

Building a Stewardship Economy: Insights from Community Innovation in the Rural American West



Photo courtesy of Wallowa Resources

Prepared for:

Wallowa Resources, Enterprise, Oregon

Authored By:

Emily D. Blackmer
Logan J. Christian
Rebecca T. Conway

Faculty Advisors:

Dr. Julia Wondolleck
Dr. Steven Yaffee

*A project submitted in partial fulfillment of the requirements for the degree of Master of Science
of Natural Resources and Environment*

University of Michigan
School for Environment and Sustainability
April 2020

Acknowledgements

The authors gratefully acknowledge the assistance of the following people and organizations, all of whom were essential to creation of this report.

We would like to especially thank our advisers, Doctors Julia Wondolleck and Steven Yaffee, for providing peerless guidance and insight over the past sixteen months. This report benefitted endlessly from their indefatigable coaching, clear thinking, and incisive feedback.

We would also like to thank Wallowa Resources, particularly Nils Christoffersen, Alyssa Cudmore, and Jean Jancaitis, for their excellent and enjoyable partnership. Their perspective helped ground this research firmly in the real world, and their carefully-planned itinerary for our time in Wallowa County first opened our eyes to what a stewardship economy might look like.

We also recognize the School for Environment and Sustainability, along with its faculty, staff, and students, whose financial resources and intellectual support enabled and enriched the research process.

A number of scholars and practitioners shared their knowledge and wisdom early on, contributing significantly to the direction of this research: Lesli Allison, Tyson Bertone-Riggs, Emily Jane Davis, Bryce Esch, Paige Fischer, Mark Haggerty, Chase Huntley, Joe Short, Sarah Tomsy, and Diane Vosick.

To the over 80 people we interviewed during the course of this research, we express our deepest gratitude. Without them, this report would not exist. They gave freely of their time and resources, and their experiences and understandings of stewardship economy activities were truly invaluable.

Finally, many thanks to our friends and loved ones for their emotional support and good humor (despite our occasional kvetching) as we have pursued graduate education.

Land Acknowledgments

The University of Michigan is located on the traditional territory of the Anishinaabe people. In 1817, the Ojibwe, Odawa, and Bodewadami Nations made the largest single land transfer to the University of Michigan, offered ceremonially as a gift through the Treaty at the Foot of the Rapids so that their children could be educated. As students and researchers living and learning on these territories, we must keep in mind these communities' struggles for self-determination and our own roles in colonial practices. Through these words of acknowledgment, we hope to reaffirm and show our respect for their ongoing ties to the land and contributions to the University.

We would like to acknowledge the Indigenous peoples whose traditional territory we studied for this report. Indigenous peoples have been stewards of these lands for millennia. Yet on numerous occasions over the past 200 years, many have been unjustly and violently removed from and dispossessed of their land, and the health of both their communities and their homelands has suffered. While these words may not repair this harm, we recognize, respect, and appreciate the tribes and people who were, and still are, caretakers of these lands and waters.

Our research studied the following places:

Ajo, Arizona falls within the territory of the Tohono O'odham, Ak-Chin, and Hia-Ced O'odham peoples, many of whom now live on the Tohono O'odham Nation Reservation located along the Arizona-Mexico border in Pima County, Arizona. Traditional Tohono O'odham lands cross the current U.S.-Mexico border, and many Tohono O'odham people also live in the Mexican state of Sonora.

Blackfoot watershed, Montana is located on the traditional territory of the Salish Kootenai and Blackfoot peoples. Today, many Salish Kootenai are enrolled in the Confederated Salish and Kootenai Tribes living on the Flathead Indian Reservation in what is today western Montana. Members of the Blackfoot Confederacy reside in three First Nation band governments in provinces of Canada, and the Blackfeet and Fort Belknap Indian Reservations in northern Montana.

Chama Peak region, Colorado and New Mexico falls within the traditional territory of the Jicarilla Apache and Ute peoples and the Puebloan cultural group. Today, many of the Jicarilla Apache people are enrolled in the Jicarilla Apache Nation in northern New Mexico. Many Ute people reside in the Uintah and Ouray Reservation (northern Utah) and the Ute Mountain Ute and Southern Ute Reservations (southwestern Colorado). Puebloan peoples include Native American groups from the southwest US with common cultural practices.

Lake County, Oregon is located on the territory of the Yahooskin, Klamath, and Modoc peoples, today united as the Klamath Tribes, as well as the Northern Paiute peoples, who live across the Great Basin. The government of the Klamath Tribes is now located west of Lake County in Klamath County, while many Northern Paiute people are enrolled in over a dozen federally-recognized tribes scattered across their territory.

Malpai Borderlands of Arizona and New Mexico falls within the traditional territories of the Chiricahua Apache, Opata, and Suma peoples. Many Chiricahua Apache are now enrolled in the federally-recognized Fort Sill Apache and Mescalero Apache Tribes and reside on three reservations in New Mexico and Oklahoma. The Opata and Suma peoples' traditional homeland encompassed much of

northern Mexico in the modern states of Sonora and Chihuahua. Neither has federally recognized land today.

Mount Adams region, Washington falls within the traditional territory of the Yakama, Cowlitz, and Wasco-Wishram peoples. Since the Treaty of 1855, many of these peoples are enrolled in the Confederated Tribes & Bands of the Yakama Nation on the Yakama Indian Reservation. The Cowlitz are Coast Salish people enrolled in the Cowlitz Indian Tribe, now part of the Yakama Nation. The Wasco and Wishram peoples are closely related Chinook Indian tribes that traditionally lived on the Columbia River. Today, many members of these tribes live on the Warm Springs and Yakama Indian Reservations.

North Fork Valley, Colorado falls within the traditional territory of the Ute peoples, now part of the confederated Uintah Ouray Ute, Ute Mountain Ute, and Southern Ute Tribes. These tribes are located on the Uintah Ouray Reservation (northern Utah), Ute Mountain Ute Reservation (southwestern Colorado), and Southern Ute Reservation (southwestern Colorado), respectively.

Northeast Washington falls within the traditional territories of the Lakes, Colville, Okanogan, Moses-Columbia, Wenatchi, Entiat, Chelan, Methow, Nespelem, Sanpoil, Chief Joseph Band of Nez Perce, and Palus peoples. Today, these bands compose the Confederated Tribes of the Colville Reservation.

Salmon River region, Idaho falls within the traditional territory of the Shoshone Bannock and Lemhi Shoshone peoples. The Lemhi Shoshone call themselves Agaidika, or salmon-eaters. Today, many members of these tribes live southeast of the Salmon River region on the Fort Hall Reservation and are governed by the Shoshone-Bannock Tribes.

Thunder Basin, Wyoming falls within the traditional territories of the Arikara, Cheyenne, Crow, and Sioux peoples. Today, many Arikara are enrolled with the Mandan and Hidatsa tribes as part of the Mandan, Hidatsa, and Arikara Nation on the Fort Berthold Reservation in northwest North Dakota. The Cheyenne people include two federally recognized Nations, the Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation in Montana and the Southern Cheyenne of the Cheyenne and Arapaho Tribes in Oklahoma. The Crow peoples' traditional territory extended from the Yellowstone Valley through Montana and North Dakota. Today, the tribe is recognized as the Crow Tribe of Montana with a reservation in the south-central part of the state. The Sioux are a group of Native American tribes and First Nations peoples, now consisting of two major language-based divisions: Lakota and Dakota. Today, these groups hold reservations in Montana, North Dakota, South Dakota, Minnesota, and Nebraska and reserves in the Manitoba and Saskatchewan provinces of Canada.

Trinity County, California is located on the territory of the Tsnungwe, Northern Wintun (including the Nomlaki and Patwin peoples), Eel River Athabaskans (including the Lassik, Wailaki, and Nongatl peoples), Northern Yuki, Chimariko, Hupa, and Shasta peoples. The only land in present-day Trinity County that remains under tribal ownership is the northern tip of the Round Valley Reservation, which is governed by the confederated Round Valley Indian Tribes.

Wallowa County, Oregon is located on the traditional territory of the Cayuse, Umatilla, Walla Walla, and Nez Perce peoples. Today, the Cayuse, Umatilla, and Walla Walla peoples are part of the federally recognized Confederated Tribes of the Umatilla Indian Reservation. In 1877, led by Chief Joseph, the Nez Perce famously resisted forced removal from their Wallowa Valley homeland. The Nez Perce Tribe is currently based on the Nez Perce Reservation in north-central Idaho.

West Central Colorado falls within the traditional territory of the Ute and Puebloan peoples and a small portion of the Jicarilla Apache traditional territory (see Chama Peak, Colorado for description of the tribes and cultural group).

These land acknowledgements were informed by Sonia Joshi, Diversity, Equity and Inclusion Program Manager for the University of Michigan School for Environment and Sustainability; the crowd-sourced resource <https://native-land.ca/>; and publicly-available online information.

Abstract

Over the last three decades, rural, isolated communities in the Western U.S. have contended with five intersecting challenges: environmental degradation from past fire suppression, resource extraction, and intensive use; the need to build community resilience amidst a changing climate; a downturn in natural resource-based economies; a desire for economic opportunities beyond tourism and recreation; and demographic trends such as aging and declining populations. This report identifies and studies communities that have responded to these challenges by fostering stewardship economy (SE) activities, which use environmental stewardship as an economic and community development strategy. Three research methods were employed: a literature review and semi-structured interviews with ten individuals to determine criteria and candidate communities for selection as case studies; a series of case studies, which involved semi-structured interviews with more than 80 individuals in thirteen communities; and cross-case analysis to identify strategies and activities employed by these communities and the factors that have enabled and constrained their success.

The thirteen communities studied have engaged in a broad array of activities. Activities ranged from those with direct ecological and economic impacts — such as forest and watershed restoration conducted by local contractors — to those that enable on-the-ground work, such as building partnerships and networks to coordinate cross-boundary stewardship. SE activities were supported by a range of factors. At the local level, sustained leadership, a strong sense of place, and a shared community vision enabled SE activities, while state and national policies and programs provided key funding and authorization for communities. Institutional support also played an important role, including financial support from foundations and individual donors and local and regional partnerships. Also critical was the existence of local assets and infrastructure to build upon. Although communities have advanced SE activities with some success, this success has been constrained by limited financial stability, capital, and administrative capacity. On top of capacity limitations, SE activities often received insufficient support from government agencies and/or local public officials. Other constraining factors include ecological complexity and uncertainty exacerbated by climate change, fluctuations in and difficulty accessing markets for SE products, and state and federal land management policies that are unresponsive to local contexts.

Drawing on this research, we propose recommendations for advancing SE activities, targeted to communities, community organizations, regional and national organizations, agencies, policymakers, foundations, and researchers. Across the board, communities advancing SE activities need both financial and intellectual capital, buy-in from individuals and organizations within and outside of the community, increased organizational capacity, and more responsive state and federal policies and programs. Finally, these communities need greater attention and validation, particularly from those who can help them build the tools and optimism needed to continue SE work.

Table of Contents

ACKNOWLEDGEMENTS	I
LAND ACKNOWLEDGMENTS	II
ABSTRACT	V
TABLE OF CONTENTS	VI
LIST OF FIGURES AND TABLES	VIII
FREQUENTLY USED ACRONYMS	IX
CHAPTER 1: INTRODUCTION	1
CHALLENGES FACING RURAL COMMUNITIES IN THE AMERICAN WEST	1
THE STEWARDSHIP ECONOMY CONCEPT	6
OBJECTIVE OF THE STUDY	8
RESEARCH METHODS	9
REPORT OUTLINE	13
CHAPTER 2: SITE SUMMARIES.....	17
COMMON CHARACTERISTICS ACROSS LOCATIONS.....	17
VARIATION ACROSS CASE AND VIGNETTE LOCATIONS	18
STUDY LOCATIONS.....	24
LAKE COUNTY, OREGON	25
MOUNT ADAMS REGION, WASHINGTON	27
SALMON RIVER REGION OF CENTRAL IDAHO	29
TRINITY COUNTY, CALIFORNIA.....	31
WALLOWA COUNTY, OREGON	33
AJO, ARIZONA.....	35
BLACKFOOT WATERSHED, MONTANA	37
CHAMA PEAK REGION	39
MALPAI BORDERLANDS	41
NORTH FORK VALLEY, COLORADO	43
NORTHEAST WASHINGTON.....	45
THUNDER BASIN, WYOMING	47
WEST CENTRAL COLORADO	49
CHAPTER 3: STEWARDSHIP ECONOMY STRATEGIES AND ACTIVITIES.....	53
STRATEGY 1: RESTORATION AND CONSERVATION	56
STRATEGY 2: JOB, SKILL, AND WORKFORCE DEVELOPMENT	61
STRATEGY 3: INVESTMENTS IN BUSINESSES, MARKETS, AND INFRASTRUCTURE	64
STRATEGY 4: COLLABORATION, PARTNERSHIPS, AND NETWORKS	68
STRATEGY 5: CASTING A WIDE NET FOR FUNDING	76
STRATEGY 6: TOOLS, AUTHORITIES, AND PROGRAMS	80
STRATEGY 7: OUTREACH AND EDUCATION.....	83
STRATEGY 8: COMMUNITY VISIONING AND PLANNING	86
CONCLUSION	88
CHAPTER 4: FACTORS THAT ENABLE STEWARDSHIP ECONOMY ACTIVITIES.....	91
ENABLING FACTOR 1: SUSTAINED LOCAL LEADERSHIP AND INSTITUTIONAL SUPPORT	93
ENABLING FACTOR 2: AN OPPORTUNISTIC AND PRAGMATIC OUTLOOK AND APPROACH	98
ENABLING FACTOR 3: LOCAL SUPPORT ROOTED IN A SENSE OF PLACE, RESPONSIBILITY, AND COMMON VISION	101
ENABLING FACTOR 4: PARTNERSHIPS AND NETWORKS	105
ENABLING FACTOR 5: CHARITABLE FOUNDATION & INDIVIDUAL DONOR SUPPORT	110

