I wonder how the pigs will do in that.’ I mean it was bad – you couldn’t even walk through it. So, I put huts and the feeders in the worst of the worst spots, and I let the pigs beat it up pretty good,” Tim told me as he gestured out the window to the pastures dotted with pig huts. “That was at the end of the drought and so we got good rain. Ever since then that pasture is back to rye grasses and there hasn’t been a thistle come back.”

Although the ecological benefits of their diversification efforts surpassed their expectations, Tiffany and Tim’s primary stated goals of farm diversification require control of their marketing. Although they sold about a third of their hogs each year directly to individual consumers, the majority were sold under loose relationship-based contracts to two boutique pastured meat companies. These companies bought the pigs at slaughter weight, processed the hogs in their own United States Department of Agriculture (USDA) slaughter facilities, and then sold the meat directly to consumers under their own brand names, mostly in the San Francisco Bay Area and Los Angeles. Even though most of their meat is not sold under their own farm’s name, Tiffany said they still consider their marketing model “direct to consumer,” just with a little help from these larger farms that operated their own processing and distribution (author interview 2019). The first few years that Tim and Tiffany raised pastured hogs they had to drive 10 hours each way about once a month to bring the pigs to a USDA-certified slaughter facility in Oregon, and about six hours each way twice a week to sell their meat at farmers markets in the Bay Area and Portland. Tiffany told me they simply could not continue that pace with young children. But these new contracts were non-binding, which sometimes left Tim and Tiffany scrambling to find markets for hogs that needed to be slaughtered if butcher shop and restaurant sales slowed and the brands they sold to did not need as many hogs. Even in “alternative” markets with “alternative” species from the dominant beef cattle of the region, Tim and Tiffany still found themselves subject to many of the same market processes as their neighbors.

Tiffany and Tim expressed concern about competition as large hog producers in the Midwest begin marketing their meat as “heritage” and “pastured.” Tiffany explained, “I think that knowing your end-buyer is kind of that one thing that the farmer can protect, because [it’s] relationship-based. It’s [not] label-based. It’s not certified-based” (author interview 2019). She continued: “Direct to consumer is something to protect and to really lean into,” she said. “It’s never a guaranteed market but you control it more than you [do] anything else, because these are

⁴³ While pigs will graze, if left on a parcel too long they will also root up the plant, tilling the soil. While rooting is undesirable if a farmer wants the pasture to remain, pigs can be used as a tool between crops as their rooting (and manure) increase decomposition and soil fertility. Tim has also used the pigs between alfalfa plantings to root up this crop, which needs to be replanted every few years.

your customers.” Unlike her brother-in-law’s hay operation, which depended on one market system and only a few buyers, with direct marketing, she explained, your customers “know you personally.” She added, “If you have 300 buyers and 20 drop out it’s okay.” Eventually, Tim and Tiffany indicated, they would like to sell most of their meat directly to the end consumer. Tiffany described her vision of starting a meat-buying club in which, like a wine club, members would pick up boxes of the finished product a few times each year at festive farm pickup events. This would, however, require the county to amend local land use code to allow both agritourism and commercial non-cattle species, both surprisingly contentious issues (see Chapter 6).

One of the biggest challenges Tiffany and Tim have faced is acceptance in the local agricultural community. “I think it was pretty foreign to the area. People were like ‘What the hell are they doing bringing pigs in?’ Especially to put them on grass,” Tim told me (author interview 2019). “I’d say the resistance was just change because it was something different.” Tim described community opposition they faced when they started the hog enterprise, introduced new field management practices like rapid hog rotations over hay fields, and when they added a you-pick operation. Like a thousand small cuts, Tim and Tiffany described numerous slights. They described hearing negative rumors that they were colluding with environmentalists, who other farmers feared were coming to take irrigation water. Tim said that several neighboring farmers refused to engage with them in required permitting processes on shared irrigation ditches. When Tim and his brother participated in Farm Bureau, CattleMen’s, or Cooperative Extension activities, Tim said with a grin on his face, “It’s all cowboys. When I show up it’s just like, they always think I’m a hippie, but it’s just the mindset [about] everyone that farms [pigs] and those practices.” Speaking of the establishment farming community, Tiffany said, “They know who is doing what.” This may make deviating from locally accepted farming practices difficult, even dangerous. In one conversation, Tiffany told me that she had received an anonymous death threat in their mailbox for trying to “change our community” (author interview 2019). Interpersonal conflict may be difficult to parse or link directly to specific actions, yet the fact that Tiffany and Tim *perceived* these tactics to be the result of their dissent from accepted local farming practices demonstrates the power of discursive micropolitics.

Tim and Tiffany strategically manage their farm so that the wider community recognizes their claim to belonging in the landscape, a status which yields access to the benefits of the socially and politically important traditional farmers’ network. The fact that so many people know each other—and importantly, that Tim and Tiffany have long local roots in the farming community—also means people in positions of power, like members of the Siskiyou County Board of Supervisors, know their family personally, which can be a real benefit. “So, if somebody called [the County] to be like, ‘Oh, my gosh, you know, all these cars are coming into their farm,’ they know we have a you-pick and they [County officials] are like, ‘Yeah, that’s fine’” (author interview 2019). Tiffany tells me, the Board of “Supervisors know the rest of our story is that we’re haying and that we have cows.” That is one of the reasons Tiffany and Tim attribute importance to the hay operation, and the few cows they still raise for family consumption and graze visibly in the pastures along the road. Participation in these particular farming enterprises signals shared local cultural and political values, reproducing belonging and engendering acceptance from the multigenerational farmers’ social group. With multigenerational farming roots in the region, Tim and Tiffany enjoy a privileged position: they can deviate from accepted local practices, dissent in small ways. By doing so, they may also create new opportunities for

other conventional cow/calf and forage producers to diversify their field management practices. They have indeed noticed a shift since they started raising pigs on rotational pasture, and, more importantly, since those pigs started turning a profit—several other operations, they note, have begun raising pastured hogs, too.

Tiffany and Tim attribute their relative success not just to intergenerational social capital, but to being well connected to wider farming networks and resources. As they transitioned from the conventional forage and cow/calf model of Tim’s grandfather, the couple retained access to establishment farming groups—like the Farm Bureau—while expanding connections to farmer-to-farmer networks outside the region. They worked with regional and national groups like nonprofit group Ranching for Profit. The couple also sought out various public resources, like free consulting offered through the local economic development council, lines of credit through the farm service agency, and funding for infrastructure like fencing through the Natural Resources Conservation Service Environmental Quality Incentives Program (EQIP). Tim and Tiffany described connections to these farmer networks and public resources as instrumental in their ability to adapt the farm to environmental and market changes—both materially through access to financial and technical assistance, and socially by establishing relationships with farmers engaged in similar projects across the country.

Tim and Tiffany’s story points to the importance of intergenerational family roots in the region for adaptation to changing climatic and market conditions, allowing them to implement adaptive tactics that diverge from dominant local practices. The next farming story draws our attention to the micropolitics within the household, particularly how gendered power and politics become expressed through environmental change. Drought, whether understood as ecological or political in origin, may spur shifts in household gender and generational dynamics, with women increasingly becoming farm owners, occupying management roles, or simply receiving greater recognition and respect within the household for their active role as farmers. As the next story highlights, the farm household itself can be a site of internal divisions, discursive politics, and power expressed differently by various family members as they both change the environment, and adapt to environmental change.

Barbara and Bob: Gendered adaptation within the farm household

Barbara and Bob’s family proudly traces their roots back to the 1850s, when their ancestors came to the region looking for gold and stayed for grass. Siskiyou, they remind me, is a great place to grow grass. Today the fifth and sixth generations farm, the couple tells me, on the original 160 acres that Barbara’s great, great grandfather was gifted from the newly formed California government through the 1851 California Homestead Act in 1858 (Placer County Archives 1851), as well as about 6,000 acres they have accumulated since (much of it dry, juniper-studded hills). Like many in-migrants in the second half of the 19th century, their ancestors managed diversified homesteads (see Chapter 2). In addition to the pigs, chickens, milk cows, and vegetables for the family’s consumption, previous generations grew dryland grains and raised cattle for market - herding the cows from the valley bottoms, lush with grass in the spring, up into the mountains in the summer and fall. Over the generations, Barbara and Bob’s families focused more and more “on the cattle side,” as Bob calls it (author interview 2019).

When I visited in 2018, it was a very hot day in late June. The thermostat read around 100 degrees Fahrenheit for the third day in a row, and the sun beat down out of a cloudless sky. It had not rained in more than a month. I met the family at noon when they gathered for lunch, which they do each day as lunch duty rotates between the family's four households that operate the ranch together. I was planning to talk to Barbara, the self-described family matriarch, but when I pulled up a large group - nearly the entire extended family - was gathered. In addition to Barbara and her husband Bob, both in their 60s, two sons and a nephew - all in their 30s - sat at a long table under an awning behind a newly painted light blue bungalow, which overlooked a small creek and large cow pastures stretching into the distance beyond. One of the son's wives and several elementary school-aged children sat on the porch steps nearby, quietly but seemingly attentively listening to our conversation.

As I asked questions, everyone deferred to Bob, who they all - even his wife - called "Dad." In a deep, slow, and raspy voice, Bob told me how he tried to buy more equipment and land to make their operation more efficient. He calls their efforts to simplify the farming operation "streamlining" (author interview 2019). Today they only raise cattle, primarily in the dominant cow/calf model. Between the four families, he reported that they have about 1,000 cow/calf pairs that live on the valley floor year-round, grazing irrigated pastures in the growing season and eating hay in the winter. When combined, Bob tells me, this makes them one of the largest cow/calf operations in the area, but when divided by four families, he clarifies, 250 pair is squarely considered mid-size to small in the region. They also grow their own hay, but unlike some similar operations the families do not sell forage, instead keeping it all for their own cattle.

When I asked about their experience with specific droughts in California's recent history they, like many farmers, often talked about past experiences of water scarcity. They emphasized how the establishment farming community that they are part of, comprised primarily of multigenerational cattle and forage farmers who guard access to traditional network benefits, assigned blame differently for different periods of water scarcity, and how that shifting understanding informed the family's efforts to mitigate future drought impacts. Barbara and Bob remembered living through the drought of 1976-77 and described it as an ecological crisis. "Nothing bloomed and we never got no winter weather. Like the snowpack in the mountains and the rain," Bob explained. "That's kind of before we had a lot of the wells that we've put in now" (author interview 2019). The 2001 drought drove them to put in these deep wells. The 2001 drought was as a turning point for many farmers in the community who described it primarily as a crisis of policy. Although Bob's family was able to survive, and even expand, during that period of water scarcity, they saw other farmers' fields go dry. In 2001, the irrigation district in Tulelake, another valley in the county, was ordered by the US Department of the Interior to shut off all irrigation water to its farmers for the entire growing season to conserve endangered fish (an attempt to carefully balance leaving enough water in the Klamath River reservoirs for endangered sucker fish, while allowing enough flow for newly listed endangered salmon downstream). Without any water, many farmers in the traditional multigeneration network - especially in Tulelake, where nearly all the land had been granted to World War II veterans in the last Homestead Act grants in the lower 48 states - were forced to sell. Bob and Barbara, active alongside those farmers in groups like the Farm Bureau and cattleman's association, witnessed the debt and dispossession experienced by farmers in their community. In their own valley, several neighboring farmers sold their land as their own irrigation ditches ran dry during

the 2001 drought, and Bob and Barbara said they were able to, like Sam and Susan would later, buy some of that land quietly and relatively cheaply.

Bob and Barbara said they “saw the handwriting on the wall” that state environmental policies would produce more “political droughts,” as they referred to periods of water scarcity since the 2001 water shutoffs (author interview 2019). After witnessing those federal water shutoffs, they decided to laser-level their fields and drill deeper wells, so that they could rely on groundwater if legislation reduced their surface water allocation in the future. This, Bob reasoned, would give the family more control over water and greater autonomy from both the “whims of nature” (Pfeffer 1983) and, more importantly in their minds, the whims of urban policymakers. Like many farmers I spoke to, Bob and Barbara understood that droughts were caused by water scarcity. But, they explained, farmers had always dealt with ecological droughts, like the period of water scarcity they had coped with in the late 1970s.

What changed in 2001 was the role of the government in relation to farmers’ access to water (see Chapter 2). As I describe in chapter two, before then, it had seemed to many residents unimaginable that the government would intervene in farming practices in the region, let alone prevent farmers from accessing water they been granted legal right to. Farmers who had lived through the drought in 2001 often described it as an experience of learning that politics could produce a drought (or at least make it much worse for farmers). As I argued in chapter two, the 2001 drought and Tulelake water shutoffs marked a sea change in Siskiyou farmers’ understanding of the role of the federal government in relation to water. I am not suggesting that farmers in the region lacked issue with the federal government before 2001. But the idea that the federal government, which had spent the previous century-and-a-half allocating water primarily to white male farmers, would ever take that water away was previously unimaginable (see Chapter 2). Today, the reality is that water is far over allocated (Chaffin et al. 2018). Water that does not exist is promised to various users. Having a legal right to a resource that is simply not there breeds hostility and resentment, especially among users who previously benefited the most from their elevated political status that granted them privileged access to that limited resource (Doremus and Tarlock 2008). Agricultural irrigators in the Klamath River Basin had grown accustomed to receiving the water they needed, even in a drought, but that ended in 2001. Now, many farmers see the state’s efforts to balance water access among various users – including urban centers, tribal communities, and endangered species of fish – as political betrayal (see Chapter 2). That is what Bob and other farmers described when they said they were experiencing a “political drought,” a (relative) drought of the political favors that had long flowed towards white men who benefited from family farmer identities.

The majority of farmers I interviewed, like Bob and Barbara, associated drought with changes in policy, which often did catalyze long-term changes in farm management practices.⁴⁴ Certain

⁴⁴ To the degree that water scarcity was understood as ecological, without perceiving droughts as long-term climate trends, farm changes in response to water scarcity understood as an ecological crisis were often temporary. As Bob and Barbara’s family discussed, they would likely reintroduce previous practices tomorrow if ecological conditions shifted again. Those in the establishment farmers’ social network especially tried to cope by “tightening their belts.” When perceiving droughts as temporary ecological phenomena, farmers often shifted their management practices and strategies only temporarily by, for example, taking out a loan to purchase hay they could not grow that season, fallowing some fields until conditions improved, applying for emergency assistance through federal or state government programs, or having someone in the family get an off-farm job (or, more likely, get an additional

farmers identified the goal, as Bob phrased it, to “stay ahead of regulation,” citing fears that government actors would restrict farmer water access further and even take punitive action against farmers for streams going dry or for overdrawing groundwater. Some farmers tried to mitigate the relatively more immediate risk of surface water curtailments and Endangered Species Act litigation by switching to groundwater, drilling deep wells, and investing in more efficient irrigation technologies (often cost-shared with the Natural Resources Conservation Service or local resource conservation districts).

When I asked how their field management practices were impacted or changed in the 2011-2014 drought, everyone at the table seemed to look at me with a blank stare. After a few moments one of the grown sons said, “We kind of kept our same practices,” suggesting that they did not feel the drought because their deep groundwater wells kept water flowing. Another son added, “We did pump a lot of water.” They irrigated later into the year than they had previously because the usual fall rains did not arrive, and they pumped more water; they reported spending over \$10,000 per month on extra electricity costs (up to \$40,000 per month total in some months) just to operate their water pumps. With deep wells and laser-leveled fields, the family made minor, temporary management changes like combining cohorts of variously aged cattle to concentrate grazing on more productive pastures, buying hay, and selling younger and lighter calves. These were, said Bob and his sons, often incidental decisions, the kind that farmers make daily, rather than changes in management practices in response to transformative environmental change. As our conversation turned to the next topic, Barbara observed, reflecting on the 2011-2014 drought, “It was tight for a time, but we were luckier than some because we sit on an aquifer. A lot of people, they ran out of water.”

The family had been luckier than many of their previous neighbors. In the 1980’s farm crisis Bob was able to “pick up some ground.” His neighbors, he said, who could not “get big got out.” But it was really during the droughts since then - especially the 2001 and 2011-2014 droughts - that the family bought farmland as other farmers sold. While everyone at the table agreed that drought was the precipitating and acute crisis that forced those families to sell, they also saw a slower and more predictable crisis unfolding on their neighbor’s farms. As Bob listed the names of the farming families he has bought out - six in total - he described how the farmers “just got old.” Many had children who were grown and gone. A few farmers “didn’t have any sons, only daughters,” which for Bob is explanation enough for why the family farm was sold. Bob and Barbara, like Susan and Sam and Tiffany and Tim, want to avoid selling their farm. When I ask what success would look like Bob says, “Just hold on your operation and not lose it and be able to grow and pass it on to younger generations.”

When our conversation turned to which farmers in the community were able to grow their operations, especially during the drought years, Bob leaned back in his chair. The three young men of the next generation talked about the newcomer conventional farmers who grew alfalfa primarily for export markets. “These other guys, they sell hay and they’re making just as much

outside job or increase their off-farm work hours, since nearly every family-labor farm in this sample already relied on at least one family member working off-farm). Conversely, when alternative farmers, particularly direct-to-market farmers, perceived crises to be primarily ecological in origin, they often cited concern for future ecological events - like drought - as important motivations for significantly shifting their management practices and livelihood strategies over a long term.

money as we are, or more sometimes,” said one of the sons. Another voiced his interest in starting a trucking business – he said that he has seen a lot of “the new guys” do that to diversify their income streams and cut the middleman out of hauling their hay to market or animals to auction. When droughts hit in 2001 and then again in 2011, Bob and Barbara’s family leveraged their capital not to add new enterprises, but rather to scale up their cattle operation. In their telling, they bought more land and invested in new equipment, two key strategies the new alfalfa growers employed. One of the sons explained, “It’s more efficient. [We] bought a lot of updated equipment. We put the hay up faster.” He gesticulated as he spoke: “Cut it. Bail it. Get it off the field. Get the water back on her.”

But as the 2011 drought dragged on, with dry year following dry year, and the three young men and their families took on more farm management responsibility, the family paused the scaling up of conventional cow/calf activities. When I asked why they stopped trying to increase the scale of their operation, the men skirted the question; it seemed as if I may have hit upon, if not a sensitive topic, one they may have been unfamiliar with discussing openly. The sons responded that they were not worried about debt, that financial concerns did not inform this pause in scaling up. “Grandpa was always gung-ho about debt. You know, ‘We’ll go get the money. It’ll pay its way,’” said one. Instead, some members of the family see another opportunity to help the family farm persist, inspired by a different set of newcomer farmers who are operating diversified farms and selling their products directly to consumers. The women of the four households are working together to diversify the farm and its markets; the men, it seems, are waiting to see how diversification works out.

“It’s all run by us,” said Barbara of she and her daughters as she described the farm’s recent shift to sell some of its beef through direct-market channels. “Except they do the heavy work,” she added playfully, tilting her head in the direction of her husband, nephew, and sons across the table.

A few years ago, Barbara explained, she and her daughters-in-law began noticing the new grass-fed, direct-to-consumer farms that were moving to the area. “We saw people beginning to retail,” Barbara explained, “Initially we began [an] investigation into what different ranches do.” She named a few of the newcomers I had spoken to who sell via direct-market channels. “So, we got all the girls [of the family] together [and] then we had a few family meetings and talked about it,” Barbara said. With commodity prices low and a growing extended family that wanted to farm, direct-market model that might allow them to capture a greater share of the consumer dollar seemed appealing. Barbara pointed out that their cows ate grass, too, after all. The family felt its beef was just as high in quality as what the newcomers raised, at least until it went to auction and then feedlots.

The family began direct-marketing with just a couple cows and a few local customers in 2014, but soon the grass-fed project grew. “His wife is a marketing guru,” Barbara said, pointing to one of her sons, “and his keeps us very, very organized,” she said, pointing to another. Within a year the family was supplying beef to several restaurants and a summer camp in the county, and then they became the sole beef supplier for a farm-to-table restaurant and butcher shop in the Bay Area. Already by June of 2019, when we spoke, the women had sold 20 head via their new direct market sales that year. At this point in the conversation, Bob pointed out that this is just “two

percent, not even, one half of a percent” of all the cattle they typically sell in a year. Barbara quickly added, “We’re still in a very beginning stage. [We’re] still not moving tons of meat for six girls [but] we have had some, you know, good luck.”

A large part of that “good luck” may be credited to the family’s deep family roots in the region and status within the traditional farmers’ network, which helped them establish sales channels to the summer camp and local restaurants (one of which is owned by a relative, another by a close family friend). Members of their household are active in the Farm Bureau, CattleMen’s and CattleWomen’s associations, and were named as key advisors by local staff in the FSA, NRCS, and Cooperative Extension. The family’s last name was mentioned to me by other farmers and ranchers. In addition to developing markets through social network connections, the family’s centrality in the establishment farming community seems to have helped them overcome another significant barrier livestock producers face when trying to operate in a regional food system—access to a USDA-certified slaughter facility.

While nearly every other direct market livestock producer I spoke to identified slaughter facility access as a major barrier (most drive 4-6 hours each way to slaughter facilities in Oregon State), Barbara and Bob’s family was granted access to a private on-farm USDA slaughter facility built, owned, and operated by one of the large-pastured livestock newcomers, a facility which otherwise only processes its owner’s livestock.⁴⁵ “None of that would have been even possible,” Bob says, when Barbara is describing their direct-market operation. “It wouldn’t have been feasible until they ended up putting in a USDA kill plant.” Bob tells me, clearly proud, that they are the only local ranchers allowed to use it. When I asked, he said he did not know for certain why their family benefited from this privilege, but he reiterated that their family is well-respected in the county and enjoys strong ties to leaders in local government and local farming organizations, like the Farm Bureau.

Despite earlier assertions in our conversation that their field management practices had only shifted slightly and temporarily in response to drought, Barbara listed several significant ecologically beneficial, drought-resistant practices they had recently adopted. Practices like more rapid pasture rotations and leaving more residual dry matter on their pastures increased the soil’s capacity to hold water (and store carbon). “The girls,” as they referred to themselves, advertised these benefits in their direct-to-restaurant marketing. In later conversations, I learned that the family had implemented these practices in 2018 after receiving a notice for a \$25,000 fine (which was eventually dropped) from US Fish and Wildlife for irrigating their fields from a tributary important for Coho and Chinook salmon spawning. As part of the agreement to drop the charges, the family installed fish screens at their water intakes and riparian fencing along the creek that runs through the ranch. To protect themselves from such fines (or potential criminal charges) in the future, the family claimed it also pursued a Safe Harbor Agreement,⁴⁶ which

⁴⁵ There are two USDA-certified slaughter facilities in the county, owned and operated by two different newcomer ranches for the purposes of processing their own livestock for direct market sale.

⁴⁶ Safe Harbor Agreements are negotiated agreements between landowners, who agree to improve Endangered Species Act (ESA) species habitat, and government agencies (usually state and federal fish and wildlife services and, in the case of ocean-going anadromous and catadromous fish, the National Oceanic and Atmospheric Administration) that agree not to pursue litigious action against those landowners in the event that the ESA-listed species is harmed in that habitat (which might otherwise qualify as take, a potential felony charge for the landowner).

included developing a ranch management plan to reduce water use. While water scarcity itself may not have spurred long-term management changes, the threat of legal action around water apparently had. It had also created new marketing opportunities since, with a safe harbor agreement and a ranch management plan to protect endangered salmon, the family would now market their beef as “Salmon Safe.”⁴⁷

Barbara described the success of their direct-market operation in terms of building a customer base and keeping a greater share of each animal’s value. Yet the men in the family were still not fully convinced of these alternative marketing and field management practices. As we wrapped up our conversation, the men preparing to go back out to work cattle and the women clearing the empty plates and water glasses, Bob reiterated that this was only a small part of their herd. One of his sons expressed concern about the stability of direct marketing without a guaranteed sale or contract directly with consumers, “You just saved back 20 head and put seven months-worth of feed into ‘em and you don’t have a market for ‘em, so it’s kind of an up-and-down yo-yo.” The other son added his concern about distance to markets, “The hardest part is all your customers are not where you live, and all the animals are up here.” Bob worried that their meat produced and marketed in this alternative model was too expensive for consumers, “The problem with this whole scenario of doing things [is] a lot of people can’t afford [the meat]. It prices them out of the picture.” The concerns they raised echoed with assertions I heard throughout that afternoon, and in conversations with other farmers, about their role as providers, not just for their family, but for publics more broadly. “Feeding the world” was raised as a reason to stay in ‘traditional’ commodity markets, as was concern about financial risks in new markets, and—as I would begin to see in subtle ways—social risks of engaging in alternative practices (Chapter 5).

As I said goodbye and drove away that afternoon I was puzzled by the way changes in farming practices, or adaptations, were discussed and by whom in the family. Discursive politics were on display between family members as they navigate micropolitics within the household, including who has power and decision-making authority. Not only was this multigenerational farm family pursuing multiple pathways simultaneously, it was doing so in a gendered division of labor and responsibility. Several weeks later I was talking to a different rancher who mentioned Barbara and Bob’s farm in passing. He said the men were staying out of the direct marketing for now, but watching the work of their mother and wives closely. This nearby rancher said, “If it fails, they can go ‘Hahaha, well, the women made a mistake.’”

In other words, the women in the family had power to adapt precisely because they were assigned relative powerlessness by the dominant farming culture in which they were part. Within farming households, women like Barbara and her daughters-in-law are simultaneously insiders and outsiders – they are privileged in their status as “traditional” conventional producers even as they dissent in how they farm. As one neighboring rancher summarized, “Change, it comes from outsiders. And even though you’re a fifth generation, if you’re a girl, you’re in essence an outsider. You’re part of it culturally, but you’re not part of the good ol’ boys club.” A young woman on a different multigenerational farm echoed this point when she said, “I’m in a very lovely position where I’m a member of the community, so I don’t represent a threat to anyone’s lifestyle, but I’m choosing a different one.” At the boundaries of social group exclusion, women

⁴⁷ I was not able to find evidence of this label being certified by a third party. Instead, it has been adopted by several farmers and ranchers who seek a way to embed those environmental relations in the market value of their product.

within farm families have power to be accepted while deviating from local norms. Women like Barbara are less burdened by past practice, they are not as tied to a limited set of culturally acceptable practices as the men at the center of social groups. The men in this family worried that they would lose cultural capital within the community if they deviated from norms of productivist farming practices, but the women in the family had less to lose because they were already at the margins of male-dominated social groups. Framed as the women's "experiment," alternative practices that did not become profitable or accepted may be dismissed, without risking the family's privileged social position in the wider traditional farming community.

When I asked who Bob and Barbara considered to be "good" or "not good" farmers in the region, they did not hesitate with a response. They told me about a nearby cattle rancher, now not considered a good farmer, who began seasonally flooding his field with surface water to recharge groundwater in the early spring when snowmelt was abundant. This practice was new and unusual in the region. Some of his neighbors, like Bob and Barbara, thought this farmer was giving in to environmentalist political pressures by implementing spring flooding for groundwater recharge – a practice encouraged by environmental groups like The Nature Conservancy. Although neighbors would also benefit from groundwater recharge (since water moves through the ground and under neighboring ranches), Bob and Barbara were concerned it was a step towards diverting water away from food production. That farmer had "a good water right [for] irrigation," Bob told me, but now the water "leeches right back into the river. [It's] not for stock, not for irrigation, he's not using the water. [The practice] makes the neighbors pretty mad... We're really doing pretty important stuff, you know, trying to feed people. So that's pretty aggravating. That has a lot of his neighbors pretty mad."

Box 1. Moving from the outside to the margins of establishment farming groups

Judy and Jo were used to their "traditional" farming neighbors being aggravated at them, or at least ignoring them. That was how it had been since they started farming in Siskiyou County, until recently that is.

"We were the 'weirdos' because we were growing organic and an orchard, which isn't done here," an older farmer named Judy told me (author interview 2019). "If you do hay and beef the way it's done here then that would be accepted." Judy and Jo moved to Siskiyou Country from the Bay Area in the early 1980s, identifying with the back-to-the-land movement of that era. "There was a whole segment of the farming population that we didn't interact with. There was no common language, basically because we weren't growing hay and beef," Judy told me.

During their career growing organic fruit (mostly peaches, cherries, and apples) that they brought to market in the Bay Area each week, Judy and Jo described how the local farming community would barely interact with them, even at school functions with their kids. They told me how they had felt alone and more isolated than many of their farming peers. When their kids were growing up, Judy and Jo tilled their front fields near the road while using no till practices in their less-visible fields. In that front field they planted pumpkins for school children to pick in the fall (which they described as an acceptable "hobby crop"). Between the pumpkins and their organic orchard, they tended a tall windbreak of conifers. "We were

organic farmers and we couldn't put our organic sign up because we didn't want to alienate people," Judy told me.

After decades farming full time in Siskiyou, employing two local residents with year-round jobs, and raising a family on the farm, Jo and Judy had recently scaled back their operation. In their "retirement" they planted alfalfa for the first time and were taken aback by the community reaction.

For the first time in nearly 40 years, they told me, neighboring farmers suddenly began stopping by, offering to lend a hand, a friendly word of advice, or even for them to borrow farming equipment. "The ranchers would see me changing water and say, 'Hey, how's it going there?' They'd roll down their truck windows and talk to us!" Jo recounted in astonishment.

"The hayfield has allowed us to enter in a whole different way this larger community." Jo and Judy felt that they had been ostracized because of their farming enterprise (a fruit orchard) and management practices (organic, direct market), and the values and politics that these choices signaled. Only now that they were being invited into the establishment farming community did they begin to see the benefits it afforded, like offers of lending a hand or borrowing farming equipment.

Barbara and Bob's family's gendered responses to change highlights several important trends that I observed in many farm families in the region. First, that the ways that farmers describe droughts - as ecological *and* policy crises - is crucial in shaping the region's discursive politics around climate change and conditioning appropriate responses to those crises. Second, social standing within the traditional farmers' social groups can foster real material benefits for farmers, like privileged access to USDA slaughter facilities, or close relationships with institutional staff who distribute technical and financial assistance. Third, the farm family is itself a shifting group of actors who are differently positioned within broader farming communities. Gender and generation are key intrahousehold factors that condition who can adapt to changing conditions and in what ways. And, as this story highlights, the household itself can be an important site of agricultural bifurcation.

Conclusion

Farmers must respond to environmental change. But that change is not merely happening *to* them; farming has always changed the environment, in both significant and slight ways, locally and globally, climatically and politically. And, of course, farmers navigate and respond to change constantly at various scales and through changing practice and discourse (and practices read as discourse). Farmers who either were trying to gain access to the benefits of belonging in traditional farming circles, or who already benefited from their place in it but were trying to change their management practices, paid particular attention to the micropolitics of adaptation. Farmers engaged discursive politics around climate change in how they described experiences of drought and wildfire, practices they adopted in response, and the meaning they made of those experiences. These micropolitics were expressed in the household, in conversations with friends

and neighbors, at Farm Bureau and CattleMen's Association meetings, in interactions with local public institutional actors, and in conversations with me, a researcher.

In this chapter, I first introduced multigenerational farmers in Siskiyou County through literature on the persistence of family farms. Then, by sharing stories of three multigenerational farm families, I began to unravel some of the everyday practices and discursive micropolitics of adaptation within the household. Later chapters will broaden analysis beyond the household to the wider farming community and institutional actors (Chapters 4, 5, and 6).

In the three stories in this chapter, we have seen how multigenerational farm families navigate this shift demanded by ecological, social, and economic change. Sam and Susan's story highlights discursive politics around capitalist production. While they fear the impacts of capitalism, they cannot say this because capitalism is as American as apple pie. Instead, they embrace a form of diversification that is acceptably capitalist in an orientation into new commodity markets and enterprises, like trucking, that facilitate such markets. Like Sam and Susan, the men in Barbara and Bob's family look to large-scale alfalfa growing newcomers for adaptation templates. Both families have also benefited enormously as other farmers have failed – failed to persist through drought, failed in creating succession to the next generation, failed to choose a fork in the bifurcated road between simplifying and diversifying their operation. As neighbors have sold their land, Susan and Sam and Bob and Barbara have “picked up ground,” while asserting that they are not greedy or rich, merely strategic in playing the game of gain to set up the next generation for success. And now Barbara and her daughters-in-law have put some of their farm's eggs in a different basket. Capitalizing on their community standing, social capital, and network connections, they have been able to start and quickly scale up a direct-to-market, pasture-raised beef operation. Because women farmers are often not taken as seriously as men by their relatives and institutional actors, women in farm families can take climate action on the edges of social group exclusion. Women in multigenerational farm households are unburdened by past practices and conventional expectations, relative to the men in their family who are often more central in farming social groups.

Tim and Tiffany have also benefit from their multigenerational status in their efforts to stretch the boundaries of acceptable farm management practices. Their efforts to diversify, modeled after direct-market newcomers, have expanded the boundaries of accepted local practice. Tiffany and Tim have been able to deviate from local norms of practice in the establishment farming community because of their privileged position with family roots and political connections in that group. Their choice to maintain cattle and forage production alongside new, ecologically diversified enterprises also signals belonging. Maintaining enterprises considered ‘traditional’ while adopting novel farming practices has allowed them to slow the perceived rate of change of their farm as they adapt. They are not rejecting old ways, but instead complementing them with the new.

The term “positive deviant” has been applied to farms that “outperform their peers... and the innovative practices they implement to achieve those results” (Ulukan et al. 2022, 2). Yet this term, borrowed from nutrition research, has primarily focused on the economic outcomes of farm management practices (e.g., Ulukan et al. 2022). This case highlights the socio-political factors that shape what farming practices are considered acceptable. Building on the idea of “positive deviants,” I found that some farmers are socially positioned such that they can be “acceptable

deviants.” Women and young farmers from multigenerational farm families in Siskiyou County may deviate from established norms of practice while still being accepted at the margins of establishment farmers’ social groups.

As we saw within the three farming families that were responding to these changes, farmers are grasping for a future – real and imagined – that’s actively unraveling. In response to the slow and fast violence of climate, policy, and economic change, farmers, in turn, enact forms of slow violence (Nixon 2011). The micropolitics of adaptation within farming households highlight some of the tensions and contradictions that capitalist relations of production create. Coercion and consent, experienced and expressed through micropolitics, can be seen in what farmers told me, and what they said about their own experiences and other farmers. Adherence to local values, practices, and politics facilitates access to traditional network benefits like new markets, slaughter facilities, or land sales. Remnants of collectivity like shared access to resources under adverse conditions, such as water during drought, or labor exchanges, or knowing when land will be available, are especially crucial. The everyday practices and strategies that farmers adopt are not politically neutral, but rather filled with cultural meaning. This is especially true in the context of climate change, which is understood and experienced as deeply political. The practices farmers implemented in response to climate change are then read in the community and the landscape as political actions, with potential political consequences of inclusions and exclusions to the benefits of membership in farmers’ social groups.

How farmers navigate adaption to changing conditions today also shapes their ability to respond to crises in the future. As we saw in the ethnographic narratives presented here, responses to drought and other climate change impacts can tend the seeds of agricultural divisions, and a form of ongoing agricultural bifurcation as some farmers simplify and some diversify in response to changing conditions. Adaptation strategies that further simplify ecological and market relations retrench farmer reliance on capital-intensive inputs and produce narrow and brittle adaptive capacity (Petersen-Rockney et al. 2021). Farm management practices that facilitate ecological diversification, however, facilitate the emergence of more just and sustainable adaptive capacity (Petersen-Rockney et al. 2021). In novel conditions, as new rural articulations emerge, farmers may have opportunities to move away from highly simplified commodity production systems that they are “locked in” to (Bernstein 2004). Livelihood strategies and farming practices that diversify the farm present opportunities for broader-scale transformation of agri-food systems. Yet many of these adaptation practices do not adhere to local values and politics, and household members are differently positioned to adapt in divergent ways.