ENABLING FACTOR 6: LOCAL INFRASTRUCTURE AND ASSETS	113
ENABLING FACTOR 7: GOVERNMENT POLICIES AND PROGRAMS	117
CONCLUSION	133
CHAPTER 5: FACTORS THAT CONSTRAIN STEWARDSHIP ECONOMY ACTIVITIES	136
CONSTRAINING FACTOR 1: INSUFFICIENT INSTITUTIONAL CAPACITY AND LEADERSHIP AT THE LOCAL LEVEL	138
CONSTRAINING FACTOR 2: LACK OF FLEXIBLE AND CONSISTENT FUNDING	140
CONSTRAINING FACTOR 3: COMPLICATED LOCAL GEOGRAPHIC AND SOCIOECONOMIC CONTEXT	142
CONSTRAINING FACTOR 4: INSUFFICIENT COMMUNITY BUY-IN, SUPPORT, AND PARTICIPATION	145
CONSTRAINING FACTOR 5: AGENCY AND PARTNER ORGANIZATION LIMITATIONS	148
CONSTRAINING FACTOR 6: CHALLENGES AND UNCERTAINTY ABOUT THE SCOPE AND SCALE OF ACTIVITY.....	151
CONSTRAINING FACTOR 7: MARKET-RELATED CONSTRAINTS	153
CONSTRAINING FACTOR 8: POLICY CHALLENGES.....	157
CONCLUSION	161
CHAPTER 6: CONCLUSIONS & RECOMMENDATIONS.....	162
CONCLUSIONS	162
RECOMMENDATIONS	166

List of Figures and Tables

Figures:

Figure 1: Stewardship economy model developed by Wallowa Resources.....	6
Figure 2: Case study locations.....	18
Figure 3: Case study and vignette locations.....	18
Figure 4: Geographic scale of SE activities.....	19
Figure 5: Degree of geographic isolation among study locations.....	20
Figure 6: Percent public land coverage (state and federal) among study locations.....	21
Figure 7: Timeline of when stewardship economy activities in study locations began.....	22
Figure 8: Primary focus of stewardship economy in study locations.....	23
Figure 9: Role of community-based organizations in study locations.....	23
Figure 10: Frequency of eight major stewardship economy strategies across study locations.....	55

Tables:

Table 1: Expert interview questions.....	10
Table 2: Interview protocol.....	12
Table 3: Major stewardship economy strategies and activities.....	54
Table 4: Prominent regional coalitions, networks, and organizations championing stewardship economy activities.....	74
Table 5: Foundations supporting stewardship economy activities.....	79
Table 6: Factors that enable stewardship economy activities.....	92
Table 7.1-7.8: Government policies and programs that support stewardship economy activities.....	117
Table 7.1: Forest restoration.....	119
Table 7.2: Fish and watershed restoration.....	123
Table 7.3: Agriculture improvements.....	125
Table 7.4: Private land conservation.....	126
Table 7.5: Wildlife conservation.....	127
Table 7.6: Community and economic development.....	128
Table 7.7: Renewable energy development.....	130
Table 7.8: Capacity-building and partnerships.....	132
Table 8: Factors that constrain stewardship economy activities.....	137

Frequently Used Acronyms

Ajo CSA: Ajo Center for Sustainable Agriculture (Ajo, AZ)
BLM: Bureau of Land Management
BPA: Bonneville Power Administration
CBO: Community-based organization
CFLRP: Collaborative Forest Landscape Restoration Program
CPLA: Chama Peak Landowner Alliance (Chama Peak, CO/NM)
CWPP: Community Wildfire Protection Plan
DMEA: Delta-Montrose Electric Association (North Fork Valley, CO)
EPA: Environmental Protection Agency
EQIP: Environmental Quality Incentives Program
JCLRP: Joint Chiefs' Landscape Restoration Program
GNA: Good Neighbor Authority
LCRI: Lake County Resources Initiative (Lake County, OR)
MARS: Mount Adams Resource Stewards (Mount Adams, WA)
MBG: Malpai Borderlands Group (AZ/NM)
MOU: Memorandum of understanding
NEPA: National Environmental Policy Act
NGO: Non-governmental organization
NRCS: Natural Resources Conservation Service
PILT: Payment in lieu of taxes
PLP: Public Lands Partnership (West Central Colorado)
RVCC: Rural Voices for Conservation Coalition
SE activities: Stewardship economy activities
SEI: Solar Energy International (North Fork Valley, CO)
SGPC: Southern Gifford Pinchot Collaborative (Mount Adams, WA)
SRS: Secure Rural Schools and Community Self-Determination Act
SVS: Salmon Valley Stewardship (Salmon River region, ID)
TBGPEA: Thunder Basin Grasslands Prairie Ecosystem Association
TCRCD: Trinity County Resource Conservation District (Trinity County, CA)
TNC: The Nature Conservancy
USDA: United States Department of Agriculture
USFS: United States Forest Service
USFWS: United States Fish and Wildlife Service
WRTC: Watershed Research and Training Center (Trinity County, CA)

Chapter 1: Introduction

Rural natural resource-based economies throughout the American West have been struggling for decades. A series of triggering events – including technological changes, declining timber supply from public lands and other changes in the timber industry, energy transitions, and climate change – have combined with decades of wildfire suppression and single-species management to create challenging economic and ecological conditions. While making headway has proven difficult, some communities are seeking to overcome these challenges by incorporating environmental stewardship into their long-term economic activities. By synchronizing efforts to improve economic and ecological health, these rural communities have begun revitalizing their local economies, funding restoration activities, responding to the risks associated with climate change, and building resilience for the future. These efforts, described here as “stewardship economy activities” (shortened to SE activities in this report), appear in multiple forms across varied landscapes in the western United States.

The thirteen communities studied in this project have collectively restored and conserved more than one million acres of land, built partnerships and networks to develop consensus and leverage resources, and sourced millions of dollars of funding. They have educated and trained community members, convinced their peers of the value of SE activities, and helped other communities foster their own version of these activities. On top of building businesses, promoting entrepreneurship, and creating jobs, these communities are hoping to ensure a resilient future for themselves by investing in long-term ecological stewardship, adaptive planning, and job training programs for community members and youth.

Over 80 individuals studying, living, and working in rural, isolated communities across the American West were interviewed for this study. Their stories and observations are contained in thirteen cases and case summaries. These cases detail the wide-ranging SE activities in these communities and describe the factors that enable and constrain these efforts. Enabling and constraining factors then provide a foundation for recommendations, which are targeted towards communities, policymakers, agencies, and funding organizations, among others, and which can overcome challenges and further the development of these activities. While not a be-all, end-all solution, SE activities provide a promising way for communities to respond to the challenges they have faced, and will continue to face, in the years to come.

Challenges Facing Rural Communities in the American West

Rural communities have been contending with a set of pervasive challenges and chronic issues, which have prompted a set of bleak projections regarding the future of rural economies. Many of these projections are grounded on demographic trends and seek to identify viable economic alternatives. However, their prescriptions often are limited to recreation and tourism development. The University of New Hampshire’s Carsey Institute, for example, divided rural counties across the U.S. into four classifications: amenity-rich rural America, declining resource-dependent rural America, chronically poor

rural America, and amenity/decline rural America.¹ While not all of the four typologies predict a bleak future, they present one main economic model for success – recreation and tourism.

The most hopeful outcome in this typology is that of amenity-rich rural America. It applies to a community capable of attracting affluent professionals who prefer to live in small towns close enough to cities for work, entertainment, or culture. However, these areas' beautiful natural landscapes spur growth by attracting new residents, which increases property values and creates barriers to affordable housing. On the other end of the spectrum is chronically poor rural America. These communities have a substantial history of resource depletion and underinvestment and are characterized by a lack of services, inadequate infrastructure and education, the absence of effective leadership, and weak institutions.²

The remaining two categories present marginally more optimistic futures, though again, not without downsides. Declining resource-dependent rural America, for example, is now experiencing economic decline associated with globalization, automation, and boom-and-bust cycles, making vulnerable a previously robust blue-collar middle class. Finally, amenity/decline rural America shares characteristics with both the amenity-rich and declining resource-dependent communities. These communities have witnessed the decline of natural-resource-based economic activities, though in most cases the community manages to sustain some degree of these industries while also showing potential for amenity-based growth. However, job loss in these communities is second only to that in chronically poor rural America. Their populations, while aging, remain relatively steady, with out-migration by young people balancing out incoming amenity-oriented retirees.³

This typology, and other research on rural areas, point to five challenges shared by isolated communities in the American West, each of which is described in detail below: environmental degradation from past fire suppression, resource extraction, and intensive uses; the need to build community resilience amidst a changing climate; a downturn in natural-resource-based economies; a desire for economic opportunities beyond tourism and recreation; and demographic trends such as aging and declining populations. Though they span economic, ecological, and political factors, these challenges do not exist in isolation from one another. Rather, they intersect and create feedback loops in which the effects of one challenge exacerbate the effects of another, causing heightened impacts on communities.

1. Environmental degradation resulting from past fire suppression, resource extraction, and intensive uses

Land across the rural West is badly in need of restoration. Ecological degradation stems from past mismanagement of public lands, the impacts of extractive industry, and other intensive uses of land. Past management regimes pose significant obstacles to ecological and public health and make communities more vulnerable to wildfire and other environmental degradation.

Decades of fire suppression on public lands have created a particularly pressing need for wildfire mitigation and forest thinning. Without a natural fire regime, forests and shrublands have become overgrown with flammable material, and wildfires in these areas are burning more frequently and severely. These catastrophic wildfires jeopardize the health of communities in the wildland-urban interface (WUI) and can degrade watersheds, key wildlife habitat, and forest ecosystems. Most of the communities we studied face severe, and steadily increasing, vulnerability to wildfire.

Past land use practices have also damaged key wildlife habitat, leaving numerous species in the West endangered, threatened, or vulnerable. The presence of threatened or endangered species, such as sage grouse or salmon, can attract significant funding to carry out wildlife habitat improvement projects, yet it can also require ranchers, farmers, and foresters to change the type and extent of activities carried out on their land. The timber industry in Trinity County, CA, for example, was hard-hit by the spotted owl crisis and Northwest Forest Plan. Protecting an endangered species required an intense scaling-back of timber harvests in forests throughout the region.

Previously mined lands are similarly in need of ecological improvement. According to the Western Organization of Resource Councils, 609 square miles of land in the West has been strip-mined since 1977. Only 97 square miles, or 16%, of these lands has been fully reclaimed, and only 57% has even been revegetated.⁴ In the Thunder Basin and Powder River Basin area of Wyoming, for example, only 2.4% of the 206 miles that had been strip-mined or otherwise disturbed by coal operations has actually been reclaimed. These lagging reclamation efforts pose risks to the community; reclamation occurring much later may not meet the required standards and could become a burden to the state, counties, and companies.

2. Need to build resilience amidst a changing climate

Amidst a grave need to address ecological degradation, a changing climate is creating uncertainty about the future and increasing the need for new information and planning processes to address these challenges. While climate change places communities throughout the United States at risk, it will have an especially drastic impact on rural communities in the West. These communities are particularly susceptible to impacts due to their physical isolation, limited economic diversity, high poverty rates, aging population, and economic dependence on natural resources.⁵ They have already faced major disruptions in recent years, including infrastructure damages from storms, severe floods and droughts, altered planting and harvest periods, and economic and ecological damages from wildfire.⁶

These impacts have provided an impetus for increased resilience planning, yet rural county governments often lack critical capacity to engage in these processes. A 2001 report found that only 29% of rural counties had one or more land-use planners, as compared to 73% of metropolitan counties.⁷ To adapt to changing conditions, these rural Western communities must be able to respond nimbly to uncertainty posed by climate change. However, they often lack the resources needed to enable resilience-building initiatives.

3. Downturn in natural-resource-based economies

Natural resource-based industries in the rural West have undergone dramatic shifts in recent decades, leaving communities with significant job loss, decreased wages, and less tax revenue to support county programs. From the 1980s to the 2000s, for example, timber processing became increasingly automated, leading to an 83% decline in the number of sawmills in the West. In light of automation, timber mills have become fewer, larger, and more technologically sophisticated. Simultaneously, federal agencies, such as the U.S. Forest Service and Bureau of Land Management, have shifted towards ecosystem-based land management and away from management prioritizing timber harvest. With shifting markets and new trade agreements, the Southeastern U.S. and Canada emerged as competitive sources of timber, while the Great Recession in 2008 dramatically slowed demand for lumber.⁸

For timber-dependent communities, these shifts were tectonic. Whereas the West had nearly 1,000 mills in 1970, there were fewer than 20 left by 2010. Median earnings from timber declined by 20%, to

the tune of approximately \$64 million.⁹ Though timber once represented more than 20% of annual earnings in twenty-five counties across the rural West, only a few counties derive more than 10% of their annual earnings from timber today.¹⁰ This broad economic restructuring struck local communities with incredible force. Wallowa County, Oregon, for example, saw all three of its sawmills close between 1997 to 2004, the result of declining federal timber harvests. These closures affected 30% of the county's workforce.¹¹

Western coal mining towns have taken a hit, too. Competition with natural gas and renewable energy, stagnant electricity demand, and environmental regulations across the country have led to a decline in demand for coal-fired power plants.¹² 49 plants have either set a retirement date or closed down, leaving only 20 coal plants in the contiguous western U.S. that plan to continue operations indefinitely.¹³ Coal plant retirements are also happening hand-in-hand with a decline in coal production. Between 2007 and 2017, coal production in the United States fell by one-third,¹⁴ and the U.S. Department of Energy's Energy Information Administration projects coal production could decrease to 77% below 2016 levels by 2030.¹⁵

Coal plant closures and declines in coal production leave many workers without full-time, family-wage employment, while also cutting into much-needed tax revenue. For example, two out of three mines in the North Fork Valley of Colorado have recently closed, costing the area over 700 jobs and crucial tax income once used to support schools and other public services.¹⁶ Communities like the North Fork Valley face additional challenges channeling their limited capacity to remediating land and decommissioning large industrial facilities. While a decrease in coal production and mining may bring about environmental benefits, it still leaves many rural economies in need of a new way to generate income and create jobs.

Finally, as subdivision and development continue to affect land prices in rural Western communities, those dependent on agriculture and ranching struggle to maintain their traditional livelihoods. Gosnell and Travis (2005), for example, report that as many as 45% of ranches in the United States are sold each decade.¹⁷ Ranchers and agriculturalists are often characterized as being "land-rich and cash-poor."¹⁸ With thin profit margins from ranching and farming and increasing land values, they are faced with increasing psychological and economic pressure to sell their land.¹⁹

Political and social changes have similarly impacted ranching livelihoods. For example, environmental campaigns, such as "cattle free by '93" and "no more moo by '92," challenged federal permitting. These campaigns expressed concern that ranching practices, as employed by private landowners and federal agencies, jeopardized fragile Western landscapes. In the Malpai Borderlands (NM and AZ), for example, these initiatives left agencies like the U.S. Forest Service and Bureau of Land Management inundated with lawsuits (or threats thereof). On-the-ground work has been constrained by appeals, litigation, or other delays to project proposals. On top of these issues, ranchers continue to face risks associated with wildfire, drought, and fluctuating market prices of cattle.

4. Desire for economic opportunities beyond tourism and recreation

In light of these ecological and economic challenges to rural communities, economic development efforts have tended to focus on tourism and recreation as the best strategy to revitalize communities. The recreation economy, in particular, has garnered interest from the U.S. Bureau of Economic Analysis,²⁰ Headwater Economics,²¹ and the Environmental Protection Agency,²² among others. However, many communities studied in this project remained suspicious of the recreation economy approach. Overall, they were hesitant to emulate places like Moab, UT; Bend, OR; or Sun Valley, ID. To

some community members, these places represent unsustainable dependence on tourism and recreation, which have priced locals out of owning property, confined job creation to the service industry, and challenged traditional rural livelihoods.

The recreation economy approach has been examined by researchers as well. Winkler et al. (2007), for example, draws a distinction between the Old West — or rural communities that continue to depend on traditional extractive industries like ranching, forestry, and mining — and the New West, in which communities develop economic activities based on non-commodity natural resources such as tourism and recreation. The New West is often associated with increased in-migration of people with high educational attainment, seasonal population fluxes, high housing values, and an increase in jobs associated with real estate and tourism. While the New West may, on its face, seem a desirable model, it may not be easily implemented. Winkler et al. (2007) found that two-thirds of census-defined places in the rural West fell closer to the Old West on the continuum.²³

5. Socioeconomic and demographic conditions throughout the rural West

Rural Western communities also face demographic challenges, mostly stemming from out-migration and aging populations. From 1910 to 1990, the percent of the total U.S. population living in a rural community dropped from 54% to only 19.3%.²⁴ This out-migration means that today, only around 60 million people in the United States live in a rural area, though 97% of the nation's land base falls under this category. Additionally, in rural communities nationwide, the average age is 51 as opposed to 45 in urban areas.²⁵

The McKinsey Global Institute illustrated some of these challenges in its Future of Work in America report, which modeled the future of 3,000 counties and 315 cities from 2007 to 2030 to describe the impacts of increasing automation. The report developed a typology, which juxtaposed large megacities with high growth rates against rural counties with older populations, a less educated workforce, and a shrinking population. Four of thirteen categories in the typology — Trailing Cities, Americana, Distressed Americana, and Rural Outliers — are pertinent to rural communities in the West.²⁶

By and large, communities in these four categories face significant challenges. In these low-growth and rural areas, unemployment and average age tend to be higher, while educational attainment tends to be lower. Rural outlier communities are somewhat better off due to tourism, mining, or energy resources, while Americana and distressed Americana communities face steep declines in employment (collectively, they lost 360,000 jobs from 2007 to 2017). These communities also experience low population growth — in Americana counties, population growth was less than 1%, whereas in distressed Americana counties, population growth has been negative. These projections do not bode well for the future of rural America: with increased automation, job growth in rural counties could be as low as 3% in Rural Outlier counties, 1% in Americana, and -3% in Distressed Americana, and those estimates were before the economic shifts foreshadowed by the 2020 global pandemic.²⁷

When taken together, economic downturn, threatened ecosystem health, limited options beyond tourism and recreation, climatic uncertainty, and population decline pose substantial challenges for rural communities across the Western United States. Though formidable, these challenges can be mitigated to some degree by SE activities that help vulnerable communities supplement their rural economies by leveraging value from natural resource stewardship.

The Stewardship Economy Concept

The stewardship economy concept has been garnering cross-cutting interest for its potential to reinvigorate communities, economies, and ecosystems. BenDor et al. (2015) estimated that the American restoration economy in 2014 directly employed 126,000 workers, generated approximately \$9.5 billion in economic output, and indirectly supported another 95,000 jobs and \$15 billion of output.²⁸ These figures do not account for ecosystem services, cost avoidance (e.g., preventing wildfire or other natural disasters), or other positive externalities associated with ecosystem stewardship, which on the global scale, range in the trillions of dollars.²⁹ If even a small portion of that value goes to rural Western communities, the impact would be significant.

Further, a group of researchers, nonprofits, and community organizations has been conceptualizing, assessing, and facilitating SE activities for decades. Wallowa Resources, a community-based nonprofit organization in Wallowa County, OR (and the client for this project), is one of a handful of organizations that have supported and promoted SE activities over the past twenty years. Thinktanks such as the Aspen Institute, research groups such as Headwaters Economics and the Ecosystem Workforce Program, conservation nonprofits such as The Nature Conservancy and The Wilderness Society, foundations such as the Ford Foundation and the Hewlett Foundation, and advocacy groups such as the National Association of Counties have all turned their sights, in one form or another, to the intersection of rural economies, community well-being, and land stewardship in the American West.

Community-based organizations (CBOs), such as Wallowa Resources, have played a key role in developing SE activities in many communities. According to the Ecosystem Workforce Program, CBOs can be defined as “[n]on-profit organizations, which are based in rural areas, and that conduct practical work on both rural economic development and natural resource stewardship.”³⁰ CBOs often evolve from grassroots efforts to revitalize rural economies and promote sustainable land management, and they are uniquely situated to respond to local contexts. Their work often also extends beyond the local context. Many bridge community-scale work with resources and policies at the regional and national level through participation in network organizations. For the purposes of this report, network organizations are defined as organizations operating at the regional or national scale to provide financial and technical assistance to local organizations, create cross-community learning opportunities, and advocate for supportive state and federal policies.

Wallowa Resources has provided the most direct exploration and definition of a stewardship economy. In their work to promote SE activities both within and beyond Wallowa County, OR, the CBO has put forth “a new vision for rural places,” in which uniquely local contexts and actors develop “innovative and adaptive strategies that maintain and enhance the productivity and profitability of our working landscapes, while sustaining the quality and diversity of wildlife habitat and ecosystem services.”³¹ This new vision hinges on adoption of the stewardship economy, which Wallowa Resources has defined as “an economy shaped by the need, and responsibility, to manage for the sustainability of both land and communities.”³² As demonstrated in



Figure 1: Stewardship economy model developed by Wallowa Resources.

Figure 1, the SE model comprises three intersecting categories of activities which: 1) promote stewardship of land and water resources; 2) develop rural economies and create jobs; and 3) provide education and job training opportunities for community members and advocate for beneficial policies at the state, regional, and national levels.³³ While Wallowa Resources has conceptualized this SE model, no study has yet determined where, how, and the extent to which communities engage with it.

Under labels such as “working landscapes,” “restoration economy,” or “new natural resource economy,” several studies have examined rural communities in the West that are improving their economy by stewarding natural resources. Similar to BenDor et al. (2015),³⁴ Nielsen, Pincus, and Moseley (2012) examine the “restoration economy,” which they define as “economic output and employment resulting from environmental restoration, restoration-related conservation, and mitigation actions.”³⁵ Abrams and Bliss (2013) use the term “working landscapes” to describe rural places where commodity production and environmental protection occur simultaneously. Their work focuses on the influx of amenity landowners into Wallowa County, and the interaction of these amenity owners with traditional uses of the land such as timber harvest, ranching, and agriculture.³⁶

Many of these researchers share ties with the Ecosystem Workforce Program (EWP), a joint research initiative between the University of Oregon and Oregon State University and a frequent partner of Wallowa Resources. EWP has made significant strides studying the community- and policy-level activities associated with SE activities, at both the local and regional levels. Its working papers examine collaborative forest management and restoration and assess Forest Service partnerships and programs, covering topics such as investments and local capture of restoration and timber contracts, community relationships with the Forest Service, the role of CBOs in economic development on public lands, and contractor perspectives of accelerated restoration.³⁷

While not using the term “stewardship economy,” a five-year project led by EWP, Wallowa Resources, the Watershed Research and Training Center, and Sustainable Northwest set out to build capacity and implement SE activities across a broad swath of northern California and southern, central, and eastern Oregon. Called the Dry Forest Zone Project, it aimed to build local nonprofit capacity and collaborative processes, expand capacity and infrastructure for integrated biomass utilization, and create policy conditions favorable to long-term forest stewardship. In this context, Wallowa Resources acted as a nonprofit intermediary and capacity builder, working to enable entrepreneurship in the community and facilitate policy that would allow for community action.³⁸

The accomplishments and challenges of the Dry Forest Zone provide perhaps the most comprehensive example of developing a regional forest-based approach to promoting SE activities in the West. These accomplishments include supporting 72 full-time jobs, treating over 8,000 acres of public and private land, increased planning and collaborative efforts on National Forest System land, and contributions to the passing of important policies such as the Collaborative Forest Restoration Program and the National Cohesive Wildland Fire Strategy.³⁹

Our study builds on the Dry Forest Zone project by assessing how and to what extent SE activities are taking place in other areas in the West, using different resource bases, and in uniquely local contexts. Further, since the Dry Forest Zone project was completed in 2014, this study provides an updated view of how SE activities have been hindered and promoted over time. Further, it illustrates how and where these activities exist today.

Headwater Economics, an independent nonprofit research group in Bozeman, MT, has also explored revitalization and sustainability of natural-resource-based communities in the rural West. In a case study of formerly timber-dependent communities in the West, Headwaters Economics paints a hopeful picture for rural, isolated communities. It determined that economic success is related to “leveraged natural amenities, a collaborative approach to planning, and adaptability.”⁴⁰ However, these success factors were not necessarily connected to the sorts of productive, land-based activities encapsulated in SE activities. Rather, they highlighted tourism and recreation; development of new industries such as manufacturing, restoration, health care, and retirement-services; and opportunities associated with commuting to metropolitan markets.

Moving even closer to the stewardship economy concept, Hibbard and Lurie (2013) use “new natural resource economy” to describe the range of economic activities that can help resource-dependent communities diversify in the wake of economic shifts: watershed restoration, community forestry, sustainable agriculture, and ecosystem services.⁴¹ While the new natural resource economy concept touches on aspects of SE activities, our study expands on Hibbard and Lurie (2013) by examining what enables SE activities to emerge and have impact in communities with varying resource bases across the West.

In describing natural resource-dependent economies, rural economic decline, anemic investment, lack of access to markets, and transition toward newer economic models, all of these studies highlight important trends affecting SE activities. However, no systematic assessment of SE activities exists, for any region of the country, that details what communities are doing and accomplishing, and what facilitates or impedes their success. This study fills those gaps by looking at a broad set of SE activities being undertaken to try to tackle the five major challenges described above. It develops an on-the-ground understanding of how, where, and to what extent SE activities are taking place. Overall, it adds to an important debate about how to simultaneously re-invigorate the lands, economies, and communities of the rural West.

Objective of the Study

This project was prompted by the executive director and staff of Wallowa Resources, which works to create and sustain restoration-related jobs and promote renewable energy, ecosystem stewardship, and education within Wallowa County and northeast Oregon.⁴² The organization’s ultimate goal is to encourage rural livelihoods based on sustainable natural resource use, as well as support activities that re-invest in the health of the land and community. They had an interest in learning about what others were doing and, moreover, if there might be ways to scale up the stewardship economy concept in more communities.

The interests of Wallowa Resources were aligned with those of several graduate students and faculty at the University of Michigan’s School for Environment and Sustainability and established the basis for the research project described in this report. Like Wallowa Resources, we were concerned about rural natural resource-based communities and the declining health of western ecosystems, and we were intrigued by the potential of the stewardship economy concept as a way to respond to these circumstances. A requirement of the Master of Science degree program in the School for Environment and Sustainability is completion of a “master’s project” undertaken by a graduate student team for a real-world client on a topic of mutual interest. Hence, the stage was set for Wallowa Resources to

become our client (representing themselves and the interests of other communities and organizations), with Professors Julia Wondolleck and Steve Yaffee serving as faculty advisors. Our work got underway in earnest in February 2019.

We began with the notion that a “model stewardship economy” existed, which in theory would ensure a healthy, sustainable future for rural communities and address the five challenges described earlier. In this conceptualization, the community with a model stewardship economy would be able to secure stewardship activities as a vital piece of its economic base, derive sufficient benefit from the byproducts of stewardship work to support itself, and transfer this model from community to community. After studying thirteen rural Western communities and reviewing the literature describing the experiences of similar places, it quickly became clear that a model stewardship economy does not exist, but instead is a concept that is being applied in different ways in different communities as one component of their broader economic development strategies.

Communities across varied geographies, resource bases, and social contexts are developing SE activities in ways that are responsive to local conditions and community values. In most places, these activities are not replacing traditional natural-resource-based industries such as timber and mining. While they can facilitate job creation and might increase some wages in communities, they are not operating at a large enough scale to become the dominant piece of a community’s economy. In addition, while some SE activities are able to generate sufficient economic value to break even or better, most still rely on funding from government programs. These programs provide key resources to rural communities. They bring value to public land management agencies and advance state and federal policy objectives while bringing jobs and opportunities to local communities. While a model stewardship economy may not exist yet, our findings still show that rural communities in the American West are exploring and implementing SE activities in innovative, coordinated ways.

Research Methods

The study employed a qualitative research methodology involving literature review, interviews, and site visits. Four overarching questions guided the research:

1. What characterizes a stewardship economy, and which places are moving in that direction?
2. What strategies and activities are these places carrying out?
3. What enables and constrains these activities?
4. What policy, organizational, or funding strategies are needed to keep moving forward?

To answer these questions, we carried out a series of ten expert interviews, five in-depth case studies, and eight vignettes (or snapshot inquiries) in thirteen Western communities. Using information from the case studies and vignettes, we conducted cross-case analysis to identify common strategies and activities, enabling factors, and constraining factors across all of these locations. Finally, we developed a set of recommendations geared towards the various individuals and organizations involved in the development of stewardship economy activities. Our research incorporates the perspectives of over 90 individuals living in, working in, or studying rural communities. The study consisted of seven phases.

1. Expert interview questions and literature review

We first characterized stewardship economy activities through a literature review and a series of ten expert interviews. We tested and refined our working hypothesis of what and where SE activities are

taking place and identified a list of communities for potential study. The literature review focused on studies describing the nexus of rural economic development and environmental stewardship in the rural Western United States. In particular, we referenced publications listing specific stewardship activities, describing processes of transition in rural economies, and identifying which organizations and communities were involved in this transition. This literature was described earlier in this chapter. To supplement the literature review, “expert interviews” were conducted with individuals who have studied the concept of a stewardship economy or who have worked in places or communities that in some way exhibit this concept. Our client and project advisers helped us to develop an initial list of experts to interview. We began with an initial subset of interviewees and used a snowball approach to identify additional interviewees. Table 1 lists the expert interview questions.