Women within multigeneration farming households are themselves a kind of newcomer on the margins of the male-dominated farmers’ social groups. As we saw in Barbara’s family, women, especially at moments of generational transition in farm management, are often leading diversification efforts not despite of, but because of, their historic marginalization within the family unit. Relative to the men in their families, women may have less to lose by deviating from locally accepted practices. The coercive tactics that structure consent and help guard access to traditional farming network benefits may exert a less powerful force on farmers who are already excluded from those benefits. Though not the focus of this chapter, Hmong farmers are completely excluded from those traditional farming networks, as well as public services offered to other farmers (author interviews 2018-2022). The construction of consent is very different for

these farmers, who have formed their own self-provisioning community support networks and have engaged in alternative crop cultivation and practices (see Polson and Petersen-Rockney 2019; Lu, Dev, Petersen-Rockney 2022). In other words, those on the margins, or completely outside, traditional farming groups can be ‘acceptable deviants’ who can claim power in powerlessness by leading adaptation efforts.

In the next chapter, we turn to specific climate adaptation actions. Chapter four focuses on the ways that farmers, and agricultural advisors, describe environmental change, as well as how farmers are changing their field management practices and livelihood strategies in response.

Chapter Four: Climate and Change: Farmers' experiences, beliefs, and responses

Introduction

My first trip to Siskiyou County was in late October 2016. California was experiencing its worst drought in over 1,200 years (Williams et al. 2022) and extreme precipitation volatility (Swain et al. 2018), heralding unprecedented mega-wildfires across the western US (Swain 2021). For the next three years, I planned my fieldwork trips (at least partly) around wildfires, which reached new extremes in 2021 as the River Complex Fire set state records in the western part of the county and the Lava Fire flowed down the slopes of Mt. Shasta, forcing farmers to evacuate (CalFire 2021; Whitcomb 2021).

My dissertation fieldwork also coincided with rapid political change, beginning shortly after Donald Trump was elected to the US presidency. The words “climate change” became even more of a cultural flashpoint, scrubbed from federal programs, and trotted out to fan flames of political division. The Trump administration tapped into deep hurt and rural and working-class discontent. People I spoke with in Siskiyou County often detailed this discontent during interviews, while harvesting potatoes, and as we were bailing alfalfa together.

Despite politically motivated assertions to the contrary, the climate has changed, and adaptation is necessary. Over the past four decades California's autumn precipitation has decreased by 30 percent, while temperatures have, on average, increased by about one degree Celsius, contributing to a 20 percent increase in aggregate fire weather indices (Goss et al. 2020). The science is also clear that the climate will continue to change, increasingly so, and that human actions are driving those changes. With current emission trends, scientists expect wildfires in California to burn 77 percent more land area per year, and seas to rise nearly 20 inches by the end of this century (4th CA Climate Assessment 2018).

It is, however, difficult to say that a particular climate event is *caused* by anthropogenic greenhouse gas emissions.⁴⁸ Scientists try to determine the extent to which human-produced emissions are contributing to particular climatic events (extreme-event attribution models) and driving observed trends (time of emergence models) (Swain et al. 2020). Various models produce differing results, helping define a range of answers over time. Importantly, humans shape the climate through more than just burning fossil fuels. Wildfires provide an excellent example—it is difficult to determine greenhouse gas contributions in a tangle of human effects like fire suppression, water use, species change, and other factors. But all these human activities (past, present, and future) drive changes in climate.

⁴⁸ Weather generally refers to short term atmospheric phenomena that can change on the timescale of minutes, hours, or a few days. Climate refers to longer term atmospheric trends and cycles (e.g., seasons). Climate change is used specifically to describe long-term global trends driven by human activities that release greenhouse gasses; though more localized human activities like land use change or land and water management practices also change the climate.

I found that for farmers working with these landscapes, understanding the degree to which a drought is the result of climate change was often a low priority. When I began fieldwork, I set out to study climate change adaptation in farming systems. I came to appreciate that other crises are often more proximate and important, and political and ecological changes are inseparable. The climate was extreme in the past, as it is in the present and will be in the future, though the magnitude of extremes has accelerated and will continue to do so. Farmers are already experiencing climate crises, layered with other challenges. For many farmers, recent droughts and wildfires had been, as one cattle rancher told me, “Come to Jesus moments when people leave their bad relationship with farming” (author interview 2018).

In this chapter I ask: How do farmers perceive and understand climate change impacts like drought and wildfire? How are farmers responding to these impacts? And in an effort to place farmers’ climate change experiences, beliefs, and actions in conversation with the public institutional actors who work with farmers, I also ask: How are agricultural advisors engaging with farmers on climate change?

When climate change was an abstract topic—one that scientists told farmers they were experiencing through droughts, which farmers told scientists they had managed for generations—beliefs about its causes and futures may have been more crucial. But today, farmers’ lived experience is changing the tenor of the academic debate. In this chapter, I suggest that questions of whether farmers believe in anthropogenic climate change or not, or adapt or not, are no longer central. I find that farmers—even those who are unconvinced by climate science—are nevertheless acting to adapt to its impacts. This research illuminates new directions for natural resource governance and climate policy that move beyond the notion that farmers must be “convinced” of climate science before they act to adapt to climate impacts.

I begin with a brief overview of the relationships between climate change belief, experience, and action. I then share empirical findings,⁴⁹ primarily from interviews and participant observations about the ways that farmers perceive, experience, and discuss changes in climate. I then show how farmers and ranchers in Siskiyou County are changing both their farm management practices and livelihood strategies in response to crises. In the last section of this chapter, I offer three interventions based on the evidence that farmers are adapting irrespective of belief: first, a new paradigm that decouples climate change belief and action; second, crises are entangled, and while this observation is often presented as a barrier to studying farmers and climate change, I suggest it is instead highly appropriate to the topic; and third, I suggest a new way to conceptualize adaptation that may be more intelligible to farmers’ experiences. In conclusion, I highlight how when farmers’ perceptions and experiences are understood as contributions to the academic discourse (Soubry, Sherren, and Thornton 2020), new policy and programmatic opportunities arise to increase the pace and scale of climate action, even in climate change-skeptical contexts.

Relationships between climate change belief, experience, and action

⁴⁹ Some of the empirical materials presented in this chapter are also presented in Petersen-Rockney (2022a).

Scholars forward that the pace and scale of climate action depends on beliefs, and the cultural and ethical perceptions that structure them (Marlon et al. 2019). Studies of farmers' decision-making regarding climate change have identified numerous factors that affect this complex process, but have largely focused on farmers' beliefs (Chatrchyan et al. 2017). Beliefs about climate change include the extent to which individuals believe in climate change's occurrence, anthropogenic causes, and related phenomena (Hyland et al. 2016; Le Dang et al. 2014).

Cognitive factors—like beliefs, attitudes, and perceived agency—significantly shape farmer decision-making (Takahashi 2019; Nguyen et al. 2019), leading to a growing emphasis on the relationship between beliefs and action around climate change (Findlater et al. 2018). Beliefs about climate change influence farmers' perception of the physical (Menapace, Colson, and Raffaelli 2015), policy (Niles, Lubell, and Haden 2013), and social risks (Chapter 5) of climate change. Belief in climate change's anthropogenic origins and its future long-term impacts are often characterized as the greatest motivators (Nguyen et al. 2016) and best predictors of farmers' action on climate change (Arbuckle et al. 2013; Le Dang et al. 2014; Roesch-McNally et al. 2017; Chatrchyan et al. 2017; Lane et al. 2018).

While this relationship between belief and action is most strongly observed in farmer adoption of mitigation practices, a majority of empirical studies with US farmers and ranchers find a similar, albeit weaker, relationship between belief in anthropogenic climate change and adaptation (Chatrchyan et al. 2017). In other words, adaptation is informed by belief, but belief in anthropogenic climate change is not *required* for farmers to adapt (Kuehne 2014; Chatrchyan et al. 2017; Lane et al. 2018). Experiences of bad weather and perceptions of the physical risks of climate change are also important motivators of adaptation action (Woodmansee et al. 2021).

The relationship between climate change experience and belief is not linear; each informs the other. Experiences of severe weather can ground climate change's abstract nature, making it more proximate and believable, bringing “the abstract concept of climate change into temporal and physical proximity for the observer, resulting in response behaviors because of an enhanced realization of the risks of climate change” (Azadi et al. 2019, 2). Personal experiences with severe weather events—either one's own experience, or hearing about the experiences of one's peers (Carrico et al. 2015)—encourage farmers to believe in climate science and implement adaptation and mitigation practices (Niles and Mueller 2016; Liu et al. 2014; Schattman et al. 2016; Lane et al. 2018; Coles and Scott 2009; Niles, Lubell, and Brown 2015).

Belief or disbelief in anthropogenic climate change can also shape experiences of weather. Farmers in New Zealand who believed climate change was occurring perceived that they had experienced a greater increase in temperature than peers who did not believe the climate was changing (Niles and Mueller 2016). Similarly, farmers and ranchers in Nevada who believed in anthropogenic causes of climate change perceived greater risks to their operation from future impacts than did those who said that they did not believe in climate change's anthropogenic origins (Safi et al. 2012).

Yet despite considerable empirical research, the connection between farmers' experience, belief, and decision-making regarding climate change remains complex and difficult to generalize (Schattman, Conner, and Méndez 2016; Findlater, Satterfield, and Kandlikar 2019). Past

experiences with unusually bad weather, especially in regions known for their harsh climate, can normalize potential future extremes, incentivizing farmers to hedge their bets each year and manage “well enough” instead of adopting proactive adaptation strategies (Takahashi, Mano, and Otsuka 2019; White and Selfa 2013). Unusually favorable weather may also reduce the salience of weather risks and adaptation action (Findlater, Satterfield, and Kandlikar 2019). And of course, these relationships vary by ecological and social context.

The accelerating pace and scale of climate impacts limits farmers’ ability to rely on previous climate experiences (Takahashi, Mano, and Otsuka 2019). Farmers in dry regions prepare for droughts irrespective of personal climate change beliefs (Coles and Scott 2009). In California’s Central Valley, for example, farmers who experienced water shortages adopted more efficient irrigation practices in response (Haden et al. 2012). Similarly, farmers in New York (Takahashi et al. 2016), ranchers in Montana (Yung et al. 2015), mixed crop and livestock farmers in New York and Pennsylvania (Lane et al. 2018), dairy farmers in Wisconsin, and oyster farmers in New England (De Master et al. 2019), have implemented new management strategies in response to severe weather events, despite varied and limited willingness to attribute these impacts to anthropogenic climate change. Mitigation actions may also be less predicated on belief now than in the past. Beef and grain farmers in Alberta, Canada adopted field management practices with climate-mitigation benefits while high rates of climate skepticism persisted (Davidson 2019).

Within this novel and ever-changing ecological and political climate reality, I present my findings on how Siskiyou County farmers experience and describe climate change; the field management practices and livelihood strategies farmers adopt in response to changing climatic impacts; and the role of agricultural advisors in shaping farmers’ understanding and experience of climate change.

Results: Farmers adapt irrespective of belief

Farmers experience, recognize, and describe climate signals amidst weather variability

On the ground in a farmer’s field, it may be difficult to parse the signal⁵⁰ of broader climate change from the noise of weather variability; climate change resists isolation due to its breadth, scope, and cascading spatial and temporal impacts (IPCC 2021; Breakwell 2010). The climate is, however, changing rapidly. Western North America boasts the highest degree of scientific consensus of any region in the world that anthropogenic contributions are driving already observed changes, especially drought (see IPCC 2021, Fig. SPM3 medium confidence).

Nearly every farmer I interviewed articulated observations of weather changing over time. Many distinguished climate signals rising above the noise from mere weather variability by noting, for example, warmer winter temperatures and snowpack reductions. Under all projected climate change scenarios, climate signals will emerge more strongly and intensify with the severity of extremes in Siskiyou County (Fig. 1). Speaking of winter minimum temperatures and snowfall,

⁵⁰ Climate signal is a term used to describe a long-term trend that aligns with climate change projections (e.g., sea level rise, warming surface temperatures, increased frequency of severe storm events etc...). Climate scientists use climate signals to describe observable climate change as distinct from shifting weather patterns.

one farmer in his 60s said, “The trend is it has been lighter and lighter winters. Now, we're lucky if we get six to eight inches that'll stick around for more than three or four days at a time. [The] winters have become much more mild” (author interview 2019).

Farmers also described a shift in the duration and intensity of droughts from temporally bounded shocks to constant stressors. Echoing a shared perception of this change, a cattle rancher said of droughts in decades past, “They just didn't seem to last very long. You'd have a [dry] summer. But it just didn't seem to go on and on and on and on. This is very different... we had a bad year and then the next year is worse, and we had a bad year, and then the next year is worse” (author interview 2019). He continued, “I mean, that's bad... It's like, man, this is really discouraging” (ibid). Observations like this are consistent with meteorological data that document California's record-setting drought that began in 2000 and continues to the present, with intermittent extremes that became especially amplified in 2012 (Swain et al. 2018). Even seeming drought reprieves, like the wetness of the 2016–2017 winter (preceding my first summer of fieldwork), lead within this decade-plus drought period to wildfire fuel growth, increased wildfire risk, and more drought-prone⁵¹ post-burn ecologies (Swain et al. 2018). Combined with vegetative fuels that have accumulated after more than 100 years of fire suppression, and widespread woody species encroachment, cycles of drought and wildfire create highly flammable landscapes at risk when the temperature rises and humidity drops in California from spring through fall.

With warmer, drier conditions, catastrophic wildfires have increased across California. Since 2018, each summer and fall California megafires (fires that burn more than 100,000 acres) have blanketed Siskiyou County with smoke for weeks at a time. In addition to smoke that blows north and east to the region, the Siskiyou area has also become home to its own wildfires. In 2021, the River Complex Fire in Siskiyou County became one of the largest fires ever recorded in the state (CalFire 2021), and the Lava Fire burned down the slopes of Mt. Shasta, forcing evacuations, including from the Shasta Vista subdivision where several thousand small-scale farmers lived, many of them Hmong (Whitcomb 2021).

“We just got smoked in real bad,” one farmer said, describing how “the grass just didn't grow like it usually does. Neither does the hay. [The wildfire] slowed things down” (author interview 2019). He described resulting yields as a “much lighter gain and the cows didn't look as good going into the winter” (ibid). A county agricultural commissioner said, “The situation is different, smoke and drought are out of control” (author interview 2019). Additionally, some farmers noted greater winds associated with warming. One vegetable farmer said, “We get so windy that there's so much more evaporation” (author interview 2017). This, too, is consistent with physical science understandings of greater wind speeds, due to both rising temperatures and reduced vegetation (from drought and fires), increasing evaporation (Harpold et al. 2014).

⁵¹ While a burned area would still experience similar precipitation dynamics to an adjacent un-burned area, without roots to hold moisture and canopy shade to reduce evaporation, burned areas are more likely to experience water scarcity. These post-burn dynamics remind us that drought is not merely the result of limited precipitation, but also shaped by soil, vegetation, and other land (and water) management practices.

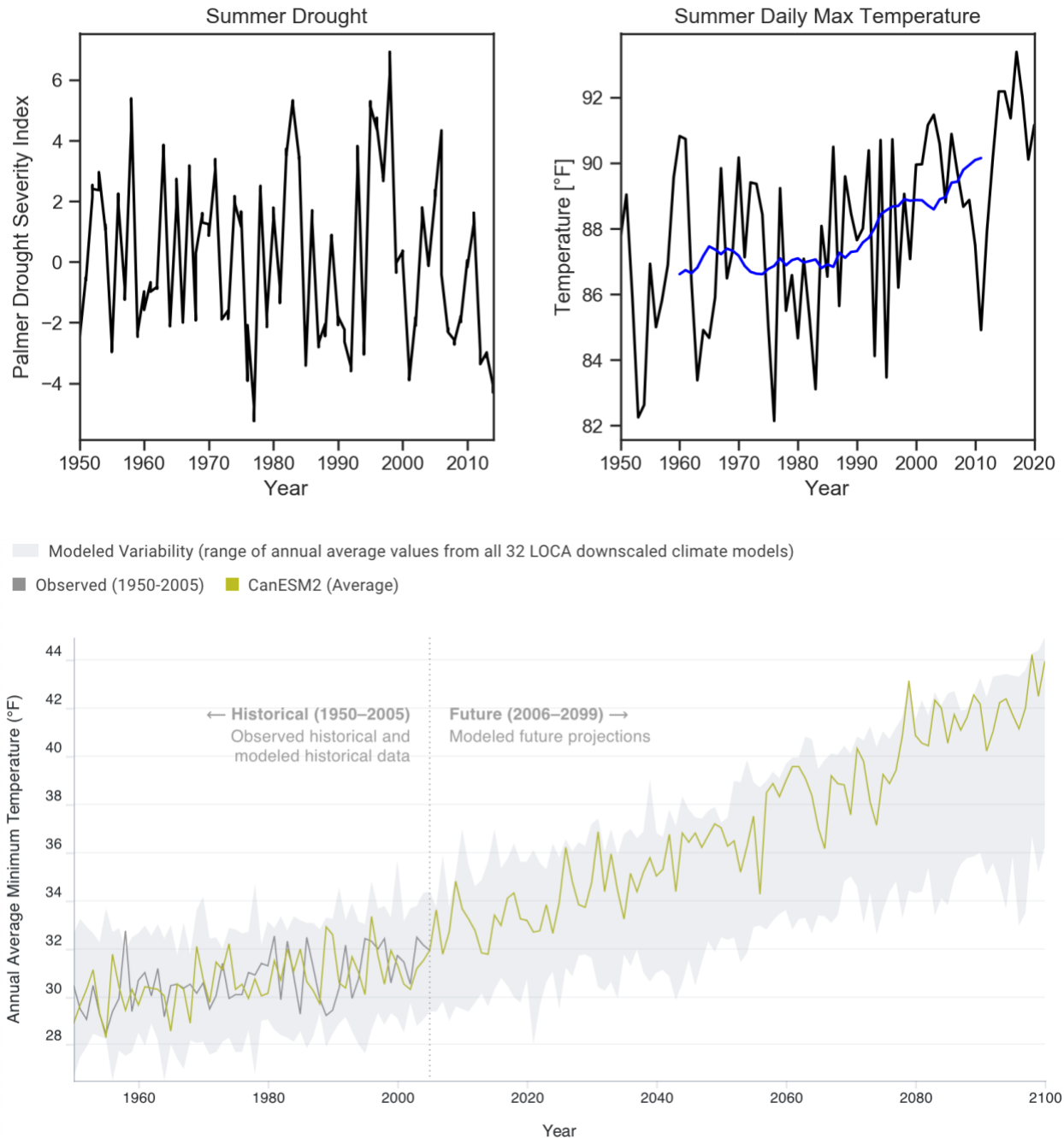


Figure 1: Palmer Drought Severity Index (left) for summers in Siskiyou County from 1950–2015; note high degree of drought volatility. Summer daily maximum temperatures from 1950–2020; note the high degree of noise (black line) with subtle climate signals emerging (blue line, the 20-year rolling centered average). The drought index represents a regional average over a 2.5 degree x 2.5 degree domain centered on (41.25, -121.25). The summer average of the daily max temperature data was taken from the Yreka weather station and was downloaded from the NOAA Climate Data center on August 30, 2021. Annual average minimum temperature in Siskiyou County (bottom), observed 1950–2020 (gray line) and modeled (green line) using an average simulation (CanESM2) in an optimistic scenario (RCP 4.5) in which emissions peak around 2040, then decline (Figure: Petersen-Rockney, M. 2022. Climatic Change).

Many farmers from the region described a reduction in snowfall and snowpack over their lifetimes consistent with meteorological observations and climate models (Fig. 1). Farmers described changes in temperature and precipitation by comparing current farming practices or landscape features to those of the past. Like many older farmers, a retired cattle and hay farmer compared today's conditions to those of his childhood in the 1950s and 1960s, saying,

You could grow usually a pretty good dry land crop, just off of snowmelt, just off the thunderstorms in the summer... now it's noticeably drier. We used to have two, three feet of snow on a pretty regular basis in the wintertime... When I was a kid this whole mountain range here in the springtime, the snow would melt and we'd have water running down sloughs or low spots out to the fields. There was a shallow lake, and it would freeze, and we'd go there ice skating. I probably haven't seen water in there for 30 years now.

Farmers described their memories of a different climate in relation to farm tasks that they used to perform—like regularly digging out snow to feed livestock and carrying feed by sled in winter. Some noted that through the mid 1990s, snow had routinely covered fences, collapsed barn roofs, and formed “tunnel walls clear above semi-trucks” (author interview 2019). Farmers also observed changes in the broader ecology of the landscapes they worked with and knew well, particularly in relation to wildlife migrations, abundance, and winter survival. One large-scale vegetable farmer noted, “Our relationship with the wildlife, it's such an important part of my life... I live with them day in, day out” (author interview 2018). Another observed that “hard winters used to kill deer and antelope” (author interview 2019).

These results indicate that farmers in this region a) acknowledge that the climate is different now than it was in the past, b), describe similar trends observed and predicted by climate scientists, including distinguishing between short-term weather variability and long-term shifts in climate, and c) describe those differences in terms of their lived experiences of weather.

These observations echo other studies, which find that farmer perception of temperature changes consistently align with meteorological data and climate science literature (Karki et al. 2019; Foguesatto et al. 2020). Across different contexts, farmers' perceptions of precipitation changes tend to be more varied when compared to climate records. Sometimes farmers perceive *less* precipitation change than recorded due to the buffering effects of available irrigation water (Niles and Mueller 2016). Sometimes farmers perceive *more* variation in rainfall than recorded due to the significant negative psychological and economic impact drought events have on farmers, making these experiences particularly sharp and salient in farmers' memories (Foguesatto et al. 2020). Like farmers in other high-income country contexts, such as South Africa (Findlater et al. 2018), farmers in northeastern California observed changes and are sensitive to the physical risks of climate change, while still maintaining distinctions between their understanding of weather, such as incidental precipitation one day or one afternoon, and climate, patterns of precipitation, sunshine or other kinds of weather over a period of seasons or years. These data bolster scholarship suggesting that weather may be a poor proxy for climate (Liu, Smith, and Safi 2014; Findlater et al. 2019). Importantly, however, I found little evidence that farmers' perceptions and experiences of physical climate change impacts increased their belief in its anthropogenic causes.

Farmers discuss changes in terms of weather, ongoing cycles, and harsh geography

Siskiyou farmers, across farm types and farmer characteristics, discussed the changes they observed in terms of weather, not climate. Doing so allowed farmers to hold simultaneous mental models of both changing patterns and random weather events. As an older cattle and hay farmer explained in typical fashion, “[The] weather pattern has changed. We have much milder winters. I don't know, I don't feel that the temperature fluctuation has been extreme. Some summers are warmer. Some are cooler. Just quite a bit less moisture” (author interview 2019). Another crop and cattle farmer described milder winters, adding, “Individual weather events, they're just pretty much random. I mean, we had a hailstorm about a week before harvest, we lost half production for that field. Winter of '92 killed a pile of garlic, was real cold for a long period of time... And then it kind of got to where we didn't get those kinds of snows” (author interview 2019). While some farmers perceived weather events as primarily random, the majority of farmers placed these events in longer-term trajectories, which they described as natural cycles that contained some random variability (Fig. 2).



Figure 2: *Many farmers described the region's harsh geography and cycles of drought. This image from 2018 captures high desert landscape representative of much of the region, with beef cattle grazing and an irrigation pivot (Photo by author.)*

When asked about climate change, most farmers expressed disbelief in anthropogenic climate change. Many responded that weather is cyclical, offering comments like, “Things are always changing in cycles” (author interview 2018) and “Droughts are always cyclical” (author interview 2019). Some farmers recounted specific cycles of dry or wet weather through multigenerational family histories. A diversified multigenerational farmer, for example, described family journals that detailed “the river going dry in the 1880s for an extended period of time where they drove wagons down the riverbed every day because there was no water” (author interview 2019). An alfalfa farmer in his 20s told me how his parent's generation described an oscillating pattern of wet and dry cycles back to their childhoods in the 1950's. “It just comes in waves,” he said (author interview 2018). “For guys that have been here for 40 years you see a lot of patterns” (ibid).

When discussing climate cycles, farmers often acknowledged that weather patterns have fundamentally changed in their lifetimes. As one mixed vegetable farmer said, “Used to be you

could pretty much count on the last freeze Memorial Day in the spring.... We could plant in early May now” (author interview 2019). A cattle and forage farmer explained, “You’re seeing drought cycles that are changing from what we were used to in the 70s, 80s, 90s. Now, when you get into 2000, it’s been dry, you can see a whole cycle has changed” (author interview 2019).

Despite remaining unconvinced by climate science that documents contemporary, and models future, anthropogenic changes, some farmers explicitly acknowledged paleoclimate science. A cattle rancher described how the climate has changed for “eons,” telling me,

We go through cycles and I think we’re in a drier cycle, is what it boils down to... I know what the scientists say, global warming and the ice packs are melting and doomsday is ahead of us. But I don’t necessarily buy into that so much. But I will admit that, yeah, the climate has changed. We are in a drier cycle right now. (Author interview 2019)

Some farmers normalized the extreme changes they experienced in terms of agriculture’s exceptional vulnerability to weather and the region’s high degree of weather variability. Asked about changes in precipitation and temperature, a sheep farmer offered a typical observation: “Everything changes when you live on a farm. You get up in the morning and you don’t know what’s going to happen. You have no idea. You get to expect the unexpected” (author interview 2019). Consistent with the region’s high degree of weather variability (Fig. 1), most farmers noted the harshness of their geography (Fig. 2). A mixed vegetable farmer said, for example, “So the climate change, I mean, our area is so drastic all the time. [Here] it’s extremely wet, extremely dry, extremely hot, extremely cold” (author interview 2018).

Farmers often shared specific examples of extreme or “bizarre weather events” they had experienced, like snow on the 4th of July and Memorial Day (author interview 2018), as evidence of the general unpredictability of weather in the region. One farmer said, “It’s all normal here” (author interview 2018), and another described the harsh climate as “a Mother Nature thing” (author interview 2018). Others noted the “pretty short growing window” (author interview 2019) that limits what crops they can grow “because it gets so cold” (author interview 2017) and “goes from cold and wet to hot and dry too quick” (author interview 2019).

When asked about the impacts of climate change, some farmers, especially those who had described the harshness of the region, responded using the term “global warming” and asserted that future impacts would be positive. For example, one cattle rancher described a typical sentiment, saying, “Global warming would be a good thing because warmer is better.... it would be nice if it was a little warmer” (author interview 2019). A sheep farmer and retired doctor said that, “Cutting back on carbon dioxide is the most asinine thing. Carbon dioxide makes things grow,” adding that the “climate is always changing and we’re not going to do anything about it” (author interview 2019). More than misunderstandings of climate science, comments such as these illustrate the importance of assertions, even emphatic or flippant ones, in expressing culturally and politically specific public beliefs about climate change.

While the majority of farmers said that they did not believe in anthropogenic climate change, a minority did. A young orchardist said, “I believe in climate change, it’s ok” (author interview 2019). A multi-species rancher told me, “I think you would be silly to not admit it. I think you’re watching one news channel too much” (author interview 2017). He concluded, “I mean, like it or

not, definitely our climate's different than the way it was 20 years ago" (ibid) These private admissions were often accompanied by requests that the speaker not be identified within the wider community, because they worried that deviating from disbelief in anthropogenic climate change carried social risks within the community. As discussed at length in Chapter 5, this finding suggests the importance of social group affinity in shaping farmers' experiences of climate change. These farmers adeptly navigate differing social norms within distinct farming groups—sharing climate change belief with some, and following broader social norms of discussing changes in terms of cycles and harsh geographies with others.

Findings that most farmers in this region attribute drought to natural cycles and express skepticism in anthropogenic climate change conform with previous studies of farmers and ranchers in the western US (Yung et al. 2015; Liu et al. 2014). A study of farmers experiencing extreme drought in Australia concluded that belief in natural cycles reduced farmers' willingness to adapt and may have been, in part, a strategy to "avoid an obligation to make adaptation responses" (Kuehne 2014, 502). Ranchers in Montana who described droughts as part of natural cycles expressed a sense of reduced agency to act, as well as optimism that a cyclically changing climate would return to normal (Yung et al. 2015). While farmers in Siskiyou County describe climate change as cyclical, they also assert concern that those cycles will worsen and that they need to change how they farm, a concern that diverges from the findings of previous studies.

Farmers respond to climate change impacts with a range of adaptations, irrespective of their stated belief in anthropogenic climate change

Every farmer in this study—irrespective of their climate change beliefs or perceptions—changed how they farmed in response to the impacts of environmental change, particularly drought as the most proximate climate signal (Fig. 3). Consistent with Woodmansee et al.'s (2021) finding that persistent drought conditions in California catalyzed ranchers to plan for droughts, farmers and ranchers in this study described droughts as "wake up calls" (author interview 2019) or "turning points" (author interview 2019) that spurred them to adapt. As a typical livestock farmer observed, "The drought has kind of shaken people up, saying okay, this is not a guarantee" (author interview 2017). A local National Resources Conservation Service (NRCS) conservationist reflected on the increased requests for funding for infrastructure projects like stock water ponds in response to recent droughts, which, he said, "forced people to have a drought plan. I think people think about, 'Oh there is bad years and there is good years,' but consecutive droughts made it 'What do I need to get by?'" (author interview 2017). In response to the impacts of climate change, farmers changed both their farm management practices and livelihood strategies.

Farm management practices

Nearly all farmers in this study were investing in new infrastructure and technology (Fig. 3). As surface water sources were becoming more precarious—ecologically and politically—farmers were reducing water use, increasing water storage capacity, and favoring groundwater sources. Speaking of 2018, a young alfalfa farmer said,

Last year sucked. I lost some money last year. That's one thing I learned, it costs more money but you've got to try to take Mother Nature out of the factor as much as you can,

whether it's deepening your wells or having storage ponds or something. Unfortunately, it takes money to make that happen, so I'm still at the mercy of Mother Nature. (Author interview 2019)

Many of the larger acreage farms had already, or were in the process of, replacing irrigation wheel lines with center pivots, assisted with funding from NRCS.



Figure 3: Farmers reported diversifying strategies that improve soil moisture holding capacity and create new market opportunities, like integrating pastured poultry with beef and hay production (left image, 2018) and diversifying crop species across space and time (bottom image, 2017), although no farmers reported access to public funding or institutional support for these changes. Farmers were also investing in irrigation infrastructure like deeper wells and pivots with low elevation spray application (LESA) nozzles (right image, 2019), often with public technical and financial assistance (Photo by author).

About half the farmers I interviewed reported trying water monitoring technologies like soil moisture probes or crop monitoring software, but with mixed results and enthusiasm. Several echoed the sentiment of one crop farmer who said these technologies “didn’t tell us anything we didn’t already know” (author interview 2018).

Some studies have found that technological optimism can encourage farmers to delay or respond less enthusiastically to climate change adaptation (Gardezi and Arbuckle 2018). I found that farmers in Siskiyou were not as optimistic about technological solutions as they were realistic about the need to pursue a wide array of adaptations simultaneously, especially options that were easily available and publicly funded. Farmers often noted that purchased input-based technologies—like new irrigation systems—were the options most encouraged and funded by institutional experts like NRCS staff. A cattle rancher described putting in irrigation pipes and digging deeper wells with NRCS funding by saying, “We’re getting more cheese money right now,” using post-WWII slang for welfare payments (author interview 2018). NRCS staff also noted that the droughts had “shifted” their work (author interview 2019), “redefined” their jobs (author interview 2018), and the projects they funded were now “almost all water related, mostly infrastructure investments” (author interview 2019). One NRCS conservationist noted that NRCS’ role had—since the early 2000s—shifted away from providing technical assistance and seed funds for conservation projects. This farm advisor summarized the shift “from TA to ATM,” describing how now, “We hardly look at projects that are under hundreds of thousands of dollars,” primarily funding “wells and pivots” during droughts (author interview 2019).

Farmers recognized that these input-oriented infrastructure improvements—such as digging wells, pivot irrigation, and monitoring software—were helpful in the immediate term. Some recognized that they were temporary coping tools that were not fixing the underlying problem of increasing dryness, and even exacerbating it. Some also noted that groundwater withdrawals in some irrigation-intensive parts of the county corresponded with neighbor’s wells going dry—an increasingly common occurrence in Siskiyou’s fractured rock aquifer (GSP SC 2020). Thus, farmers articulated two definitions of “maladaptive” in their critiques of capital-intensive simplifying practices: that these practices 1) do not address the underlying issue and that 2) they exacerbate the problem for others (see Koontz et al. 2015). One vegetable and alfalfa farmer said that NRCS was “funneling money to farmers” for expensive infrastructure investments, “but what we see on the ground is that they get the money, get the project, but then the pump still comes on in April and doesn’t shut off until October” (author interview 2019). This farmer pointed out that, “Farmers do need help and it should be there” (author interview 2019). But, he said, the kinds of projects often funded did little to reduce water usage and, without enforcement, even public projects that could reduce water use rarely did, which he worried jeopardized public support for farmers to respond to water scarcity.

In addition to infrastructure investments, farmers were also changing their land management practices (Fig. 3). Many expressed their intent to scale up or adopt field management practices that would help reduce their reliance on inputs over a period of years. Many of these diversifying field management practices—like crop rotation, cover crops, reduced tillage, integration of crops and livestock—also offer mitigation co-benefits, sequestering carbon while increasing adaptive capacity (Davidson 2019; Petersen-Rockney et al. 2021). Farmers described how building soil organic matter became an important management goal as a result of drought experiences. One

young dairy farmer said, “It gets better and better. Every year that land gets better.... I mean the difference [is] huge... The more organic matter you put in the dirt, the better it's going to hold its water” (author interview 2019). A vegetable farmer said simply, “Well-maintained dirt will see you through a season” (author interview 2017).

While many farmers had always applied organic matter to their soil, some described recent water scarcity experiences as motivating additional efforts to increase soil organic matter. Similarly, while most crop farmers had already been practicing some form of crop rotation and (with forage production) intercropping, most farmers cited drought experiences as a motivator for choosing certain crop rotations (e.g., incorporating grain crops into hay and alfalfa rotations) or specific forage species (e.g., planting alfalfa and orchard grass together to increase drought response diversity). Nearly every livestock farmer said that in response to drought they now manage pastures for higher residual dry matter to keep moisture in the soil. Most livestock producers said that they have also intensified pasture rotation—some increasing rotation frequency and others implementing adaptive multi-paddock grazing. Many cattle producers had added additional livestock species, including sheep, hogs, chickens, and ducks, facilitating multi-species rotations that reduced input costs and spread risk.

With the expectation that current weather trends would persist and intensify, about half of all respondents had adopted new crops or livestock varieties. Farmers described two primary benefits associated with adding new varieties: spreading the physical risks of extreme weather, while also enabling them to access new market opportunities. Given that climate change shocks like wildfires, and stressors like persistent drought, converge with market shocks and stressors like tariffs and corporate concentration, this multifactorial, entangled motivation is not surprising.

When making diversification decisions, some farmers explicitly sought farm enterprises that used less water. As seen in chapter three, one hay farmer added pastured pigs to his operation during the height of the drought in 2012–2014. “Pigs don’t take a lot of water,” he explained (author interview 2019). “The pigs were a backup plan, a failsafe if we got to a problem where we can’t pull from the well anymore. You know, to grow grain crops is a lot less water than it would be to grow alfalfa. So that was the original idea with the hogs” (ibid). A hay farmer added vegetable seed crops, citing a goal of maintaining his income with fewer irrigated acres of higher-value crops. A vegetable farmer described her choice of drought-tolerant crops, like rosemary and dry beans, saying, “You know, they say drought places are getting a little drier. It’s not like the water is disappearing right? We have a certain amount of water on planet Earth. [So] maybe I leave the crops that need a lot of water for places that have a lot of water” (author interview 2018).

Farmers also described downsizing their operations strategically to allocate the water they did have to the most productive land or their most lucrative enterprises. For example, an orchardist prioritized limited irrigation capacity to high-value fruit trees like cherries, allowing lower-value pear trees to die.

A majority of farmers said there was little they could do about smoke on their farms. Crop or species shifting was one of the only agricultural adaptation options farmers described adopting in

response to smoke from wildfires. Some farmers, for example, reported shifting to faster maturing varieties and crops that could be harvested before late summer fire season blanketed the region in smoke so thick that “grass can’t photosynthesize properly” (author interview 2019).

Farmers in the Siskiyou region often expanded field management practices they already employed, or adopted new practices grounded in familiar concepts like soil organic matter that increases water holding capacity. This finding corresponds with previous findings that farmers who already use conservation practices are more likely to increase the scale of those practices (Roesch-McNally, Arbuckle, and Tyndall 2017) and that observation of improvements is itself a significant motivator of adoption (McCann et al. 2015). Yet in this case, farmers were also experimenting with novel and even transformative adaptation practices. For example, some practices farmers were adopting, like early spring flooding to recharge groundwater or adding or removing trees on pastureland to provide shade or reduce water uptake, did not have previous local analogues.

In response to climate shocks, a majority of farmers implemented coping strategies. During drought years, for example, nearly every cattle rancher I spoke to sold calves earlier and at lighter weights, changed where and when they grazed, prioritized irrigation water to their best pastures, bought hay they did not have enough water to grow, and reduced their herd size.

About a third of farmers who implemented reactive coping strategies expressed their intent to return to their prior practices when the weather changed, but this was often difficult or impossible. One rancher expressed a typical position, saying:

We have no choice. You can't afford to buy feed. And so when we have drought years—and we had to do this in the ‘70s, we had to do it in the ‘90s, we had to do it in ‘13, ‘14—you reduce your animal units. [So] we do herd reductions and then you rebuild and you do herd reductions and you rebuild.... But it takes a decade or more to rebuild a cow herd, it takes three to four years to rebuild a flock of sheep. (Author interview 2019)

Additionally, she explained that returning to prior management is rarely possible because land leases have been irrevocably lost or the timing of calving or calf sales has shifted in an inflexible concentrated market. Adaptations may begin as temporary and reactive,⁵² but returning to prior farm structures and practices may be impossible or undesirable. As coping strategies aggregate and continue, they may become proactive adaptations, even leading to transformation (Wilson et al. 2020) as climate impacts (e.g., drought and smoke) and non-climate challenges (e.g., low commodity market prices and high land prices) persist.

Livelihood strategies

In addition to adopting new field management practices in response to drought and smoke, about half of farmers interviewed also implemented broader livelihood adaptations like seeking long-term off-farm incomes or leaving agriculture altogether. Scholars have long identified flexibility in off-farm employment as an important coping strategy for family farm persistence (Mooney 1982). The majority of US farm households today are reliant on at least one off-farm income

⁵² Roche (2016) defines “proactive” strategies as those adopted to prepare for future climate impacts, versus “reactive” strategies adopted in response to climate impacts.

(USDA Census 2017). Yet for some farmers I interviewed, recent compounding crises, particularly water scarcity combined with low market prices for hay or cattle, precipitated a shift in how their families approached off-farm employment.

A majority of farm families in Siskiyou described historically viewing off-farm jobs as temporary. Older farmers often recounted a gendered labor division of seasonal or temporary off-farm work in which their fathers worked in the local logging industry and their mothers in potato packing sheds during lean years. Multiple farmers described working as teachers or in construction for a few seasons while they were starting their farms and paying for land, starting their families, or otherwise in need of health insurance.

Recent droughts and wildfire smoke have fueled a shift in off-farm work from a temporary to a permanent livelihood strategy for many families. In one family that raised cattle, for example, the mother was taking night classes to become an accountant. She described the goal of this common, and commonly gendered, concurrent on and off-farm career strategy as, “To diversify [our] income so [we’re] not completely dependent on the weather and the cattle market” (author interview 2019). Another respondent described how she and her husband were both looking for permanent off-farm employment, resigning themselves to farming on nights and weekends (author interview 2019). Voice shaking and tears welling, she described how her dream had been to farm full time. But she said that the wildfire smoke reduced livestock weight gain by more than half each of the previous three years. She described how the smoke blotted the sun from the sky and the grass stopped growing for weeks and the livestock became lethargic and did not want to eat anyways. Their already thin profit margins evaporated. With wildfires season increasingly consistent, she and her partner were not seeking permanent off-farm work in order to keep the farm.

The few farmers who shared their belief in anthropogenic climate change during interviews described how climate change directly impacted their farm planning, often shifting away from production and towards offering services like agritourism because of climate change (see Chapter 6 for more on agritourism). For example, a young orchardist described climate change as “something we thought about when buying the farm” (author interview 2017). She continued. “It is funny that we decided to buy a farm in a community like this,” she said. “I don’t regret buying a farm at all, but I don’t know if we would have purchased a fruit orchard in a desert.... We start taking out the older trees and not replacing them with younger trees, but replacing them with row crops that would take less water or leaving them open and just having event space” (ibid). Another farm family had scaled down their irrigated acreage and converted part of a hay field into a you-pick berry patch—planting strawberries, blueberries, and raspberries—with the hope that the public’s willingness to pay for an agricultural experience would help offset lost alfalfa sales (author interview 2019).

For some farmers, planning for the future meant focusing on concerns about how their children would be able to continue farming. When I asked about climate change beliefs, one multi-species livestock farmer said, “My poor kids. You know, that’s why I love what I do, is that we’re trying to be carbon positive and using animals to do these things. I mean, we really take that into consideration” (author interview 2019). While this farmer was unique among those in my sample for his willingness to discuss his belief in climate change, his concerns for the future were widely

shared. Nearly every farmer I spoke with shared hope that the next generation would continue farming and worry that droughts and wildfires—among other factors that make farming challenging—would impede that goal.

These are the stakes. For farmers, nothing less than the reproduction of their cultural livelihoods is threatened. In a tight-knit community that defines success by the next generation’s capacity to keep farming, it is not just the future that is threatened by compounding economic and political crises, by the climate, by the adaptive changes they must make—it’s a present predicated on the capacity to reproduce this livelihood in the future. In one multigenerational farm family, the mother—in her 40s—said, “One thing coming down the road that young farmers are going to have to be really, really, really careful about, is water” (author interview 2018). Talking about droughts, she said, “I could guarantee you we’re a dying breed because it’s dusty dirty work with no guarantee out here, and you may or may not make it, but we’re just being wiped out” (ibid). With her two teenage sons sitting quietly at the kitchen table as we talked, she added, “It’s not appealing to young people, to step into the strain and the struggle and the heartache in the years of just having to persevere through it” (ibid).

Box 1. Near family farm loss

For farmers who lived through it, the 2001 drought was deeply etched in people’s memories. That drought highlighted how the climate farmers already live with can threaten reproduction of their cultural livelihood. One conversation remains particularly vivid in my mind.

It was a cool November evening in 2019 on my last trip to Siskiyou before the COVID-19 pandemic struck the Siskiyou Mountains region. I had been driving all around the county that day, trying to fit in multiple interviews. Dusk was falling as I drove down a quiet valley road when my phone rang. It was a cow/calf farmer I had been trying to connect with for several years (Fig. 4). She sounded surprisingly young. I could hear small children and a TV in the background. She invited me for dinner.

She and her husband were in their 20s, they had both grown up in farming families that traced their roots in the county back at least five generations. Sitting at their laminate kitchen peninsula, I politely sipped a glass of Franzia I had tried to refuse, while her husband fried pork chops on a plug-in camp stove. The young woman told me about her experience being a kid on a farm during that 2001 drought, and how close her parents came to selling the farm.

“It never happened,” she explained. “But the



Figure 4: Bulls in a field in the Shasta Valley (Photo by author).

stress. My God. I think there was heart attacks that came out of that. You know, people just going 'this is it.' And it was discouraging for the next generation to be growing up around parents that were so stressed out about that kind of thing and thinking, 'Well, I really don't have a future here.' A lot of the kids just left really. [A] whole bunch of them saw the writing on the wall, or thought they saw it, that there was no future here. So, they just left. You know, that was from all that stress. It's just a big, big burden" (author interview 2019).

I have not lived through a drought like that, but I have been a kid with a farming parent in crisis. I recognized in this stranger's words a multigenerational story of precarity, fear and stress that drove the next generation away. That was why I was there, in fact.

But while many farming families hoped careers off the farm, or non-production enterprises on the farm, would allow them to continue farming, others adopted the transformational livelihood adaptation of leaving agriculture altogether.

Farmers and agricultural advisors noted spikes in land sales—both voluntary and because of bankruptcy—during intense drought periods. Like economic crises, droughts create opportunities for community trauma of debt and dispossession for some, and accumulation for others (Dudley 2000). Multiple farmers I interviewed had purchased land as neighbors sold their farms during droughts, especially in the 2001 and 2011–2014 drought peaks. While foreclosures did occur, few farmers were willing to discuss these openly, and tended to emphasize farmers' agency in farm sales. Many farmers told me that they had considering selling during droughts. Describing his experience of the 2011–2014 drought, one young cattle rancher said, "All the springs dried up, so we had no water up on the range. We attempted to haul water and my God, I didn't think cows could drink that much water, that was a fiasco. I told dad 'If that ever happens again,' I said 'I'm gonna sell the cows.'" He concluded: "It was a mess" (author interview 2019). Several farmers told me that Cooperative Extension Advisors had warned ranchers not to try to feed their way through the drought, spurring many to downsize their herds.⁵³

An NRCS conservationist described common practices the farmers she worked with implemented in response to drought. She said some farmers reduce their herds, or reduce their irrigated acreage to focus on water use on prime agricultural land, and others simply sell (author interview 2017). "That's one drought alternative, 'I'm going to move to Idaho,'⁵⁴ this is what makes or breaks me.' A lot of people went under because of the drought. I can think of"—she quickly named four multigenerational farm names, ticking off each on her fingers and continued. "They went out of business due to drought. And I think succession is part of it, too... Drought is the nail in the coffin" (ibid). Another NRCS conservationist noted that, "You saw a lot of generational transfer spurred by droughts" (author interview 2019). Sometimes that change of

⁵³ "Feeding" one's way through drought was how farmers and agricultural advisors described the practices of feeding hay, instead of grass on pasture, that was often purchased from off-farm during droughts when the grass on the farm did not grow well enough to provide forage. Farms and advisors described this as an expensive coping strategy that few could afford, especially during long droughts.

⁵⁴ Farmers and farm advisors alike often mentioned Idaho as the antithesis to California in terms of water regulations. I learned to recognize Idaho's presentation as an alternative to California as a reference to water scarcity being a political issue. When I asked, "Why Idaho?" Siskiyou residents described a lack of environmental regulations there.

ownership was within families, and sometimes it was not. One mixed livestock farmer reflected, “You actually saw some people here selling off a lot of cattle and driving a brand-new pickup in the peak of the drought. You know, if you’re going to cash in your chips,” he suggested, “this is a good opportunity for us to walk away” (author interview 2019).

Adaptation summary

Farmers in Siskiyou County were adapting to climate impacts irrespective of how they described weather events and trends, or whether they believed in anthropogenic climate change. These farmers implemented, in addition to short-term adaptive measures in response to climate change impacts (Yung et al. 2015; Takahashi, Mano, and Otsuka 2019), a range of long-term adaptive management practices and livelihood strategies. Some expressed either the intent to continue these strategies into the future, or the sentiment that it would be impossible to return to a previous state, even after the drought or smoke had abated. As climate impacts increase in intensity and shocks persist and become chronic stressors, researchers find that more and more farmers and ranchers recognize that the physical risks of impacts like drought, irrespective of their beliefs about its cause, will intensify in the future, and these farmers proactively adopt practices anticipating those changes (Findlater et al. 2018; Woodmansee et al. 2021).

While farmers elsewhere have identified economic factors like reduced costs and increased efficiency as the primary motivation for adopting conservation (Burke and Running 2019) and climate mitigation practices (Davidson et al. 2019), these farmers suggest a deeper set of core motivations. Siskiyou County farmers did want to reduce their water costs, but doing so was not driven solely by a desire to save money (economic rationality) or save water (conservation motivation). Many described a broader motivational orientation in response to confounding crises, a tendency predicated on structuring their farming operations so that they could exert more control over their means of production (e.g., water) and make decisions more flexibly and independently (with less state and market intervention), so that the next generation might be able to continue farming.

Public agricultural advisors reinforce farmers’ climate change beliefs, missing opportunities to support wider climate change action

In addition to interviewing farmers and ranchers, I also interviewed 31 public agricultural advisors (see methods appendix). Public agricultural advisors often shared and defended the perceptions about climate change that the majority of farmers expressed. Twenty-two of these advisors worked for the USDA Farm Service Agency (FSA), USDA Natural Resources Conservation Service (NRCS), or University of California Cooperative Extension. The remaining nine were staff at local Resource Conservation Districts (RCD) or county employees who worked directly with farmers like Siskiyou County Agricultural Commissioners.⁵⁵

⁵⁵ Resource conservation districts are independent, public-private partnership organizations that operate within a nonprofit structure, sometimes supporting farmers through funding and technical assistance for conservation projects. County Agricultural Commissioners are also not traditional service providers as their role includes regulation and code enforcement. Yet both of these groups of key informants do advise farmers.

Across these affiliations, local-level advisors⁵⁶ were reluctant to discuss climate change. When they did, it was often in ways that reinforced dominant farmer ideologies. For example, when asked about climate change, a county Cooperative Extension Advisor responded, “I mean, it’s changing, it’s constantly changing, it’s been changing for millions of years. Farmers have constantly been adapting to that change,” reinforcing the common assertion by farmers that what they are experiencing is a normal and natural weather cycle that farmers can continue to cope with as they have historically (author interview 2017). Another agricultural advisor said that, “Most farmers would love to see global warming” (author interview 2018), a comment that minimizes the negative impacts of climate change and lends legitimacy to scientifically inaccurate narratives of an overall net positive impact of climate change (Takahashi, Mano, and Otsuka 2019).

Simultaneously, many agricultural advisors asserted that farmers recognize the weather is changing. A natural resources conservationist said, for example, “Ubiquitously, people say things aren’t how they used to be, but won’t admit climate change. They recognize the changes but use different vocabulary” (author interview 2019). A state-wide Cooperative Extension Advisor familiar with the region said, “It gets painted with a broad brush that they’re conservative and don’t believe in climate change, but they’ve been tracking the weather for a long time and whatever name you put to it, they know it’s changing” (author interview 2020).

Local staff at these public institutions consistently reiterated the high degree of weather variability in the region. Several agricultural advisors asserted that hay, beef, and timber were the only products suitable to the region’s harsh climate, despite widespread successful production of diverse crops (including orchard fruits, mixed vegetables, and seed crops) and livestock species (including chickens, pigs, dairy, and small ruminants).

Farmers who rely on off-farm incomes, hold minoritized identities, or operate unusual farms (in terms of the crops they grow or the field management practices they use) are then excluded from institutional benefits and processes. County-level Cooperative Extension staff work with local government leaders and “model” farmers to set extension priorities and practices (McDowell 2001; Taylor and Bhasme 2018). Local agricultural advisors often described farmers who relied on off-farm income or grew crops other than hay or raised livestock other than beef cattle as “hobby farmers” (author interview 2019) and “not our clientele” (author interview 2018), even when these producers identified farming as their primary occupation. (Over 80 percent of US farm households rely on off-farm income. See Bunge and Newman 2018.)

Several farmers, all of them women, who had off-farm employment or diversified farm enterprises, described their experiences of being dismissed by public institution staff. A woman who was a full-time organic vegetable farmer said, “The local ag extension, they don’t really understand mixed vegetable farming. I don’t feel like they’re organic leaning. So I kind of gave up with them” (author interview 2018). A young woman who raised pastured livestock told me how, “The first few times I went to NRCS I got nowhere,” but then she described how other farmers she knew “coached” her on how to present her farm (author interview 2018). “The next

⁵⁶ About half of the Cooperative Extension Advisors I interviewed worked at the state level or in other nearby regions in northern California. Those who worked at the state level were generally more open to discussing climate change with me, although described avoiding the topic with most farmers they work with.

time I went in to the NRCS I could talk their language, [but] it has been a bit of a struggle. I don't know why, but we seem to have some kind of a weirdo badge that we wear when we go in... It's almost like they see us, and we don't get attention" (ibid). Eventually, she said, she was able to get funding assistance for her pasture rotation fencing, but, she said, "Boy, that was a struggle with them" (ibid). A young woman, who raised pastured poultry described her experience trying to get disaster relief payments. After smoke blanketed the Shasta Valley for weeks in the summer of 2018, "FSA was like, 'If you're affected by the fires, call us,' and so I called them and they said, 'Oh, well, just say it's smoked duck'... and they thought that was so funny. That's like how it is to be a beginning farmer and you're not raising cows... How can you say that to someone? I mean this is some serious money and it made me really angry" (author interview 2019). Another woman described her experience trying to get a loan from FSA for her farm business, "Everybody I talked to [at the local FSA office] kind of gave me that, 'Oh isn't that cute'" (author interview 2017). The farmer described that she felt that the "conservative government farming agency in this community" did not treat her or her farm seriously or respectfully. "If you're trying to do anything that varies from the conventional norm, I don't want to call it condescending, but they just don't take you seriously. And I feel very seriously about it. I don't think what I'm doing is 'cute'" (ibid).

By suggesting that livelihood diversification deviates from the model of a good or legitimate farmer, institutional actors create opportunities for what Kathryn Dudley (2000) calls 'moral boundaries' to be drawn that stigmatize certain producers. Delegitimizing farmers who rely on off-farm income affirms a narrow group of public resource beneficiaries, and excludes minoritized farmers like women and farmers of color who most often seek off-farm wage work in attempts to persist despite systematic inequities (Vogeler 1981; Barlett et al. 1999; Buttel 2005).

Another way that agricultural advisors differentiate farmers is whether people growing crops are considered farmers at all. For example, cannabis cultivation, according to a Siskiyou County Agricultural Commissioner "is not agriculture in any way, shape, or form" (author interview quoted in Polson and Petersen-Rockney 2019, 1). FSA, NRCS, and Cooperative Extension staff said that they cannot provide services or assistance to farmers who grew cannabis because cannabis remains classified as a Schedule I drug by the federal government, which provides funding for these positions. In a county that has associated cannabis cultivation with Hmong farmers (despite a long history of white cannabis growers, see Polson and Petersen-Rockney 2019), these social stigmas and institutional boundaries serve to deny public agricultural assistance to Hmong farmers. Not a single Hmong farmer I spoke to had been able to access supports or services offered to establishment farmers (author interviews 2018-2022). Not only do these exclusions exacerbate agricultural differentiation, but they also highlight missed opportunities for institutional actors to help farmers transition towards more diversified practices and strategies in the context of rapidly changing ecological conditions.

Charged with providing farmers with resources and information (Fig. 5), public agricultural advisors are uniquely positioned to aid agricultural responses to climate change (Grantham et al. 2017; Prokopy et al. 2015b; Schattman et al. 2018). Across the rural US, institutional staff engagement with climate change remains limited (Haigh et al. 2015; Grantham et al. 2017). Surveys of agricultural advisors, for example, have found that many express climate skepticism

themselves (Haigh et al. 2015; Arbuckle et al. 2013), are concerned that discussing climate change will alienate the farmers they identify as their clientele (Grantham et al. 2017), and lack resources and confidence to support farmers in responding to climate change (Wiener et al. 2020). “When power is vested in interests that favor the status quo” warns Debra Davidson (2016), institutions “can reinforce traditional cultural norms and practices at the expense of innovation” (p. 434).



Figure 5. Mural painted on the outside of the local Cooperative Extension building. Note that the types of agriculture depicted are beef cattle and alfalfa production; the interaction between two men, a knowledge holder and receiver; and the capital-intensive infrastructure of the pivot irrigation system and large tractor (Photo by author in 2019).

Agricultural advisor attitudes towards climate programming vary by role and geography. For example, public actors who provide financial planning services are less likely to integrate climate change into their work than advisors who work with farmers on conservation or agronomy (Haigh et al. 2015). In 2017, less than half of Cooperative Extension Advisors in California included climate change in their programming when surveyed (Grantham et al. 2017), whereas farm advisors in Vermont, where climate change belief among farmers is more widely shared, do provide climate change programming (Schattman et al. 2018).

In Siskiyou County, public agricultural advisors across institutional affiliation uniformly expressed that they do not discuss climate change with their clientele, do not include explicit climate change adaptation or mitigation in their work, and have no intention of offering climate change programming in the future. While, I argue, this is partly due to individual beliefs and perceptions of climate change shared with establishment farmers in Siskiyou County, agricultural advisors in the region, like those surveyed across California (e.g., see Grantham et al. 2017), described also being overburdened with limited resources. Without sufficient institutional support, staffing, and funding, the capacity of individual advisors is limited, and they may not be able to assist more farmers or offer additional programming even if they did hold those goals.

These public actors play an important role in shaping farmers’ values, beliefs, and norms

(Davidson 2016). As I found in Siskiyou County, agricultural advisors often share similar cultural values and ideology with the farmers they work with (Wojcik et al. 2014; Prokopy et al. 2015b; Schattman et al. 2018) and describe having limited capacity and institutional support to expand the assistance they provide (see also Grantham et al. 2017). Sharing cognitive factors, like beliefs and perceptions, can be critical in building trust in institutions as information sources (Pretty 2003), which—where it exists—can be a significant motivator of farmer climate action (Woodmansee et al. 2021). Trust between farmers and advisors is especially important for collaboration around topics like climate change that are culturally sensitive (Schattman et al. 2017), contentious (Inman et al. 2018), or associated with uncertainty (Schewe and Stuart 2017). But by reflecting the beliefs and perceptions of the most outspoken farmers, agricultural advisors may reinforce a narrow set of acceptable ideas and practices and miss a range of possible responses to climate change (Pretty 2013), retrench scientifically inaccurate information like denial of anthropogenic causes. These findings also show how the farmers who may most benefit from public support in adapting to climate change, who have been systematically excluded from these supports, are experiencing a new wave of exclusions in the context of climate change. In Siskiyou County, women and farmers of color described being denied parity in access to public technical and financial assistance. As climate change reorganized rural relationships, these institutional processes may be more inclusive, and benefits equitably distributed, or ongoing patterns of exclusion exacerbated.

Discussion of implications

Decoupling climate change belief and action

Madhuri and Sharma (2020) conceptualize farmers' perceptions of climate change as falling into three dimensions: awareness, understanding, and experience. Farmers in Siskiyou County are aware that the climate is changing and are experiencing its impacts and responding to them. Results of this study suggest that multiple understandings of climate change do not preclude climate action. The fact that crop and livestock farmers in Siskiyou County are implementing varied adaptation strategies in response to climate impacts, while simultaneously expressing skepticism of climate science, adds to mounting evidence that decouples the relationship between climate belief and action (Yung et al. 2015; Schattman, Conner, and Méndez 2016; Davidson et al. 2019; Takahashi, Mano, and Otsuka 2019). These findings suggest that a scientifically correct conceptual understanding of climate change may be less central to urgently needed climate change action than previously thought.

The majority of farmers I interviewed for this study in Siskiyou County acknowledged and described the region's high degree of weather variability and climate signals of increasing temperature and decreasing precipitation that are emerging above the noise of weather variability. But like farmers elsewhere in the US, most farmers in this study did not relate those trends to anthropogenic climate change. Instead, farmers described the changes they experienced in terms of the region's harsh geography and the result of ongoing weather cycles.

Beliefs about climate change inform adaptation. I found that belief or disbelief in climate change's anthropogenic causes was not central to farmers themselves in deciding whether or how

to respond to droughts and wildfires. Both the few farmers who stated their belief in anthropogenic climate change and the many who stated disbelief were planning for futures marked by more persistent and extreme heat and dryness.

Though I found little evidence that experiences of physical climate change impacts shifted farmers' belief in its anthropogenic causes, these experiences did change farmers' actions. Crop and livestock farmers in Siskiyou County are implementing climate adaptation and mitigation practices irrespective of their stated (dis)belief in climate science. Decoupling climate belief and action opens new paradigms of possibility wherein policymakers and advisors can move past notions that farmers must be "convinced" of climate change before they adapt. Leaving belief aside, diverse stakeholders can find common ground by, for example, focusing on impacts instead of causes, and solutions instead of blame.

Farmers hold diverse and dynamic identities and motivations (Hyland et al. 2016), as well as understandings of their experiences with weather and climate (Karki et al. 2019). Different farmers can hold multiple interpretations and narratives of shared experiences, as some farmers assigned drought to climate change and others did not. Individual farmers can also hold simultaneous mental models, as many did in this study. Many farmers I spoke to, for instance, described drought as part of weather cycles that are changing and as naturally occurring random events. Ambiguity, and the multiple interpretations it allows at the community and individual levels, provides opportunities for convergent action for divergent reasons (Eisenberg 1984; Davenport and Leitch 2005). If farmers reduce their water use in the face of drought, does it matter if some did so to save money on electricity, some did so to keep more water in their soil, and some did so because they believe in climate change?

The physical risks of climate change are just one factor driving farmers to change their farm practices and livelihood strategies, along with market pressures and household considerations. It is, of course, possible that belief in anthropogenic climate change spurs some farmers to adapt more, earlier, or in different ways than their peers who deny climate change's anthropogenic origins, a comparison that would lend itself to further quantitative work. That said, it is important not to overstate the potential influence of belief on action given that intention to adapt and actual adaptation are poorly correlated (Niles et al. 2015a). An assumption that climate action is predicated on belief in anthropogenic climate change narrows the range of potential solutions to those that try to educate people and change their beliefs, which are notoriously ineffective (Calo 2018).

Yet crises demand action, and farmers must adapt to maintain their livelihoods. Today's reality of extreme climate in western North America is the vanguard of climate change signals that will rise above weather variability in other regions soon (IPCC 2021). In this context, it is unsurprising that farmers, even those who express skepticism of the culpability of human actions in climate change, are already adapting to it. In summary, these findings highlight that what is important in this context is not whether belief and action around climate change connect, but rather how differently positioned farmers' experiences and perceptions of climate change are shaped by cognitive factors. Experiences, beliefs, and perceptions of climate change also shape the practices and strategies farmers pursue, which are often gendered. Agricultural advisors often reinforce the climate change perceptions of "model" farmers, those who institutional actors

determine as their clientele and who help shape the programming and priorities public resources are assigned to. Women and farmers of color continue to be denied parity in access to public resources, making them more vulnerable to climate change.

Climate change impacts are interconnected with other challenges farmers face

Although farmers I interviewed rarely identified climate change as a primary crisis in their lives, they consistently described three ways climate change was pervasive across their lives. First, climate change is largely driven by the same systems and processes of gain, circulation, and accumulation of capital that produce the more proximate crises farmers in Siskiyou County face, like interlocking market concentration, homogenization, and consolidation. Second, the impacts of climate extremes are experienced directly by farmers in Siskiyou County as acute shocks, like catastrophic wildfires, or as ongoing stressors, like persistent drought, although many farmers in the region identify these ecological crises as failures of policy (Chapter 5). Third, climate change exacerbates the myriad challenges farmers already face, adding to a cumulative sense of hardship. For example, low cattle market prices, drought, and generational transition can aggregate to a crisis zenith that results not only in farmers' loss of livelihood, but also the loss of their capacity to reproduce their cultural livelihood. Ultimately, whether or not farmers say that they "believe" in anthropogenic climate change, or entangle its origins with the systems that produce broader livelihood vulnerabilities, they must adapt. Moments when challenges—understood as related to climate change or not—become acute often directly catalyze change in farm management practices or livelihood strategies.

Categorizing crises as economic, ecological, or social (e.g., see Lyson 2007) may be useful, but fraught (Haraway 1988). While it is helpful to distinguish events by category in an attempt to make meaning of the world (Burawoy 1998), many of the crises Siskiyou farmers described could be assigned to multiple categories. For example, the listing of various wildlife species on the Endangered Species Act (ESA) was often described as triggering social and political crisis, as well as constraining farmers' relationships with the land (Chapter 2). Some farmers considered ESA listings to be social crises that threatened their cultural livelihood reproduction. Certainly, the majority attributed ESA listings to political events exacerbating, or even producing, economic crises on their farms.

Like Eakin et al. (2016) found in their study of farmers in Arizona, farmers in Siskiyou County often described policy changes—like California's Sustainable Groundwater Management Act and heightened emission standards—as more proximate in shaping their farm level-decisions and a greater threat to their future viability than climate change. But while Eakin et al. (2016) found these policy pressures posed a barrier to farmers' perceptions of their ability to adapt to climate change, I found that changing environmental regulations were adding to the chorus of motivations calling for farmers to, for example, reduce water use or emissions. A young cattle and forage farmer told me he had started changing his water management practices after the local Farm Bureau had, as he phrased it, "alerted" its members that water regulations were "going to be forced upon us from [the seat of state government in] Sacramento" (author interview 2019).

As other studies have found (Lane et al. 2018; Kuehne 2014), farmers in Siskiyou County may recognize and be concerned about changing frequency and extremes of weather events, but these

concerns are often overshadowed by more pressing and immediate market forces that threaten their persistence. Farmers in Siskiyou County cited market inequities—like rising input prices and low commodity prices—along with rapidly rising land prices and government regulations that restricted water access as issues more central to their decision-making than the rising risks of droughts, wildfires, or heatwaves.

These entangled crises threaten core identities—both personal and cultural. In a study with ranchers in rural Colorado, for example, residents identified cultural loss of their way of life as the greatest threat of climate change, entangling concerns about a hotter, drier future with fears of development and urbanization that would, together, lead to loss of cultural identity (Murphy et al. 2017). To save the "character" of their community, residents were willing to consider "previously inconceivable or economically irrational" adaptations and engage in conversations about politically unpalatable necessities of climate change, as long as discussions of its causes were off the table (Murphy et al. 2017, 447).

It is nearly impossible, even for farmers themselves, to separate adaption to these socio-economic changes from adaptation to climate change, which is also impacting and interacting with these dynamics (Adger et al. 2005). There are certainly tradeoffs and maladaptive responses to some crises that exacerbate others, such as digging deeper wells to extract more groundwater during drought. Yet many changes farmers implement in response to, for example, market disparity and economic precarity, also increase farmers' capacity to adapt to climate change (Kuehne 2014; Chatrchyan et al. 2017). A growing number of empirical studies have found that farmers are implementing field management practices that increase adaptive capacity and offer mitigation potential, not because of climate change, but instead because these practices offer economic benefits (e.g., White and Selfa 2013; Lane et al. 2018; Davidson et al. 2019; De Master et al. 2019). It may not have mattered whether Siskiyou farmers implemented water reduction practices to reduce pumping costs, to satisfy regulatory burdens, or to counter risks of drought. As Kuehne (2014) pointed out in a study of farmers experiencing extreme drought in Australia, when farmers are in crisis, they may not have the financial and emotional resources to make long-term decisions, but that does not mean that the coping strategies they adopt are maladaptive.

Reconceptualizing adaptation as process

The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as the "*process of adjustment to actual or expected climate and its effects*" that, in human systems, "can be anticipatory or reactive" (IPCC 2022, 7, emphasis added). Yet scholarship on individual land managers' behavioral adaptation often divides responses to climate change into "reactive" coping and "proactive" planning categories (Roche 2016; Fischer 2019). Adaptation scholars within this orientation argue that adaptation is *necessarily* anticipatory, and that making a distinction between adaptation and reactive coping strategies is critical for societies to evaluate and adjust to ongoing change (Adger et al. 2005). Fischer (2019) warns that policy "initiatives that conflate coping with adaptation may be inefficient and potentially even counterproductive because they can foster short-term, temporary adjustments rather than enduring behavioral change" (p. 161).

This distinction has a temporal element, wherein adaptation is understood as a long-term strategy and coping as a short-term, even temporary, strategy (Adger et al. 2005; Fischer 2019). The intent and quality of action, and their outcomes, can also be differentiated. Coping strategies may address immediate deleterious impacts while leading to maladaptation that exacerbates underlying causes, long-term impacts, or vulnerabilities of other groups (Koontz et al. 2015). These scholars argue that anticipatory, planned adaptations lead to more environmentally sustainable and socially equitable outcomes because decision makers and institutions can more fully include multiple stakeholders and balance tradeoffs between different response actions (Adger et al. 2005; Koontz et al. 2015; Fischer 2019).

Alternatively, some scholars argue for a broader conceptualization of adaptation, suggesting that adaptation can be defined in terms of different stages—from coping with change, to managing risk, to systemic transformation (Chhetri et al. 2019). Others point out that individual incremental adaptations can aggregate over time and through collective action, leading to transformational adaptation (Wilson et al. 2020).

As this research on Siskiyou County demonstrates, adaptations can include both reacting to current crises and preparing for future crises, and this distinction is not always crisp. The everyday reality for many farmers in Siskiyou is that adaptation is a *process* that occurs on a spectrum with directional movement (Fig. 6). Academic distinctions that exclude reactive coping strategies from adaptation fail to fully consider farmers’ experiences of change and adaptation, and are not highly relevant in agricultural contexts where short-term changes shape, and often become, long-term changes.

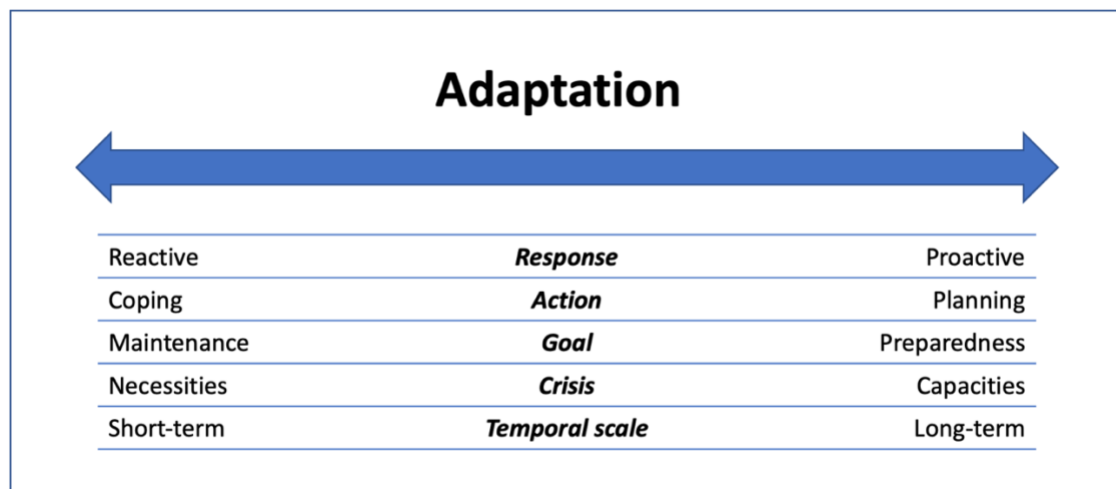


Figure 6: A conceptual diagram represents adaptation as process, with key dynamics commonly described in the literature as being in opposition placed on a spectrum rather than represented as categories. This conceptualization of adaptation is informed by farmer experiences and may be more legible to farmers and ranchers (Graphic by author, published in Saliman and Petersen-Rockney 2022).