Table 1: Questions guiding expert interviews and literature view

Characterize stewardship economy activities	Does our definition of a stewardship economy resonate with you? What would you add to or change about it?
	Do you recognize opportunity, and emerging practice, related to our definition of a stewardship economy in any part of the rural West that you work, or have worked?
Build a pool of places engaging in these activities	What examples of communities/places can you think of that are at different points along a spectrum of transition?
	Can you think of other places that warrant examination? What about these places stands out to you?
	We’re imagining different versions of stewardship economies, including forest restoration, regenerative agriculture, renewable energy, and remediation. Do these categories make sense to you? Can you think of any places that might fit into these (or other) categories?
Begin assessing enabling/ constraining factors and developing recommendations	How are stewardship and restoration being impacted by climate change and uncertainty?
	What current local, state, or federal policies or programs help advance a stewardship economy? What policies or programs restrict it? What public policy changes would help to support and advance these transitions?
	From your perspective, are there any key investment opportunities that would facilitate stewardship economies? What specific activities need funding? Any funding mechanisms that would be particularly effective?
Shape the research process	What questions are of particular interest to you in this study?
	Who else should we be talking to?
	What would you like to see come out of this project? What final product might be helpful to you or others?

2. Develop a pool of communities and case study selection criteria

During the first stage of our research process, we identified approximately thirty rural communities engaging in SE activities to some degree. This pool was built from places described in the academic literature as engaging in stewardship economy activities or identified during the expert interviews. We next developed a set of criteria by which to select communities that warranted in-depth case studies. When selecting case studies, we looked for communities exhibiting all of the following characteristics:

- **Rural and isolated:** Cases need to show stewardship economy activities that are not solely dependent on access to metropolitan areas. Rural, isolated communities in the Western United States face unique challenges given their lack of transportation networks, distance from urban markets, and difficulty attracting urban sources of capital.⁴³ Activities employed by metropolitan

areas likely hinge on proximity to urban areas and would therefore not be applicable to the bulk of rural communities in the Western United States.

- **Fostering place-based efforts:** To avoid simply surveying top-down policy or investment initiatives aimed at improving resource use across many rural communities at once, cases need to examine the network of actors working to foster SE activities within a specific community. In examining place-based efforts to foster stewardship economy activities, this project acknowledges the unique social, political, economic, and geographic contexts present in various rural Western communities.
- **Engaging in activities that link social, ecological, and economic well-being:** While efforts focused solely on environmental stewardship are important, case studies need to show how rural economies can be revitalized while also maintaining and improving ecosystem health. This study centers on the nexus of natural resource stewardship and rural economic development, so communities included in it must promote activities linking social, ecological, and economic well-being.
- **Planning and implementation underway for more than 10 years:** Case studies need to show communities where stewardship economy activities are well underway. Examining sustained efforts to promote SE activities allowed the study to not only assess how a particular community overcame initial challenges, but also how it sustained efforts over time and what enables its continued success.
- **Evidence of impact:** These case studies are centered on understanding places where positive outcomes have been reported. Though it is important to understand what prevents certain places from achieving tangible outcomes, case study locations need to comprise communities in which stewardship economy activities have shown signs of impact. This allowed a better understanding of what enabled communities to achieve those outcomes and how to better foster these activities moving forward.

These criteria were used to select five case study locations: Lake County, OR; Mount Adams, WA; the Salmon River Region of Central ID; Trinity County, CA; and Wallowa County, OR.

3. Case study site visits and interviews

Case study research was, most often, conducted via site visits. One or two team members traveled to each of four case study locations. Due to time constraints, phone interviews were conducted with all interviewees in Lake County, OR. When scheduling site visits, we identified key individuals who have advanced or are currently advancing SE activities in each community. We identified these individuals by reviewing online resources such as news articles, NGO websites, and local/county government websites and by following up with contacts provided by our client. Upon contacting a few initial individuals, we used a snowball approach to identify additional interviewees.

An interview protocol was developed to identify the SE activities underway in the community, what accomplishments had resulted, and what had promoted or hindered the development of these activities, among other things (Table 2). The interview protocol was supplemented with specific questions tailored to each interviewee's role and/or the type of SE activity in which that individual was involved. Ten to fifteen interviews were conducted at each case study location. We recorded each interview, took notes, and later supplemented those notes by listening to the recording and capturing additional information and quotations.

Table 2: Interview protocol

How did you get involved with [stewardship economy activity]?	How long have you been involved?
	What has kept you involved?
	Why are these activities important?
Can you tell us more about what is currently happening with _____?	What individuals or groups are involved?
	Are you involved with other projects focused on the health of natural resources and the well-being of the community?
What motivated the community to start doing _____, and what did you hope to accomplish?	What were the events/conditions/changes that made these projects necessary? <ul style="list-style-type: none"> • From an economic perspective? • Ecological perspective? • Community perspective?
	What did you want to see as a result of _____?
What has been accomplished so far?	What has changed in your community (in terms of local economy, natural resource conditions, community well-being)?
	What is happening in your community that wouldn't have otherwise occurred?
	What planning work related to _____ is underway in your community?
What makes these activities possible?	What individuals or groups helped _____ have an impact?
	What financial resources, programs, or policies helped/contributed?
	How have these enabling factors changed over time?
What challenges has your community faced in developing _____?	What were the barriers you encountered? <ul style="list-style-type: none"> • Policy or programs? • Financial or community related? • Other challenges?
	Any other issues have you faced with _____? <ul style="list-style-type: none"> • In the past? • Currently? • Moving forward?
Moving forward, what's needed to achieve your goals?	What do you think will be required for _____ to continue to make an impact?
	Where is investment most needed? <ul style="list-style-type: none"> • Who or what might provide that investment? • What existing assets might be leveraged?
	What local, state, or federal policies/programs need to exist and/or change?
	Which groups/leaders/individuals need to be more involved?
What advice would you give to a community with similar challenges or goals?	What resources/approaches should they be aware of?
	Who or what should they look to for help?
	What would you do differently?
Is there anything else you would like to share?	Who else should we be talking to?
	What other communities should we look into?

4. Vignette selection and interviews

To fill in gaps and probe unique activities or geographies, eight mini-cases, or “vignettes,” were developed. We selected eight vignette locations by intentionally sampling across characteristics observed in our case study locations, including: geographic scale, region, type of resource base, and presence/absence of a CBO. These vignettes were used to fill in any gaps in our data pool from the case studies. The case studies, for example, were concentrated in the Northwestern United States and in each location a strong CBO supported SE activities. In selecting vignettes, we looked for communities located in the Intermountain and Southwestern United States or that did not have a strong CBO. We also looked for SE activities in communities that had a stronger focus on socioeconomic development or which were operating at larger and smaller scales than the ones seen in case studies. One or two phone interviews per vignette were conducted, using the same set of questions prepared for the case studies.

5. Site-level analysis

Site analysis included organizing information from each interview into several categories: accomplishments, enabling factors, constraining factors, and recommendations. We then examined each category across all interviews at the site and identified what the community had accomplished, what enabled those accomplishments, what constrained them, and how they might be further developed. We wrote a narrative description to capture these factors for each of the sites, which have been condensed into the site summaries included in Chapter 2.

6. Cross-case analysis

Cross-case analysis included identifying common strategies and activities and enabling and constraining factors across the vignettes and case studies. Each team member read the narratives prepared for all other case studies and vignettes and noted recurring themes. With the guidance of our advisors, we iteratively organized common strategies and activities, enabling factors, and constraining factors into several broad categories. We then identified examples from case study and vignette locations, which could be used to better illustrate each category.

7. Development of recommendations

We used our vignettes, case studies, and cross-case analysis to develop a set of targeted recommendations. These recommendations are intended to provide tangible actions for various target audiences who could help advance SE activities. We developed recommendations by incorporating direct suggestions and ideas from our case study and vignette interviewees, as well as by extrapolating from the identified enabling and constraining factors. We brainstormed recommendations during site-level and cross-case analysis and refined them during a “recommendations workshop” with our advisors. Recommendations are targeted towards the following audiences: communities and community leaders, CBOs and other local organizations, regional and national network organizations, agencies, policymakers, philanthropic organizations, and universities and researchers.

Report Outline

Our analysis, conclusions and recommendations are contained in the following five sections:

- Chapter 2 summarizes our thirteen case studies and vignettes. It offers the “lay of the land” by illustrating the variation and similarities among each of the thirteen locations we studied. It then provides snapshots of each place, including geographic and demographic information, the factors that motivated SE activities, and a description of the SE activities fostered locally. This chapter provides context for the subsequent analytic chapters, which use examples from each location to describe different SE strategies and activities employed in these communities and the factors that enabled and constrained their development and progress.
- Chapter 3 outlines the strategies and activities rural Western communities have used to accomplish ecological, economic, and social benefits. It groups SE activities into eight strategies, which refer to the broad categories of actions employed by many of the communities we studied. Activities, or specific projects and actions taken in various places, highlight and exemplify these strategies. Strategies and activities range from those with direct on-the-ground impact, such as natural resource restoration and conservation initiatives, to those that facilitate work, such as building partnerships and networks to coordinate multi-jurisdictional stewardship,

resolve deep-seated conflict over land management, and collectively leverage resources to achieve a greater impact. Other strategies and activities include pursuing funding from a wide range of sources, engaging in outreach and education, and facilitating job training and small business development. Together, they illustrate how communities are advancing natural resource stewardship while also promoting social and economic health in communities.

- Chapter 4 elaborates on seven factors that have enabled the development of SE activities in the communities studied. The scale of these factors ranges from the distinctly local — such as sustained local leadership, a strong sense of place and responsibility, a common vision, and local assets and infrastructure — to state and national policies and programs that provide important funding, authorities, and support. Institutional support played an important role in all communities, including foundation and individual donor funding, partnerships and networks, and political support. Finally, stewardship economy activities benefitted from organizations, agencies, and community members who adopted an entrepreneurial and opportunistic approach, which helped them seize opportunities and innovate. Within each of these enabling factors, the chapter provides specific examples from the case studies and vignettes.
- Chapter 5 outlines and identifies eight factors that have constrained development of SE activities across the locations studied. It also provides specific examples of challenges faced in these locations to illustrate how these constraining factors operate on the ground. Some of these constraining factors stem from the nature of rural areas. For example, with lower populations and fewer organizations and institutions, communities struggle to secure and leverage financial and administrative capacity. Other constraining factors touch on lack of support within the community and on the part of agency personnel or local public officials. Elements beyond local control also affect SE activities. Climate change, for example, makes it hard to plan and capture the results of ecological restoration, and fluctuations in financial markets affect the availability of year-round, family-wage, jobs. Finally, while state and federal land management policies could support efforts to pursue stewardship economy activities, these policies are often unresponsive to the unique context of rural communities.
- Finally, Chapter 6 offers an overarching set of conclusions and recommendations drawn from the thirteen case and vignette locations, as well as from enabling and constraining factors identified during cross-case analysis. These recommendations are organized in clusters based on the type of organizations who could act on them: communities and community leaders; CBOs and other local organizations; regional and national network organizations; federal and state agencies; policymakers at various levels of government; philanthropic organizations; and universities and researchers. In general, this study identified that communities need financial and educational resources, internal and external support, and organizational and administrative assistance. Moreover, these communities need attention and validation, particularly from individuals who are in a unique position to effectively advocate on their behalf and help them build the tools and optimism needed to continue this work.

¹ Hamilton, L. C., Hamilton, L. R., Duncan, C. M., & Colocousis, C. R. (2008). *Place matters: Challenges and opportunities in four rural Americas*. University of New Hampshire Carsey Institute. doi: 10.34051/p/2020.41

² Hamilton, L. C., Hamilton, L. R., Duncan, C. M., & Colocousis, C. R. (2008). *Place matters: Challenges and opportunities in four rural Americas*. University of New Hampshire Carsey Institute. doi: 10.34051/p/2020.41

- ³ Hamilton, L. C., Hamilton, L. R., Duncan, C. M., & Colocousis, C. R. (2008). *Place matters: Challenges and opportunities in four rural Americas*. University of New Hampshire Carsey Institute. doi: 10.34051/p/2020.41
- ⁴ Family Farm and Ranch Groups Call for Coal Mine Reclamation. (2017, August 3). Western Organization of Resource Councils. Retrieved from <http://www.worc.org/coal-mine-reclamation/>
- ⁵ National Climate Assessment (2014): Rural Communities. Retrieved April 25, 2020 from <https://nca2014.globalchange.gov/highlights/regions/rural-communities>.
- ⁶ *Ibid.*
- ⁷ Kraybill, D. S., and L. Lobao, (2001). The Emerging Roles of County Governments in Rural America: Findings from a Recent National Survey. doi: 10.22004/ag.econ.20697
- ⁸ The Transition from Western Timber Dependence: Lessons for Counties (December 2017). Headwater Economics. Retrieved from https://headwaterseconomics.org/wp-content/uploads/Lessons_Timber_Transition.pdf
- ⁹ 2015 dollars
- ¹⁰ The Transition from Western Timber Dependence: Lessons for Counties (December 2017). Headwater Economics. Retrieved from https://headwaterseconomics.org/wp-content/uploads/Lessons_Timber_Transition.pdf
- ¹¹ Magyar, R. (2013, August 21). Wallowa County responds to challenges and develops biomass campus Retrieved from <http://sustainablenorthwest.org/blog/posts/wallowa-county-responds-to-challenges-and-develops-biomass-campus>
- ¹² Haggerty, J. H., Haggerty, M. N., Roemer, K., & Rose, J. (2018). Planning for the local impacts of coal facility closure: Emerging strategies in the U.S. West. *Resources Policy*, 57, 69–80. doi: 10.1016/j.resourpol.2018.01.010
- ¹³ Roth, S. (2020, February 4). Coal plants are closing across the West. Here are the companies sticking with coal. *Los Angeles Times*. Retrieved from <https://www.latimes.com/environment/story/2020-02-04/coal-power-plants-western-us>
- ¹⁴ Morris, A. C., Kaufman, N., & Doshi, S. (July 2019). *The Risk of Fiscal Collapse in Coal-Reliant Communities*. Columbia University's Center On Global Energy Policy. Retrieved April 25, 2020 from <https://energypolicy.columbia.edu/research/report/risk-fiscal-collapse-coal-reliant-communities>
- ¹⁵ *Ibid.*
- ¹⁶ Dan Boyce (2017, August 18). Coal under Trump: one miner's perspective. *Marketplace*. Retrieved from <https://www.marketplace.org/2017/08/11/sustainability/coal-under-trump-one-miner-s-perspective>.
- ¹⁷ H. Gosnell and W.R. Travis . 2005. Ranchland ownership dynamics in the Rocky Mountain West. *Rangeland Ecology and Management* 58:191–198. doi: 10.2458/azu_rangelands_v58i2_travis
- ¹⁸ Brunson, M. W., & Huntsinger, L. (2008). Ranching as a Conservation Strategy: Can Old Ranchers Save the New West? *Rangeland Ecology & Management*, 61(2), 137–147. doi: 10.2111/07-063.1
- ¹⁹ J.A. Tanaka, L.A. Torell, and N.R. Rimbe . 2005. Who are public land ranchers and why are they out there. *Western Economics Forum* 4:14–20. doi: 10.22004/ag.econ.27964
- ²⁰ Outdoor Recreation (Sept. 20, 2019). U.S. Bureau of Economic Analysis. Retrieved April 25, 2020 from <https://www.bea.gov/data/special-topics/outdoor-recreation>
- ²¹ Rasker, R. (2019, October). The Outdoor Recreation Economy by State. Headwater Economics. Retrieved April 25, 2020 from <https://headwaterseconomics.org/economic-development/trends-performance/outdoor-recreation-economy-by-state/>
- ²² Recreation Economy for Rural Communities. U.S. Environmental Protection Agency. Retrieved April 25, 2020 from <https://www.epa.gov/smartgrowth/recreation-economy-rural-communities>
- ²³ Winkler, R., Field, D. R., Luloff, A. E., Krannich, R. S., & Williams, T. (2007). Social Landscapes of the Inter-Mountain West: A Comparison of 'Old West' and 'New West' Communities. *Rural Sociology*, 72(3), 478–501. doi: 10.1526/003601107781799281
- ²⁴ Michael Ratcliffe, Charlynn Burd, Kelly Holder, and Alison Fields, "Defining Rural at the U.S. Census Bureau," ACSGEO-1, U.S. Census Bureau, Washington, DC, 2016. Pg 1.
- ²⁵ *Ibid.*
- ²⁶ Lund, S., Manyika, J., Hilton, L., Dua, A., Hancock, B., Rutherford, S., & Macon, B. (2019). *The Future of Work in America: People and Places, Today and Tomorrow*. Pg. vi. Retrieved from <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-in-america-people-and-places-today-and-tomorrow>
- ²⁷ *Ibid.*
- ²⁸ BenDor, T., Lester, T. W., Livengood, A., Davis, A., & Yonavjak, L. (2015). Estimating the Size and Impact of the Ecological Restoration Economy. *Plos One*, 10(6), 1-15. doi: 10.1371/journal.pone.0128339
- ²⁹ Sutton, P. C., Anderson, S. J., Costanza, R., & Kubiszewski, I. (2016). The ecological economics of land degradation: Impacts on ecosystem service values. *Ecological Economics*, 129, 182–192. doi: 10.1016/j.ecolecon.2016.06.016
- ³⁰ Abrams, J., Davis, E. J., Ellison, A., Moseley, C., & Nowell, B. (n.d.). *Community-Based Organizations in the U.S. West: Status, Structure, and Activities*. Ecosystem Workforce Program. Retrieved from http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_67.pdf
- ³¹ Stewardship Economy — Wallowa Resources. (n.d.). Retrieved April 25, 2020, from <https://www.wallowaresources.org/stewardship-economy>
- ³² *Ibid.*
- ³³ *Ibid.*
- ³⁴ BenDor, T., Lester, T. W., Livengood, A., Davis, A., & Yonavjak, L. (2015). Estimating the Size and Impact of the Ecological Restoration Economy. *Plos One*, 10(6), 1-15. doi: 10.1371/journal.pone.0128339
- ³⁵ Nielsen-Pincus, M., & Moseley, C. (2012). The Economic and Employment Impacts of Forest and Watershed Restoration. *Restoration Ecology*, 21(2), 207–214. doi: 10.1111/j.1526-100x.2012.00885.x
- ³⁶ Jesse Abrams & John C. Bliss (2013) Amenity Landownership, Land Use Change, and the Re-Creation of "Working Landscapes", *Society & Natural Resources*, 26:7, 845-859, DOI: 10.1080/08941920.2012.719587
- ³⁷ Working Papers. Ecosystem Workforce Program. Retrieved April 25, 2020 from <https://ewp.uoregon.edu/publications/working>
- ³⁸ Ecosystem Workforce Program. (Spring 2014). *Stewarding Forests and Communities: The Final Report of the Dry Forest Zone Project*. Retrieved from https://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_48.pdf

³⁹ *Ibid.*

⁴⁰The Transition from Western Timber Dependence: Lessons for Counties (December 2017). Headwater Economics. Retrieved from https://headwaterseconomics.org/wp-content/uploads/Lessons_Timber_Transition.pdf

⁴¹Hibbard, M., Lurie, S., Drlik-Muehleck, A., Forsi, A., Graham, M., & Nappa, S. (2017). Supporting Eastern Oregon's New Natural Resource Economy. Retrieved from https://cpb-us-e1.wpmucdn.com/blogs.uoregon.edu/dist/2/1652/files/2017/08/NNRE-Final-Report_Final-1afr21i.pdf

⁴² What We Do -- Wallowa Resources. Retrieved from <https://www.wallowaresources.org/index.php/what-we-do>

⁴³ Rasker, R., P.H. Gude, J.A. Gude, J. van den Noort. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. *Journal of Rural Studies* 25(2009): 343-353. doi: 10.1016/j.jrurstud.2009.03.004

Chapter 2: Site Summaries

This chapter provides an overview of the thirteen communities examined in this study. Five were examined through in-depth case studies; the remaining eight were studied in shorter vignettes targeted to investigate specific characteristics (see Chapter 1 for a discussion of our methods). We first describe the characteristics shared by the case and vignette locations, then summarize how these locations varied across location, geographic scale, degree of isolation, landownership, time when stewardship economy (SE) activities began, degree to which SE activities focused more on ecological or socioeconomic outcomes, and the role of community-based organizations (CBOs).^{*} Finally, we provide a summary of each of the places, describing the reason that SE activities were initiated, which SE activities have taken place, and what has been accomplished. This chapter provides context for the subsequent chapters, which draw examples from the cases and vignettes to describe SE strategies and activities, the factors that enabled and constrained these activities, and our recommendations for advancing SE activities.

Common Characteristics Across Locations

By design, case and vignette locations shared several characteristics. The five case study locations met each criterion for case selection, which were:

1. Rural and isolated
2. Engaging in activities that link social, ecological, and economic well-being
3. SE activities were place-based
4. Planning and implementation of SE activities had been underway for at least 10 years
5. Evidence of local impact due to SE activities

Each case study location involved a relatively large geographic region (between 3,000 and 10,000 square miles). Many early SE activities in these locations were focused on managing public lands and forestry, though communities have also fostered other activities, such as fisheries restoration, renewable energy development, and the expansion of education opportunities that engage young people in natural resource stewardship. In all case study locations, a CBO played a key role in championing and undertaking SE activities.

Vignette locations were also rural, isolated and engaged in place-based SE activities that link social, ecological, and economic well-being. Forestry was an important component of SE activities in four out of eight of the vignette locations. Other SE activities in vignette locations included farming and ranching, renewable energy development, recreation and tourism, wildlife habitat conservation and restoration, and mine reclamation.

^{*} Community-based organizations (CBOs): "Non-profit organizations, which are based in rural areas, and that conduct practical work on both rural economic development and natural resource stewardship."
Abrams, J., Davis, E. J., Ellison, A., Moseley, C., & Nowell, B. (2016). *Community-Based Organizations in the U.S. West: Status, Structure, and Activities*. Ecosystem Workforce Program.

Variation Across Case and Vignette Locations

Case studies and vignettes varied by geographic location, scale, degree of isolation, and landownership pattern. Different places initiated SE activities at varying times and have differentially prioritized economic and community development versus ecological stewardship. In some of the vignette locations, CBOs played a significant role in supporting SE activities; in at least one place, activities were undertaken without the leadership of a CBO. In selecting vignette locations, we intentionally sought variation across geographic scale, geographic location, and the role of a CBO.

Geographic location

Variation in geographic location meant that SE activities were influenced by different socioeconomic and ecological conditions. Case studies trended towards the Northwest (Figure 2) where, after changes in federal forest management in the 1990s, several communities initiated efforts to revitalize local economies and communities. Here, the communities worked to redefine their relationship with the Forest Service and the timber industry, developing organizations, infrastructure, and the community will to respond to changing forest conditions, especially a greater abundance of small-diameter trees resulting from decades of timber harvest and fire suppression.

Vignettes were deliberately selected to expand research to areas outside of the Northwest. Most vignettes were located in the Intermountain West and Southwest (Figure 3). In the Intermountain West and Southwest, SE activities were shaped by other socioeconomic and ecological conditions, such as a declining mining industry (North Fork Valley, CO; Ajo, AZ; Thunder Basin, WY) or presence of endangered species (Blackfoot Watershed, MT; Thunder Basin, WY). This variation in socioeconomic and ecological conditions meant that communities focus their SE activities on different issues and opportunities. We further discuss the implications of this variation in focus below.

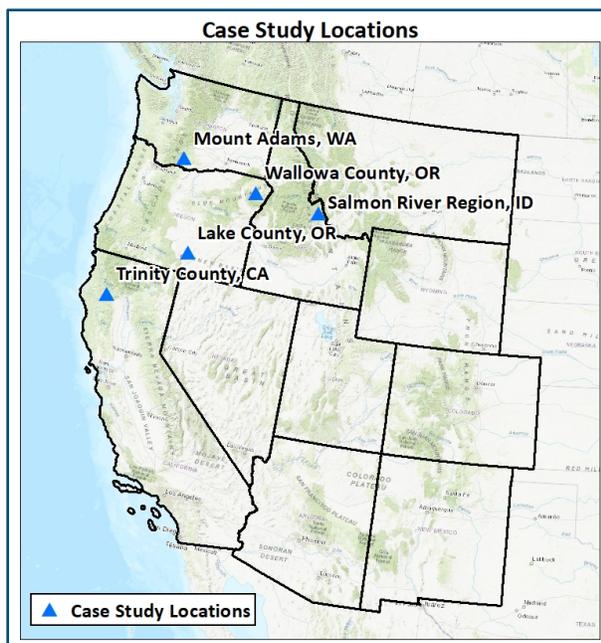


Figure 2: Case study locations

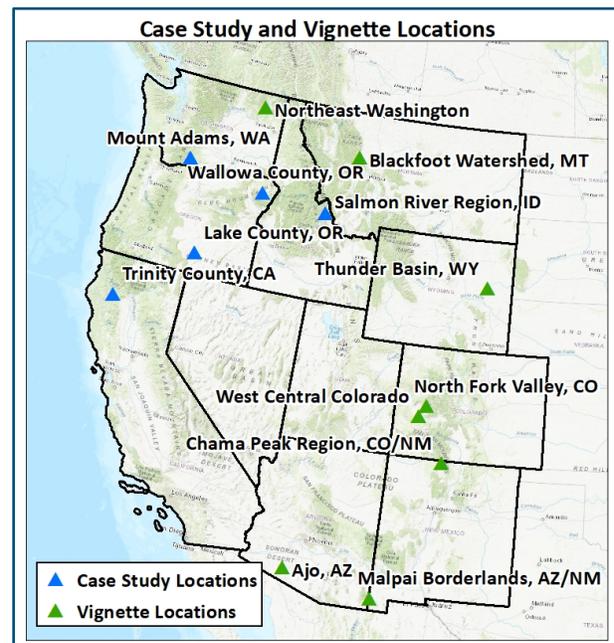


Figure 3: Case study and vignette locations

Geographic scale of activities

Across the places studied, the geographic scale of SE activities varied widely (Figure 4), ranging from an individual town to multiple large counties. Differing scales necessarily changed the scope of SE activities in each place and required involvement from different kinds of organizations and institutions. For example, at the scale of a single town, SE activities in Ajo, AZ sought to engage community members in developing a just local food system in which people could learn about, grow, sell, and consume local food. A network of locally-based organizations and institutions supported these efforts including nonprofits, school districts, businesses, and healthcare organizations. By contrast, SE activities in Thunder Basin, WY occurred across a five-county area, covering over 20,000 square miles of sagebrush steppe and shortgrass prairie ecotypes. In such a large geographic region, organizations promoting SE activities had to be diligent in maintaining a manageable scope of work. One CBO in the region, the Thunder Basin Prairie Grassland Ecosystem Association (TBGPEA), had to be selective about what projects to take on, focusing on those that could produce tangible ecological outcomes while supporting the sustainability of ranchers' livelihoods. SE efforts in Thunder Basin also benefitted from extra-regional partners; researchers from out-of-state universities and the Agriculture Research Service were called upon to provide expertise and help develop long-term monitoring protocols in the area.

Our study also looked at differing scales of activity within a geographic region. For example, we investigated SE activities underway within the North Fork Valley of Delta County, Colorado, while also examining West Central Colorado, a much larger, five-county region of western Colorado that includes Delta County. SE activities in the North Fork Valley centered on developing local agriculture, renewable energy, and making the valley an attractive place to work and live. West Central Colorado, in contrast, tended to take on projects of larger geographic and temporal scale, which involved aligning and coordinating efforts amongst multiple counties and agencies. SE activities in West Central Colorado, for example, brought together seven county commissioners, community members, local businesses, NGOs, and state and federal agencies to reach agreement on issues such as timber salvage sales and other ecosystem-scale restoration projects.

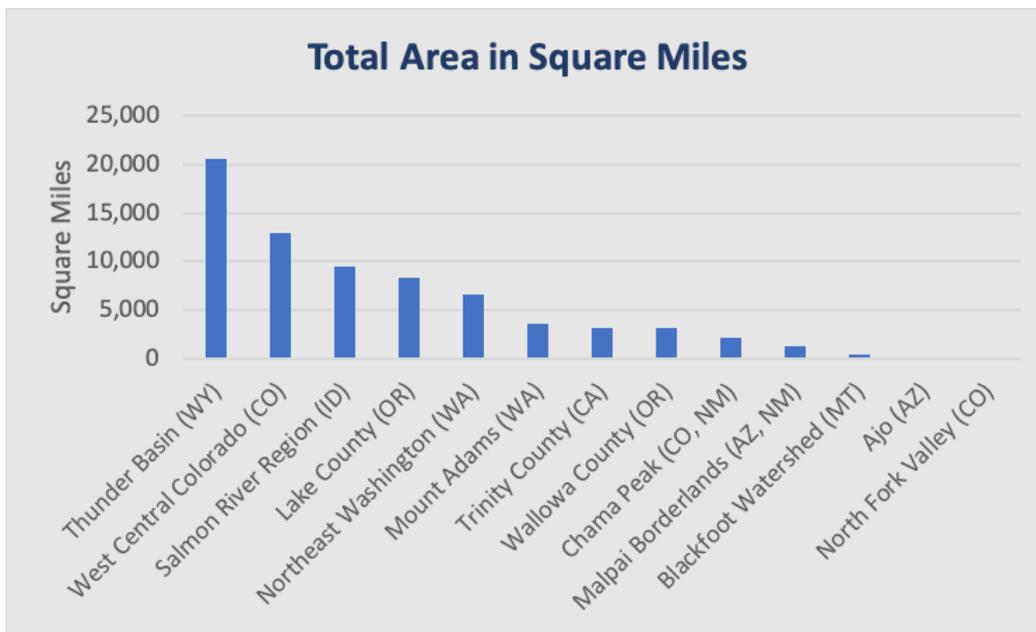


Figure 4: Geographic scale of SE activities, represented in square miles. The exact size of each case and vignette location are provided in the site summaries section.