As others have documented, agricultural adaptations often start as coping strategies—such as improving infrastructure and building soil—and become longer term, planned strategies (Morton 2007; Howden et al. 2007; Altieri et al. 2015). This is especially true when disturbances are

experienced as short-term acute shocks, often prompting reactive tactical adjustments within a season. In a severe drought, for example, ranchers in Siskiyou often reduced their herd size or borrowed funds via a loan (or received federal disaster relief payments) to purchase off-farm feed. Many practices that began as reactive coping strategies—from increasing pasture rotations, to adding new enterprises, to seeking off-farm employment—became longer-term and more planned adaptations.

I found three primary explanations or mechanisms that shifted farmers' adaptation to the right in figure six. First, this transition in adaptation approach sometimes occurred as farmers observed positive outcomes of short-term adaptations, like improved soil quality and moisture holding capacity after incorporating new crop or livestock rotations during a drought year, and decided to continue and expand those adaptations. Second, this transition to more anticipatory horizons sometimes occurred because farmers were unable to return to previous practices as, for example, they gave up land leases that could not be regained. Third, farmers' perceptions of climate shifted to longer-term horizons (without engaging climate change, *per se*) as droughts and smoke persisted. No longer understood as acute shocks that would go away, stressors catalyzed more proactive, planned, and strategic adaptation (Fischer 2019). What starts a shock (e.g., drought) may become an ongoing or recurring stress (e.g., desertification), with long-term ecological and political shifts in water access that catalyze farmers to change their enterprises to reduce water loss.

The mechanisms that shift adaptation processes often work in concert. What may start as a reactive, short-term coping strategy, such as destocking during a drought, becomes a proactive, long-term, planned strategy as drought persists and lower stocking densities facilitate greater flexibility and nimbleness, key attributes of preparedness that prove useful in a reality of uncertainty. Ultimately these new attributes become planned into the farm operation. As Haigh et al. (2019) noted, crisis *necessitates* response to cope through it and, only by adapting to immediate crises, can farmers have the *capacity* that allows for planning for future crises.

Framing adaptation conceptualized as inclusive of the suite of practices and strategies farmers employ to respond to various dynamics may also be more explicable and welcoming to farmers who are already engaged in ongoing *processes* of adaptation. Farmers continuously and iteratively adjust their operations to short and long-term changes and their outcomes. Farmers' goals vary, too—some may seek to maintain, or return to, their current operation structure, others may seek to transition their farms to a new, even wholly transformed, state. Rather than categorizing climate change actions into separate coping and adapting strategies, organizing adaptation practices by their processual direction may be more legible within farmers' lived experience (Fig. 4). Establishing conceptual clarity around adaptation in farming systems, and re-focusing on adaptation as process, may center farmers' experiences in climate change discourse.

Conclusion

New programs that increase the pace and scale of adaptation and mitigation are urgently needed (Findlater et al. 2018). To adapt effectively and equitably, my work suggests that researchers and

policymakers must develop place-based strategies (Rojas-Downing et al. 2017) and include farmers' experiences and beliefs in adaptation discourse (Soubry, Sherren, and Thornton 2020).

Research focused on climate change belief as the linchpin of climate action has limited the scope of policies and services designed to promote climate action (Church et al. 2018). Following earlier findings—in a different ecological and discursive climate reality than today—that climate belief and action were tightly coupled, programming to encourage climate change adaptation and mitigation in agriculture has largely focused on educating farmers about climate change (Arbuckle et al. 2013; Le Dang et al. 2014).

Educational efforts regarding climate science are laudable, but may be challenging, ineffective, and can even deepen expert-lay divisions (Fricker 2002) and backfire in some situations (Weber 2010). Such efforts operate within a knowledge-deficit model, which contrasts knowledgeable experts with ignorant publics in need of information, particularly regarding scientific topics (Calo 2018). Agnostic to embedded power relations and privileging of certain types of knowledge above others (McNeil 2013), interventions within this framework are often technocratic (Brunk 2006) and rarely effective in changing attitudes or behaviors (Durant et al. 2000). In farming systems, limited resource access (Ranjan et al. 2019; Knapp and Fernandez-Gimenez 2009), insecure land tenure (Inman et al. 2018), and contract lock-in (Schewe and Stuart 2017) pose significant structural limits to farmer climate action. Efforts to educate farmers in order to change their minds and inspire certain actions routinely fail to address structural barriers to change (van Huysen, Hansen, and Tall 2018; Calo 2018), or socio-cultural barriers like regional norms (Fish 2014).

The outcomes of climate education also vary widely by socio-cultural context. Scientific literacy and climate change concerns are correlated among people who identify as liberal, but climate literacy does little to change climate beliefs among conservatives (Kahan et al. 2012). Furthermore, a wide “adoption gap” remains between environmental concern and action across political identities (Barr 2006).

Interventions that try to convince farmers that climate change is real and human-caused—by *agriculture*, no less—can exacerbate social risks farmers face related to climate change (see Chapter 5). Relatedly, farmers in Siskiyou County expressed concern about public perceptions and portrayals of farmers as environmentally bad actors. As Lane et al. (2018) noted, farmers in the northeastern US perceived “misinformed societal assumptions about agriculture” (p. 203) to be a greater risk to their long-term economic viability than climate change. Narratives of environmental harm—across the globe and historically—have tended to exacerbate farmer inequities and serve state and market interests of, for example, removing smallholders from the land to expand large holder agriculture (Thompson 1975; Peluso 1992; Petersen-Rockney, Dev, Lu 2022).⁵⁷

As bridges between farmers and university science, Cooperative Extension advisors can be

⁵⁷ The disparate impacts of environmental harm narratives across farming groups, especially impacts on Hmong Farmers in Siskiyou County, deserves longer treatment than this dissertation can provide. I have offered evidence and analysis on this topic elsewhere (see Lu, Dev, Petersen-Rockney 2022) and will continue to write about these disparities in the near future.

important conduits of information (Haigh et al. 2015). While scholars recognize “that there will not be one silver bullet to increase agricultural resiliency or reduce emissions from all farms” and encourage “two-way information sharing” between farmers and agricultural advisors (Chatrchyan et al. 2017, 16), climate change programming for farmers still often operates as if farmers need to be educated and convinced of anthropogenic climate science to change their practices. My findings suggest that it may be more crucial, in the highly politically polarized landscape of places like Siskiyou County, for information to flow the other direction. Agricultural advisors can help university researchers better understand and incorporate farmer perceptions into their work on climate science, including programming communication that is more culturally appropriate to farmers on the ground, who often identify climate change as a political, not scientific, issue.

Instead, institutional actors can set belief aside and support farmers in responding to the challenges they face—climate-induced and otherwise. Importantly, women farmers and farmers of color may struggle to engage with institutions like Cooperative Extension that they perceive as serving primarily established, white, male, productivist farmers. As farmers adopt new farming practices and livelihood strategies in response to climate change impacts—especially with women increasingly engaging in permanent off-farm work—agricultural advisors have an opportunity to support these farmers and explicitly include them in their clientele. The University of California’s Small Farm Program, which formally existed in California from 1979-2010, could serve as a model for service provisioning that supports a greater diversity of farmers and farming enterprises (Warnert and McCue 1999). While the Small Farm Program might have been critiqued as what Vogeler (1981) called “ameliorative efforts, designed to do what they can for people as they are, rather than change their situation” (p. 125), the Small Farm Program served a crucial role in slowing the pace of change for smaller scale farmers during the 1980s farm crisis. As rural places reorganize in response to climate change, agricultural advisors may similarly play a crucial role in slowing the rate of change, which is “often of no less importance than the direction [of change] itself” (Polanyi 1944, 39).

The results presented here support growing evidence that efforts to support farmers’ climate action may be more effective if they avoid discussing the causes of climate change and frame action in positive terms (Chatrchyan et al. 2017; Davidson et al. 2019). Instead of talking about climate change, communication around normalcy (normal vs. abnormal conditions relative to historic climate), temporality (temporary vs. permanent changes), and co-benefits of climate action may be more relevant to farmers (Findlater, Satterfield, and Kandlikar 2019). Additionally, farmers—like the US public more broadly (Kahan et al. 2012)—place greater trust in people they believe share their core values, and generally trust their peers more than institutional actors (Arbuckle et al. 2015a). These understandings have driven promising shifts away from institutional actors serving as sole knowledge experts to actors facilitating farmer-to-farmer knowledge exchange (Coquil et al. 2018; Sutherland & Marchand 2021).

Taking farmers’ varied experiences and perceptions as serious contributions to academic inquiry reorients our focus onto deeper motivations that expand future possibilities. Farmers in Siskiyou County articulated well-documented proximate drivers of when, why, and how they changed their farms in response to crises, motivations like saving time and money and reducing regulatory burdens (Lane et al. 2018; Davidson et al. 2019). Farmers in Siskiyou County also

articulated two interconnected meta-motivations that undergird these outcome-oriented goals: regaining control over their means of production and building capacity for cultural livelihood reproduction.

With these two deep and broad goals in mind, I now turn to the next chapter on the risks that farmers perceive in association with climate change (Chapter 5). From there, I will turn to the county level government actors who are grappling with how to define and defend the boundaries of acceptable agriculture as farming changes (Chapter 6).

Chapter Five: Risk Perceptions of Climate Change

Introduction

On a hot June day in northern California, I stood with a rancher in the cool shade of his barn, looking out over green irrigated cattle pastures that ended abruptly at the base of dry brown hills. As I plied him with questions about weather and droughts, over an hour into our conversation, he stopped me. He said, “I want you to know that I do believe in climate change” (author interview 2018). He told me about the changes in weather patterns that he has observed over the past four decades. He described how his ranch has been impacted by longer and more intense droughts, smaller snowpack that melts earlier, and smoke from wildfires that now routinely burns dense, dry forests each summer. When I asked how he responded to these crises, particularly what farm management practices he started or stopped using, he paused. “It’s important,” he said, looking down at his cowboy boots and scuffing the gravel at our feet, “that you not tell my neighbors that I believe in climate change” (ibid).

Then the rancher told me that in response to the 2001 drought he had implemented some new agroecological management practices, like rapid pasture rotation of his cattle to increase organic matter and water holding capacity in his soils. In response, he said, other beef ranchers in the community ostracized him. Indeed, I had spoken to some of these other farmers who described this rancher as a “weirdo” and a “hippy” who “people laughed at” when he began shifting how he farmed (author interview 2018). Since the 2001 drought, this rancher said that he has been more careful about how open he is about his practices and beliefs that deviate from widely understood local norms. His caution paid off. Now, two decades later, he said that he finally feels accepted as a member of local farming groups like the Farm Bureau and CattleMen’s Association. He once again has a good working relationship with agricultural advisors at public institutions like Cooperative Extension and the USDA Farm Service Agency (FSA). He can now access available technical assistance and funding resources, like disaster relief payments during droughts. Perhaps most importantly, he benefits from positive relationships with many of his fellow ranchers who will herd his cows home when they escape, or let him borrow a hay rake when his breaks, or lend a helping hand on branding day.

There are many reasons why someone might be excluded, or feel excluded, from social groups and institutional benefits. This rancher, for example, acknowledged that he was already viewed with skepticism by some multigenerational ranchers because he had not grown up in the area, having started his ranch a mere 35 years before. But perceptions are socially constructed. Climate change highlights a tension between material risks and perceived risks, and how farmers who experience the same material impacts can arrive at different perceptions of climate change. What is crucial, to this story, and this chapter, is farmers’ *perceptions* of climate change and its risks. I argue that farmers perceive social risks associated with climate change action and discourse that shape how they, along with agricultural advisors, navigate the material realities of climate change.

Farmers’ perceptions of climate change are crucial to shaping local and global processes, drivers, and consequences of environmental change. Initiatives to leverage agriculture’s potential to

adapt and mitigate climate change would benefit from place-based understanding that considers social and ecological complexity (Rojas-Downing et al. 2017), and validates farmers' own perceptions of risks (Soubry, Sherren, and Thornton 2020). Centering farmers and the institutions they work with—such as local USDA staff at the Farm Service Agency—is especially important given the politicized nature of climate change in the US (Kahan 2012) and widespread distrust between farmers and public agricultural advisors such as Cooperative Extension staff (Prokopy et al. 2015b). Research on the complex factors that influence farmers' beliefs and decision-making is urgently needed to inform timely and effective policy processes that can mitigate climate change impacts, increase resilience, and support rural livelihoods and vulnerable communities.

Despite growing evidence that beliefs and values exert greater influence on farmers' decision-making than physical climate impacts (Davidson 2016; Echavarren et al. 2019), research on farmers and climate change has largely emphasized the physical risks of a changing climate (Haden 2012; Arbuckle et al. 2013; Arbuckle et al. 2015b; Menapace 2015; Niles and Mueller 2016; Duong et al. 2019). Limited research examines how social factors and agricultural advisors shape farmers' beliefs, actions and perceived risks regarding climate change (Davidson et al. 2019; Schattman et al. 2017).

Siskiyou County is especially well-situated for an analysis of risks farmers associate with climate change. Primarily family-managed, farms in the region rely on landscapes increasingly vulnerable to drought and fire, but enjoy access to fewer infrastructural, financial, and state resources available to more capitalize farms like those in, for example, the Central Valley. Like many US farmers, farmers in Siskiyou County typically identify as politically conservative and claim to hold anti-government ideologies (Yung et al. 2015), a combination consistently predictive of climate change disbelief (Liu et al. 2014; Hornsey et al. 2018) and climate-dissociated risk perception (Saleh Safi et al. 2012).

This chapter asks: What risks do farmers perceive with climate change? How do the risks that farmers perceive in association with climate change influence their responses to climate change impacts? And how are public agricultural advisors navigating perception of risk associated with climate change?

Following a brief literature review on farmers, risk perception, and climate change, this chapter presents findings⁵⁸ on risk perceptions of both farmers and the public agricultural advisors who work with them. The discussion extends scholarly understandings of risk perception (Douglas and Wildavsky 1982; Beck 1992; Slovic 1997; Sjoberg 2004; McNeeley and Lazrus 2014; Duong et al. 2019), particularly how social and cultural risks shape farmers' experience of climate change impacts and decision-making. In the conclusion I suggest some implications of this research that can contribute to policy and program development, especially to help agricultural advisors more effectively support mitigation and adaption—even when belief in anthropogenic climate change is limited.

Farmers' perceptions of climate change risks

⁵⁸ Some of the empirical materials presented in this chapter are also presented in Petersen-Rockney (2022b).

Farmers' perceptions of the risks associated with climate change have largely been theorized through farmers' beliefs and past experiences. Farmers perceive risk in many aspects of their operation and from multiple sources, including globalization, trade, and climate change. Weather-related risks are the most frequently reported and studied (Duong et al. 2019). Literature on farmers and climate change focuses on climate change beliefs and physical risk as the greatest motivators of adaptation response and best predictors of farmers' action on climate change (Menapace et al. 2015; Nguyen et al. 2016). Much of this research suggests that climate change beliefs, risk perceptions, and actions are systematically linked. For example, in a large survey of grain farmers in the US Midwest, Arbuckle et al. (2014) found that belief in anthropogenic climate change correlated with perceptions of greater physical risks and intent to adapt to climate change.

Researchers often focus on farmers' perceptions of physical risks associated with climate change (e.g., severe weather events), which motivate farmer action on climate change (Haden 2012; Arbuckle et al. 2013; Arbuckle et al. 2015b; Menapace 2015; Niles et al. 2015b; Duong et al. 2019). The pace and scale of adaptation depends upon culture, knowledge, and perception of risk (Adger et al. 2008; Marlon et al. 2019). Yet, climate change poses more than physical risks (Saleh Safi et al. 2012). Perceptions of cultural risks associated with climate change may shape the pace and scale of agricultural climate action, though little research has explored this. One exception is a study by Niles et al. (2013) of farmers in California's Central Valley who perceived greater risk to their farm operations from government regulations related to climate change than from the physical impacts of climate change. The perception of policy risk can impede farmers' willingness to adopt adaptive practices, due to the fear that acknowledging and acting on climate change might invite additional regulatory burdens (Niles et al. 2013).

This chapter investigates the risks that farmers and agricultural advisors in Siskiyou County perceive to be associated with climate change. Social pressure to express doubt in climate science may slow the pace and scale of urgently needed climate action. In the results below, I explore how concern about negative social consequences of embracing anthropogenic climate change belief and action shapes farmers' perception of and responses to climate change.

Results: Social risk perception of climate change

Farmers perceive multiple risks of climate change

The farmers and agricultural advisors I interviewed articulated three types of risk when discussing past and future adaptation decision-making. Nearly all farmers described physical risks of climate change that align with observed and modeled meteorologic data. Farmers described milder winters with reduced snowpack that melts quickly in the early spring, increasing the risk of spring floods; water scarcity leading to extreme droughts; and smoky wildfires. Farmers of multiple types and characteristics discussed the changes they observed in terms of weather, not climate. As one sheep farmer said, "The drought just hasn't stopped." Farmers consistently expressed disbelief in anthropogenic contributors and described current climate events and trends as cyclical (author interview 2019). An alfalfa farmer observed that

“things are always changing in cycles” (author interview 2018) (See Chapter 4 on the physical impacts and perceptions of climate change.)

As I described in chapter four, in addition to describing limited belief in anthropogenic climate change among the farmers that they work with, agricultural advisors also often expressed personal reservations about climate science. Agricultural advisors consistently shared and reinforced farmers’ perceptions that the physical risks they are experiencing are part of normal and natural weather cycles, which farmers can continue to cope with as they have historically (Chapter 4).

Most farmers also associated policy risks with climate change impacts. This was often expressed as a concern that the state of California was increasingly regulating both surface and groundwater. Nearly all farmers worried that climate change discourse and legal action, particularly utilization of the Endangered Species Act (ESA), would increase environmental regulation that disproportionately affected farmer livelihoods. Many farmers said that they were changing how, and sometimes what, they farmed in anticipation of regulatory trends. While we were cutting alfalfa on his swather, one farmer said that he “saw the handwriting on the wall” that the state would implement more environmental regulations, particularly around water use, which would in turn increase permitting requirements, resource use restrictions, and litigation opportunities (author interview 2019).

Access to water—especially important to farmers in a high desert environment—has become more unpredictable and costlier. Additionally, wildfires are increasingly common, and 2020 was the worst wildfire season in California’s history. Rather than seeing drought and wildfires as impacts of climate change, however, many farmers, perceived the crisis of water scarcity a result of overbearing environmental policy. Farmers routinely drew a causal line from federal and state environmental policies to dry rivers and forests, to water scarcity and wildfires. One cattle rancher described growing up in the area. He, like multiple farmers, attributed current droughts and wildfires to the end of logging on public land in 1990 with the listing of spotted owls as protected under the Endangered Species Act. Without logging, he explained, the forests have become overgrown, thirsty trees have depleted groundwater, and when water is scarce, they die, creating a tinderbox ready to burn. Many farmers also pointed to surface water irrigation restrictions and shutoffs due to political decisions and litigation. These, too, were traced to the ESA and a series of salmonid listings in the late 1990s and early 2000s. Farmers often referred to the 2001 water shutoff in Tulelake as an example of what farmers often called “political droughts” (author interview 2019). When asked about the 2001 drought, one Tulelake farmer put it bluntly: “In 2001, the federal government took all of our water away” (author interview 2019).

Agricultural advisors reinforced farmers’ associations of policy risks with climate impacts. A county-level agricultural advisor said that access to water is “the biggest challenge facing farmers now and [the biggest] they’ll probably face in the future,” a problem he described as “a policy crisis, a legislative issue I can’t do anything about” (author interview 2018). Another county agricultural advisor connected contemporary regulatory risk with previous environmental legislation. Speaking of the California State government, she said, “When they came for the spotted owl and shut down the logging industry, no one did anything to stop them. It feels like the same thing is happening with water and agriculture, and who is going to stand up for us this

time as they try to put us out of business?” (author interview 2017). Though not a farmer herself, this staff member clearly identified directly with the farmers she works with, not the government institution that she worked for. When asked about droughts, a county agricultural commissioner echoed what many agricultural advisors had told me by saying, simply, “There’s no water shortage—it’s a political water shortage” (author interview 2019).

Farmers and advisors in this study also perceived social risk. About half of farmers interviewed expressed concern about the potential social risks, including material consequences within the community, of being associated with climate change rhetoric or management practices. Only one farmer in my sample, a woman who had moved to the area a few years prior and raised pastured chickens and goats, admitted to openly discussing climate change. Talking about the local farming community, she said frankly, “They think we’re crazy because we say we believe in climate change” (author interview 2018).

Farmers who told me they did believe in anthropogenic climate change—almost always after double checking that our conversations were anonymous—said that they avoided openly discussing climate change, or the practices they adopted in response, with other farmers in the region. After posing many questions about droughts, fires, and other climate change impacts while we were digging potatoes, one mixed vegetable and alfalfa farmer, who had been farming in the county for over 30 years, laughed and said, “You’re safe talking about it here” (author interview 2019). He described how “there’s ridicule” of farmers who seem to acknowledge, discuss, or take explicit action related to climate change (ibid). He continued, noting, “Of course there are deniers, but I don’t think anybody who’s putting up hay can *not* feel this. They may not know where to put it or be able to talk freely about it, but I’m sensing that they’re noticing it. I think it adds to their concern” (ibid). When I asked a multi-species livestock rancher who privately expressed his belief in anthropogenic climate change if farmers discussed climate change, he said, “I don’t think anyone’s talking about that up here, to be honest. I think people just put their heads down and do what they’ve always done” (ibid).

Social risk perception as a product of environmental conflict

Local agricultural advisors affirmed perceptions stated by establishment farmers and offered their own observations. For example, in a staff meeting I observed an agricultural advisor say, “People here are mostly worried about others’ fear of climate change.” Farmers in this region often perceive equal or greater risk in being associated with, or expressing different views about, climate change than in the physical impacts of climate change.

Agricultural advisors and farmers expressed that adopting adaptation and mitigation field management practices could—like explicitly stating climate change belief—carry social risks. While reviewing the list of climate adaptation and mitigation management practices on my baseline farm practice survey with a local agricultural advisor, she said,

It’s hard, because the ranchers and farmers want to do that kind of stuff, but they also have that thought in the back of their mind of, ‘I’m not an environmentalist, I don’t want to do this kind of thing.’ And it’s ridiculous because they are environmentalists. They care about the land, they’re implementing all these different practices. [It’s] super obvious—

they just don't want to be associated with climate change. (Author interview 2018).

Survey and interview responses indicated that farmers were certainly implementing adaptation practices in response to droughts, smoke, and other climate change impacts, whether or not they stated belief in anthropogenic climate change (see Chapter 4). Some adaptive responses were reactive, temporary coping strategies, like buying hay or selling cattle in a drought year earlier than in a non-drought year. But many farmers were also proactively changing what and how they farm to plan for future physical risks. Increasingly, farmers in this region adopt farm management practices that confer climate adaptation and mitigation benefits. Many of these farmers diversify their operations to mitigate direct physical risks of climate change, and indirect market and policy risks. Newly adopted practices like integrating crops and livestock, installing water-efficient irrigation infrastructure, and building soil organic matter to hold moisture were the most commonly reported adaptive measures in my baseline survey, and were adopted during drought as long-term adaptation investments.

The framing of climate change as an environmental issue, however, struck a sensitive nerve in the community, making many farmers concerned about visibly investing in climate adaptation or mitigation practices. In informal conversations around their farms, farmers often described feeling blamed for environmental degradation and greenhouse gas emissions. And local officials agreed. As a county agricultural commissioner stated simply, “Environmentalists are trying to put farmers out of business. They’ve chosen the wrong enemy” (author interview 2018).

Many farmers and agricultural advisors described witnessing or experiencing conflict over irrigation water allocation and endangered species litigation, including resulting trauma of bankruptcy and farm loss. Farmers attributed these hardships to decisions made, and actions taken, by environmentalists and policymakers from distant urban areas, or as one crop farmer described them, “metropolitan environmental do-gooders” (author interview 2019). An older farmer, echoing a sentiment shared by many, told me, “Environmentalists shut down the logging industry, they’ve shut down the mining industry, and now ag is the last thing—there’s nothing else left” (author interview 2017). Within this context, local farmers and those who work with them understand climate change to be a taboo topic, at least in the public sphere. Simultaneously, many farmers expressed a sense of community insularity, solidarity, and interdependence. As one agricultural advisor who grew up in a local farm family phrased it after a public meeting about water conflict, “We take care of our own business, take care of ourselves, take care of our own” (author interview 2018).

Access to networks of neighborly reciprocity is perceived to be at risk

Farmers feared that they risked access to farmer networks of reciprocity if they were associated with climate change. While farmers often asserted their independence, they also described mutual reliance on each other. The most often cited example of this reciprocity was labor exchange. In a place dominated by cow/calf and forage farmers, few operations hired non-family labor. Most farmers relied on the assistance of others within the farming community for labor intensive tasks. For example, one farmer might help a second farmer put up hay, and then the second farmer might help the first brand their cattle. In addition to exchanging labor, farmers also described sharing advice, borrowing tools and equipment, putting away escaped livestock,

and fixing fences as reciprocal actions that they relied upon (Fig. 1).



Figure 1: Norms of neighborliness include remnants of reciprocity that farmers rely on, such as assisting each other with laborious tasks like digging potatoes (left) or offering expert advice on topics like soil management (right) (Photos by author, 2019).

Relying on neighborly reciprocity can be especially pivotal for farmers coping with the impacts of climate change. For example, farmers described allowing each other to herd livestock across private property boundaries to access fresh range or water sources like springs on other farmers' property during periods of extreme drought. With wildfire smoke stunting forage and livestock growth in recent summers, farmers have worked together to navigate changing market conditions. Some, for example, coordinate with other farmers via shared social and business networks the purchase of feed or the sale of calves earlier in seasons and at lighter weights to save on shipping costs and avoid competitive inequities.

In addition to trepidation that being associated with climate change may limit access to informal networks of neighborly reciprocity, a significant minority of farmers expressed concern about losing their ability to derive benefits from formal groups. Group acceptance in organizations like the Farm Bureau and CattleMen's association enabled farmers to access benefits like marketing assistance and legal representation. Public institutions like the USDA's Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS) administer technical and financial assistance programs, including emergency drought relief payments, at the local level. Some

farmers expressed concern that they needed to follow local farming norms to benefit from local administrative discretion within these institutions. Several farmers suggested that the NRCS and local Resource Conservation Districts' environmental improvement efforts were hindered by the implicit association of these institutions with climate change. As one farmer pointed out, these institutions "try to reach out to people, but they are kind of shunned by a lot of people" (author interview 2019). A few farmers thought this was why other institutions like Cooperative Extension and the farm service agency tried to avoid topics that might be perceived as related to climate change.

Several farmers described their personal experience of being ostracized, and what was lost. One pastured hog farmer said that after she sold her cows and began rotating pigs and planting cover crops, her neighbors stopped working with her to manage their shared irrigation ditch. Another livestock farmer said that after he mentioned climate change, his neighbor began diverting ditch water so that it no longer reached his stock pond. Another rancher attributed his exclusion from local Farm Bureau and CattleMen's association meetings to his visible adoption of agroecological practices in response to drought, which his neighbors may read in the land as a climate change statement.

Stories like these do not demonstrate causation—there are many reasons people experience interpersonal conflict. But the fact that these farmers told these stories when I asked about climate change, and the risks that they associate with it, demonstrates that the perception of social risk is a factor they weigh when considering when and how to discuss climate change or adopt associated practices.

Farmers and agricultural advisors mitigate social risks

Three clear trends emerged regarding how farmers reduced the social risk they perceived to be associated with climate change. First, farmers simply avoided discussing climate change within the local farming community. Some sought non-local farming communities in which they could openly discuss climate change. One young orchardist described this approach by saying, "I believe in climate change [but] we don't talk to people [here] about it" (author interview 2019). Every year she drives over seven hours each way to attend an ecological farming conference where, she says, "you can go and dream and talk to people about those things. [But] when you're here by yourself you just kind of see the changes. You're trying to get by every day, and you just do the best you can" (ibid).

Second, nearly all farmers asserted, at least publicly, that they implemented adaptation practices to increase economic efficiency, engage in new markets, or other culturally normative co-benefits of adaptation. These farmers appeared to carefully avoid mention of climate change as a rationale. For example, when completing the baseline farm practice survey, a cattle and hay farmer paused to tell me, "I monitor all our wells. I've got soil moisture meters to determine frequency of application and rate of application through the summer. So, I mean, I do do that. It's not because of drought. It's simply to be more efficient and hopefully reduce power costs" (author interview 2019). It may be less socially risky for farmers in some cases to focus their stewardship narratives on the co-benefits of implementing practices that may otherwise be read in the landscape as climate change discourse.

Third, when discussing climate change, related impacts, or adaptations, farmers typically kept their responses vague or expressed uncertainty, saying things like, “We don’t get the winters like we used to, for whatever reason” (author interview 2019), or “Individual weather events, they’re just pretty much random” (author interview 2018). Most farmers in this region publicly denied climate change, or at least its anthropogenic origins. One cattle rancher said, “The climate has, is, changing. I mean, you just look at history, right? Climate changes over the eons of centuries” (author interview 2019).

The majority of farmers in this study thus reduced the social risks they perceived to be associated with climate change by avoiding talking about it openly and justifying their adoption of mitigation and adaptation practices through co-benefits. When discussing related topics, they often asserted doubt or denial about anthropogenic climate change. As one cattle rancher observed, “Farmers at the bar talk real loud about climate change as a liberal hoax, but go home and plan for it” (author interview 2018).

Public agricultural advisors also tried to mitigate perceived social risks of climate change. The local NRCS, FSA, and Cooperative Extension, had not offered climate change programming in the region. The majority of staff at these institutions expressed similar beliefs to the farmers they worked with (Chapter 4). Even if they confided their own belief in climate change to me, these public actors universally worried that farmers would not work with them if they discussed climate change and universally said that they avoid discussing the topic. With limited capacity and already overburdened, agricultural advisors described climate change, a topic that might alienate their core clientele, as a low priority among many other pressing and less contentious topics (such as farm infrastructure improvement). As an agricultural advisor told me in an interview, “To put climate change into a sentence [farmers] shut off or they get fired up, one or the other. You say things like carbon sequestration and they shut off or [get] fired up, one or the other. You know, ‘I don’t wanna hear anymore. I’m not listening,’ or ‘All that hippy garbage’” (author interview 2029).

When climate change or related topics like carbon sequestration arose with farmers, agricultural advisors developed strategies and discourses to support farmers while reducing perceived social risks to themselves and the farmers with whom they worked. Agricultural advisors described focusing their programming on the most proximate issues farmers face, without ever mentioning climate change. An agricultural advisor, for example, said that he focused on drought because, “I understand they are much more interested in issues that directly impact them. You know, if you say like, ‘Oh, the ocean levels are rising like two inches per 10 years,’ they don’t care. Here is far away from the ocean” (author interview 2020). Staff universally expressed that they may gain more trust and work more effectively with farmers by focusing action and rhetoric on the co-benefits of adaptation practices like reducing electricity and water costs.

Public agricultural advisors play an important role in creating and maintaining norms and expectations for farmers grappling with complexity and uncertainty. These institutional staff operate in the boundary spaces between farmers and climate science. They navigate the boundary space between their professional position and personal membership in the community. As other researchers have noted (e.g., Schattman et al. 2017), being farmers themselves, or having

farming relatives, can position these actors especially well as trusted sources of information about climate change. But strong local ties embedding institutional staff in the community can also increase the social stakes of divergent norms. In this study, public agricultural advisors—many of whom did have personal ties to the farming community—reflected, reproduced, and reinforced ideas about climate change voiced by prominent farmers in the region.

Agricultural advisors reported a degree of local autonomy, which they valued highly. This independence allowed them to tailor programs to those they defined as their clientele by, for example, not discussing climate change with farmers who identify as politically conservative. Autonomy can facilitate culturally appropriate framing of climate change to reduce or mitigate the perceived social risks of farmer engagement. As one agricultural advisor counseled, “Just don’t lead with something that will turn some people away at the door” (author interview 2019). Local autonomy also means that agricultural advisors can entirely avoid socially risky topics like climate change. Indeed, when asked directly, all agricultural advisors interviewed said that they had no intention of including climate change in current or future programming (author interviews 2017-2020). As one agricultural advisor emphasized, “I’m *not* going to talk about how drought is impacted by climate,” and, she added, “I step carefully when that topic comes up” (author interview 2020).

Discussion: Social risk perceptions, mechanisms, and consequences

Farmers’ perceptions of social risks associated with climate change determine whether and how they respond to environmental change, shaping local and global outcomes. While farmers respond to climate change impacts, social risk perception may impede the pace, quality, and scale of adaptation and mitigation. Social risk perception anticipates potential social costs and consequences of culturally unacceptable discourses and actions related to climate change. The social risks that farmers perceived in this study include exclusion from formal and informal farming groups, and loss of access to support benefits they provide.

Explicitly situating individual risk perceptions in group norms helps explain the divide between climate change impacts and action. Social norms are the group rules that determine individual actors’ understandings of acceptable and deviant discourses and actions (Inman et al. 2018). In the case of farming practices, social norms have delineated belonging, and they partially explain the “adoption gap” between environmental impacts and actions (Schewe and Stuart 2017). Farmers in Europe, for example, who deviate from productivist norms by adopting conservation practices face loss of social standing in their communities (Sutherland 2013; Nguyen et al. 2016). Crop farmers in Australia (Morgan et al. 2015) and cattle ranchers in Brazil (Borges et al. 2016) who, conversely, experience social pressure to implement conservation practices, express greater willingness to adopt such practices. In Siskiyou County, farmers describe benefits of reputation and group inclusion from adhering to social norms, and risks of exclusion if they do not.

Farmers were especially concerned about losing access or ability to derive benefits from (Ribot and Peluso 2003) neighborly reciprocity, rewards like labor exchanges and permeable private property boundaries, or what property law scholar Robert Ellickson (1986) termed “norms of neighborliness” (p. 673). Ellickson used this term to describe the extra-legal rules that governed

rancher interactions in Shasta County, a county directly adjacent to Siskiyou. If ranchers were in conflict, for example, Ellickson found that norms of neighborliness dictated that self-mediation, not formal legal action, was the appropriate response. He described norms of neighborliness as operating via incomplete reinforcement, mental accounts of ownership, and identified, perhaps most importantly, “how deviants who violate these norms are informally controlled” (p. 673), similar to what Gramsci theorized as “coercion and consent” (Gramsci 1971). In Shasta County in the 1980s, those who deviated from locally accepted practice of neighborly norms—for example, by allowing their cows to eat forage earmarked for another rancher (whether on closed or open range)—risked experiencing violence, ranging from negative gossip to threats of killing their livestock (Ellickson 1986). Asserting the need to control—be it through the use of force, spreading rumors, or refusing to put a neighbor’s escaped sheep away—exposes the darker underbellies of neighborliness.

During the 1980s farmers in Shasta (and Siskiyou) were experiencing crisis. Like today, farmers perceived the rapid economic decline and vulnerability of their cultural livelihood as resulting primarily from failures of policy. Like today, this crisis highlighted contradictions of capitalist agriculture, particularly how neighbors both rely upon and compete with each other (Dudley 2000). Farmers and ranchers may assert rhetorical values of independence, and yeoman ideology continues to powerfully shape agricultural policies and perceptions (Calo 2020), but many farmers depend upon each other. Ellickson (1986) noted that this is especially the case for multigenerational farm families, like the majority of those in Shasta and Siskiyou Counties, who have persisted through numerous crises and growing inequalities. In their research on ranching norms and shifting land ownership in Montana, Yung and Belsky (2007) note that norms of neighborliness “governed long-term relationships and determined restraint, reciprocity, and debt among landowners” (p. 691). Neighborly norms of reciprocity extend beyond the material benefits of getting along with neighbors. In deeper and more subtle ways, these norms facilitate the recognition and linkage of precarious livelihoods, and provide mechanisms which define and bound belonging.

Norms of neighborliness are far from universal, even in a particular locality. They evolve within and between social groups, negotiated among ranchers who share “common goals and values” (Yung and Belsky 2007, 694). These norms also operate within and between the boundaries of social groups that foster differing perceptions of climate change and norms of response. Climate change practice and rhetoric become sites of contestation and conflict between those who hold divergent values and visions of the land. Norms of neighborliness, then, offer both a mechanism and a canvas for social risks to be perceived. These essential vestiges of rural reciprocity can both mediate farmer decision-making in response to change—by setting the norms of socially acceptable and unacceptable response—and can help us understand the benefits or sanctions that following or deviating from culturally dominant local norms engenders. Farmers recognize that adhering to acceptable climate change norms, including particular responses to climate change and discourse around climate change, can confer social and institutional benefits, while deviating from those norms can risk losing their ability to derive benefits of inclusion in neighborly networks of reciprocity.

Social risks are, of course, culturally specific, meaning that the array of social risks that farmers perceive related to various norms and expressions vary across different contexts. In this study,

farmers and ranchers relied on informal and formal group belonging for neighborly reciprocity, which set high stakes for adhering to norms of anthropogenic climate change denial shaped by broader political and cultural forces.

Social risk perception, like perceptions of policy risks (Niles et al. 2013), motivates climate change disbelief and inaction where those responses are culturally normative, in places like Siskiyou County. In places like Siskiyou County where social pressure to adhere to normative practices of inaction and politics of disbelief are strong, inaction around climate change and climate denialism discourse may, for some farmers, be an enactment of the pretense of disbelief. By motivating the pretense of climate change disbelief and inaction, social risk perception further demonstrates the decoupling of belief and action (Chapter 4). Perceptions of social and policy risks operate in opposition to perceptions of physical climate change risks, which are generally thought to motivate belief and action (e.g., Le Dang et al. 2014; Arbuckle et al. 2015b). Farmers in this study did perceive physical risks associated with climate change impacts—particularly droughts and smoke from wildfires, which spurred the adoption of new farming practices and livelihood strategies. Farmers also described policy risks of climate change like concerns about increasing water regulation and associated litigation.

Scholars often use the concept of psychological proximity to describe the observation that physical and policy risk perceptions influence farmer actions more strongly than abstract and psychologically distant ideas about climate change (Haden 2012; Niles et al. 2015b). Social risk perception may bridge this divide between risk perception and concepts of causation. Perceptions of social risks are both psychologically proximate, presenting immediate concern for material impacts, and shaped by abstract ideas about risk and situated normative responses.

Just as past experiences with weather and climate shape farmers' perceptions of the physical risks of climate change (Schattman et al. 2018; Findlater et al. 2019; Azadi et al. 2019), this study highlights the important influence that past cultural experiences have on farmers' perceptions of climate-related risks. Politically conservative media, for example, has been shown to dilute the physical risk that farmers associate with climate change and reinforces in-group solidarity (Douglas and Wildavsky 1982; Stuart et al. 2012), potentially increasing the social risks farmers perceive. While most farmers in this study, like those elsewhere in the US (Arbuckle et al. 2014; Yung et al. 2015; Prokopy et al. 2015a; Singh et al. 2020), assert climate change disbelief, several did share belief in anthropogenic climate change with me, but only after rapport was built and anonymity assured. This finding suggests that social risk perceptions of climate change may also motivate statements or pretense of climate change disbelief and inaction.

Scientific inaccuracies, political divisions, and social risks related to climate change have been actively cultivated by elite political and corporate interests to de-legitimize science and facilitate continued wealth and resource extraction from rural and agricultural communities (Malin and De Master 2016; Ashwood 2018; Edelman 2019). These powerful institutional and corporate actors shape risk perception in multiple ways, including by socially constructing “objective facts” about risks (Wilkinson 2001, 17). Individuals and the social groups of which they are a part engage in this relational construction of fact and risk. As one journalist observed while visiting a meeting of farmers about federal climate policy where no one dared utter the term “climate change,”

In many ways, climate change denial has become a proxy for rural Americans to push back against out-of-touch urbanites, meddlesome environmentalists, and alarmist liberals who are seen as trying to impose their will on small towns and farming communities they do not understand. (Evich 2019)

Within this broader context, the social risk of discussing climate change publicly may contribute to observed divides between intent and actual adoption (Niles et al. 2015a), and obscure the fact that farmers do not always mean what they tell researchers (Bertrand and Mullainathan 2001; Nguyen et al. 2019).

Public discourses focused on the negative environmental impacts of agriculture have also contributed to a counterproductive and adversarial relationship between farmers and staff at environmental agencies (Kennedy and Brunson 2007). Framing certain risks, like those emanating from climate change, as environmental issues frames nature as outside of human society (Beck and Kropp 2007). Additionally, risks serve the important societal function of promoting social solidarity by providing shared outlets for anxieties (Douglas and Wildavsky 1982). In a society rife with inequities wherein risks are disparately perceived and experienced, environmental risks are often divisive, functioning to bring in-groups together and cast blame on “others” (Douglas 1992), and so serving the interests of extractive actors.

In Siskiyou County, the high degree of weather variability that farmers already historically managed, compounded by market inequities, regulatory uncertainties, and concerns about generational change, created an uncertain future for many farming families. Within the context of uncertain climate futures and livelihood precarity, group norms around climate change response may be especially important for farmer decision-making (Nguyen et al. 2016). Social groups or networks may facilitate important opportunities for social learning through the exchange of ideas (Koontz et al. 2015) and setting of common-good rules (Pretty 2003). As the most trusted information sources, peers can encourage mutual adoption of best management practices (Bidwell et al. 2013). Individuals feel greater social pressure “to view climate change as a risk that requires action” as more people in their social group perceive it this way (Van der Linden 2014, 116). Dense networks of close social bonds may promote cohesion that facilitates learning and helps new ideas be accepted (Crowe 2007).

Conversely, densely linked networks can be hard for outsiders to penetrate (Inman et al. 2018), leading many researchers to find informal and flexible networks more conducive to change (Pahl-Wostl 2009). Individuals within groups—both informal networks and institutions—have incentives to maintain the status quo and their central positions of power, constraining adaptation (Crona and Bodin 2012). Social groups can also be insular, exhibiting a “reflection problem” in which particular ideas and practices—even maladaptive ones that exacerbate the problem, like digging deeper wells in response to drought—become understood as correct, allowing those who adhere to dominant identities, discourses, and actions to benefit (Granovetter 2005; Inman et al. 2018).

Because norms of discourse and practice are socially constructed, they are dynamic and can change, as can perceived risks. Institutions may hamper or support adaptation, depending on the ability for rules and norms to change (Pahl-Wostl 2009). Yet even flexible networks and

institutions can be maladaptive (Koontz et al. 2015). Maladaptive spillover effects may include broader social and ecological consequences, including spatial and social exclusions that further concentrates privilege and power (Howell-Moroney 2008). For example, in Siskiyou County vocal climate change denial was a relatively new norm that has gained traction with increasing political polarization in the US. Scholars and practitioners of adaption would do well to ask who determines what state is desirable, and who benefits and who does not from divergent social norms and the responses to global environmental change they structure. These questions are especially important as rule and norm making may magnify existing power imbalances.

In addition to structuring individual behaviors, social norms—and the risks perceived in relation to them—also shape institutional rules and discourses (Koontz et al. 2015), which in turn “privilege some rationalities while excluding others, narrowing the range of adaptation pathways” (Davidson 2016, 434). As discussed in chapter four, public agricultural advisors—like local-level USDA staff and Cooperative Extension advisors—are uniquely positioned in the boundary spaces between farmers and climate science to support actions to mitigate climate impacts (Prokopy et al. 2015b; Grantham et al. 2017; Schattman et al. 2017; Monroe et al. 2019). Yet, many local agricultural advisors have been reluctant or slow to incorporate climate change discussions and discourse into their work (Prokopy et al. 2015b; Grantham et al. 2017; Monroe et al. 2019). A 2017 California-wide survey of Cooperative Extension advisors, for example, found that fewer than half of respondents include climate change discourse in their programming, often due to fear of alienating their clientele. Some agricultural advisors, like many in this study (Chapter 4), report that they themselves are skeptical of climate science (Prokopy et al. 2013; Prokopy et al. 2015b). And witnessing crop loss from physical climate impacts does not increase agricultural advisors’ belief in anthropogenic climate change (Niles et al. 2019). Perceptions of climate change-related social risks to themselves and their clientele may help explain the reticence of many agricultural advisors to engage with discourse on such a timely and impactful issue.

Agricultural advisors serve as resource and information gatekeepers with latitude to reinforce dominant beliefs and norms. Local autonomy can hinder climate action, but can also enable flexible programming that focuses on rapidly changing, context-specific adaptive practices. Situating programming in climate change terms and focusing on climate change-induced flood risks may be appropriate in Vermont, where farmers more openly discuss climate science (Schattman et al. 2018), but would likely not gain traction in northern California, where doing so may engender more social risks.

The framing of climate policies and practices is important not only for increasing farmer participation, but also for reducing perceived social risks related to engagement in these endeavors. Farmers in this study took strategic steps to maintain belonging and mitigate potential social risks, including avoiding discussing climate change within the local community and asserting co-benefits as the motivation for implementing adaptation and mitigation practices. Nguyen et al. (2019) similarly found that farmers in Italy, though they acknowledged climate change’s anthropogenic and agricultural causes, “defended their stakes” by strategically avoiding discussing causes related to the type of agriculture they practiced. For example, dairy farmers avoided discussing greenhouse gas emissions from cows, and rice farmers avoided discussing emissions from rice cultivation (Nguyen et al. 2019). In a study of Australian crop farmers’

experience of climate change-induced drought, Kuehne (2014) noted that farmers' climate skepticism was a strategy that allowed them to maintain hope for the future and continue farming, preserving core identities and cultural norms. While these examples are from very different contexts, they underscore that Siskiyou area farmers are not alone in strategically engaging in climate change discourse to manage their place in specific contexts and broader milieus.

For policymakers, these findings suggest that interventions to increase farmer climate action might be more successful if they employ culturally situated discourses, focus on local values and goals, and prioritize challenges proximate to farmers' daily experience (Davidson et al. 2019). These efforts may also reduce participation burdens, like onerous paperwork (Lemke et al. 2010) and policy risks (Niles et al. 2013); as well as structural barriers like contract lock-in (Schewe and Stuart. 2017) and resource access limitations (Knapp and Fernandez-Gimenez 2009; Yung et al. 2015; Takahashi et al. 2019).

Interventions to increase the pace and scale of farmers' climate action must recognize social risks farmers perceive with climate change discourse. Practices that, for example, increase soil organic matter may be more widely adopted if they are associated with co-benefits, like maintaining farmer control over water, rather than sequestering carbon. Additionally, research on farmer adoption of best management practices suggests that seeing results can help change norms—both for the farmer who implements a new management practice (Inman et al. 2018), and for other farmers who can read those practices in the landscape as measures that translate into capital gain (Burton 2009). But with climate change actions, especially mitigation practices, it can be difficult for farmers to see tangible benefits of adoption, and it can be socially risky to discuss these practices in terms of climate change.

These observations lend credence to growing calls to focus programming and communication on the co-benefits of adaptation and mitigation practices (Davidson et al. 2019), which may both offer more immediate results and be less associated with perceived social risk. For example, adopting practices like complex crop rotations and cover crops sequester carbon, but framings around water holding capacity or nutrient availability may be more legible and socially palatable to farmers facing drought, wildfires, and market crises. Additionally, imposing regulatory penalties or offering financial incentives to adopt certain practices without attention to the shifting and situated social norms within communities may not only be ineffective (Inman et al. 2018), but may exacerbate the social risks that farmers perceive, slowing the pace and scale of climate action. Broadly, framing actions in positive terms—including recognizing and rewarding the environmental and cultural services farmers already deliver—offers less socially risky opportunities to increase farmer climate action.

Conclusions: Social risk perceptions and climate action

Efforts to support the adoption of practices that increase adaptive capacity and mitigation potential on US farms and ranches are urgently needed, in the face of climate change impacts. This research contributes to our understandings of the mechanisms through which cultural influences like social norms (Knapp and Fernandez-Gimenez 2009), networks (Crona and Bodin

2012; White and Self 2013), and performance (Burton 2004) can both facilitate and constrain climate action.

Farmers' perceptions of climate change—including risks they associate with it—must be considered when planning and implementing policies aimed at increasing the pace and scale of climate action. Climate change research should “embrace farmers’ perceptions as a contribution to adaptation discourse” (Soubry, Sherren, and Thornton 2020, 210), including examining various types of risks—physical, political, and social—that farmers perceive in connection with climate change.

Both the temporal and spatial immensity of climate change and its cascading impacts through global systems are complex and difficult to tackle. But this is not because farmers fail to understand or care that the climate is changing. Farmers perceive social risks in connection with discourses about climate change, risks which present an additional set of cultural challenges that may limit potential adaptation and mitigation actions. Understanding the relevance of social risk perception can inform culturally situated policies and programs around global environmental change.

Climate change-related initiatives that focus narrowly on technical environmental understanding limit the range of possible climate solutions. While research-based policies (e.g., Anton and Cattaneo 2019) and agricultural services (e.g., Church et al. 2017) that focus on the physical risks of climate change are important, they do not address the broader range of social risks that shape farmers’ experience, and can even reinforce harmful stereotypes of farmers as ignorant or uneducated if implemented in isolation. Trying to educate or convince farmers of climate science may increase social risks in some contexts, particularly where taking climate action by name may be perceived to jeopardize access to formal and informal support networks.

State and national farm programming may support farmers in adapting to climate change (Prokopy et al. 2015b; Grantham et al. 2017; Schattman et al. 2017; Monroe et al. 2019). Initiatives to increase the pace and scale of farmer climate action may be more effective if they aim to help farmers manage complexity and balance tradeoffs (Petersen-Rockney et al. 2021), increase farmers’ capacity to innovate (Moerkerken et al. 2020), support social learning networks like peer-to-peer training and adaptive institutions that are more flexible to changing conditions (Koontz et al. 2015), and mitigate the social risks some farmers perceive in association with climate change. Additionally, farmers and other agrifood system workers need resources to transition away from processes that retrench current social inequities and environmental externalities. Research must meet farmers where they are and take their experiences and perceptions of climate change seriously. Farmer livelihoods and the landscapes in which they work depend on it.

Chapter Six: Local government control and new agricultures

Introduction

This chapter explores the role of county government in defining and defending the boundaries of locally acceptable agriculture as who farms, what they farm, and the farming practices they adopt change. Chapter four showed how farmers are adapting to climate change impacts like drought and wildfires and associated policy changes. In response to these climate change impacts, farmers are adopting new farm management practices, including raising a variety of livestock species and implementing new pasture rotation practices. Many farmers are also adapting their livelihood strategies to become less reliant on single income streams and increasingly limited irrigation water. One adaptation strategy is adding agritourism offerings, like farm stays and you-pick produce, to farm enterprises. In this chapter, I interrogate the role of county government staff (e.g., planning department staff) and elected officials, (e.g., board of supervisors and planning commissioners), in shaping who can claim the local political and cultural legitimacy of being a farmer, what crops and livestock are deemed acceptable, and which land management practices and strategies become normalized—all within the context of a hotter, drier, and more fire-prone climate reality. I show how the rural reorganization that climate change demands unfolds through civil regulatory processes at the local level. This chapter highlight how the state at the local level is self-conceived, especially through the county planning commission, which is an elected group of local residents who make land use and planning decisions. I argue that county-level land use policy is a site of political terrain in which adaptations to climate change are actively contested.

States are composed of myriad institutions and actors employing discourses and governing practices across various spatial scales and jurisdictional dimensions of power (Peñaranda Currie, Otero-Bahamon, and Uribe 2021; Meehan 2011). Local control is often depicted positively, as a solution to a disconnected state that has served as a handmaiden to capital. Local control movements are well rooted in the rural Western US. From the Sagebrush Rebellion of the 1970s, to the Wise Use Movement of the 1980s and 1990s, to more contemporary County Supremacy and so-called “consolidation” movements of today, efforts to grant greater authority to county-level governments continue to grow in the Western US (Wright 2021). These often-grassroots calls for local control, especially over land and resource use decisions, often employ legal discourse to serve white nationalist and supremacist ideologies (Chaloupka 1996; Wright 2021). Crises can re-energize these movements. For example, during the COVID-19 pandemic self-proclaimed “constitutional sheriffs” refused to enforce state and federal health guidelines at the local level (Southern Poverty Law Center 2022). Climate change, and the ecological and political crises it engenders, presents another opportunity for county-level governments to both advance calls for greater local control and exercise the considerable power they already hold (Fiorino 2022; Wright 2021).

In today’s context of rapid environmental change, and the regulatory changes that change spurs, questions arise around the role of county government in shaping adaptations and divisions within farming communities. In Siskiyou County, farmers and ranchers are adapting to the impacts of climate change, and asking the county government to adapt definitions of legally acceptable

agricultural enterprises (e.g., agritourism) and practices (e.g., multiple species of pastured livestock). With both an influx of new farmers and established farmers more visibly engaging in alternative or nonconventional agricultural practices and enterprises, officials and staff in Siskiyou County's government⁵⁹ have tried to navigate between being pro-business, pro-agriculture, and pro-economic development, while also carefully defining, protecting, and reasserting what is considered appropriate and inappropriate agriculture.

Rural spaces, and the shifting communities within them, however, are always contested political places (Limeberry and Fox 2020). The process of local control over land use, as this chapter shows, is contentious. Agrarian capitalism pits farmers against one another. Sometimes this is clearly visible, as in the case of rising land values and increasingly competitive land leases; sometimes it is more subtle, wherein one farmer's gain apparently arises from their neighbor's loss. In her ethnographic work with grain farmers in Minnesota, Kathryn Dudley (2000) explores social trauma in farming communities shaped by debt and dispossession understood as personal and moral failing. Dudley's work captures the cultural power of farmer identities, including one's own perception of self, in a farming community. Dudley's research focuses on the experiences of classic yeoman family farmers during the 1980s farm crisis, and the ways that public and private creditors shaped possible responses. The twin crises of environmental change and regulatory change have heightened competition for finite resources of land and, especially in recent years, water.

Like the Minnesota farmers in Dudley's book, farmers and ranchers in Siskiyou County are grappling with crises. Competition between farmers, caused by more than a century of capitalist production (Walker 2004), highlights farm crises that vary across context. In Siskiyou County, regulatory crises were often most proximate. Farmers in the Siskiyou community described mounting environmental regulations as *violent* acts that threatened their way of life, their land, their animals, and even the environment itself. Nearly every farmer I talked to was also in debt and feared losing their farm, if not in this generation, then in the next one. Environmental change coupled with regulatory change especially threatened unfettered access to water, which many multigenerational farmers had long enjoyed. An overly narrow focus on the physical impacts of climate change can thus mask other important dynamics, as well as avoid responsibility for environmental changes more broadly (Lahsen and Ribot 2022; Camargo 2013).

As described in chapter two, many influential farm families trace their roots back five or six generations to ancestors who were granted homesteads, and later senior water rights, first from the newly formed state of California in the 1850s and then from the federal government after 1862. Politically powerful farmers—many of them in official roles as county supervisors, planning commission members, and other local government staff—re-assert specific practices, values, and politics as norms. Even official documents present certain norms as absolute or natural. As described in chapter 2, the Siskiyou County Administrator published a “Primer for living in Siskiyou County,” which was available on the county's website and outlines “the Code of the West” for “newcomers.” The document asserts that locals are “rugged individuals” who live “outside city limits,” and that the “right to be rural” protects and prioritizes working agricultural land for “economic purpose[s]” (Siskiyou County 2005). By normalizing certain

⁵⁹ Including its board of supervisors, sheriff's office, planning department, agricultural commissioners, and other elected, appointed, and hired county employees.

discourses, including categories, practices, and politics, local government staff and officials assert particular visions of the land, including who farms, what they produce, and how they manage that production, at the exclusion of alternatives.

In her work on local prosecutorial discretion in rural Iowa, historian and lawyer Emily Prifogle discusses the importance of “onymousness,” or “namedness and knownness” (2020, 248). In the process of identifying boundaries between what is locally considered acceptable and unacceptable, Prifogle (2020) observes that various community members often “expressed their understanding of social norms by identifying the transgressive behavior of outsiders to the community” (254). Prifogle (2020) argues that social boundaries between insiders and outsiders are marked by which rural residents assert what types of legal claims. Prifogle (2020) articulates an argument parallel to Yung and Belsky’s (2007) about norms of neighborliness, which extend to extra-legal spaces of social and political life to help delineate belonging and acceptability. Social boundaries require active safeguarding and maintenance, in Prifogle’s case through stigmatizing certain types of legal actions brought by certain groups of people. Doing so is a way for residents of a community to “exclude from their moral universe what they could not exclude from the physical boundaries of their community” (Prifogle 2020, 254).

In Siskiyou County, public officials exercised their local discretion to define and defend the boundaries of what is considered agriculture and what practices are “the transgressive behavior of outsiders” (Prifogle 2020, 254). We also saw this with agricultural advisors in chapters four and five who operate in the space between farmers and technical and financial assistance. As gatekeepers of these resources, agricultural advisors at the county level can exercise administrative discretion in who they consider their clientele and what issues they do, or do not engage, therefore excluding from their services those who do not adhere to their particular norms of farming practice.

Local laws and policies, and their enforcement, have shifted with new ruralities comprised of novel social relations, practices, and ecologies. From elected officials like members of the board of supervisors, to volunteer planning commissioners, to staff in county administration, exercising regulatory discretion can be both innovative—by creating new legal terms—or administrative, as county officials chose to interpret and enforce zoning code within the margins of what current law allows. Local government control serves the vested interests of those in power, though in complex and non-linear ways. The very act of codifying certain people’s visions of the land and appropriate relations to it through, for example, changes to local zoning laws and county code that prohibit certain farm events or allow certain species of livestock, provides the fodder for contestation and change.

Between 2014 and 2021 the county government grappled with three forms of agriculture that deviate from traditional local farming practice: growing cannabis (discussed in chapter two), engaging in agritourism, and raising multiple species of livestock (with the latter two planning processes unfolding primarily between 2017 and 2020). These three forms of agriculture were described to me by many longtime residents as harbingers of change, with some multigenerational farmers and amenity buyers fearing the loss of narrowly defined notions of agrarianism. This chapter specifically focuses on the latter two cases: agritourism and multiple species of livestock. As discussed in chapter four, these are diversification strategies that farmers

and ranchers in Siskiyou County are increasingly adopting as responses, or adaptations, to climate change impacts like water scarcity. (The case of cannabis deserves its own treatment and careful attention beyond the scope of this chapter; I have written on the case of local policy development around cannabis in Siskiyou County elsewhere – e.g., see Polson and Petersen-Rockney 2019; Lu, Dev, Petersen-Rockney 2022.). In this chapter, I focus on local policy development around agritourism and multiple livestock species, which highlight different local crises and boundary making projects by the local government as farmers adapt to changing conditions—including climatic change, new state and federal regulations, and recent in-migrations of new farmers.

In the case of agritourism, fears of the county being flooded by urban consumers have prompted the local government to attempt to clarify licensing and permitting processes in ways that shape who can access and claim rural space. New forms of agritourism have been visibly implemented by white farmers who are relative newcomers to the county, and multigenerational farmers are also increasingly turning to agritourism as a livelihood strategy to cope through drought and other crises.

Multiple species of livestock production (called “multispecies livestock” in county documents, which includes raising species other than beef cattle and often more than one animal species) has been adopted by new and established farmers in response to both economic crises, as farmers see the need to diversify market channels, and ecological crises, as farmers face limited water and more unpredictable ecological conditions. This case shows how, through locally sanctioned norms and the local legal code, the county has, albeit hesitantly, sought to define culturally specific agricultural land use practices.

Drawing from archival materials, as well as participant observation and formal and informal interviews, these cases show how the state, at the county level, controls powerful processes that determine adaptation possibilities. Climate adaptation forces confrontation between divergent visions of the land among community members, and how local government actors in Siskiyou County are both shaping and navigating a changing farming landscape. Local control may benefit some politically powerful farmers, but produces disparities for others, especially those whose community standing is conditioned by gender or newcomer difference (or race and ethnicity – see Polson and Petersen-Rockney 2019 and Lu, Dev, and Petersen-Rockney 2022). Ultimately, county government official and staff have tremendous power to define and defend who can claim, places, practices, and identities of being an “authentic” farmer.

Agritourism

Universally, county staff and farmers that I interviewed described that agritourism had historically occurred in the county to a limited extent without issue. According to planning commission members, agritourism activities like “selling eggs in a stand” or “[you-pick] pumpkins” had “gone on for generations” (Siskiyou County Planning Commission June 21, 2017, 10133). Multigenerational farm families described routinely hosting 4-H meetings, pick-your-own pumpkin patches, and farm tours for the local elementary schools (author interviews 2017-2019). These invitations for the public to visit farms were historically tolerated, even

welcomed, according to farmers that I interviewed and county documents (see e.g., Siskiyou County Planning Commission May 17, 2017).

In the summer of 2017, the situation changed when a new planning director wasted little time in sending cease-and-desist letters to six farms that were offering farm stays and hosting events like farm dinners and concerts (Agritourism Zoning Text Amendment 2020, 241). These activities, the new planning director pointed out in the cease-and-desist letters, were non-compliant with county zoning code (Agritourism Zoning Text Amendment 2020, 241). Therefore, technically, each farm workshop, 4-H meeting, or wedding required a use permit application, which might not be approved (Agritourism Zoning Text Amendment 2020, 241). During this time (2017), the county's limited regulatory oversight capacity was increasingly allocated to cannabis cultivation and county resources were funneled from civil departments to law enforcement (Polson and Petersen-Rockney 2019). According to interviews with county staff, this left the planning department with limited staffing and funding capacity, which would have been necessary to process permits in a timely manner (author interviews 2017-2020). In interviews, local residents described waiting months to years for building and other permits after cannabis became the “#1 public enemy in Siskiyou County” in 2015 (Siskiyou County Sheriff Office News Release May 25, 2016, 3). In a planning commission meeting in May, 2017, the planning director noted that the county had not received any complaints, while reiterating that the county's zoning ordinance⁶⁰ is a permissive ordinance, meaning that if an activity is not *explicitly* allowed, it requires a permit to be in compliance (Siskiyou County Planning Commission May 17, 2017).

This new planning director's approach was, as one farmer described it in an interview, “Very bureaucratic, black and white, it is or it isn't allowed” (author interview 2018). Several farmers and county government staff noted the novelty of this approach, describing how most county government officials, including previous planning directors, exercised administrative discretion (author interviews 2017-2019). One farmer told me, “Other planners are like ‘no, this is obviously nuanced’ and they have this whole legal right to interpret. That's what's always been done.... And agriculture is our backbone, there's no way [the county] would not be supportive of our sector” (author interview 2019). Indeed, the cease-and-desist letters that the county had sent to farmers offering agritourism had tried to reassure them by stating that the “county is not interested in curtailing or otherwise interfering with your business, recognizing that such uses and activities may constitute an economic benefit to the county” (Wend 2018c, para. 4). The letter went on to reassure farmers that county officials were actively working on ways to “revise the zoning ordinance to accommodate agritourism uses with the minimum level of regulation” (Wend 2018c, para. 4).

Unlike the farmers who had been inviting local school children onto their farms, most of the farmers who had received those cease-and-desist letters from the county were relative newcomers to the region, having arrived in the early to mid 2010s (Wend 2018c, para. 4). As described in chapter three, many of these farmers were drawn to the Siskiyou area's relatively inexpensive land and abundant water, compared to the rest of California, as well as the local government's anti-regulatory reputation. These farmers were also different than the multigenerational farmers who hosted 4-H meetings and pumpkin patch visits, in that agritourism offerings were central to the businesses of these newer residents, and they invited

⁶⁰ In agricultural zoning districts (AG-1 and AG-2).

broader publics onto their property than only their local neighbors (author interviews 2017-2019). One farm, for example, offered three-day butchering workshops exclusively for “women and gay men” (Pape 2015). With a \$3,750 price tag and advertising campaigns focused on coastal cities (ibid), local residents described in interviews a sense that events like this were not designed with them in mind (author interviews 2017-2019).

This new flavor of agritourism that invited visitors from far-off places came to Siskiyou County at an auspicious time. In the mid 2010s the drought was bad and cattle prices were low (see Chapter 3 and 4). Long-time farmers in the region who were approaching retirement described in interviews how they had thought about selling their farms and “cashing out” at that time (author interviews 2017-2019). After the local newspaper, *The Siskiyou Daily News*, posted several anti-agritourism letters from readers on its Facebook page in July 2018, several farmers commented on this seemingly static and potentially harmful stance. One wrote, “So you’re hating on your neighbors for trying to be innovative entrepreneurs in favor of stagnation?” (*Siskiyou Daily News* Facebook July 10, 2018). Another wrote that,

Most rural communities in the country are losing their youth and workforce—we should be so lucky that we have enough enterprising agricultural producers that are willing to maintain, and some even actively promote a rural lifestyle in a world that is increasingly urban. Read the statistics. Refusing to implement any kind of permitting and only being reactive because of this ‘shut the gate’ mentality that is so pervasive here is not going to stop what’s already going on—it’s just going to keep it from being monitored. (*Siskiyou Daily News* Facebook July 10, 2018)



Figure 1: “Glamping” tents in a fruit orchard for farm stays (left) and outdoor event space for wedding and other event rentals (right) in Siskiyou County (Photos by author, 2019).

Farmers are often described, and even describe themselves, as land rich but cash poor. Hosting weddings and glampers was, for some, less about creating new livelihood opportunities and more about holding onto old livelihoods (Fig. 1). For some multigenerational farm families, adding agritourism programming was an especially promising diversification strategy to ease generational transition (author interviews 2017-2019). Many of the farmers in Siskiyou County

who were trying new strategies in response to compounding ecological and economic crises were younger, often women, newly in recognized decision-making roles within the farm household, and unburdened by past practices (Chapter 3). As one young woman farmer, who was diversifying a multigenerational cattle and hay operation, said, “You have to be able to diversify your income streams... Glancing around we see a lot more farms kind of playing in the direct-to-consumer space” (author interview 2019). She ascribed this shift as consumer driven. “There has been momentum from the consumer to have that connection with their food. And there's definitely some romanticism about farming,” she said, “so people have a curiosity and an interest in knowing [what farming] looks like” (ibid). Like nearly every proponent of agritourism in Siskiyou, this farmer emphasized its adoption as business acumen. “Being able to invite [consumers] to the farm and see it with their eyes and have this experience is really part of that retention of customers,” she said (ibid). “You're talking about sales, it's really a sales mechanism.” She described how farms are increasingly “opening their space up or having events to promote their product, to connect with their customers, to drive sales” (ibid). Members of the county’s planning commission seemed to agree that agritourism promised an economic development opportunity. One said that farmers doing agritourism were “trying to get ahead of the curve in terms of agriculture” (Siskiyou County Planning Commission August 16, 2017, 10153).

The summer of 2017, as agritourism drew attention of local county politics, county officials, staff, and members of the TAC seemed to be on the same page. In interviews, newcomer farmers and many multigenerational farmers described being optimistic about the business opportunities agritourism could afford (author interviews 2019-2020). The county government saw the flicker of an economic development opportunity that they could fan; an especially timely alternative to cannabis cultivation that was winning some support among the business community (see Polson and Petersen-Rockney 2019). At the May planning commission in 2017, agritourism was on the agenda for the first time. As a county staff person told those assembled, “Change is going on in rural America and there is a new crop up here to be considered,” referring to agritourism (Siskiyou County Planning Commission May 17, 2017, 10132). The new planning director extolled the “natural beauty” of the county and the potential benefits of agritourism “to the county, to the tax base, to the visitors, and to agriculture” (ibid, 10131). He also explained the zoning code issue of technical non-compliance and suggested that text be drafted, by his staff or an ad hoc committee, to amend the zoning code (ibid, 10131).

Several local farmers were in attendance, most of them women who, along with their families, operated diversified enterprises in the county. One farmer, a relative newcomer to the area, described agritourism as an economic and business opportunity to attract the “niche audiences” increasingly interested in farms (Siskiyou County Planning Commission May 17, 2017, 10132). One long-time local rancher said, hopefully, that agritourism might help farmers like him “keep agricultural land and hand it off to the next generation” (ibid, 10133). A local schoolteacher described bringing his students on farm tours that prompted local youth to take a “more intimate look at agriculture” (ibid, 10132). A planning department staff member even suggested, hopefully, that recognizing agritourism in the zoning ordinance could “potentially encourag[e] such uses” (ibid, 10133).

With no dissenting voices, and in the anti-regulatory spirit that got them elected, several of the

commissioners pushed back against the planning director's insistence on adding new language to the county code (Siskiyou County Planning Commission May 17, 2017). The only apparent sign of conflict in that first meeting was when a planning commissioner pointed out that agritourism was already taking place with "no regulation" and no complaints (ibid, 10133). He pointedly asked the planning office staff, "If you do not need to regulate this, why regulate it?" (ibid, 10133). A staff member responded, "There are operations that need to be regulated," to which the planning commissioner replied that he wanted "a fair and level playing field" (ibid, 10133). Another commissioner, expressing an anti-state sentiment (Ashwood 2018), warned that amending the zoning code "could potentially open the door to additional state and federal oversight"; he was especially concerned about expanded environmental review requirements for farmers (ibid, 10133). That commissioner asserted that he did not "want the agricultural community to be subjected to additionally unnecessary regulation" (ibid, 10133). Another commissioner, who was himself a multigenerational farmer, said, "What has gone on for generations, such as simply selling eggs in a stand or pumpkins, or having people come over who want to buy a hog or beef should never require a permit. I do not ever want to need a permit to sell hay from my barn" (ibid, 10133). Despite some disagreement about the virtues of regulation, those in attendance told me they left feeling there was basic agreement on the merits of agritourism and a text amendment to the Siskiyou County Code would offer swift and uncontroversial resolution to a simple technical omission (author interviews 2017-2019).

Worried about the longer-term time horizon if they formed a committee themselves, board supervisors eventually asked the planning commission to put together a technical advisory committee (TAC) in November of 2017 (Planning Commission November 15, 2017). Composed of private citizens, the TAC would be asked to develop language for an amendment to local zoning law that would define various agritourism activities, including what would be allowed "by right" and what would need a permit, as well as the permitting requirements (ibid, 10191). In mid-November 2017, the county posted a public call in the local newspaper and on their website for "residents" with "an interest in agri-tourism" to join the TAC (ibid, 10193). The process promised to be straight forward—the county government was strongly pro-agriculture, agritourism was already happening without complaint, and farmers seemed eager to volunteer their time to clarify this issue in order to avoid unknown risks (ibid). One farmer involved expressed her confidence that the county government would fix the issue quickly, saying in an interview in early 2018, "They're going to allow it," she said. "They are certainly not going to be trying to shut down businesses. They're pro-business and agriculture business is a part of that" (author interview 2018). But what county officials told attendees at a planning commission meeting would be, they hoped, a smooth, three-month long process (Planning Commission August 16, 2017, 10153) dragged on for over three years, and was anything but smooth.