Degree of geographic isolation

Geographic isolation depends on a variety of factors, such as distance from metropolitan markets, infrastructure, and sources of capital.* Case and vignette locations varied in their distance from and ability to access metropolitan resources. While it is difficult to rank the isolation of each site with exactitude, Figure 5 shows examples of two places that illustrate different ends of the spectrum. On one end, Washington’s Mount Adams region is about 50 miles away from the Portland, Oregon metropolitan area (population 2.4 million). This proximity has allowed several Portland-based entities, including Portland State University and the Cascade Forest Conservancy, to add capacity to and support stewardship efforts in Mount Adams. Similarly, local organizations like the Columbia Land Trust have been able to attract urban sources of capital and secure private donations for their work.

On the other end of the spectrum, the Salmon River region in Idaho is more than 150 miles away from Missoula, Montana (metropolitan area population 118,000) to the north and Boise, Idaho (metropolitan area population 730,000) to the south. The region’s geographic isolation has limited the donor base for local organizations like Salmon Valley Stewardship (SVS) and the Lemhi Regional Land Trust (LRLT). Further, transporting materials and finished products to more urban processing facilities and/or markets has often been cost-prohibitive. Despite these challenges, geographic isolation had its benefits, fostering a sense of rural identity and resilience and promoting knowledge about the value of land management.



Figure 5: Spectrum showing degree of geographic isolation among the sites, including two illustrative cases on different ends of the spectrum

Landownership

Landownership also varied across case study and vignette locations. Eight out of thirteen places studied were over 50 percent public land (Figure 6). In places with significant proportions of public land, working with state and federal land management agencies was an essential component of advancing SE activities. Many communities found ways to involve community members in public land management in order to create jobs and derive economic benefits. For example, in Idaho’s Salmon River region (92 percent public land), nonprofits and land management agencies created a requirement that forest contractors from outside of the region had to train local contractors so that future projects could be conducted with local labor. In Trinity County, California (76 percent public land), a local CBO developed formal partnership agreements with the Forest Service so that local community members could be employed to conduct forest and watershed restoration.

In places with more private land, landowner engagement was essential to coordinating SE activities. For example, in the Malpai Borderlands (47 percent public land), area ranchers are treated as “partners rather than patients” by agencies and environmental groups.⁴⁴ Ranchers joined together to identify shared preferences for prescribed burn practices in the region, and federal agencies modified their fire control policies to align with ranchers’ management goals.

* For more information on the impact of access to metropolitan areas, see Rasker, R., P.H. Gude, J.A. Gude, J. van den Noort. 2009. *The Economic Importance of Air Travel in High-Amenity Rural Areas*. *Journal of Rural Studies* 25(2009): 343-353. doi: 10.1016/j.jrurstud.2009.03.004

Additionally, places with a patchwork of private and public land required careful engagement and coordination with landowners. For example, in Lake County, OR (77 percent private land), many landowners' properties abut National Forest land. The Klamath Lake Forest Health Partnership — a network of state and federal agencies, fire protection districts, watershed councils, and other organizations — was formed to coordinate forest and watershed restoration projects with hundreds of landowners across tens of thousands of acres.

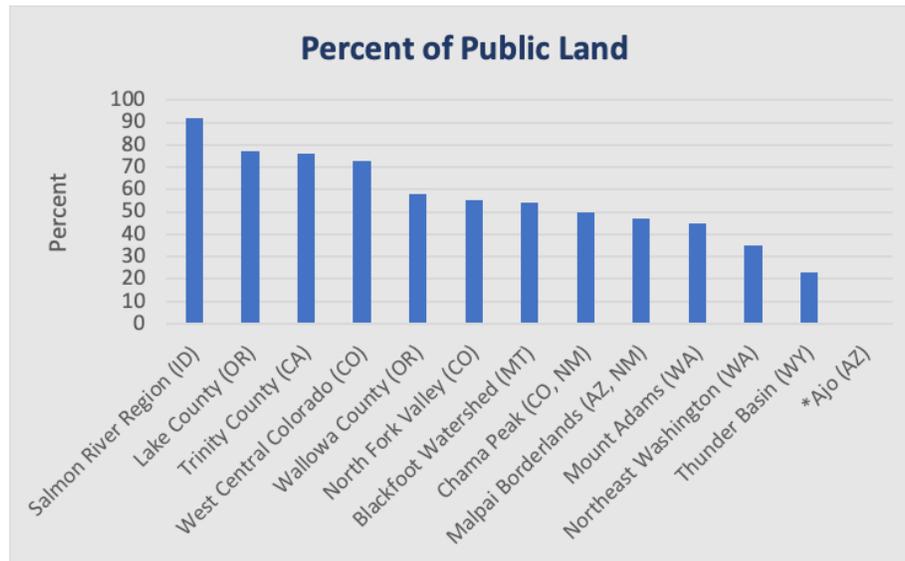


Figure 6: Percent public land coverage (state and federal) in each case and vignette location

*Note: Although there is public land near Ajo, Arizona, the vignette focused on SE activities occurring in the town of Ajo itself.

Initiation of stewardship economy activities

Several communities in this study have been working to link resource stewardship with economic activity for over two decades, while others began these efforts more recently. Figure 7 identifies when each site began SE activities in a coordinated and intentional way. For several communities, the start date indicates the year when a CBO was formally established to coordinate SE activities. For others, interviewees identified pivotal events or economic transitions as start dates. For example, 2010 was the year when community members in the North Fork Valley, Colorado began a process to guide local economic transition amid the expected closure of local coal mines. It is important to note that the start times provided in Figure 7 should not be seen as an indication that SE activities were not underway to some degree prior to this time. For example, in Montana's Blackfoot Watershed, interviewees noted that SE activities had been underway since the 1970s, even though Blackfoot Challenge, a local CBO, was not founded until 1993.

Those who adopted SE activities during the early-to-mid 1990s often benefitted from being "early adopters" of SE activities. For example, Lake County, OR; Wallowa County, OR; and Trinity County, CA received substantial funding from community-based forestry grants offered by the Ford Foundation. Similarly, places like New Mexico and Arizona's Malpai Borderlands garnered attention and attracted funding by being one of the first places to innovate multi-jurisdictional partnerships. Early funding opportunities and innovative projects created narratives of success, which these places could leverage to attract more funding and recognition from community members, policymakers, and agency personnel. SE efforts that emerged later had to develop new ways to attract funding and generate

narratives of innovation and success — in Colorado and New Mexico’s Chama Peaks region, for example, the Chama Peaks Land Alliance (CPLA) received funding from The Nature Conservancy’s Rio Grande Water Fund to treat over a thousand acres of private land to improve watershed health. This funding was motivated, in part, by the fact that sub-basins in the Chama Peak region supply water to hundreds of thousands of residents in cities like Santa Fe and Albuquerque. After the initial success of these efforts, CPLA and others received additional funding to continue forest and watershed restoration efforts in the region.

These later efforts have benefitted from the knowledge of early adopters. The Malpai Borderlands Group, a CBO in the Malpai Borderlands, and Wallowa Resources, a CBO in Wallowa County, have been leaders in establishing learning networks and supporting other communities seeking to advance SE activities. Wallowa Resources, for example, fiscally sponsors Rural Voices for Conservation Coalition, a network organization⁺ that provides learning opportunities, technical expertise, communication channels, and policy advocacy that has greatly benefitted younger SE efforts in the Salmon River and Mount Adams regions.

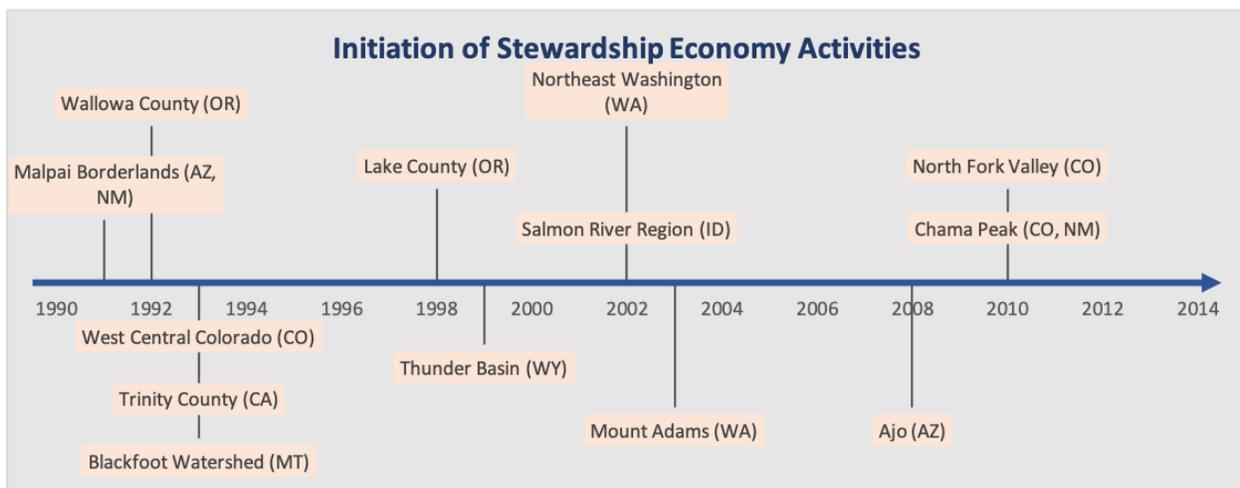


Figure 7: Timeline of when SE activities began in a coordinated and intentional way in each case and vignette location.

Focus of stewardship economy activities

While all study locations sought to link natural resource stewardship with rural economic development, some tended to focus more on stewardship, while others prioritized socioeconomic accomplishments. Figure 8 shows examples of two places that illustrate different ends of the spectrum: Ajo, AZ and Blackfoot Watershed, MT. In Ajo, SE activities have prioritized the community’s socioeconomic well-being. These efforts have centered on revitalizing the economy and community by building just, culturally-relevant food systems and promoting economic opportunities in food and agriculture — for example, through business incubation — while also wisely using the natural resources of the Sonoran Desert ecosystem.

In contrast, SE activities in the Blackfoot Watershed focused more on coordinating watershed and forest restoration efforts amongst various partners, which more indirectly created socioeconomic benefits. For

⁺ Network organizations operate at the regional or national scale to provide financial and technical assistance to local organizations, create cross-community learning opportunities, and advocate for supportive state and federal policies.

example, a committee worked to alleviate the effects of drought by coordinating water conservation efforts among state and federal agency representatives, local conservation districts, conservation organizations, recreationists, and over 100 irrigators. While this committee may not have directly created jobs, it supported the local agriculturists by ensuring they could respond to water shortages and stay above minimum flow requirements. Though it is difficult to place each site exactly in this spectrum, the focus of SE activities in most study locations fell closer to the middle of the socioeconomic-ecological spectrum, which reflects how both resource stewardship and economic development are valued in these communities.



Figure 8: Spectrum showing the primary focus of SE activities, including two illustrative cases on different ends of the spectrum.

Role of community-based organizations

Study locations indicated that community-based organizations have shown varying levels of involvement in SE activities. In most places, CBOs played a strong role in catalyzing, facilitating, and carrying out local SE activities. They added capacity, helped coordinate a wide variety of partners, and provided a forum in which agencies, landowners, and other organizations could better communicate with one another. CBOs have also ensured that SE activities respond to community needs; many CBOs have been facilitating community planning and visioning processes for decades and were uniquely situated to respond to local contexts. While CBOs often played a central role in promoting SE activities, these activities were not solely dependent on the presence of a CBO. Though it is difficult to determine exactly where each site falls on a spectrum, Figure 9 shows examples of two places that illustrate different levels of CBO involvement.

On one end, the Watershed Research and Training Center (WRTC) in Trinity County, California exemplifies a CBO that has played a major role in advancing SE activities. Among its numerous activities, it provided economic opportunities and supported resource stewardship by hiring stewardship crews to conduct forest restoration of U.S. Forest Service land; in 2018, it invested \$1.7 million into the local economy via its payroll. On the other end, the North Fork Valley of Colorado has no CBO acting as a central hub to facilitate SE activities. However, a variety of organizations and coalitions have undertaken SE activities, which include solar energy development and job training, advancement of boutique and niche agriculture, and community planning efforts. A set of key leaders, each involved in multiple SE efforts in the community, have built the institutional capacity needed to advance these activities. This network of leaders has helped centralize efforts and maintain communication channels. The North Fork Valley remained somewhat of an anomaly, though. Out of the thirteen locations in this study, twelve had a CBO, indicating that CBOs play a crucial role in promoting, coordinating, and shaping SE activities.



Figure 9: Spectrum showing the role of community-based organizations in fostering SE activities, including two illustrative cases on different ends of the spectrum.

Study Locations

Case Study Locations

Lake County, OR
Mount Adams Region, WA
Salmon River Region, ID
Trinity County, CA
Wallowa County, OR

Vignette Locations

Ajo, AZ
Blackfoot Watershed, MT
Chama Peak Region, CO/NM
Malpai Borderlands, AZ/NM
North Fork Valley, CO
Northeast Washington
Thunder Basin, WY
West Central Colorado

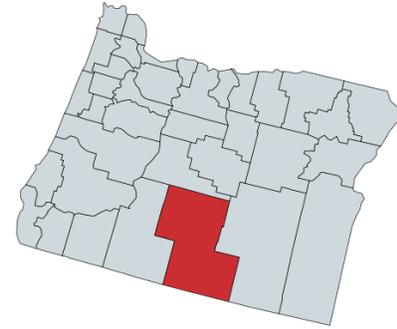
Lake County, Oregon

Lake County is located on the south-central border of Oregon. The County's geography includes multiple lakes, high desert scrub, and forests with lodgepole pine, ponderosa pine, and western juniper. With over 8,300 square miles and only 7,890 people, Lake County has one of the lowest population densities in Oregon. Its two largest communities are Lakeview and Paisley, although there are several unincorporated communities as well. Approximately 77 percent of Lake County is public land including BLM, Forest Service, USFWS, and state land. The county's primary economic activities include agriculture, timber, and government services.

Background Context

Prior to the 1990s, the town of Lakeview had five sawmills and logging was the major economic driver across the county. The mills processed a steady supply of timber from the 495,000-acre Lakeview Federal Sustained Yield Unit on the Fremont-Winema National Forest. As federal timber sales came to halt in the 1990s, four out of five of the local sawmills closed and many timber workers were laid off. Facing an uncertain economic future, several community leaders saw the need to explore new approaches for managing the forest and supporting the local community and economy.