Four of the six farmers who had been sent cease-and-desist letters for their on-farm non-agricultural activities volunteered to join the TAC, as well as the schoolteacher who had attended the May meeting, a county cooperative extension advisor, and one of the county's agricultural commissioners (the latter a non-voting, county employee) (see Wend 2018c; Planning Commission January 17, 2018). In an interview, one farmer explained her desire to help clarify agritourism at the county level.

The farmer is making a huge investment in their business," she said, "and part of that investment is about hosting customers on their farm. They might go ahead and make that

investment and then depending—it's all up to the planning director to really interpret the ordinances, so you might have one planning director who interprets 'You can have that glamping site and invite your customers,' and then all of sudden the turnover happens, and a new planning director comes in and says, 'Oh, actually, you can't do that.' But they've already invested in that! I think having some definition can actually be really helpful. (Author interview 2018)

Grounded in her own experience with administrative discretion, this farmer also described being concerned that lack of clarity would jeopardize future new farmer interest in the region. "If you're looking at a farm, or somebody wanting to site here, and [there is] not clarity around what type of business model they can and can't have, that can be prohibitive" (author interview 2018).

The technical advisory committee got to work quickly. By mid-May 2018, TAC members had submitted a textual amendment to the county's zoning code as a resolution to the planning commission (Resolution of the Agritourism Technical Advisory Committee, May 17, 2018). The text defined agritourism, farm stays, and "unique agricultural products," which included "fruits, berries, nuts, eggs, meats, flowers, wine, oils, jams and honey," and specifically did "not include cannabis or cannabis related products" (ibid, 2). The TAC made recommendations about which events should and should not require an additional administrative permit (ibid, 3). It suggested that smaller gatherings and one day events should be allowed by right, if the farm hosted fewer than 20 of these events per year, had limited outdoor lighting, and activities were contained within specific hours. Importantly, agritourism—by right or requiring a permit—would *only* be allowed on "working farms and ranches of more than ten acres in size [as] these operations are typically more rural in nature" (ibid, 1). Not only did the proposal cut out small-scale producers from agritourism entirely, but such language also structured administrative discretion for county staff to decide what counts as "working" agriculture and what was "rural in nature" (ibid, 2).

Repeatedly, the TAC stressed that all agritourism events, whether allowed by right or permit, must be related to the promotion or sale of agricultural products (Resolution of the Agritourism Technical Advisory Committee, May 17, 2018; Siskiyou County Planning Commission June 6, 2018). The suggested ordinance language stated that it was "allowing for certain limited agritourism opportunities [that] will educate consumers and the public more broadly about Siskiyou County agriculture and the various practices, challenges and efforts involved in producing food and fiber" (Resolution of the Agritourism Technical Advisory Committee, May 17, 2018, 1). In the June 2018 meeting in which the TAC presented its proposal to the board of supervisors and the public, a member of the TAC offered attendees a clarifying example. He suggested that someone who sold hay to far-off ranches would *not* be permitted to have a farm stay, as the farm stay would not help potential buyers become more intimately acquainted with the production process of their product (Siskiyou County Planning Commission June 6, 2018, 10242). Conversely, he said, farms that produce meat would be allowed to offer agritourism programming, as doing so would let consumers (individuals, restaurateurs, butchers) understand where their meat comes from and how it was raised (ibid). The TAC Chair stressed that the committee's goal was that their recommendations "enhance the profitability of agriculture, but are respectful of county heritage," with a focus on bringing potential customers and young people to farms to educate them about agriculture (ibid, 10241).

But ideas of heritage, tradition, and how agritourism fit into various resident's divergent

conceptions of agriculture proved fiercely divisive. As the TAC's proposed zoning code amendment entered a public comment period, local residents who had not been engaged suddenly took a fervent interest in agritourism (see Planning Commission Public Workshop September 25, 2019; Siskiyou County Planning Commission Staff Report August 19, 2020). An unlikely political alliance formed between a few farmers, mostly large-scale hay and alfalfa producers, who claimed traditional legitimacy and did not want tradition to deviate from the precedence set by their farm operations, and some amenity buyers who had moved to the region, often in retirement, for the rural tranquility (Planning Commission Public Workshop September 25, 2019).

In strongly worded letters—printed in the local newspaper and sent to county officials and volunteers on the TAC—vocal opponents raised concerns of increased traffic, noise, vandalism, and water use (Siskiyou County Planning Commission Staff Report August 19, 2020). In a letter published in the local newspaper, one large-scale rancher painted a picture where "cars race by cattle being moved to pasture," stating that the people involved in agritourism have "no regard for effects on neighbors, traffic, and quality of life for those that grew up here or left similar areas that were taken over and ruined by the same type of greed, exploitation and commercialism that is growing here now" (Jones 2018).

Most of all, opponents of agritourism stoked fears of the county's culture changing. A small but vocal set of residents wrote letters published in the local newspaper warning that "Paradise is about to change" (Wagner 2018) and, "This will destroy our agricultural lands and our rural way of life" (Marsh 2019). If allowed in Siskiyou County, some suggested, agritourism would "turn it into yet another 'rural town/valley gone citified'" (Wend 2018a) and the tourists themselves would be "destroying our rural lifestyle by polluting our rivers and crowding our highways" (Wagner 2018). At a planning commission meeting, a large-scale alfalfa farmer said simply that agritourism just "isn't a good fit for our county" (Siskiyou County Planning Commission December 2019, 10407). One retiree wrote in a letter to the newspaper that, "Previously, people have known that in choosing to spend their lives here, whether born here or transplanted here, it was not to get rich. They chose to be here for a way of life that is fast becoming extinct on this planet" (Wend 2018a). She shared some of her own experiences that prompted such resolute opposition to agritourism, "When I found this valley 21 years ago, I settled in to a quiet and comfortable way of life, reminiscent of the rural farming area in Ohio where I was born and [raised]. Now, we have the latest foodie phenomenon: 'Farm to Table,' 'Farm to Fork,' 'Meet the Chef,' and whatever else they want to call it, basically the 'Agritourism Movement' here has taken off on steroids" (Wend 2018a). Nearly a year later, this same resident wrote a letter to the board of supervisors in which she compared the potential impacts of agritourism to watching the health of an old friend decline, saying, "Watching as our county officials continue to allow non-compliance that results in changes to the very culture and heritage of this valley is an even deeper sadness" (Wend to Siskiyou County Board of Supervisors 2019 in Siskiyou County Planning Commission Staff Report August 19, 2020, 757).

In addition to cultural fears, agritourism also triggered ongoing structural harms and deeply felt grievances. "The story goes," wrote one especially vocal opponent on her blog, that, "Young people can't make it farming or ranching with all the regulations, so they have to find another way to keep the farm/ranch going and Agri-tourism is a good way" (Wend 2018b). But, she

continued, “Many who are pushing this Agritourism stuff are ‘monied people’ who have moved here, bought up ranches, brought their ‘City Ideas’ with them, all the while raising the land prices so high now that most young people raised here would never be able to buy property” (Wend 2018b).

Indeed, several of the largest and most visible farms engaging in agritourism were relative newcomers with deep pockets. One of the first operations to offer glamping and butchering workshops had initially bought property in the region in 2008 with more than \$50 million dollars from an angel investor (Goodyear 2014). Since then, that farm had purchased more than 30,000 acres of farm and ranchland in the county (Benda 2021). In interviews, multiple farmers attributed rising land prices, in part, to this one operation’s rapid accumulation. According to their farm websites and interviews, fully half of the farmers to whom the county had sent cease-and-desist letters had been successful lawyers in their first careers. On her blog, this concerned resident—self-described as “retired from years behind a desk in Escrow and Finance” (Wend 2018a)—also seemed concerned about who would be able to access this new market and benefit from agritourism opportunities (Wend 2018b). “The first argument will be: ‘You don’t WANT economic development and jobs in this county? This is a ‘depressed area’, this will revitalize it,’” she wrote, “What they don’t admit is that it will make even more money for the BIG money folks. It won’t do much for the average person here who doesn’t have the money to avail themselves of all this” (Wend 2018b).

Some people pointed out the irony that those most opposed to this potential enterprise that could help farmers stay in business were not farmers themselves, but instead people who had moved to the area for the rural scenery and open spaces farms provided. As one agritourism farmer diplomatically told me in an interview, “There’s a lot of people that come here, they retire and they come here and farming is not something that is even part of their lifestyle. And so their interaction [is that they] don’t want things to change at all. There’s a lot more push against trying to do anything that has to do with progress. In their mind, it looks like development” (author interview 2018). He added, “Anything new gets a lot of pushback” (ibid)

While pushback may have been triggered by the appearance of development, it was development of a certain type, by certain farmers, that seemed to spark conflict. Some opponents—especially farmers—took less issue with the large-scale or wealthy farmers. In interviews I heard many admissions of admiration and respect for wealthy and large-scale farmers. Farmers often made comments about those wealthy newcomers expanding into the agritourism business, like one cattle rancher who said of one of the large agritourism farmers, “He’s a billionaire, and hey, nothing wrong with that!” (author interview 2019). Instead, I found that smaller-scale farmers trying to diversify into agritourism to survive presented more of a friction point in agritourism debates. Several of the largest-scale conventional alfalfa farmers in the county, including newcomers, challenged the legitimacy of smaller-scale farms engaged in agritourism. In a public meeting about agritourism, an alfalfa farmer said, “Anything under 10 acres is just a ‘hobby farm’ [anyway]. That’s not a farm, that’s a hobby, and I’m a little uncomfortable with hobby farmers dictating what the county does” (see Planning Commission Public Workshop September 25, 2019 for audio). He went on to explain his concern that agritourism might somehow challenge the county’s right to farm laws (ibid), which notoriously provide sweeping legal coverage for all kinds of harms under the guise of agricultural exceptionalism (Ashwood,

Diamond, and Walker 2019). Specifically, this farmer at the planning commission's public workshop in September 2019, expressed concern that if he was spraying pesticides or stirring up dust near an agritourism event he would be told to stop (see Planning Commission Public Workshop September 25, 2019 for audio). In an online comment, another resident said, "Real ranchers and farmers don't have time to blab on Facebook about their daily activities and depend on hosting hundreds of city folks instead of tending to chores" (Moyles 2019, para. 5).

Farmers engaged in agritourism seemed keenly aware of their precarious hold on the identity of being a farmer. These farmers also recognized the cultural authority and benefits that being recognized and labeled as a farmer promised in Siskiyou County, and worked strategically to maintain their farmer status. In an interview, a multigenerational farmer who had a you-pick berry patch, in addition to cows and forage, described some of the social and institutional benefits of visibly maintaining "traditional" enterprises (cows and hay) while diversifying her operation (author interview 2019). Since the agritourism issue became divisive, she said that several disgruntled neighbors had threatened to file complaints that her berry patch had increased traffic (ibid). Discussing the response that she envisioned the board of supervisors would have if they received complaints about her you-pick agritourism, she said, "You know, it's just a small area, they know who is doing what. And so if somebody called, they're like, 'Yeah, that's fine, of course, the berry patch is agriculture.' They know the rest of our story is that we're haying and that we have cows" (ibid).

While conflict whirled around how to define a farm and who counted as a farmer, agritourism itself proved hard to define and defend, even for its proponents. Some farmers who engaged in these activities made a clear distinction between agritourism and tourism on farms. In an interview, one farmer said, "There are tourism activities that happen on farms that I wouldn't consider agritourism because you might have a farm that hosts weddings and a farm does concerts or something like that. But if it's not there to promote agriculture, it's not agritourism" (author interview 2018). Other farmers considered any activity that helped them keep the farm to be part of farming, irrespective of agricultural promotion. One cattle rancher told me, "The idea is to support agriculture. Period. We need to make it easier for farmers to increase sales revenue and diversify sales" (author interview 2019). She said that she hosted several weddings each year in an old barn, "That's a way to supplement what [we] have going just because the ranch is no longer really a viable unit" (ibid). Still, other farmers tried to avoid the contentious fray, like one who told me, "As long as it doesn't affect me too bad, I don't really care. Just stay out of my sandbox. I'll stay out of yours" (author interview 2019).

Many farmers also expressed ambivalence about agritourism, even some farmers who were actively adding agritourism to their farms. In an interview one cattle rancher captured this common sense of measured reluctance particularly well. "Before I want to see this community die, I want to see it become a hotspot for agritourism," she told me (author interview 2019). We were sitting on stools next to each other at her kitchen counter drinking tea. It was a late fall day, and the woodstove was burning too hot, so she propped the door open. Dogs, cats, and a refreshing breeze wandered through as she said:

Do I want it to be like kitschy little farms selling stuff that every little other little farm is selling? No, I don't. I want to see production agriculture here. I think it's a viable place. I think that it's a good spot to grow things and raise livestock. But before I want to see this

community die, sure, have an agritourism farm. It doesn't bug me maybe as much as it bugs some people. Now, the people that come and visit agritourism, they're close to unbearable. It's hard to deal with these kinds of people. And I don't necessarily want to be hanging around these people. So I can understand people's concerns as far as like, 'Oh, we've always just grown alfalfa and made it pay the bills. So why can't we keep doing that?' We just can't... We got to figure something else out. So whether it be agritourism, or higher dollar crops, or different livestock, or diversifying in some way, it's going to have to happen. So to me, it's more of like what can keep you afloat. And I don't have this moralistic opposition to agritourism. I think it's fine. Do I like the people who come visit farms? No, but whatever. If they're coming in here and keeping us economically viable, then it's fine with me. I don't care. (Author interview 2019)

While it was easy enough to quantitatively specify the characteristics of eligible farms, such as setting a minimum number of acres for eligibility, or the stipulation that the activity had to promote farm products to a customer, a boundary that proved harder to specify in the law was *who* agritourism was for. In a video that the local newspaper made in January 2019, the cameraman asks the farmer (a proponent of agritourism) he is interviewing if agritourism “is focusing on folks outside of the community or is that for folks here?” (Thompson 2019). At a board of supervisors meeting in 2020, a member of the public asked, “Why do we want to let *these people* in and destroy our way of life?” (Siskiyou County Board of Supervisors 2020, emphasis added).

Many of the farmers who engaged in agritourism expressed an uneasiness over which people agritourism helped facilitate access to rurality for. I observed that expressing reservations about which outsiders would come to farms—often, people feared, liberal, urban, do-gooders—also had potential to mitigate social risks farmers engaged in agritourism perceived. Just like climate change belief and action (Chapter 5)—and indeed agritourism was one of those diversifying strategies white farmers adopted in response to limited water and availability—farmers engaged in agritourism often forwarded business-necessity narratives around why they had adopted these strategies. It was certainly locally appropriate and politically palatable to emphasize the adoption of agritourism as a smart business move, an opportunity to make money, or even a temporary financially motivated “detour” to get the farm business through a period of low cattle prices (Mooney 1982). No matter the motivations, or how they were framed, I found that many farmers in the area were seeking new opportunities in the face of compounding crises that included droughts and wildfires, low commodity market prices, and imminent and uncertain generational change.

The TAC’s progress had slowed after the first few meetings. While there had been a few vocal opponents of agritourism, the slowdown was, according to interview with those involved, largely internal within the TAC and county bureaucracy (author interviews 2017-2019). The county’s limited capacity was stretched thin (author interviews with county officials 2017-2019). Since 2017, cannabis had dominated many public meeting agendas (Polson and Petersen-Rockney 2019), and resources continued to move from the planning department to the sheriff’s department to tackle what the sheriff described in an interview as “just like a ravaging forest fire [that’s] burned through our county, causing irrefutable harm to our health and way of life” (interview with Siskiyou County Sheriff, quoted in Lu, Dev, Petersen-Rockney 2022, 10). Farmers and

community members on the TAC, as well as the county officials they worked with, grappled with how to construct what kinds of boundaries around agriculture, farms, and farmers.

A lack of engagement from the wider community changed overnight on March 20, 2019. That was the date set for the planning commission meeting where a final draft of the agritourism amendment was to be presented (Siskiyou County Planning Commission March 20, 2019). Unbeknownst to those involved with the TAC (according to author interviews with individuals involved), some vocal opponents had been actively organizing opposition (Moyles 2019, para. 2). A week before the March 20th meeting, some residents had met at a local library to, as their social media posts declared, “Discuss what is going to happen to our community's future” (ibid, para. 2). A few days later, organizers (some of the initial opponents who had been voicing their opposition since 2018) provided instructions to submit letters “to the Planning Commission stating your concerns and opinions on the effect of this amendment and to our local way of life and land” (ibid, para. 3).

A typical letter submitted to the county at this time read like a fable. First, it offers an exposition, laying out the changes that people feared,

We moved here 19 years ago to escape the same thing that is being proposed. It ruined our small communities and is an absolute zoo now. Families cannot afford to buy a home let alone a ranch. The once abundant thriving ranching/farming communities are covered with subdivisions, malls, wineries, and tourist attractions. We moved here and cherished this community. (Jerry and Elizabeth March 11, 2019 letter to Siskiyou County in Siskiyou County Planning Commission Staff Report August 19, 2020, 268)

The letter then asserted a moral about how to avoid those ills, even for newcomers:

We learned to fit in to what was here and had no intention of changing it to what we left as some of the recent transplants have been doing. We are not Instagram or Facebook farmers feeding the public a scripted reality show. Those of us that truly work the land and struggle to have this way of life for ourselves and our children and all future generations resent the fake news of ranching/farming that is put out there today. (Ibid, 268)

The letter ends with a warning, “You say it's not the same. Oh yes it is and it is coming and coming fast... Have the guts to stand up and say no to opening up this beautiful area to exploitation and irreversible change” (ibid, 269).

The organizers of the public comment campaign also created a petition opposing the proposed agritourism zoning text amendment (Moyles 2019). Within a week of being posted—just in time for the March 20th meeting—575 people had signed the petition (Moyles 2019, para. 5). The petition warned that, if passed, agritourism would, “Change our rural way of living. [We] need to preserve agriculture as the foundation of our economy and our way of life, and preserve open space. If this amendment passes it will completely change the land use and landscape[,] which will impact the future for us and for our children” (Moyles 2019, para. 1).

When the planning commission convened on March 20, 2019, they were met by a crowd, the petition, and a sudden influx of public comments (Siskiyou County Planning Commission March 20, 2019). Given the low attendance and uncontested nature of previous TAC meetings (see cited

planning commission meeting minutes), the planning commissioner was caught off guard by the “volume of comments that were received immediately prior to the Commission meeting” and postponed review of the agritourism zoning code amendment so that staff would have time to review the new comments (Siskiyou County Planning Commission March 20, 2019, 10311).

That same day in the local newspaper, an older rancher wrote a letter,

We have often thought of agritourism as a way to help us make our small ranch more profitable. [As] the younger farmers and ranchers who will replace this aging/retiring group try to get established they must be very diversified in order to make a living, paying for the property and the accompanying property taxes. Unless they are fortunate enough to take over the family ranch, this younger group needs the freedom and opportunity to use their property in creative and nonconventional ways. (Kathy Bishop March 18, 2019 letter to Siskiyou County Supervisor Haupt in Siskiyou County Planning Commission Staff Report August 19, 2020, 321)

Pleas from ranchers like this went largely unheeded by the agritourism opposition. In mid-May 2019, those opposing agritourism took a new tactic: they filed complaints with the California Fair Political Practices Commission (a non-partisan commission charged with ensuring state and local-level government official act in fair and transparent ways) regarding both the agritourism and multispecies livestock processes (Siskiyou County Planning Commission May 15, 2019). The issues they forwarded were around impartiality and conflicts of interests, about which there had been rumblings since the first public opposition was voiced in 2018 (ibid; author interviews 2017-2019). The particular concern cited in these complaints was that three of the five county’s planning commission members were themselves farmers, and as farmers, they stood to benefit by the allowance of agritourism and multiple livestock species (Siskiyou County Planning Commission May 15, 2019). Therefore, more than half of the commissioners had to recuse themselves from the remainder of the agritourism and multispecies livestock code amendment processes (ibid).

These same concerns about bias and conflicts of interest were brought by members of the public against supervisors and other county officials who were farmers, as well as members of the TAC. In an op-ed in the local newspaper, one local resident said that TAC members were rewriting “zoning laws to benefit themselves. [Text was] written by and for persons benefiting the most” (Wagner 2018, 4). Another resident, who identified as a retired bookkeeper, complained to the local newspaper that,

...certain interested parties [are] getting onto the Agritourism TAC to promote the economic welfare of their own farms. [A] majority of them had and/or have vested interests because they have been involved in unpermitted Agritourism activities. I guess that does make them experts, but it certainly doesn't take into consideration residents, ranchers and the general public. (Marsh 2019, A4)

The farmers on the TAC appeared bewildered by these claims of wrongdoing. After all, the requirement to be eligible to volunteer on the TAC was having “an interest in agriculture” (Planning Commission November 15, 2017, 10193). One farmer on the TAC reflected,

I think [planning department staff] did the best they could to put together a group of

people [friendly to agriculture]. The point of that was to try to work with farm businesses in the area that have a stake in the game and can speak to [farmers' needs]. Those meetings are all open to the public. Nobody came. But once we were done with our work, well, then it was a big uproar. I mean, we tried to put together these groups of farmers and make it open to the public and nobody came. Well, you know, now people are showing up. (Author interview 2019)

She then asked, it seemed rhetorically, “Wouldn’t you want stakeholders involved in this process? And if not farmers, then who?” (ibid).

After the surprises of the March 2019 planning commission meeting, several local business leaders and board of supervisors members, according to Bowen (2019), received a grant from the Ford Foundation for \$2,500 to hire a facilitator and get food for, as the local newspaper described it, a “group of concerned citizens [to] discuss the polarizing rhetoric we are experiencing socially—and how to bring respectful communication back into the mix” (Bowen 2019, A8). The county seemingly went back to square one. At a public workshop on agritourism in September 2019, people became, as one attendee recounted to me, “upset,” as vocal disputes between farmers on both sides of the agritourism issue broke out (author interview 2019). At a board of supervisor meeting in December 2019 one of the ranchers who had originally received a cease-and-desist letter from the county for hosting farm tours and farm dinners described the decline of farming in the US over his lifetime (Siskiyou County Planning Commission December 18, 2019, 10408). He talked about the rising suicide rate among farmers and ranchers and implored residents and county officials to keep the bigger picture in mind by clarifying county code to allow agritourism was about keeping the agricultural community alive (ibid, 10408).

After these meetings, county staff—no longer the TAC made up of stakeholders—drafted a new zoning text amendment (Siskiyou County Planning Commission May 20, 2020). To appease neighbors concerned about noise and traffic, the new text included provisions to notify residences within 300 feet of the property hosting the agritourism. The county removed previous language that had stipulated that agritourism could only occur around the promotion of “unique agricultural products,” which were mostly value-added or direct marketed products, making agritourism more accessible to conventional farmers and ranchers (ibid). To quell concerns that large-scale alfalfa farmers’ had raised of challenges to conventional agriculture’s rights granted under the county’s right to farm law, the new text had language protecting “commercial agricultural uses,” including pesticide spraying buffers (ibid, 16). The next step, county administrators said, would be a hearing on this proposed agritourism bill. But the hearing kept being postponed as county staff with “a myriad of duties” redrafted and redrafted the text to try to mitigate various concerns (Siskiyou County Planning Commission May 20, 2020, 10450).

Over the summer of 2020 the new, updated zoning text amendment was finally made available for a two-month public comment period (Siskiyou County Planning Commission, August 19, 2020, 10466). The final text presented three different levels of permitting, depending on the activity, the farm acreage, and the number of attendees. Farms had to be 10 acres or greater to offer any agritourism programming at all, and at least 80 acres to host farm stays, cutting smaller scale producers out of potential agritourism business opportunities entirely (Siskiyou County Planning Commission Staff Report August 19, 2020, 3). Additionally, the planning director would be charged with evaluating each farm to determine whether it qualified as a “working

farm,” based on its size, layout, finances, and what it grew or raised (Siskiyou County Planning Commission Staff Report August 19, 2020, 6). Building wide-ranging administrative discretion into the law itself was an especially questionable tactic in a county where local government discretion had formed the basis for not one, but two, class-action lawsuits around racially motivated discrimination in the application of local zoning codes and enforcement during the period from 2016 through 2022 (Polson and Petersen-Rockney 2019; American Civil Liberties Union 2022).

In a board of supervisors meeting on October 3, 2020, one of the supervisors said that “this started with three farms that were trying to be compliant, and now we have to turn over the whole county code” (Siskiyou County Board of Supervisors’ Meeting October 6, 2020, audio). That supervisor described how he had grown pumpkins and gourds on a 2.5-acre farm for many years (*ibid*). Each fall, 50–100 elementary school children had taken a field trip to his farm to pick pumpkins, a community offering that would be illegal under the proposed agritourism label, since his farm was under the 10-acre minimum (Siskiyou County Planning Commission Staff Report August 19, 2020, 3). One attendee at the October 6th, 2020 supervisors’ meeting pointed out that all events with 30 or more people would require a use permit, and Future Farmers of America meetings often include more than 30 people. A supervisor asked, in apparent frustration and seemingly rhetorically, “Will you not allow flexibility for landowners to do what they need to do to survive?” (Siskiyou County Board of Supervisors’ Meeting October 6, 2020, audio).

When the board of supervisors voted at the end of that meeting in October 2020, the amendment did not pass (Siskiyou County Board of Supervisors’ Meeting October 6, 2020, audio). One supervisor recused himself as a farmer a conflict of interest (*ibid*). Two supervisors voted to pass the amendment, citing the years of work and conflict to get to that point, and pointing out that “we can’t codify every little minutia,” but that they trusted staff to use discretion in determining whether or not something would be allowed (*ibid*). But two supervisors voted no, having decided that there were too many potential permutations of agritourism, and it would be impossible to account for every possible structure of this activity (*ibid*). After three years, without a majority, the agritourism amendment did not pass (*ibid*).

County government officials let that vote on one iteration of proposed text end years of effort and division for the simple reason that county administrators had determined that they did not have the staff capacity or resources to permit and regulate these activities (Siskiyou County Planning Commission Staff Report August 19, 2020). By this time, October 2020, the county’s interest, governing capacity, and resources had shifted to the sheriff’s office to “Fight the #1 public enemy in Siskiyou County”—cannabis—leaving the planning department and other civil offices severely understaffed and underfunded (Lu, Dev, Petersen-Rockney 2022, 10, quoting Siskiyou County Sheriff’s Office 2016 Press Release).

To many people involved with this process, what began primarily as an adjustment to administrative process, grew into a political controversy, the ferocity and divisiveness of which apparently surprised even those involved. In many ways, the public argument came down to where to draw the line between which agricultural activities to allow by right—things that had been going on for generations, like farm stands and opening pumpkin patches to visitors—and what to regulate more closely, on a case-by-case basis, by requiring an administrative permit—

particularly newer agritourism activities like workshops and farm stays that threatened to change who could access, shape, and claim rurality.

This boundary-making project complicates ideas about insiders and outsiders, inclusions and exclusions. In the case of agritourism, large-scale, mostly export, alfalfa farmers, and amenity buyers, mostly retirees, allied in opposition to new forms of agritourism as a livelihood strategy. Local government officials and administrative staff were under scrutiny and pressure, navigating the requests of their most vocal and empowered constituents to both facilitate business development and protect a static notion of traditional productivist agriculture. In an era of local newspapers in decline, the *Siskiyou Daily News* became an important canvas on which conflict would unfold. As the newspaper's lifestyle columnist wrote, "Boundaries do need to be set, but regulation to the point of stagnation is certainly not healthy" (Bowen 2019, A8). This case also suggests that too narrow a focus on insiders and outsiders can reify who belongs without interrogating the materiality and agency of farmers navigating belonging.

One of those farmers, a relative newcomer who had moved to the area to start a pastured livestock farm a decade earlier, reflected on the boundaries he was now embroiled in pushing during a video interview with the local newspaper in 2019. "Anytime there is a change in regulation there's a concern about what that change should be, and that's really good, healthy. As a community we should be dialoguing about that." He reassured the cameraman, "It's not fundamentally changing what this community is about because that's what we love and that's one of the reasons people want to come and see it and be a part of it, it's incredibly special and we want to preserve that" (Thompson 2019, 7:47).

During my last fieldwork trip to Siskiyou before the COVID-19 pandemic, in November 2019, I interviewed a farmer who had been very involved with the agritourism process. She described what it was like to be in the middle of this conflict in a tightknit community, "The amount of aggressive, loud opposition is totally disappointing" (author interview 2019). She said those on the TAC were good, honest people, volunteering their time to help the county help farmers keep farming. But, she said, "They're attacking people who served on the committee, attacking people, quite personally" (ibid). She described receiving hate-filled letters about her, about her farm, and about her role on the TAC. "There's some people who believe that there's a huge conspiracy out there [with] agritourism. [It's] kind of ridiculous" (ibid). She reflected, "I actually think both sides are coming from the same place" (ibid). She described how both sides were driven by fear, fear of uncertain futures, fear of loss, and fear of finding themselves on the outside of shifting boundaries and a loving and supportive community (ibid).

This case highlights how environmental uncertainty facilitates the deepening of fracture and difference, even in resolution-oriented processes, new tensions and frustrations emerge. Climate change presents political terrain not only for questions of land use and access to resources like water, but for other struggles too, like who has access to carefully guarded imaginaries of rurality.

Multiple Species of Livestock

In 1986, the county zoning code was written to technically forbid the raising of any commercial livestock in the county except beef cattle (Siskiyou County Ordinance 86-2, 1986 in County Code Sec. 10-6.5002). In areas zoned for both prime and non-prime agricultural uses, the County Code prohibited “dairies, commercial feed lots, or commercial poultry, and hog raising operations” (ibid). Commercial goats, dairy cattle, horses, and rabbits were also explicitly named and prohibited in rural residential areas. (Sheep were not named.) Like agritourism, multiple and mixed species of livestock had been raised in the region with little attention to legal technicalities (author interviews 2017-2020). Older farmers and ranchers I interviewed told numerous stories of growing up in a highly diversified agricultural region. Grains, forage, and cattle had been grown and raised in commercial abundance since colonization, but farmers had also raised and sold pigs, sheep, goats, dairy cattle, and poultry of all sorts (Siskiyou County Crop Reports 1957-2020). During my primary dissertation fieldwork, from 2017 through 2019, I met farmers, both white and Hmong, raising livestock other than beef cattle.⁶¹ There were still several commercial dairies in the county and sheep production was extensive (Siskiyou County Crop Reports 1957-2020). Multigenerational farmers described sheep farming as traditional in interviews, though raising sheep was often gendered and I met several multigenerational families in which the men managed the cattle, and the women the sheep.

Two things changed, in sequence, in the mid 2010s. First, an increasing number of farmers began more visibly raising pastured pigs and chickens and organic dairy cows (Chapter 3 & 4). California’s intense drought, coupled with low beef market prices and an aging generation of farm owners, spurred farm sales (Chapter 3). As described in chapter three, new farmers moved to the region to raise various livestock species on pasture for direct markets. Some of these operations were large, prominent, and appeared lucrative; they seemed to be quickly spreading electric net fencing and mobile chicken tractors over the landscape, and buying more land. One of these investment-driven pastured livestock newcomers opened an USDA slaughterhouse in the county (Goodyear 2014). Another opened a restaurant where patrons could order a \$16 beef or lamb burger topped with bacon and a fried egg, all from their farm. Multigenerational farmers saw an opportunity to diversify their farm operations and capture a greater proportion of their product’s sale price (Chapter 3). As one county official said at the time, “Agriculture is evolving and changing in different ways” (Siskiyou County Planning Commission June 21, 2017, 10142). As more and more farms expanded beyond cow/calf operations, the second shift occurred.

The county hired a new planning director, one apparently intent on following the county code to the letter. In 2017, as this new planning director sent cease-and-desist letters to farmers engaged in agritourism, he also began raising issues of non-compliance for all the pigs, chickens, ducks, and goats that dotted prime agricultural land (Siskiyou County Planning Commission June 21, 2017). Ironically, in a county that prides itself on being pro-business and pro-agriculture, the

⁶¹ While Hmong farmers raised chickens, goats, and other species of livestock, I did not meet or hear about any Hmong farmers who engaged with the county on issues related to livestock or the multispecies ordinance. All the Hmong farmers I met who raised livestock did so, they said, for personal consumption, or to barter within their communities, and they claimed the livestock and meat was not offered for sale at farmers markets or other public venues.

county had suddenly trained a sharp eye on economically promising pastured livestock businesses.

The county's community development director and several supervisors objected to initial suggestions by the planning commissioner that staff write language for a zoning code amendment. At a planning commission meeting in July 2017, one commissioner, a farmer himself, expressed concern about staff leading the "multispecies" matter, as it was referred to in the county, saying that he had "great trust" in private citizens leading the effort (Siskiyou County Planning Commission July 19, 2017, 10147). He articulated the goal as finding "a path for individuals who want to do nontraditional raising of pork, dairy, and poultry in high numbers that are not using the concentrated animal feeding operation (CAFO) method, but are pasture-raising the animals" (ibid, 10147). Another commissioner, also a farmer, described that the way farmers managed their livestock was "a sensitive subject to some operators who are out there and may and may not be in compliance" (ibid, 10147). These officials argued that the determinations that would need to be made around multispecies livestock, including what agricultural management practices and operations should be allowed by right and what should require case-by-case permitting, required a particular set of agricultural expertise (Siskiyou County Board of Supervisors Minutes, August 8, 2017).

In an approach similar to that of the agritourism process, which was playing out at the same time and with many of the same farmers, officials, and other residents engaged, the county formed a technical advisory committee (TAC) of private citizens to work on "enhanced animal production" of multiple livestock species "post haste" (Siskiyou County Planning Commission Meeting May 17, 2017, 10131). To be eligible to join the TAC, someone had to be a Siskiyou County resident and "come from an operating farmer (sic) or ranch, have demonstrated experience in farming or ranching, be an owner/operator of a farm or ranch, or be a licensed specialist in livestock production" (Siskiyou County Planning Commission Meeting November 15, 2017, 10193). The TAC would be charged with determining "uses by right" in regions zoned as "Prime Agriculture," "Non-prime Agriculture," and "Rural Residential," as well as developing revised zoning code language (Siskiyou County Planning Commission Staff Report March 20, 2019). The plan was that this language would be submitted to the planning commission for review and then forwarded to the board of supervisors for approval by vote Siskiyou County (Planning Commission Meeting May 17, 2017, 10131).

The planning commission published a Notice of Vacancy to invite eligible people involved in agriculture to express their interest in joining the TAC (Siskiyou County Planning Commission Meeting December 20, 2017). By January 2018, the planning commission had appointed six farmers, a cooperative extension advisor, and one of the county's agricultural commissioners to the TAC (Siskiyou County Planning Commission Meeting January 17, 2018). While one of the county's the agricultural commissioners would be a non-voting member on both TACs, he would, eventually, be involved in code enforcement for the multispecies livestock amendment (Siskiyou County Planning Commission Staff Report March 20, 2019). The planning department's code enforcers could enforce specificities around agritourism, like the number of acres a property needed to be or the number of guests that could attend a farm tour (Siskiyou County Planning Commission Staff Report August 19, 2020). But the multispecies issue raised new issues, beyond how to define a farm and public events on it, that included drawing

boundaries around acceptable farming *practices*, which required a particular area of expertise to enforce, expertise that the county’s agricultural commissioners held.

The composition of the rest of the TAC was also notable. Four of the farmers were simultaneously serving on the agritourism TAC (Siskiyou County Planning Commission Meeting January 17, 2018). Unsurprisingly, the farmers who volunteered their time for lengthy monthly meetings were those directly involved in these forms of agriculture. As one of the planning commissioners pointed out, many farming operations already existed in the county that could be labeled as “non-compliant” (Siskiyou County Planning Commission August 16, 2017, 10153), but perhaps many of these farms had been raising sheep and chickens for so long without issue that it seemed unnecessary to commissioners to involve the local government at that specific time. What was different about several of the farmers who volunteered significant amounts of time—and became embroiled in contentious local politics—was that three of the four who were on both advisory committees were not from multigenerational families in the region—they were first generation farmers, and first generation in Siskiyou County (though one had been raising beef cattle in the county for decades, by this point) (author interviews 2017-2019). The other thing that set this small group of farmers apart was that two of them were former lawyers (*ibid*), which prompted one planning commissioner to remark on the “brilliant legal minds” who had been appointed to the TAC (Siskiyou County Planning Commission January 17, 2018, 10207). With a sense of legal risk, these farmers expressed concern about being non-compliant with County Code, and a desire for legal clarification so that their operations could be in compliance with local zoning code (*ibid*). A planning commissioner noted that it was not only newcomers who faced legal risk, but also “established agricultural businesses,” which he described as “stepping into and/or looking into new agricultural enterprises that are not addressed in the County Code, and these agricultural operations face the danger of being considered not compliant with the County Code” (Siskiyou County Planning Commission August 16, 2017, 10153).

For Hmong farmers I interviewed these risks were intensified. Hmong farmers, especially those who lived in the rural subdivisions, described frequent raids by law enforcement and code enforcement (author interviews 2018-2022). When a raid occurred, code enforcement could charge a administrative civil penalty fine for each violation of County Code. If there were cannabis plants present, those fines—even on non-cannabis violations like unpermitted water tanks—could be charged at their maximum rate, up to \$5,000 per day per violation (Siskiyou County Code 10-14.095 and 10-14.100). Hmong farmers who I interviewed in 2022 described friends and family members who left the area after fines accrued quickly beyond the value of their properties and the county placed liens on those properties (author interviews 2022). While no Hmong farmers I spoke to had yet been charged a fine for raising chickens, pigs, or goats, many of Hmong farmers raised these livestock that were, technically, not in compliance with County Code (author interviews 2018-2022).

At the first board of supervisors meeting in which the multispecies livestock amendment process was discussed, supervisors pointed to “the lack of controversy” around the topic and “the potential for a quick review turnaround” (Siskiyou County Board of Supervisors 2017). They also expressed concern about inviting public comment on “private property owners’ rights to operate their agricultural business” (Siskiyou County Board of Supervisors August 8, 2017, 423).

In a place where private property rights appeared dearly held, and an evidently significant majority of farmers shared libertarian leanings, some of the supervisors—especially those who were themselves livestock farmers—expressed discomfort with the idea of putting private farming practices under a public microscope.

Indeed, much of the contention around multispecies livestock revolved around specific farming practices and how to define them. As the community development director pointed out in that first board of supervisors meeting on the topic in the late summer of 2017, the county’s zoning ordinance from the 1980s did prohibit commercial production of livestock other than beef cattle, but it “does not define certain activities or provide thresholds related to multi-species farming” (Siskiyou County Board of Supervisors August 8, 2017, 423). In other words, the county was embarking on a new tactic to explicitly define acceptable and unacceptable agricultural practices and enterprise structures in local law. One resident raised his concerns about the local government enshrining limitations on things like the number of animals a working farmer could have (ibid, 423).

Attendees at a planning commission meeting in June 2017, struggled to define what “intense” animal production was, or should be (Siskiyou County Planning Commission June 21, 2017, 10142). People brought up number of animals on a farm, or number per acre as potential metrics. A pastured hog farmer leveraged her expertise arguing against regulations based on herd density—after all, pastured hogs are often managed in dense herds that move rapidly across the landscape in an adaptive multi-paddock grazing porcine equivalent (ibid). Instead, the farmer suggested, definitions and regulations should focus on the aspects of various livestock species that cause concern (ibid, 10142). In the case of hogs, for example, she recommended regulating manure and manure management (ibid). One of the planning commissioners, who identified himself a cow/calf rancher, said that “custom calf raising” (where dairy calves are raised on pasture much like beef cattle before being bred) was an increasingly popular enterprise ranchers were adopting to diversify their income streams (ibid, 10142). This, he pointed out, was a type of “pastured feedlot” that was allowed under the county’s 1986 zoning code (Siskiyou County Ordinance 86-2, 1986 in County Code Sec. 10-6.5002) since the calves were, a) cows, and, b) not technically dairy producers yet (Siskiyou County Planning Commission June 21, 2017, 10142). He warned, however, that “if the agricultural use is confined at all or do(es) not have enough acres to properly rotate the animals, then it gets back to a gray [area in the regulation]” (Siskiyou County Planning Commission June 21, 2017, 10143). It appeared conspicuously unclear who decided how to define or categorize “pastured,” or “feedlot,” for that matter. Commissioners seemed uncomfortable in the position they were placed, especially those who were farmers themselves. An observer could fairly ask to what degree commissioners would leverage their own local officially sanctioned power to impose rules and regulations on agriculture, when they themselves did not want to be regulated.

Planning commission and board of supervisor members both seemed intent on carving distinctions into the zoning code between multispecies activities that should be allowed “by right,” and those which would require a conditional use permit that was understood as a privilege awarded on a case-by-case basis according to a county official’s discretion. Establishment farmers and county officials seemed intent on delineating “pastured” operations as allowable by right.

In the initial amendment text the TAC proposed to the planning commission in mid-May, 2018, the TAC offered a definition of pastured: “‘Pastured’ means keeping livestock under active management on pasture, rangeland, or woodlands during the vegetation growing season so that animals have daily outdoor access to growing vegetation and so that ranging and foraging areas do not accumulate excess manure or become excessively de-vegetated” (Siskiyou County Technical Advisory Committee 2018, 2). This language was unique in its emphasis on “active management” and land that would not “accumulate excess manure” and become “de-vegetated.” According to interviews with farmers familiar with the TAC, the four farmers who served on both the multispecies and agritourism advisory panels were all devotees of holistic management (author interviews 2017-2019), modeling their farms after those of famous rotational pasture farmers like Allan Savory (Savory and Butterfield 1999). From interviews and participant observation, I observed that in their own livestock management, the farmers on these committees emphasized dense herds that rotated rapidly across the landscape, often with multiple species that followed each other (Fig. 2). Farmers who adopted these practices described improved soil health and water holding capacity, more nutritious forage, and improved animal health outcomes of these management practices (Chapter 4).



Figure 2: While both images show pastured livestock operations in Siskiyou County in 2019—chickens on the left and sheep on the right, neither species compliant with county zoning code—the right image depicts an extensive grazing system, considered traditional in the region. Note in the left image the mobile coops and electric net fencing typical of more intensive pasture rotation practices brought to the region by new entrant livestock farmers in the last decade (Photos by author).

But these “holistic management” practices were not standard, or considered traditional, in the county. Many cow/calf farmers moved their cattle infrequently, it seemed, keeping them in sparse herds on large parcels of irrigated valley land much or all of the year—some still moved their cattle onto public (primarily US Forest Service) land in the summer, but for a number of factors,⁶² even this limited rotation onto range has decreased in recent years (author interviews

⁶² In interviews ranchers cited the difficulty of moving cattle across multiple parcels; many no longer had horses, and were limited to ATV-accessible terrain. Many ranchers also described relationships with forest service and other public lands personnel as deteriorating (interviews 2017-2020). Ranchers described the generational transfer occurring within public lands institutions as significant. As older pro-wise-use, pro-ranching county staff retired,

2017-2020). Declining access to public grazing lands were one factor in a complex web of factors that multigenerational farmers often cited as driving shifts in what livestock they raised and how (see Chapter 3). Among these factors were low cattle markets, driving ranchers to diversify into new markets and new species; increased drought and wildfire risks, prompting ranchers to explore farm diversification, export alfalfa production, or both; fear of increased state regulation and restrictions; and ranchers were concerned about the next generation and their ability to keep ranching (author interviews 2017-2020; see also Chapters 2, 3, 4, and 5).

In 2017, the local community college began “a renewed focus on ag education,” which seemed to focus on exposing students to multispecies operations (Smith 2017). A local rancher and professor taught an agricultural operations course that went on field trips to three multispecies livestock farms, all owned and operated by newcomers who served on the multispecies TAC. The professor explained that the goal of these fieldtrips was “to provide an extensive overview of the vast opportunities in agriculture and spark an interest in local agriculture to a broad audience in our community” (Smith 2017, 1). The professor, like many farmers, seemed to see multispecies agriculture as an opportunity to keep farming viable in the community, a vision that propelled him to join the TAC. He told a local newspaper reporter, “I get excited when people get enthused about learning new approaches in how to raise and sell locally grown food, I love to hear and tell the rural lifestyle stories, and ultimately I love to try to create a passion in others for agriculture” (Smith 2017, 1).

The topic of the next generation arose in another way around the multispecies issue, too. In determining which multispecies practices were a right that any farmer could engage in, and which were a privilege that only some farmers would be afforded at the county’s discretion, there was one other category of production people on the TAC seemed to agree should be a right: Future Farmers of America (FFA) and 4-H projects (Siskiyou County Planning Commission June 6, 2018). In this strongly pro-agricultural region, children had been raising and selling multiple species of livestock in FFA and 4-H projects for decades, though technically these children had been “non-compliant” with county code (ibid). When the planning commission received from the multispecies TAC a set of recommendations, a short two-page document of which half a page was devoted to defining “pastured” (Siskiyou County Multispecies Livestock Technical Advisory Committee Resolution May 17, 2018), some commissioners worried the recommendations were too exclusive in their coverage only of land zoned as prime and non-prime agriculture and rural residential. Specifically, commissioners added language that would allow 4-H projects in other zones (Siskiyou County Planning Commission June 6, 2018).

ranchers sometimes described a newer generation of younger, more “environmentalist” staff replacing them, people who were drawn to public lands work for conservation reasons and did not necessarily understand or see ranchers and cattle as collaborators in that work (ibid). Additionally, increased irrigation efficiency in the valleys enabled ranchers to graze through the summer (see Chapter 2).



Figure 3. 4-H project livestock other than beef cattle, like these three pigs in Siskiyou County, were technically “non-compliant” with county zoning code (Photo by author, 2018).

In their review of the multispecies TAC’s report, the planning commission also focused on hog and chicken operations, which were expressly forbidden under the county code in 1986 (Siskiyou County Ordinance 86-2, 1986 in County Code Sec. 10-6.5002). If these operations did not cause excessive noise, odor, or other pollution, Commissioners argued, they should be allowed by right (Siskiyou County Planning Commission June 6, 2018). The commissioners asked planning department staff to review the TAC’s report and adjust their proposed language to ensure compliance with various levels of land use law, then the proposed language would be open to a public hearing process before being voted on by the board of supervisors (ibid).

Almost exactly a year earlier, as the multispecies TAC was first forming in June 2017, one local retiree attended a planning commission meeting to voice her concern that allowing multispecies agriculture by right “would affect our agriculture[,] spoil property values and [our] way of life” (Siskiyou County Planning Commission June 21, 2017). A year later, after the planning commission resumed work on the zoning amendment in June 2018, residents expressed concerns about its passage (Siskiyou County Planning Commission June 6, 2018). In one op-ed to the local newspaper, a resident raised his concern about process, “Without any input from the public,” he warned, “the unnecessary Multi-species Act [is] being rushed to the planning commission and then perhaps soon rubberstamped by the board of supervisors” (Sic, Wagner 2018, 4). Another resident brought up concerns similar to those raised in the agritourism debate about the farmers on the TAC having vested interests in the passage of favorable code

amendments (Wend 2018a).

By August, however, the multispecies ordinance had progressed through the approval process, completing review by the county's lawyers and receiving a negative declaration from the California Environmental Quality Act (CEQA), which meant the state had determined the zoning change was not expected to result in environmental harms (Siskiyou County Planning Commission August 15, 2018). On the cusp of what seemed like sure passage, a public uproar broke.

Opponents stoked fears of operations for raising giant hogs, an animal historically associated with dirtiness, disease, and social decay (Petersen-Rockney 2019). In a call to action published in the local newspaper in March 2019, two retirees wrote that CEQA approval was “utter hog wash,” pointing out that many farms were in sloped areas or flood plains where hog waste could cause significant water quality issues (Wend and Whipple 2019). One wrote, “Last we checked, what goes in a mouth, comes out the other end and it all flows downhill on a slope, and in a flood it travels to unknown [places]. Waste products especially will become an even bigger issue when a proposed butchery (a fancy name for what we used to call a slaughterhouse) begins operation” (Wend and Whipple 2019). The letter ended with instructions on how to file complaints with the county.

A week later, the planning commission released a draft of the Multispecies Farming Zoning Text Amendment, along with the public comments, many of which raised concerns about water and olfactory pollution from hogs (Siskiyou County Planning Commission Staff Report March 20, 2019). One resident described living near a hog farm and how it “was impossible to enjoy our life here, due to the smells and noise” (Mary Roehrich to Christy C. Dawson 2019). Another resident wrote a short letter, claiming “I basically like pigs but not sure I'd want 10,000 of them as neighbors” (Murry A. Taylor to Christy C. Dawson 2019).

Beyond NIMBY-ism, many comments raised concerns about water, unsurprisingly in a region where water has always been a point of contention. One person wrote a letter outlining fears that the multispecies livestock zoning amendment, if approved, would “allow large factory style animal agriculture, including dairies and large hog operations.” These operations, the writer stated, would “significantly increase groundwater extraction” and “have a high likelihood of polluting surface water and groundwater [particularly if la]rge scale animal ag can be done without a use permit” (Felice Pace to Annie Marsh 2019). Echoing concerns of centuries past—that hogs, not lack of sanitary services, produced disease (Petersen-Rockney 2021)—and perhaps cognizant or referential to the way in which, at that time, COVID-19 was beginning to affect multiple aspects of community life and practice, one local couple raised fears of disease. They commented in to the county that “too many animals and mixed species means disease, soil depletion and water contamination. What about the smell of large operation hog farms and the impact of traffic on our small country roads?” (Jerry and Elizabeth March 11, 2019 letter to Siskiyou County in Siskiyou County Planning Commission Staff Report August 19, 2020, 268).

While much of this opposition was voiced in public comment, private grudges appeared, too. This was particularly so in Scott Valley, the smallest of Siskiyou's four agricultural valleys. Scott Valley was home to several of the most prominent multispecies livestock operations,

including the four farms owned by members of the TAC. Hemmed in by mountains on all sides, a lushly irrigated valley bottom, and the Pacific Crest Trail bringing the occasional hiking tourist to the valley's two small towns, the Scott Valley was considered by many the jewel of the county. The valley had its own Scott Valley Area Plan, signed into law by the Siskiyou Board of Supervisors in 1980 (Scott Valley Area Plan 1980). When "the citizens became concerned that their quality of life and their natural resources were being depleted" (Scott Valley Area Plan 1980, p. 6), they drafted an 80-plus page plan:

To tackle this problem the citizens became aware that mere zoning, due to its unstable nature, was not enough; they became aware that the Scott Valley Watershed needed a land use plan that would permit inevitable growth, but at the same time protect the watershed's natural resources, not subject future populations to natural hazards, or overburden public services. (Scott Valley Area Plan 1980, p. 1)

Importantly, the Scott Valley Area Plan set a goal that "all uses of the land shall occur in a manner that is compatible with other existing and planned land uses" (Scott Valley Area Plan 1980, 11). This nebulous language gave opponents of multiple livestock species fodder—the planned use was cow/calf, not other livestock species, and certainly not hogs. More than one farmer in Scott Valley who raised pastured hogs told me that they had received anonymous hate mail dropped in their mailboxes about the multispecies issue; one claimed to have received a death threat.

Like the agritourism conflict, the multispecies controversy seemed to take everyone involved in the process by surprise. Meeting minutes show how over the previous two years, public meetings on the topic—those of the TAC, planning commission, and board of supervisors—had been poorly attended and amicable, with few concerns about water use, smell, or disease raised. With CAFOs as the standard of production for hogs and poultry (as opposed to cows and sheep, which are typically managed, at least for the majority of their lives, on extensive pasture systems – see Brunson and Huntsinger, 2008), these concerns were well grounded. Simultaneously, the county planning commissioners, and farmers who volunteered in the process, were also concerned about industrial confinement animal operations (e.g., Siskiyou County Planning Commission July 19, 2017). In this case, locally powerful actors were engaged in the process of boundary-making around what species and specific management practices would be accepted, legally and culturally (Prifogle 2020), and how to draw these boundaries in ways that could safeguard a modern tradition of pastured production.

But though the multispecies amendment progressed to almost passing, it eventually failed to become law. Alongside agritourism, complaints were filed with the state of California's Fair Political Practices Commission regarding the multispecies zoning amendment process (Siskiyou County Planning Commission Meeting May 15, 2019). The issue raised was again that many of the county officials and volunteers involved in the process were themselves farmers, therefore standing to potentially benefit from the passage of these amendments (*ibid*). With concerns over potential conflicts of interest casting the zoning text into legally murky waters, the planning commission postponed six times the scheduled public hearing originally scheduled after the public comment period (Siskiyou County Planning Commission Meetings June 2019 to December 2019). By the end of 2019, the multispecies amendment had disappeared from public record (Siskiyou County Planning Commission Meeting December 18, 2019).

Controversy over the agritourism amendment and the county's ongoing cannabis eradication efforts took center stage (author interviews 2017-2020). In correspondence with county officials, I later learned that agritourism was allowed to move forward because it was considered, by staff, *less* controversial than multispecies livestock (author interviews 2019). Additionally, county officials indicated, there just were not enough staff to deal with multiple shifting agricultural forms, leaving farmers who raise livestock other than beef cattle in a legally precarious position where they may be asked to cease-and-desist at any time (ibid).

The county government, their capacity evidently stretched thin, seemed to have quietly postponed and then buried the multispecies livestock issue, possibly before grievances could be aired in public meetings. As one of the planning commissioners had pointed out at the very beginning of the process, how farmers managed their farms was their business, and looking directly at their management practices was considered inappropriate (Siskiyou County Board of Supervisors August 8, 2017). How farmers farmed, the specific land management *practices* they used or did not use, it seemed, was best regulated outside the law, through informal channels like norms of neighborliness (Chapter 5). The state did not belong inside the farm gate, unless it was policing who else could access the farm, in the case of agritourism, or who was a farmer and who a criminal, as in efforts surrounding cannabis regulation (Polson and Petersen-Rockney 2019).

Conclusion

The cases in this chapter highlight how uncritical calls for local autonomy can create opportunities for powered interests to benefit, and for inequities to deepen. The ways that local government processes unfold are increasingly important to understand in the context of county supremacy and consolidation movements (Wright 2021; Southern Poverty Law Center 2022). Local government power can be wielded informally through the epistemic violence of categorizing norms of practice, which impact farmers differently across intersectional identities and complex class positioning. In the case of multispecies livestock, for example, county officials were hesitant to invite administrative discretion inside the farm gate. Instead, informal micropolitics of discourse and action *within* the agricultural community more often governed what livestock species and practices were considered acceptable.

The case of agritourism highlights the power of administrative discretion. While there were a few key individuals, like the new planning director, who wielded administrative discretion in interpretations of county zoning code, what becomes apparent across both cases is how local government control and discretion operates in patterned institutional practices. County-level staff internalize local values to determine what is “fair” (Engels 1984), and even what is considered “farming,” including evaluations of the extent to which those they work with are integrated into the community. And of course, these cases are connected: contestation was playing out simultaneously, involving many of the same actors.

Both agritourism and multispecies livestock were forms of agriculture that, while not considered fully acceptable, was nonetheless historically tolerated by the county government. (Cannabis, which is discussed briefly in chapter two, offers another example of a type of farming that was tolerated in Siskiyou County before it became contentious during the same 2014-2020 time

period; see Polson and Petersen-Rockney 2019). But conflict emerged when newcomers engaged in each activity. The planning department had evidently ignored or overlooked county zoning codes, letting 4-H students raise pigs and chickens, and allowing farms to host pumpkin patch visits and field trips. When these agricultural forms were more widely and visibly adopted by recent in-migrants, they were perceived to threaten a reorganization of Siskiyou County's agricultural, and cultural, landscape. Local administrative discretion had, for decades, operated informally and unquestioned. Newcomer farmers, however, sought clarification of county code, hoping to remove the risks associated with local government discretion that might be leveraged against them at any time.

Agritourism and multispecies livestock both presented opportunities for farmers to adapt to the material reality of climate change and the economic challenges of agriculture. They also presented economic development potential for the county and officials who maintained a narrative of economic precarity and decline. In some ways, the fact that each of these cases became so divisive was surprising, even to those involved. Environmental and regulatory change, and especially the anxieties over water they intensified, are part of that story.

In both cases, fears about water scarcity and climate change-induced water policy became especially powerful in building opposition coalitions. California's intense drought forms the tapestry in which these stories unraveled—facilitating in-migration of the new farmers and types of agriculture that sparked these conflicts, and heightening the fear of inevitable change for multigenerational farmers, amenity buyers, neighboring residents, and county officials.

Importantly, many of the people working for government institutions in Siskiyou are from the multigenerational farming community. Often these employees (elected, appointed, or hired) have deep ties in the region, growing up on multigenerational farms, or marrying into the farm families. In a county where the government is the largest employer, it is not surprising that about a third of the county-level government actors I interviewed were themselves farmers (see Methods Appendix). It should also not be surprising, then, that a specific set of farming identities, values, enterprises, and practices were carefully guarded. As markets, environments, and policies change, normative practices and politics must be continually reproduced and reinforced, both formally and informally—often by a small group of locally powerful actors.

As outlined in chapter 4, many farmers were adapting to drought, heat, and smoke by diversifying their farm operations—adopting multiple species of livestock—and shifting their livelihood strategies by engaging in agritourism. Both of these adaptations enabled farmers to scale down their farms and use less water, while tapping into new and more lucrative market opportunities. In doing so, however, farmers who engaged in multispecies production or agritourism risked losing their public identities as farmers.

Farmers who engaged in these alternative forms of agriculture asked the county government to move the boundary of acceptable agriculture and clarify definitions of farmers, farms, and farming. The divergent ways that county officials responded to these examples of changing agricultures illustrates how county officials and farmers (who participated in governance) grappled with their role as agents of the state while often holding anti-state sentiments (Ashwood 2018).

Local government control in these cases increases social and economic disparity between farmers. In the agritourism case, the final amendment explicitly denied smaller scale farmers access to this promising potential revenue source, setting a 10-acre minimum for farms to offer agritourism. In the multispecies livestock case, established farmers who raised livestock other than beef cattle were fighting for recognition as farmers who deserved the privileged legal status and land use rights of beef cattle producers. As described in chapter four, these farmers were often described by local public actors, like county officials and agricultural advisors, as “just hobby farmers,” and many of these farmers—often women—described in interviews experiences of not being taken seriously or outright denied support by public institutional actors like cooperative extension and the farm service agency.

Many of the farmers leading efforts to allow agritourism (and multiple species of livestock) were relative newcomers to a region in which multigenerational claims were routinely identified by informants as critical to holding power (see Chapter 3). Many were also women in a county where women farmers routinely described the ways they had been excluded from formal organizational networks and institutional supports, like Farm Service Agency resources, offered to male farmers (see Chapter 4). Farmers engaged in agritourism were, by definition, deviating in their farming practices from the narrowly defined norm of cow/calf and forage production.

Who benefits from the exercise of local government control in defining and defending who counts as a farmer and what is considered a farm? Farmers, especially those whose social means of livelihood reproduction is at stake—as family-labor beef and forage farming becomes a near impossibility for the next generation—are experiencing hardship and grievances, with quantifiable losses as farming changes. These farmers, and the government actors who represent them, have good reason to try to protect the status quo. Amenity buyers often have their retirements invested in homes with value predicated on a particular notion of rurality. For these groups, accustomed to a sense of stability, new farmers and farming systems spark broader anxieties. Land values, for example, change. Multigenerational farmers feared that new kinds of farming would drive up land prices, and amenity buyers worried that land prices would drop.

While some degree of local government control around land use policy and zoning code is essential, local autonomy can also facilitate the reproduction of a static notion of agriculture, benefit already powerful local actors, and exacerbate inequities for those who deviate from local norms. It is crucial, especially when debating emancipatory processes or enacting calls for sovereignty, that we ask who is “the” community, what is “the” rural, and which groups are able to wield power? Whose interests are vested in particular modalities of farming? Whose visions of the land are privileged? Ultimately, in each of these cases, we see that as new rural articulations emerge, local control can ultimately exacerbate inequities.

Next, in the conclusion to this dissertation, I turn to novel political formations and unlikely alliances that are emerging in Siskiyou County. In both cases, we saw these begin to blossom as large-scale alfalfa farmers and amenity buyers organized against agritourism; and local government officials and newcomer multispecies livestock farmers found common ground in their anti-regulatory approach to agriculture. As rural places and the diverse communities within them change, new opportunities for contestation emerge.

Chapter Seven: Conclusion, Unlikely Alliances and Political Possibilities

In June 2022, I returned to Siskiyou County for the first time since the COVID-19 pandemic began. In just two and half years much had changed.

As I write these words, in August 2022, the largest and deadliest wildfire in California so far this year is still burning through Siskiyou County (Pietsch 2022). California's drought that had previously spurred migrations to Siskiyou County where there was relatively abundant water (Chapter 2) persists, seemingly reaching new zeniths each passing day.

With little water, residential wells are running dry and fish are dying at alarming rates (Smith 2021). Last summer, in 2021, the county passed ordinances that restricted water access for farmers in the subdivisions (many of them Hmong) who grow cannabis (Urgency Ordinance 21-07 and later Ordinance 21-13, codified at Siskiyou Cnty. Code § 3.5-13.101; Urgency Ordinance 21-08 and later Ordinance 21-14, codified at Siskiyou Cnty. Code § 3-4.1501). These policies appeared, to lawyers at the American Civil Liberties Union and Asian Law Caucus (American Civil Liberties Union 2022), to unjustly target Hmong and other Asian-diasporic farmers, and they sparked a series of lawsuits that are currently working their way through the courts (ibid).

When I was in Siskiyou in June 2022, the growing season should have been in full swing. That is the time of year when the first cutting of brilliant green alfalfa usually dries in the sun, and calves fatten quickly on verdant forage. Instead, many farmers—even establishment farmers—had already been ordered to stop irrigating by California's State Water Resources Control Board. These irrigation curtailments, unprecedented so early in the season and at such scale, transformed Siskiyou's agricultural valleys into a patchwork of golds, browns, and grays, quilted together by a system of dry streams and irrigation ditches.

The land had bled dry.

Interviewing people in Siskiyou in 2022 felt like a glimpse into an unfamiliar and ominous world. Farmers from many different backgrounds in Siskiyou County described what was happening—the droughts, the wildfires, the land use change, and the county's policy responses—in apocalyptic terms. One thing that had not changed was that Siskiyou's farmers still pointed to the state as the source of many of their problems. Among establishment multigenerational farmers and the public advisors and county officials who work with them, there appeared to be a growing consensus that restricting farmers' water access was a tool the state was wielding for the express purpose of removing farmers from the land. Farmers had discussed these ideas over my years visiting Siskiyou. In the context of over a century of nearly unbridled resource entitlements for white farmers and ranchers, the interpretation of water law as state-designed dispossession of these same farmers' land was new. For many, the state of California's actions to keep the rivers flowing seemed to border on conspiratorial. In the academic literature, these state-mandated irrigation restrictions were more widely understood as a process of painful entitlement readjustment, with a modest attempt, one arriving too-little-too late, to account for other water

users and uses (see for example Doremus and Tarlock 2008).

The State—in this case at the county level—is indeed using water regulations and restrictions to remove farmers from the land in Siskiyou County. That was the explicit goal of the 2021 county water ordinances. A water extraction ordinance (Urgency Ordinance 21-07 and later Ordinance 21-13, codified at Siskiyou Cnty. Code § 3.5-13.101) approved by the Board of Supervisors in May 2021 stated that “extracting and discharging groundwater underlying Siskiyou County for use in cultivating cannabis,” County Code reads, “constitutes the waste and/or unreasonable use of groundwater” (Sec. 3-13.701-702). The county supervisors also passed an ordinance that prohibited driving a vehicle containing more than 100 gallons of water on certain roads adjacent to the Mount Shasta Vista subdivision where a majority of the residents are Hmong (Urgency Ordinance 21-08 and later Ordinance 21-14, codified at Siskiyou Cnty. Code § 3-4.1501). Some Hmong farmers and legal advocates described these ordinances as an exercises of county-level government power to remove Hmong farmers and suspected cannabis farmers from the landscape (American Civil Liberties Union 2022). Historically, the state has often privileged the interests of a particular white, male, agrarian vision of the land and has shaped, through its policies and regulatory frameworks, who has the “right to be rural” (Chapter 2). In the contemporary climatic landscape of persistent drought, the state is taking new actions to adjust water distribution. In the summer of 2021, the county government passed several water ordinances designed to prohibit water use for growing cannabis, which disproportionately impacts Hmong farmers (American Civil Liberties Union 2022). Irrigation water curtailments issued by the State Water Resources Control Board have become routine over the past three summers (SWRCB, Sept. 13, 2022), negatively impacted many establishment farmers, a majority of whom are white (USDA NASS 2017).

For the alfalfa and cattle farmers near the Mount Shasta Vista subdivision, many of them white, 2022 was the third year in a row with major water curtailments issued by the State Water Resources Control Board. The largest local irrigation district had been forced to turn off irrigation water to all of its farmers. When we met in June 2022, one of those alfalfa farmers echoed what many had shared. He said, “It’s all big water grabs. They’re using drought as a mechanism, it’s just their tool. Once the state says there’s an emergency, they have free range to do anything” (author interview 2022).

Some farmers, especially those whose social positioning is conditioned by gender, racial, or ethnic difference, have long been excluded from political, economic, and academic processes that determine access to resources (Peluso and Lund 2011). State-based exclusions are especially poignant in situations in which local governments are granted a high degree of local control, like California’s regulation of groundwater or cannabis cultivation (see Polson and Petersen-Rockney 2019; Lu, Dev, Petersen-Rockney 2022). The grounds for exclusion of certain stakeholders extend beyond farmer attributes to the very definition of what counts as agriculture and who is considered a farmer. And climate change is creating new opportunities for the exclusion of certain people and practices from the processes to mitigate and adapt to those changes; exclusions of the very people who are the most blamed, least responsible, and experience the greatest impacts of climate change: people like the Hmong farmers who grow crops that include cannabis on the lava rock slopes of northern California’s Mount Shasta (see Lu, Dev, Petersen-Rockney 2022).

In this dissertation, I have argued that climate change is reorganizing rural life. The physical, political, and social impacts of climate change require response. Those responses range from the micropolitics asserted through everyday practices to larger ruptures that radically reorient rural relations. Farmers and those who work closely with them are adapting their everyday practices and micropolitics in response to changing ecological, social, and political conditions. Farmers navigate complex landscapes of physical and perceived risks as they decide how to adapt. Social risk perception helps explain the material risks beyond physical climate change impacts like droughts and fires that farmers perceive, offering a bridge over the divide between scientific understanding of climate change and the pace of response. Farmers who hold complex and intersectional social positions experience and respond to climate change in different ways. Climate change, as a global dynamic created and exacerbated by capitalism, is driving agricultural differentiation and new political formations. The politics of agricultural differentiation within farming communities and farming households brings together individual agency in multi-level state structures. From this contested ground, new ruralities are emerging. While new ruralities are transformative, they are not always emancipatory. The impacts of and responses to climate change are unevenly experienced, exacerbating inequities and spurring differentiation, displacement, and dispossession.

Towards the end of an interview in 2019, I asked a cattle rancher how he would describe his farming community. He paused, and then said, “We fight amongst ourselves, but won’t let anyone else put us down... We’re protective of each other when there’s an outside threat” (author interview 2019). The politics of differentiation includes state structures that systematically drive divisions, so that Capital can thrive—divorcing people from their labor, from each other, and from the land. But the politics of differentiation are also politics of belonging and othering, inclusion and exclusion. Alliances are formed in resistance to an objectified ‘other.’⁶³ By forming in-groups, alliances create out-groups too. As climate change reorders rural life, new opportunities for both alliances and divisions arise.

In this brief conclusion, I ask what might be possible if farmers and other rural workers moved past current capitalist rationales and identity politics that separate and isolate? What if farmers identified similarities across differences and built political power that moved everyone’s standard of living forward, instead of reinforcing hierarchies of differentiation? What if institutional actors, like agricultural advisors, prioritized equity-based approaches that prioritized assisting farmers who have been systematically and disproportionately harmed by state actions? Let us ask these questions as climate change reorganizes rural space. And let us act on them. Far from being passive actors that climate change is happening to, farmers are active agents reorganizing rural landscapes. Importantly, too, which farmers will assert their vision of the land as it changes? With deeply entrenched entitlements and inequalities structured into nearly every aspect of property and policy, how might a more equitable new rurality emerge?

I conclude not by offering answers to these difficult questions, but instead some examples of unlikely alliances from US agricultural history and contemporary Siskiyou County. Unlikely alliances build as conditions shift and people recognize new coalitions and solidarities—a coming together around shared experiences, common threats, and mutual interdependences.

⁶³ For more on othering see Mountz (2009) nm.

My goal in sharing these examples of unlikely alliances is to point towards missed opportunities: unformed alliances, and the myriad constellations of new rural possibilities.

Scholars often highlight examples of alliance formation that lead to greater justice and equity. In the 1980s, for example, white and Black family farm activists in Iowa organized together against far-right agitators through the Prairiefire Rural Action group and the Catholic Rural Life magazine (Watson and Wilson 2020). Yet a critical examination of political formations in agricultural crises demonstrates that such unlikely alliances are not universally progressive. Many are reactionary, regressive, and unjust. In the 1930s, for example, white growers and business tycoons in California “relied on forging political alliances around socially conservative values” through the Associated Farmers organization, to oppose multi-ethnic workers’ struggles (Montenegro de Wit et al. 2021, 4). Alliance formation and re-formation—movements towards liberalization and protective countermovements – are also evident in contemporary Siskiyou County.

In Chapter 6, for example, I described an unlikely alliance that formed between amenity buyers and large, capital-intensive alfalfa farmers. At first glance, these two groups appear to disagree on much, having little in common. But they were both eager to prevent Siskiyou County’s agricultural valleys from becoming home to farm dinners and farmers markets. Together, amenity buyers who wanted to preserve a particular rural imaginary and alfalfa farmers who wanted farmland to remain relatively inexpensive, successfully organized to help prevent the passage of zoning code amendments. This left farmers who are diversifying their operations, to adapt to a changing climate and policy landscape, in legal limbo.

Agritourism and raising livestock other than beef cattle, two important adaptive strategies (Chapter 4), are still technically in violation of county zoning code. These activities persist, however, but only at the discretion of county officials who choose to turn a blind eye, something officials do for some farmers but not for others. Thus, local government power continues to reign, enjoying enormous autonomy. Farmers who want to engage in adaptive practices that are technically non-compliant with County Code may be especially sensitive to perceptions of social risks (Chapter 5). Their actions and discourses, particularly around politically polarizing topics like climate change, might mean risking the loss of local political favor that may result in paying hefty fees for raising pastured chickens or hosting farm stays, or potentially ceasing these practices altogether.