In 1998, a few local leaders convened a group of representatives from environmental groups, the timber industry, state and federal land management agencies, and local communities to re-envision a plan for the future management of the Unit. Support for this effort was also provided by Sustainable Northwest, an organization that supports local efforts in the Northwest to bring together community interests in the face of change and conflict around the intersection of community, economy, and ecology.⁴⁵ The resulting group, known as the Lakeview Stewardship Group (LSG), devised a restoration-based management approach that included restoring and sustaining a healthy forest ecosystem while providing opportunities for people to realize their material, spiritual, and recreational values from the forest. In 2001, LSG's plan was adopted by the Forest Service and the Sustained Yield Unit — which was renamed to the Stewardship Unit — was reauthorized. In 2002, the nonprofit Lake County Resources Initiative (LCRI) was formed to help oversee this new forest management approach and to promote local workforce training and other community benefits.



General Information

- Population: 7,800
- Landownership: 77% public
- Scale: 8,353 square miles
- Stewardship Economy Activities Since: 1998
- Presence of a CBO: Yes

Prominent Activities

- Retaining & improving local biomass processing capacity
- Cross-boundary forest restoration involving public and private land
- Developing local renewable energy resources
- Expanding local education opportunities

Key Enabling Factors

- Collaboration through co-learning & joint monitoring
- State and federal funding resources for forest & watershed restoration, renewable energy development
- Tax credits & PILT to encourage renewable energy development
- Active county engagement in SE activities

Key Constraining Factors

- Policies limiting the ability of local mills & biomass facilities to utilize material from public land
- Unanticipated infrastructure impacts from renewable energy development, particularly on roads

Stewardship Economy Activities and Accomplishments

The retention of local biomass processing capacity is one of the most important activities that has been undertaken to promote forest stewardship and continued economic activity in Lake County. In 2007, Collins Company invested over \$6 million to open the Fremont Sawmill which could process logs less than 10 inches in diameter. This helped sustain over 100 local logging jobs while providing capacity for restoring surrounding BLM and Forest Service lands overstocked with small-diameter timber.⁴⁶ More recently, Red Rock Biofuels proposed a \$320 million renewable fuels facility that will likely process some restoration byproducts from forests in the county, as well as products delivered over rail from surrounding regions. Red Rock's operations are set to begin in the spring of 2020. The facility is expected to produce 15 million gallons of diesel and jet fuel annually from woody biomass while providing 42 jobs at the plant and over 70 jobs in the woods.⁴⁷ The Lake County government was instrumental in attracting both Collins and Red Rock to the area through tax incentives and payment in lieu of taxes (PILT) mechanisms.

Cross-boundary forest management involving both public and private land has been another important stewardship economy activity in Lake County. In 2004, the Klamath Lake Forest Health Partnership (KLFHP) was established to promote forest health and awareness across forests in both Klamath and Lake Counties. The partnership involves state and federal land management agencies, watershed councils, fire protection districts, conservation groups, and numerous landowners and has supported the treatment of hundreds of thousands of acres across both public and private land. Through four separate projects that cover approximately half a million acres, restoration work has reduced fire risk, increased in-stream water flow, removed noxious weeds, and improved wildlife habitat quality and connectivity. In one case, a rancher owner quickly noticed the benefits of these projects when the flow of water from a spring increased following the removal of juniper, a water-loving invasive species. At least one organization involved in the partnership—the Lake County Umbrella Watershed Council—has also been able to hire more staff as a result of its involvement in the KLFHP.

Another key stewardship economy activity underway in Lake County has been the expansion of local renewable energy generation with leadership from LCRI and county commissioners. With support from a USDA Rural Business Development Grant and other funding sources, LCRI has provided technical expertise to support local residents, businesses, schools, and hospitals to develop on-site solar, wind, and geothermal. Meanwhile, county commissioners have worked to develop taxation agreements and enterprise zones to encourage renewable energy companies to develop larger, utility-scale solar projects in the county, such as the 2MW Black Cap Solar project completed in 2012. All told, Lake County is expected to have installed 118 MW of renewable energy by 2020.⁴⁸

Local education opportunities in Lake County intersect many of these stewardship activities. Early on, LCRI established a joint forest monitoring program between members of the Lakeview Stewardship Group and local schools, giving students the opportunity to learn about and get involved with sustainable forest and watershed management. More recently, LCRI worked with two local school districts, Klamath Community College, several Oregon universities and colleges, Lake County Cooperative Extension, and other partners to establish the Innovation Learning Center (ILC) at the Daly Middle School in Lake County. ILC offers video-conferencing with Oregon colleges and universities to give local students and professionals the opportunity to receive an associate's degree. It also includes space and resources for education opportunities and workshops related to renewable energy and natural resource management.⁴⁹

Mount Adams Region, Washington

Skamania and Klickitat Counties

The Mount Adams region is located just north of the Columbia River Gorge in Skamania and Klickitat Counties, Washington. Located along the Cascade Divide — including Mount Adams, a 12,000-foot, inactive volcano — most of the region is heavily forested apart from the western two thirds of Klickitat County where the woods transition into dry cropland. Timber production was a major economic driver in the region prior to the decline in federal logging. Today, agriculture, manufacturing, tourism, and government services are the primary regional employers, although timber production still supports many local jobs. Stewardship economy activities in the region fall into four main areas including forest products, fish and watershed restoration, agriculture, and renewable energy.

Background Context

The rural town of Glenwood (Northwest Klickitat County) provided a regional hub for logging prior to the 1990s. Multiple sawmills in and around Glenwood processed timber from nearby private industrial forests and the Gifford Pinchot National Forest. As federal logging declined in the late 1980s and early 1990s, many of these sawmills closed. Over the next decade, much of the remaining private forest land was purchased by Timber Investment Management Organizations and logged in large blocks with short rotations. By the late 1990s, these forests had been overharvested and many of the remaining local logging jobs were lost. Around this time, a nearby forest ranger district and Washington Division of Natural Resources office were de-staffed leading to further loss of local jobs. Forest conditions were also declining due to an outbreak of western spruce budworm.

Amidst these challenges, several Glenwood community members came together in 2003 around the issues of declining forest health, jobs, and community conditions. This group was interested in fostering forest stewardship and restoration work that would generate employment opportunities and increase the stability and well-being of Glenwood and other rural communities in the region. Mount Adams Resource Stewards (MARS) was formed in 2004 to coordinate these efforts. In 2008, Skamania County commissioners formed the Mount Adams District Collaborative and Lewis District Collaborative to take advantage of the newly established USDA Forest Service



General Information

- Population: 30,000
- Landownership: 80% public (Skamania), 15% public (Klickitat)
- Scale: 3,587 square miles
- Stewardship Economy Activities Since: 2003
- Presence of a CBO: Yes

Prominent Activities

- Community forestry
- Stewardship contracting
- Fish and watershed restoration projects that promote local job creation
- Private land conservation projects with assistance from conservation district & land trust
- Renewable energy development

Key Enabling Factors

- Informal partnerships between NGOs, land management agencies, county government, & local businesses
- Local milling/forest contracting capacity
- State funding opportunities for forest restoration & partnership-building

Key Constraining Factors

- Changing land value & ownership due to development pressure, aging population
- Difficulty building organizational capacity
- Difficulty maintaining county revenue to support services (roads, schools, etc.)

Stewardship Authority which allows collaborative groups to coordinate stewardship contracting for the benefit of forest health and local communities. These groups were combined in 2011 to form the Southern Gifford Pinchot Collaborative (SGPC), which now coordinates a robust stewardship contracting program in the region. Both MARS and Skamania County are fiscal sponsors of the collaborative.

Stewardship Economy Activities and Accomplishments

Community forestry has been an important aspect of SE activities in the region. In 2009, MARS and other Glenwood community members decided to establish a community forest as a way to help achieve their stewardship and community goals. MARS purchased the first, 100-acre forest tract in 2011 funded exclusively through individual community donations. The second, 300-acre tract was purchased in 2014 through a combination of community donations, foundation grants, and funding from the USFS Community Forestry Program. MARS has since worked to manage the community forest in accordance with the vision of local community members: to support a diversified land base including timber production, grazing, and recreational opportunities. The organization also employs a seasonal stewardship crew to manage the community forest and to help with forest restoration activities on the nearby Gifford Pinchot National Forest.

Stewardship contracting has also been an important SE activity in the region. Coordinated by SGPC, stewardship contracting enabled the retention of work opportunities for local forest contractors while also restoring forest and watershed health on the Gifford Pinchot. One ongoing stewardship contracting project is the Forest Youth Success (FYS) program, an annual summer program that engages high school students from Skamania County in natural resource management projects and career training. FYS has supported over 700 summer youth jobs and over \$1.3 million of work value since its inception in 2002. Furthermore, two major sawmills in the region, SDS Lumber and WKO/High Cascade, weathered the decline in federal logging, in part, by adapting their businesses to process small-diameter timber made available from stewardship contracting. In addition to coordinating stewardship contracting, SGPC brings together environmental, recreation, timber, and other local interests to improve forest health and economic vitality of the region. The collaborative recently received \$400,000 in grants from the State of Washington to support its forest restoration and partnership-building efforts in the region.

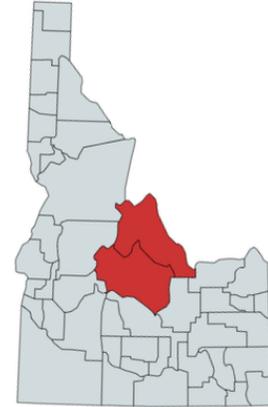
Fish and watershed restoration activities have also enabled the retention of local jobs in the Mount Adams region. Many of these activities are coordinated by the Mid-Columbia Fish Enhancement Board, one of Washington's Regional Fisheries Enhancement Groups that receives funding from the Bonneville Power Administration. The Board administers grants for salmon restoration projects such as dam removal, remediation, and fish habitat improvements. Importantly, the Board is made up of local leaders to help ensure that local contractors are given preference for these restoration projects. Additionally, Yakama Nation Fisheries (a nonprofit affiliated with the Yakama Nation) has been a major player in fish restoration efforts in the region. Along with other partners, they helped remove Condit Dam in 2011 and restored the dam site with the help of over 500 community volunteers. At the time, this was the largest dam removal in the United States. The project has enabled the return of salmon to the White Salmon River, a tributary of the Columbia River. YNF engages in many other fish restoration efforts in the region as they work to ensure that the Yakama Nation's salmon catch is maintained as guaranteed under the tribe's 1855 treaty rights. YNF also employs over 200 people in the region and gives hiring preference to tribal members.

Other SE activities in the region include renewable energy development, private land conservation and agriculture improvements, cooperative weed management, and youth engagement programs.

Salmon River Region of Central Idaho

Lemhi and Custer Counties

The Salmon River region of central Idaho is located just below the Idaho-Montana border, west of the Continental Divide in the Rocky Mountains. Federal agencies and agriculture provide the bulk of area jobs, along with ranching, timber production, retail, and tourism.⁵⁰ Community members have incorporated stewardship work into their economic activities in five main areas: watershed restoration, agriculture, mine reclamation, forest products, and guiding/outfitting



Background Context

Since the 1980s, market conditions and shifting land management policies have led to economic downturn in the Salmon River region's mining and timber industries. The timber industry was hit particularly hard by automation and new timber harvest policies in the Bureau of Land Management and U.S. Forest Service. It is estimated that mill closures in the Salmon River region during the 1990s cost over 250 jobs.⁵¹ The mining and ranching industries have also faced challenges. Thompson Creek Mine, a significant employer in Custer County, cut down operations in 2012, leaving one hundred residents without work. Ranchers increasingly face subdivision and development pressures, which have forced the price of land in the area to skyrocket.

Community members came together around a series of issues during the 1990s, one of which was loss of area jobs. Wolves had just been reintroduced into the nearby Frank Church – River of No Return Wilderness, leaving local ranchers concerned about losing their livestock. At the same time, lack of timber harvest led to overgrown forests, and with the decline in the timber industry, the area had lost much of its forest product processing infrastructure. In a time when efficient action by federal land management agencies was badly needed, contentions between environmentalists and ranchers were steadily growing, resulting in increased litigation, gridlocked projects, and fewer restoration projects providing jobs to local contractors. Degraded habitat for threatened and endangered species in the area, like salmon and sage grouse, only exacerbated conditions further.

Stewardship Economy Activities and Accomplishments

Starting in the 1990s, grassroots efforts in the region began linking with state and federal programs and establishing regional organizational capacity to advance stewardship

General Information

- Population: 12,000
- Landownership: 92% public
- Size: 9,506 square miles
- Stewardship economy activities since: late 1990s
- Presence of a CBO: Yes

Prominent Activities

- Monitoring, assessment, & economic reporting
- Community planning processes
- Watershed restoration supporting local contractors & new businesses
- Youth employment programs
- Local foods movement, including a farmer's market

Key Enabling Factors

- Leadership by private landowners
- Funds & resources from foundations
- State & federal program opportunities
- Connection with land instilled through site visits

Key Constraining Factors

- Distrust of the federal government
- High percentage of public land & need for multi-jurisdictional projects
- Distance from & access to markets
- Rigid requirements for federal cost-share programs

economy activities. In 1992, for example, the region was designated a Model Watershed by the Idaho Governor's Office of Species Conservation. This designation brought in funding for watershed restoration projects and resulted in the formation of the Upper Salmon Basin Watershed Protection Program, which develops and oversees restoration projects, assists with permitting processes, and monitors outcomes.⁵² In 2004 and 2005, respectively, a community-based nonprofit, Salmon Valley Stewardship (SVS), and the Lemhi Regional Land Trust (LRLT) formed out of grassroots efforts to support working landscapes. Soon after, community members tired of traditional political divides came together to form the Lemhi Forest Restoration Group (LFRG), which has been collaboratively designing and advocating for projects on U.S. Forest Service land since 2006.

Amidst heavy distrust of the federal government, planning processes in the region have bridged past divides between environmentalists and ranchers, decreased litigation, and supported beneficial projects (and thus income for local contractors) on federal land. Two influential projects, the Hughes Creek and Upper North Fork, benefitted from the participation of the Lemhi Forest Restoration Group (LFRG), a collaborative group in the region. Because the community could come together to leverage funds and assuage objections, these projects could move forward and bring important benefits to the community. The Hughes Creek project, for example, brought in key federal contracts for local businesses and mitigated fire risk across a 13,000-acre region. Soon after it was completed, the 2012 Mustang Fire demonstrated its value: flames in the Hughes Creek area moved more slowly and did not reach the treetops, a stark contrast to wildfire conditions in contiguous untreated areas.⁵³

Watershed restoration work in the region has similarly supported local businesses. Much of this work is sustained by Bonneville Power Association (BPA) funding, which is geared towards protecting salmon and steelhead habitat. These restoration projects have connected waterways that, due to ecological degradation and drought, had not been connected for hundreds of years. On top of their ecological benefits, these projects have supported local contractors to carry out the work, a local metal fabrication business to manufacture screens, and a native plant nursery to supply saplings for planting. Landowners have played a particularly key role in watershed restoration, as well as ecological stewardship at-large. Though some landowners in the region have been hesitant to work with federal land management agencies in the past, they are stepping forward in increasing numbers to facilitate and propose habitat improvement projects on their land.