Another unlikely alliance that has increased vulnerability and marginalization for certain farmers is one between anti-cannabis activists, Siskiyou County residents with shallow wells, and environmental groups concerned about Coho and Chinook salmon and shortnose and Lost River suckerfish. In August 2020, local residents protested water trucks and water use for cannabis cultivation near the Mount Shasta Vista subdivision, where a majority of residents are Hmong (Kinkade 2020). Many of the anti-cannabis activists at the protest were, according to interviews with those involved, members of religious groups and far-right vigilante movements who expressed concern about moral degeneration, particularly cannabis’ influence on children. These activists found common ground with environmentalists who were concerned about declining fish populations in the region’s shrinking streams and rivers (Smith 2021). Nearby homeowners whose wells were running dry were the most vocal at these protests (Kinkade 2020). Many of

these people were retirees of modest means, for whom digging a deeper well posed a prohibitive expense (ibid). As the occasional water trucks drove in or out of the subdivision, protestors waved hand-painted signs with slogans like “Water for life, not for profit” and “Stop trucks that support illegal pot growers” (Kinkade 2020). Protestors were successful in leveraging the power of this unlikely coalition. The county not only banned water use for cannabis cultivation, but specifically targeted water deliveries to the Mount Shasta Vista Subdivision, cutting off water access to thousands of mostly Hmong residents overnight (Urgency Ordinance 21-08 and later Ordinance 21-14, codified at Siskiyou Cnty. Code § 3-4.1501; see also Lu, Dev, Petersen-Rockney 2022; American Civil Liberties Union 2022).

Though these unlikely alliances further social differentiation, they also demonstrate that transformation is happening. As much as some might grasp for a particular vision of the land and who has the right to be rural, there is no status quo, only change and contestation over that change. As the physical and political climate changes, new rurals emerge (De Master 2018). Novel assemblages of people, ecologies, farm types and practices, and policy articulations are constantly forming and reforming. While the relationships highlighted in this conclusion are primarily between human actors, there are many more possibilities that include more than humans (e.g., see Tsing 2015). It is in this ongoing and contested process of critical adaptation that transformation occurs.

Farmers, ranchers and agricultural advisors across the political spectrum in Siskiyou County, leveraged and exercised their political influence within local and extra-local communities and across all levels and branches of government. I did not witness the disengagement from formal politics that Gaventa (2019) noted with rural workers in Appalachia. But I did observe the “rise of non-electoral forms of resistance and activism, that defies the stereotypical notions of either apathetic, conservative, or racist whites, challenges the underlying forces that continue to impoverish and exploit these communities” (Gaventa 2019, 447). This was particularly true of changing farming practices. Farmers had little choice but to respond to climate impacts like drought and wildfire, irrespective of their political beliefs about humanity’s role in contributing to climate change (Chapter 4). Understanding farm management practices and livelihood strategies as political acts is crucial, particularly because farmers themselves read practices and values in the landscape as political. Thus, the politics of differentiation in agriculture is incomplete without attention to the micropolitics of farming practices.

As farming persists in growing environmental uncertainty, unpredictable alliances may emerge. Many farmers in the upper basin (e.g., Tulelake), for example, have recently championed the removal of several dams on the Klamath River. The legal agreement that was reached aims to improve fish populations and deliver more reliable irrigation water deliveries. That this group of farmers support dam removal is an historic happening, since farmers (at least Siskiyou County’s establishment farmers) often fiercely defended dams on principle – even if those dams do not provide personal benefit in inexpensive electricity or water access. Many farmers, including those in the Shasta and Scott Valleys who do not benefit from these dams, have leveraged their cultural and political to *prevent* dam removal. Established farmers in Siskiyou County with whom I spoke often described dam removal as part of a state-led effort to “de-develop” the west (author interviews 2017-2019). But, in recent years, upper basin farmers have become important allies in efforts to facilitate salmon migrations led by tribal and environmental groups in the

region.

Similarly, some farmers in the lower basin (e.g., the Scott and Shasta valleys) have partnered with the Yurok tribe on salmon monitoring and restoration efforts (Chapter 2). One of those farmers explained how farmers and Yurok tribal members found common ground around hatchery fish:⁶⁴

They said they need fish and I told them, ‘I can work with you because this is what I do.’ I don’t go out and try to find wild cows and harvest a few. You know what I mean? I do a lot of management to get done what I do, and that’s my mindset and it works... I am very willing to help people who need more fish do some management practices to allow that. I’d like to bury the Yurok people in fish, I would love to do that! (Author interview 2019)

He explained that to do that resource users need to “find opportunities to do something together” to build alliances (ibid).

I share these two brief examples side by side as a reminder that farmers, Indigenous communities, and agricultural advisors that may be presented as groups are themselves already collections of alliances, often tenuous, around a single issue, or for a moment in time. Like the social movements they help form, alliances are internally contradictory and ideologically inconsistent (Montenegro de Wit et al. 2021). Many farmers in the upper and lower basin strongly disagree with one another on the removal of Klamath river dams, just as the use of hatchery fish is contentious among Indigenous communities in the Klamath Basin. Additionally, the people who comprise alliances are differently positioned, their experiences and responses conditioned by intersectional axes of social difference. These examples highlight something my research reinforced again and again: that rurality is not a monolith.

Another unlikely alliance that caught my attention during fieldwork was around medical cannabis cultivation. In 2014, as cannabis began to appear in the public record in Siskiyou County, white and Hmong medical cannabis growers formed an advocacy group called Siskiyou Alternative Medicine (SAM, see Polson and Petersen-Rockney 2019 for more on SAM). Hmong farmers were almost all new in-migrants (ibid). Many were elders who had come to the US as refugees and veterans and described a desire to retire in community near the mountains (author interviews 2018-2022). Many told me that they wanted to grow a garden of vegetables, fruit, and medicine (ibid). The mostly empty rural subdivisions offered just such an opportunity (Polson and Petersen-Rockney 2019; author interviews 2018-2022). But the Hmong farmers were not the first in-migrants to Siskiyou County who shared a similar dream. Scattered in the dry hills were medical cannabis growers who had been in the area for decades, and who benefited from the anonymity of whiteness in a majority-white county (ibid). Many of these white cannabis growers were, according to interviews, members of the local Tea Party and identified as conservative—some were members of far-right vigilante, militia, and white supremacist groups. One of the founders of SAM traveled to Nevada that year (2014) to participate in the infamous Bundy Ranch standoff, taking up arms against the Bureau of Land Management (author interview 2022). Like their new Hmong neighbors, many white growers were veterans who grew medicine so sooth their injuries and arthritis, and to gift to friends and neighbors in a place far from medical care and where trust in institutions ran thin (author interviews 2018-2022).

⁶⁴ The use of hatchery fish is highly contentious and many tribes in the region do not support salmon hatcheries.

Both Hmong and white cannabis growers formed SAM to advocate for medical marijuana rights (Polson and Petersen-Rockney 2019; author interviews 2018-2022). The group successfully organized and worked with local government leaders to pass permissive medical marijuana regulations in Siskiyou County in April 2015 (Siskiyou County Ordinance 15-18 in Petersen-Rockney 2019). But as more Hmong farmers came to the county, and many began exercising their political power as citizens, veterans, and farmers, the county government shifted tactics, taking a strongly anti-cannabis stance (Petersen-Rockney 2019). By 2016, with recreational cannabis legalization on the state ballot and proposed restrictions on cultivation on the county ballot, SAM took a leadership role in voter registration efforts (ibid). SAM focused voter registration drives in the subdivisions, with the goal of helping newly arrived Hmong residents register to vote (author interviews 2018-2022). Claiming suspicion of too many people with the same last name registering to vote (there are only 18 Hmong surnames), the county filed a state voter fraud complaint (see Petersen-Rockney 2019). In June 2016, the Sheriff's Office then accompanied state voter fraud investigators to the properties of Hmong residents, by multiple accounts with guns drawn, leading SAM to file a lawsuit against the county for harassment and voter intimidation (ibid). By September 2017 the lawsuit was dismissed, for lack of evidence of "racist intent," notoriously difficult to prove, and because plaintiffs were fearful to identify themselves and risk retaliation from local law enforcement (ibid).

I could end the story of SAM here – an emancipatory unlikely alliance that was ultimately overpowered. But the story is not that simple. In 2022 I met individually with several of those who had been active in SAM, both white and Hmong. I had last met with these farmers all together, in June 2019, at one of their homes. During that visit we sat around the dining table drinking tea together, as they described the county's ever-increasing enforcement efforts. At that time they described how people were increasingly afraid to publicly engage in political advocacy through SAM and how the county was using the drought—both fear of limited water and new legal tools around water conservation—to target cannabis growers. In June 2022, I was surprised how much dynamics had changed. Growers were still trying to keep a low public profile for fear of being raided by law enforcement, but the relationships that had formed the basis of SAM seemed to have soured. Friends who had shared tea around the table in 2019 now shared stories with me of feeling let down and even betrayed by their fellow organizers. The details of what happened in SAM's unraveling remain murky and difficult to verify. It is not unique, or surprising, that an unlikely alliance splintered. One important observation here is that unlikely alliances, like other alliances, can be fragile, temporary, and may shift over time. In the three years between meeting SAM members as a group and then individually, it seemed clear that new organizing tactics had emerged, as had new law enforcement responses, land uses, policy articulations, and alliances.

Much of this dissertation critiques the state. Indeed, the critical social sciences often adhere to an anti-state or stateless perspective, ultimately suggesting that the state is hopelessly aligned with capitalist interests and thus the ultimate generator of inequities (Ashwood 2019). But does the state have a possible useful role to play on the path to emancipatory futures? There is much literature problematizing the state, however, 'the' state does not exist as a monolithic instrument—like 'the' rural, governments and those who govern are groupings of relationships, ripe with institutionalized power imbalances. Regulation may move the needle in more equitable

directions when the question regulation of and for whom? is always asked. Nancy Fraser (2017) suggests that—as crises span beyond economic and financial realms into to the ecological and social worlds that life itself relies upon—double movements must be reconceptualized as triple movements. Questions of power, politics, and justice are central to whose values are re-embedded and who benefits from social and environmental protections.

In Siskiyou County I observed how, in many people’s daily lives, the state is a set of complex relationships. These relationships are steeped in histories of harm and hurt, which continue to shape how people interact with each other and the environment of which they are part. Regulations are abstracted and institutionalized but ultimately structure cultural norms. During fieldwork I saw the backlash against state and federal regulations, particularly environmental regulations like the federal Endangered Species Act and state-level fuel efficiency and clean air laws that rendered “conservation” and “environmentalism” dirty words. Fraught with contradictions and injustices, the state’s approach to agriculture “consistently values profit for the privileged over prosperity for the people” (Watson and Wilson 2020, 608). State actions actively facilitate ongoing land consolidation, corporate concentration, and crop and livestock homogenization that ripple through rural farming communities producing waves of livelihood dispossession (e.g., Vogeler 1981; Kloppenborg 2004; Howard 2016).

State actions, in their counter movements to liberalization, may also motivate protective responses (Polanyi 1944). Farmers in Siskiyou County are working with tribal communities to conserve endangered salmon because legal risks stemming from the Endangered Species Act compel them to work towards salmon conservation. Farmers are changing how and what they farm to reduce water use and increase carbon storage to, as several farmers told me, “Stay ahead of the regulations” (author interview 2019). Environmental regulations can work, in that they can incrementally advance environmental goals, and they may also cause unintended (and intended) economic and social consequences that plunder rural communities. Both are true and integrally related in a delicate balance of shifting practice and values on the ground. Regulatory change, like the physical impacts of climate change, engenders response. Resource entitlement rollbacks for establishment farmers, as in the case of California’s spate of recent ground and surface water curtailments, strike tender chords of cultural and class positioning among those who have benefited from relative elite status. Backlash to those regulations can range from non-compliance (e.g., see the Tulelake water shutoff in Chapter 2) to much more dangerous discontent that is easily harnessed by authoritarians (Edelman 2021; Montenegro de Wit et al. 2021). Here we can learn from other moments of rapid rural reorganization, such as the 1980s farm crisis, during which:

... right-wing and “hate groups” sought to exploit rising stress levels and media coverage of rural distress to advance their groups and causes... As family farmers faced the daily threat to their way of life with little to no recourse (i.e. interventions, retraining, jobs, and so on), extremist groups began campaigns of disinformation, playing upon the desperation and distress of the farming community... These groups played into, and upon, the neoliberal device of producing social separateness... The farm crisis provided a perfect storm for exploiting the unmet need of farmers by offering a counterfeit medium through which to channel (and coopt) farmers’ legitimate rage, grievances, and distrust of the government. (Watson and Wilson, 4)

Crises, created by and nurturing capitalist relations, are fertile ground for capitalist contradictions to ripen. A “permanent” or “chronic” farm crisis in the US can be traced from settler colonialism (Ristau and Ritchie 1987) to free market failures (Watson and Wilson 2021). What farm crises mean, especially for farmers on the ground, are different across contexts. Climate change is adding another set of stressors and shocks that amplify grievances many farmers already experience. The state’s imposition of restrictions on farmers’ access to resources like water appears to fulfill prophecies that the government cannot be trusted, even by the productivist farmers government structures have long supported. I found that many establishment farmers and the local-level government and agricultural advisors who represent and serve them expressed a sense of loss as the next generation from these multigeneration farms migrates away from the area, or changes how or what they farm. Increasingly, even establishment farmers find their access to the resources they need to farm precarious, similar to farmers who do not enjoy their social position. Increasingly, the beneficiaries of accumulation are not even people, but instead financial firms and investment institutions that can even leverage risk into profit (Fairbairn et al 2021). Yet “near-hand human culprits are blamed instead” for grievances (Montenegro de Wit et al. 2021).

How can state actors be enrolled to work towards more equitable new ruralities as climate change demands change? Next, I turn to concrete implications and recommendations. These are directly particularly toward public actors at the local level: agricultural advisors and county government employees.

My research suggests that, in order to best serve their clientele long-term, agricultural advisors may need to take risks regarding their programming (e.g., climate change). They may also need to expand that clientele to include, in addition to establishment farmers, cannabis farmers and so-called hobby farmers (often women) who may have diversified their farms and rely on off-farm income. Chapter five explains some ways agricultural advisors in Siskiyou County mitigate perceived social risks of working with farmers on climate change issues. The high degree of local autonomy that these public farm service providers exercise currently enables county-level United States Department of Agriculture and Cooperative Extension staff to navigate perceived social risks and build trust with politically powerful establishment farmers. As this research has convincingly demonstrated, prevailing assumptions about who farms and how they farm are facile and shallow. The complexity of new ruralities is exactly what lends hope about the adaptive capacity of places like Siskiyou County, and the transformative potential of emergent alliances. Agricultural advisors, willing (or compelled) to take greater social risks and support a greater diversity of farmers, field practices, and livelihood strategies, are in an excellent position to support diversification in farming systems (Chapter 4 and 5).

Similarly, county governments have a tremendous amount of power to shape land use through tools like local zoning code and the administrative and innovative discretion exercised by individual county government staff and officials. As farmers migrate in and out of the region, and grapple with changing ecological, market, and regulatory conditions, local land and water use policy will need to change. The boundaries of what is considered acceptable versus unacceptable farm practices and politics will necessarily shift. As the status quo imaginary becomes increasingly unrecognizable, county land use policies will benefit from approach problems with less protectionism. The state (and even the federal) government can learn from the

large inequities and ongoing environmental harms propagated by their abdication from governing cannabis cultivation, which is the subject of my next research project. Ultimately, local control can seem like a quick fix for complex social and environmental problems, but uncritical calls for local autonomy often result in the retrenchment of power and resources for dominant actors.

Limitations and future research

Research on farmers' perceptions of and responses to climate change must be grounded in place (Karki, Burton, and Mackey 2020). Change trajectories are embedded within historical, ecological, cultural, political, social, and institutional contexts and can only be understood contextualized within those broader dynamics (Murphy et al. 2017). Place-based empirical research, like this dissertation, is limited in its scope and direct applicability to other contexts, but can contribute to broader understandings and patterns. For example, belief in anthropogenic climate change tends to be higher amongst farmers in the Global South compared than those in the Global North (Madhuri and Sharma 2020; Soubry, Sherren, and Thornton 2020); greater in the northeast U.S. compared to the western U.S. (Schattman, Conner, and Méndez 2016); and higher among women farmers compared to men (Smith et al. 2014; Liu, Smith, and Safi 2014).

Though the findings of this individual case are not generalizable, this work speaks to other cases that show how farmers, ranchers, and agricultural advisors experience and respond to change (e.g., Dudley 2000; Yung and Belsky 2007; Murphy et al. 2017; De Master 2018; Karki, Burton, and Mackey 2020; Soubry, Sherren, and Thornton 2020). Moreover, the findings from this work can inform novel approaches to increase the pace and scale of climate action in diverse agricultural contexts. This particular case highlights farmers' beliefs, perceptions, and actions around climate change in an unusually severe climate—both in its weather variability and the intensity of climate signals. Attention to the ways that Siskiyou farmers who remain skeptical of anthropogenic climate science adapt to weather extremes can illuminate important factors and dynamics that other communities will face as climate change intensifies.

Researchers must ask new versions of agrarian questions that take farmer experiences and perceptions seriously (Karki, Burton, and Mackey 2020; Soubry, Sherren, and Thornton 2020). Future research may broaden inquiry by asking, for example, how multiple understandings of climate change affect the pace and scale of adaptation and mitigation; how farm advisors may more effectively straddle the boundary space not only between both practitioners and research, as well as between local beliefs and climate science. In a reality of present climate change, the most relevant beliefs may no longer be about climate science or anthropogenic causes, but instead about action. Beliefs about the benefits and consequences—ecological, economic, social, and political—of implementing various adaptation and mitigation practices are central to developing effective policies and programs that increase the pace and scale of farmers' action on climate change.

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Appendix: Methods

See the ‘Research Approach’ section in introduction for additional description of methodology.

This research received University of California, Berkeley CPHS IRB approval via protocol 2017-04-9901 (includes licit market actors, exempt) and 2018-04-11036 (includes study of illicit activities related to cannabis cultivation, expedited).

Data collection and analysis

I conducted the majority of the ethnographic field work for this study over three years and nine trips to Siskiyou County, with longer fieldwork periods (of approximately a month each) during the growing season of 2017, 2018, and 2019. (I also returned to Siskiyou County in June and October 2022. During 2020 and 2021 I did not conduct fieldwork in Siskiyou County, although I did conduct 11 interviews remotely.) I conducted a preliminary trip to the area in November 2016, and spoke to five farmers and agricultural advisors to understand community-identified research needs. On each fieldwork trip I stayed in different locations in the county, often on farms, to gain some exposure to community variance by valley.

Collecting data within the political and spatial boundary of a single county enabled me to isolate local institutional arrangements, discourses, and responses to climate change (e.g., agricultural programs and services). I selected Siskiyou County in northeastern California for its diverse mix of farm sizes and structures, as well as its political polarization.

My primary population of interest were “family” farmers,⁶⁵ defined as farms and ranches in which a household provides much of the labor and makes the majority of the management decisions guiding operation of the farm (Labao and Meyer 2001). The household (the group of family members that make farming decisions) is my primary unit of analysis. For many agriculturalists, the farm and household are inseparable. Focusing on the household, as opposed to the farm, can help elucidate hierarchies and labor divisions and allocations concealed within the family farm (Buttel and Gillespie 1984), which is not always a site of consensus or collective interests (Barlett et al. 1999).

I employed a purposive sampling frame (Yung and Belsky 2007) and farm structure approach (Buttel and Newby 1980; Prokopy et al. 2008) to stratify my sample for maximum variance and

⁶⁵ Although I did use the USDA’s definition of a “farm”—any operation that producers over \$1,000 worth of farm products with the intent of sale (USDA ERS Farm Structure and Contracting 2022)—for inclusion in the study, USDA farm size classifications were not particularly useful in parsing researchable categories of farm size, since over 90 percent of farms in Siskiyou County are considered “small” by the USDA, whereas locals do not consider nine of ten of the county’s farms “small.” (The USDA defines farm size by gross sales: small family farms gross under \$250,000, large between \$250,000 and \$500,000, and very large over \$500,000—see USDA Typology.) Nor did I use the USDA’s definition of “family farm,” since it is broad enough to be rendered almost useless for meaningful stratification of California farms. (Labao and Meyer’s (2001) “family farm” designation stands in useful contrast to the USDA’s definition, which states only that the majority of the farm business be owned by the operator and their relatives, a definition so broad as to be almost meaningless (Vogeler 1981), since 93.3 percent of farms in California, the seat of US agrarian capitalism, technically qualify as “family” farms, a designation farmers might contest.)

diversity of farm and farmer characteristics. I sought to include farmers who spanned a range of locally defined distinctions (identified during my preliminary site visit in 2016), including multigenerational and newcomer, established and beginning, woman-run and non-woman run. I also considered key farm characteristics—crops and livestock, and wholesale and direct market. Institutional actors included people who work with farmers in a range of public and private sector capacities at both the local and state level, with an emphasis on institutional staff and officials who provide technical assistance and other services directly to farmers (e.g., cooperative extension farm advisors and farm service agency staff). I contacted people through a snowball network recruitment method, starting with several distinct “nodes,” which allowed me to trace social network connections (Parker, Scott, and Geddes 2019).

My purposive sample contained intentional over-representation of women farmers and those considered “beginning” by the USDA (under 10 years of experience; Ahearn and Newton 2009) to better understand gender and generational dynamics. Additionally, I purposefully sampled types of farmers and ranchers systematically underrepresented in standard baseline data (e.g., USDA Census of Agriculture), including small-scale farms, diversified operations, and new farms.

I conducted 138 semi-structured interviews with licit crop farmers and livestock ranchers, institutional actors, and residents involved in cannabis cultivation and policy (see table 1 below). The interview protocol (below) employed a “broad to narrow” structure, beginning with broad questions about the participant’s farming history and experiences to build rapport (Findlater et al. 2019). Questions then became more detailed, querying experiences with weather and climate, responses to events like droughts and wildfires, concerns and perceived consequences of climate change and action, information sources, and network relations. Open-ended questions allowed respondents to identify various types of risks and concerns that they associate with climate change, which do not always align with the risks that researchers identify (Wilkinson 2001). Interviews ranged from one to four hours. Interviews primarily took place at the subject’s place of work, such as an office or farm.

Table 1

	Products	Gender	Race and Ethnicity
Farmers = 84*	Crop only = 24 Livestock only = 25 Crops and livestock = 27 Cannabis = 8	Women = 36 Men = 48	White = 72 Hmong = 6 Other or no answer = 6

	Gender	Affiliation
Key informants = 54*	Women = 30 Men = 24	State and local UCCE = 15 Local USDA staff = 7 County and state government staff = 14 Local NGO = 9 Local business = 9

** Note that five ‘county government’ personnel were agricultural commissioners or other county staff who worked in advisory capacity with local farmers, included in the category ‘agricultural advisors.’*

Five of the local NGO staff worked for local Resource Conservation Districts (RCD). Key: UCCE (University of California Cooperative Extension); USDA (United States Department of Agriculture); NGO (non-governmental organization).

About an equal number of farmers interviewed raised only livestock, grew only crops, and produced a mix (most often cow/calf and forage). Additionally, for this project I conducted eight formal interviews with farmers who grew cannabis, often alongside crops and livestock for subsistence consumption. Of the farmers interviewed, 60 percent reported 10 years or more of farming experience, with the remainder reporting less than 10 years. Of the non-cannabis farmers, 35 percent engaged in at least some direct marketing of their farm products, and 45 percent relied on outside income sources for the majority of their household income. Sixty percent of farmers interviewed were from a farming background, mostly within the Klamath Basin. About half of participants identified as men and half as women, with slightly more farmers identifying as men and slightly more key informants identifying as women. Eighty-five percent of all farmers interviewed identified as white. Six farmers declined to self-identify race or ethnicity. General affiliations of key informants are listed below.

A note on farm size: Given the great diversity of farm structures and products, I am choosing not to report farm size distributions numerically (what is considered large or small-scale acreage is quite different when raising cattle, growing vegetables, or growing cannabis). Twenty-one of the 27 crop and livestock farmers operated in a cow/calf model and grew forage, 18 of those managed over one thousand acres of mixed private and public land. Half of the livestock-only farms were also cow/calf and operated at a similar acreage, buying in feed as needed instead of growing it. Cow/calf operations in Siskiyou measured their size according to the number of cow/calf pairs, typically between 100 and 300. Other livestock-only farmers were mostly highly diversified, with multiple species. Three farmed on a thousand or more acres, but most on under 50 acres. The crop-only farmers were similarly bifurcated between large-scale row crop farmers, primarily in Tulelake (often around 1000 acres), and small-scale direct market farmers in the Scott and Shasta Valleys (often under 20 acres).

Each of the farmer interviews included a primary decision-maker and often one or more additional family members (Takahashi et al. 2016). During the visit, the primary farmer being interviewed also completed a baseline survey (survey instrument below) to catalogue the farm practices employed on the farm, across what acreage and for what length of time, as well as the rationale for these practices. I audio-recorded interviews, except for those with 18 institutional staff and five farmers who preferred written rather than audio recording.

To better understand the everyday experiences, practices, and social context in which response to change occurs, I engaged in participant observation (Geertz 2005). To study the institutional discourses, local policy formation, and decision-making structures that impact rural livelihoods, I attended farm service provider meetings and conferences, and official county convenings, like Siskiyou County Board of Supervisors meetings. To better understand the everyday practices and rhythms of farm households, I participated in daily farm tasks like field-walks, cutting alfalfa, harvesting potatoes, checking irrigation lines, pregnancy-checking cows, as well as household tasks like dinner preparation. Additionally, I participated in endangered salmon counting and sampling events, farmers markets, informal Hmong community markets, 4-H cleanup days, and other community events that offered insight into the social dynamics and provisioning of

knowledge, goods, and services within these communities.

I recorded detailed written observational notes, which helped contextualize farmers' experiences and informed qualitative code development. I also selected six farm households that represented a range of experiences—including market, management, and land tenure structure—to participate in a longitudinal livelihood analysis wherein I conducted formal and informal interviews with multiple family members over three years. This method helped me gain a deeper understanding of household dynamics and labor divisions, social connections and relations within the local and extra-local community, key historical moments of and responses to environmental change, and associated livelihood effects and coping strategies. While conducting ethnographic fieldwork, I also recorded daily written notes on interactions, farming practices, landscapes, events, experiences, and reflections.

I transcribed qualitative data using hand transcription and Trint software. I then coded qualitative data in MAXQDA software using a mix of latent and semantic codes. The first round of coding was primarily deductive, employing theory driven codes based on my research questions and literature on farmers and climate change (Schewe and Stuart 2017). The second round of coding was iterative, using a grounded theory approach and thematic codes emergent from the data (Thornberg and Charmaz 2014). Research assistants independently coded a random selection of 16 transcripts to check my coding for bias and increase the reliability of analysis (Schattman et al. 2018).

To understand historical contexts and ecological conditions, I conducted textual analysis of archival and policy material. I analyzed local policy documents like board of supervisor meeting minutes, county ordinances and reports, and agency publications and white papers related to environmental and agricultural change. I also included historical and contemporary press materials, including newspaper articles, and website and social media coverage of key events. Undergraduate research assistants through the University of California, Berkeley's undergraduate research opportunity programs were especially helpful in finding and organizing these materials (see acknowledgements).

I also created a survey that covered four primary topics: (1) general information about the respondent (e.g., age, gender, farming experience) and household (e.g., farm income, reliance on off-farm work, family labor participation); (2) farming practices used in the past, present, and considered for the future; (3) motivations for and barriers to adopting new management practices; and (4) experiences, impacts, and beliefs about extreme weather events and climate change. Some responses were collected in person during interviews. Because my interview sample framework was purposive, those survey results are not representative. A Qualtrics XM version of the survey was then sent to a wider pool of potential respondents over email, through the Siskiyou County Farm Bureau, CattleMen's and CattleWomen's Associations. The Qualtrics XM survey was sent to farmers in March 2020, right before the global COVID-19 pandemic disrupted social activity; a low response rate that rendered those results not-representative. I therefore refer to this material as the 'baseline farm demographic and practices survey' and have not included these data in the dissertation, with the exception of checking how people I interviewed self-identified and provided additional details on their farming practices.

Example Interview Guide*

I have slight variations of this interview guide for cannabis farmers and for agricultural advisors, which I am happy to provide upon request.

Interviewee code _____

Position (e.g., “cattle rancher”) _____

Date _____

Location (e.g., “farm in X valley”) _____

At BEGINNING

- *Introduce self & research & thank them for their time.*
- *You are not obliged to participate at all or answer any questions you do not want to answer, I will not share your name with anyone, and I will not associate your answers with your name.*
- *This interview process is completely voluntary and confidential.*
- *I would like your permission to record this interview. Recording allows me to confirm my notes are correct and be sure I represent your comments exactly as you say them—they are for backup purposes only. We will keep the recordings until the end of the project and then destroy them. Do you mind if I record this conversation?*
- *Remember to ask for DETAILS, especially on “why” and “how” questions, for specific instances/memories/stories.*

At END

“I’d like to thank you for taking your time to meet & discuss your agricultural experience with us/me today. We plan to analyze this data anonymously (without your name or other identifying information connected to what you’ve shared with us) and then hopefully write papers (which won’t identify you) that can identify the challenges and opportunities farmers are facing and help increase the viability of family farmers and rancher in the US.”

Introduction

Can you tell me a bit about your farming operation and history?

- *How long have you and/or your family been farming here? Can you tell me a bit more about your family’s history with agriculture (how many generations, how/when came to Siskiyou, what did before farming)?*
- *How did you get involved in farming in this area? Did you farm elsewhere, prior to coming here/farming here?*
- *Who else in your extended family is involved in farming here (what type of farming)? Elsewhere (what type of farming)?*

Stepping back a little, I’m curious...

- *What motivates you to farm? (e.g., stewardship, people, food security, etc.)*
- *What does it mean to you to be a farmer? What values do associate with being a farmer? How are those values perceived in this community?*

- What do you like best about farming here? If you didn't farm, what other kinds of work do you see yourself doing?
- What were the most important moments of change in your farming operation in the past?
 - How did livelihood and management practice decisions get made?
 - How did these changes affect how you make a living?
 - How did this affect how you farm since?

Farm management practices (see baseline survey)

- Can you tell me a bit more about the way you farm?
 - How would you describe your farming philosophy?
 - What are the most important drivers of changing management practices? (e.g., weather, cost, social pressure, environmental ethic, etc.)
 - What kinds of farming practices are most important to you and why?
 - Are there farm management practices (or livelihood strategies like off-farm work) that have impacted your farm's success or persistence through drought? Your family's social standing? Has this affected your access to resources like extension in positive or negative ways? How so?
- Can you tell me more about how you decided to use X practice?
 - Why did you choose this management responses?
 - Was there something that happened (e.g., drought, policy, family change) that spurred you to adopt it?
 - Were there other practices you considered and why did you not choose those? What were the tradeoffs between different management and livelihood strategies?
 - What do you like about using X practice? What do you find most challenging?
- How different is the type of farming you practice from the farming you may have practiced in the past, or from the farming your family did in the past? What spurred you to adopt this?
- When changing farm management practices what factors are important to consider (how can you engage in new practices and be accepted as "traditional")?
- If you could [afford it/spare the time], would you change anything about the way you farm now? What are the barriers? What kinds of farming practices to you admire the most? Do you know anyone here who farms in that way?
- What does diversification mean on your farm? (How would you describe diversified farming practices? What values and meaning do you assign to various types of diversity? (e.g., field/biological, farm/market, landscape/land uses, ideas, information, and policies?)) In other words, how have you diversified your farm and for what purposes (with what goals)?

Now, specifically talking about water...

- Can you describe your water sources/rights and the history of those rights?
- The last time you experienced drought, or it didn't rain for a long time, what happened to your crops and livestock?
- How did your farming operation (*practices and livelihood strategies*) change, if at all, during the 2011–2014 drought? (*then ask 2007–2009, 2001, 1987–92, 1976–77*)?
- Were there things that your neighbors did that you thought were a good or bad idea? Did you see other farmers adopting new practices (what kinds)?

- Did any of your neighbors implement any ecological practices that worked well? What enabled them to do this?
- Did anyone in your family have to get an off-farm job? Take on debt? Sell or lease land? Contract farming? Leave agriculture? Etc.... (*simplification/diversification*)
- What are the most important conditions that enable farmers to implement new ecological practices (like crop rotation or grazing practices that build soil)? New technologies/inputs? Are these conditions different?

Now, specifically talking about generational change...

- Did X (e.g., Dad) ever tell you about his experience when it didn't rain for a long time?
- Do newer farmers deal with drought differently than more established ones? Do they feel differently about it? During the last drought were new/young farmers surprised? Did they use new information/practices?
- Do kids around here go off to college and come back and do things differently? How so?
- Who do you see as the younger generation of farmers? Why do you think they are coming or returning here to farm? Do drought/water issues impact newer farmers differently than more established ones? Do they respond differently? Are there other big challenges or opportunities you see for newer farmers (especially from the community or local institutions)?

Now, specifically talking about gender...

- How do responses to drought/policy change (changing practices or livelihood strategies) vary by gender?

Livelihood diversification

- Who is on the farm? More/less 50% time working on farm?
- On (and off) your farm, who is responsible for what tasks? How did that change during the 2012 drought?
- Do you have family members who work off the farm? Where/what/how long? Was getting a job off the farm related to water issues? How do they feel about working off farm?
- Do they still work on the farm, if so what farm-related tasks do those family members who work off-farm usually do on the farm?
- Is getting/relying on an off-farm job met with positive or negative judgements by other family members, other farmers, service providers?
- Can you list the sources of income that are important for your family?
 - Work related (who doing what where)
 - Farm products
 - Other services (e.g., agrotourism)

("tell me about your family's history with that" to get a sense of frequency/options)

Agriculture in the region

- What brought people to farm in the county at different times?
- What kind of farming was done here before? Where and how were they farming before?
- Who is doing what kind of agriculture (categories of farmers in the area)?
- What are some of biggest challenges for farmers in the region today?
- What does it mean to you to be a "good" farmer?
 - What are practices or livelihood strategies that signal being a good or bad farmer?

- How can newcomers, in this community fit in? Are there things in your view that automatically brand someone as an outsider?
- What does being a good farmer/good neighbor around here entail?
- What farm management practices, government policies, and private market governance responses to change are considered standard or acceptable by different producers and why (including in response to drought and other changes)?
- What types of farmers do you mostly interact with? And how do you interact with fellow farmers (e.g., exchange information and ideas)?
- Could you please describe a farm in this region that you admire? Why you admire it? What is it about this farm that you like?
- Could you please also describe a farm that you dislike (no need to give names) and can you please tell me what you dislike about this farm?
- How would you define “hobby” farmers and why (what is unique to them)?
 - Should hobby farmers have access to the same services (UCCE)?
 - Has this term been applied to you or someone in your family and how do you feel about that term/label?
- How are farmers and ranchers around here dealing with cannabis cultivation?
- Do you see people selling water to cultivators? How often do you see people taking up growing themselves?
- How about law enforcement? Do a lot of folks here give information to law enforcement?

ESA follow up questions

- How is the ESA impacting farmers and ranchers? What is the history of the ESA here?
- How do you think “conservation” efforts could be framed to get a better reception among farmers?

Extension

- Where do you get information (related to agriculture and other news/issues) or support from and what sources do you trust?
- Have you interacted with UCCE? If so, can you tell me about your experience? Who do you think should fill the historic public ag service provider role, and who should be their clientele? Where do you get your info?
- How do you interact with specialists and other campus researchers?
- Who do you think extension does/does not serve?

Land

- What changes have you seen in this land(scape) over time?
- Who is buying it/what is happening as older farmers retire?
- How do farmers access land (are there informal agreements/evictions)? Has this changed over time? Why?
- Easements and other programs like Safe Harbor Agreements?

Future

- Given how hard farming can be, what motivates you to keep going?
- How would you like to be farming 5 years from now? 10? 20?

- If you have children, do you want them to farm after you? Do you see them taking on the business?