To report the economic impacts of these and other restoration projects, SVS worked with Headwaters Economics in 2014 to produce the "Restoration Means Jobs in Central Idaho" report. The report found that, between 137 projects and 14 conservation easements occurring from 2008 to 2013, the local workforce captured more than \$17.2M of the \$39.6M spent on restoration and mining reclamation projects.⁵⁴ Following a recommendation from this report, SVS and local economic development authorities also put together a yearly reporting form, so businesses capture the impact of restoration work on an annual basis. Having concrete numbers to point to has helped organizations in the region more successfully advocate for the benefits of restoration work, both with policymakers and within the community.

Other stewardship economy activities in the region include youth employment programs to complete conservation projects, post-and-pole businesses to derive value from small-diameter timber, a community-run farmer's market, and water quality monitoring for mining reclamation.

Trinity County, California

Trinity County is located in the remote, mountainous, and heavily-forested terrain of northeastern California. Approximately 76% of the land is managed by the U.S. federal government—primarily the Forest Service—with another 15% in private industrial ownership. While the local economy revolved around timber harvest and milling during much of the second half of the 20th century, today stewardship economy activities focus on forest management and restoration, watershed and fisheries restoration, and creating stewardship jobs for local workers.

Background Context

Shifts in federal land management policies and timber market conditions in the late 1980s and early 1990s caused major economic upheaval in Trinity County. Home to the endangered northern spotted owl, the region was caught in the middle of the era's Timber Wars. As logging on federal land declined precipitously, timber supply shifted toward international sources and automation reduced the need for mill workers, creating a perfect storm across the industry. In Trinity County, timber harvest on federal land plummeted by nearly 98% in four years, cutting off the lifeblood of the region's economy: local mills closed or relocated and federal payments tied to timber receipts dried up. The fallout was dire. From the 1980 to 1990 censuses, the poverty rate skyrocketed 62%. Many families moved away, causing local school enrollment to decline by nearly 50%.⁵⁵

Amid this period of local crisis, residents came together to try to save their community. They started to organize themselves to develop a different type of forest-based economy, brainstorming alternative wood products, addressing conflicts between environmentalists and industry, applying for federal grants, and lobbying Congress to address their needs. Thus begun what has become a decades-long process of leveraging and stewarding the area's biggest natural asset—the woods—to create jobs and ensure the community's future.

Stewardship Economy Activities and Accomplishments

Efforts to develop stewardship economy activities in Trinity County began in earnest around 1993, the year that the Watershed Research and Training Center (WRTC) was founded. Since then, WRTC and a handful of other organizations—especially the Trinity County Resource Conservation District (TCRCD) and the Trinity County



General Information

- Population: 14,000
- Landownership: 75% federal
- Size: 3,208 square miles
- SE activities since: 1993
- Presence of a CBO: Yes

Prominent Activities

- Forest restoration and fuels management to improve forest health and reduce fire risk
- Watershed and fisheries restoration
- Stewardship crews to employ local workers

Key Enabling Factors

- Leadership by WRTC and TCRCD to employ workers in SE activities
- Partnerships between WRTC, TCRCD, & USFS to expand capacity to manage federal land
- Success by WRTC & TCRCD in attracting funding
- State & regional networks that build support for & expand the pace & scale of SE activities

Key Constraining Factors

- Funding limitations tied to shifts in donors' interests, short funding cycles, & uncertainty
- Dependence on USFS capacity, policies, & engagement to carry out restoration
- Distance from timber processing facilities/markets and intellectual, political, & financial capital
- Scope & scale of ecological challenges

Collaborative Group—have worked, often in partnership with the Six Rivers and Shasta-Trinity National Forests, to advance SE activities.

Given the forested nature of the landscape, many of their activities focus on forest restoration and stewardship. Much of WRTC and TCRCD's forestry work serves to supplement the capacity of the local Forest Service units. For example, both organizations are currently engaged in multi-party participating agreements with the local National Forest units. Under these agreements, the non-profit organizations assume responsibility for implementing stewardship activities on-the-ground, including understory and plantation thinning, preparing contracts for timber or silviculture projects, creating roadside and shaded fuel breaks, and ecological and wildlife monitoring. These partnerships have enabled the National Forests to maintain a higher level of active management than would otherwise be possible given their very low staffing levels. Similarly, the Trinity County Collaborative Group, with representation from environmental groups, the timber industry, recreationists, electrical utilities, and the local community, has worked to move past conflict over National Forest management and has successfully found common ground and partnership with the USFS.

Led by TCRCD, the 2005 creation of the Weaverville Community Forest on BLM land accomplished multiple goals. At the time, the BLM was considering a land swap with Sierra Pacific Industries, which would have transferred a parcel near downtown Weaverville into private industry ownership. Weaverville residents—interested in maintaining the viewshed, managing the land in a more sustainable way, and better protecting the community from wildfire risk—opposed the transfer. Responding to the community's interests, the agency entered into a stewardship contract with Trinity County to turn the parcel into a community forest. Today, TCRCD manages the Forest and a local steering committee gives the community a voice in management decisions; activities on the land include logging, prescribed fire, and forest restoration. As a result of its location and management, the Community Forest now serves as a large shaded fuel break on the western flank of Weaverville, increasing the area's fire resiliency. Management of the forest also helps support some stewardship jobs through TCRCD.

By employing crews to carry out this stewardship work, WRTC and TCRCD have created valuable job opportunities for local workers. In 2018, the Watershed Center invested \$1.7 million in the community via its payroll, with an emphasis on providing living, family wages. This employment has allowed local families to remain in the area and utilize their forestry skills for the purpose of restoration and stewardship. In the summer of 2019, the Watershed Center crews provided jobs to over 20 individuals; TCRCD tries to maintain ten to fifteen employees on its crew. In small towns, those local incomes make a difference. Additionally, most of the WRTC and TCRCD field technicians and administrators are locals who, thanks to the existence of professional opportunities, have been able to return home following their education. Collectively, these jobs have helped the town of Hayfork avoid economic and community collapse. As a Watershed Center staff member said of the day payroll checks are distributed: “[it's the] manifestation of our original intent.”

Other stewardship economy activities in the region include youth education and employment programs, watershed and fisheries restoration to protect water supplies and sensitive species such as the Chinook salmon, and the development of recreation opportunities. In addition to its work in Trinity County, the Watershed Center has carved out a leadership role in advancing SE activities, forest and fuels stewardship, and SE policy advocacy across both California, the west, and the country.

Wallowa County, Oregon

Located in the northeastern corner of Oregon, Wallowa County encompasses a wide variety of different landscapes: agricultural fields and rangeland, intact native grasslands, low and high-elevation forests, a rugged mountain range, and the ten-mile-wide Hells Canyon, through which the Snake River flows. Approximately 58% of the land is managed by the U.S. federal government, primarily the Forest Service. Logging and ranching have historically been important industries in the region. Today, stewardship economy activities focus on forest management and restoration, watershed and fisheries restoration, and private lands conservation and stewardship.

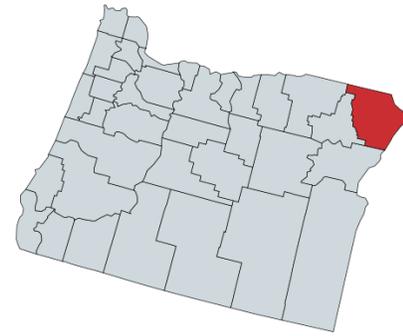
Background Context

Wallowa County was hard-hit by the shifts in federal land management policies and timber market conditions in the late 1980s and early 1990s. As logging on federal land declined precipitously, timber supply shifted toward international sources and automation reduced the need for mill workers. In Wallowa County, the local sawmills shut down, the community lost hundreds of jobs, and school enrollment dropped as families moved away. Simmering for years, conflict between environmentalists, supporters of the timber industry, and federal agencies came to an ugly head in 1994, the same year that logging on local National Forest land dropped to nearly zero.⁵⁶ Residents feared that the proposed listing of the Chinook salmon as an endangered species would have local impacts akin to the listing of the northern spotted owl in other parts of the Northwest.⁵⁷

However, work was already underway to address these challenges. In 1992, a group of community members began meeting in the back of a local coffee shop to discuss solutions. The group worked together to develop a salmon habitat restoration plan, which was adopted by the county in 1994.⁵⁸ A public visioning process articulated the community's commitment to a natural resource-based economy, and the Wallowa Woodlands and Products Project formed to lead the transition toward restoration forestry.⁵⁹ In 1996, Wallowa Resources was founded; it has either led or supported much of the region's SE activities over the past 25 years.

Stewardship Economy Activities and Accomplishments

In keeping with Wallowa County's history as a timber region, many SE activities undertaken in the region have focused on forest restoration and stewardship. The development of relationships between previously-conflicting parties has facilitated progress in managing



General Information

- Population: 7,000
- Landownership: 58% federal, 41% private
- Size: 3,153 square miles
- SE activities since: 2008
- Presence of a CBO: Yes

Prominent Activities

- Forest & watershed restoration to reduce fire risk and improve forest health & water quality
- Stream & fisheries conservation and restoration
- Private lands conservation & stewardship
- Small-diameter wood products
- Renewable energy development

Key Enabling Factors

- Relationships developed over time among once-conflicting parties
- Leadership by Wallowa Resources to champion & undertake SE activities
- Engaged & committed community
- Networks that build support for & expand the pace & scale of SE activities

Key Constraining Factors

- Limited funding
- Access to markets & sources of capital
- Lack of USFS capacity
- Misconceptions & stereotypes about the value & impact of active land management

and restoring federal forests. By agreeing to come together and listen to one another, environmentalists, the timber industry, forestry contractors, and agencies have over time come to appreciate that effective solutions are built on a sense of shared responsibility and must involve all parties. Wallowa Resources has also supported private forest landowners, helping them reduce fire risk, improve habitat quality, implement stewardship plans and conservation measures, and derive economic value from their lands.

For-profit enterprises both support forest stewardship activities and directly and indirectly generate jobs for local workers. Located on Wallowa Resource's Integrated Biomass Energy Campus, Integrated Biomass Resources (IBR) is the latest in a succession of small businesses and partnerships, all of which have aimed to generate value from small-diameter logs, the harvest volume of which increased since the timber wars. Over the years, IBR has produced products including firewood, densified heating fuel, posts and poles, and landscaping timber. As of 2019, IBR was the third-largest producer of bundled firewood in the Western U.S. and the first to offer certified pest-free firewood. It is currently developing a new specialty firewood product called a Swedish candle and has received two \$250,000 woody biomass research and development grants from USDA. One grant will fund the development of a biochar pyrolysis process; the other will support experimentation with a rot-prevention barrier for poles, which would allow IBR to sell a larger range of tree species into the post market. The co-location of small-diameter wood processing with biomass heat generation aims to ensure that all the biomass coming off the forest is processed for its highest and best value, while streamlining processing and cutting real estate and management costs.

Biomass heat is not the only form of renewable energy being generated in Wallowa County. A micro-hydro project along the municipal water supply line at Wallowa Lake will provide a significant proportion of the power needed to pump drinking water to nearby homes and businesses.⁶⁰ Wallowa Resources is spearheading another micro-hydro project on the upper Lostine River that will provide 40 kilowatts; ten more locations are being assessed as future project sites. The organization views micro-hydro projects as investments in community resilience, ensuring power to the community in the case that PacifiCorp, the majority utility serving the area, shuts it down (an increasing common occurrence during periods of very high fire danger). There is also a growing number of solar projects around the county.

Wallowa County organizations and residents have also undertaken a wide variety of land and water conservation efforts. In early 2020, the east moraine of Wallowa Lake was acquired as public land, to be managed by the County as a working landscape with grazing, sustainable forest harvesting, and recreational trails. Farmers and ranchers have established conservation easements on their properties, invested in more efficient irrigation technology, and restored stream habitat. A weir owned by the Nez Perce tribe supports recovery of Chinook salmon, Coho salmon, and bull trout; fisheries restoration is further supported by other private actions, including one farmer who leases seasonal water rights to the Freshwater Trust and a group of irrigators who have established a minimum flow agreement on the same river. When irrigators collectively maintain the agreed-upon minimum flow, they are compensated by payments into a shared fund that can be expended only on efficiency measures. The funds are available through the Columbia Basin Water Transfer Program, which is managed by the U.S. Fish and Wildlife Service and sponsored by the Bonneville Power Administration.

Other SE activities include youth education programs and, for Wallowa Resources, carving out a leadership role in advancing SE practices across Oregon, the west, and the country.

Ajo, Arizona

Pima County

Ajo is a small, unincorporated town on Arizona’s southern border, just 43 miles north of Mexico. Part of the Sonoran Desert, it lies adjacent to the Organ Pipe Cactus National Monument, which is also an International Biosphere Reserve. O’odham farming communities have lived in the area for thousands of years, and the present-day Tohono O’odham Reservation, home to approximately 10,200 people, neighbors the community of Ajo.⁶¹ Today, stewardship economy activities are carried out by a network of organizations and initiatives focused on community and economic revitalization through the development of a sustainable, just, and culturally-relevant local food system.

Background Context

The Calumet and Arizona Mining Company played an outsized role in Ajo from 1911 to 1985, serving as the town’s foremost employer and building roads, schools, and other infrastructure for the community. When the copper mine closed in 1985, people moved away and unemployment increased.⁶² Into this vacuum stepped the International Sonoran Desert Alliance (ISDA), a small organization aiming to “preserve and enrich the environment, culture and economy of the Sonoran Desert.” The Ajo Center for Sustainable Agriculture (Ajo CSA) started as a grassroots organization in 2008, gaining non-profit status in 2013; its mission is to “[develop] a sustainable and just local food system” through education, food access, preservation of agricultural traditions, food-based economic development, and partnerships. Both ISDA and Ajo CSA are leadership members of the Ajo Regional Food Partnership (ARFP), a network of nonprofits, school districts, businesses, and health care organizations focused on developing a sustainable and just local food system.

Stewardship Economy Activities and Accomplishments

Through their collective efforts, ISDA, Ajo CSA and the ARFP have led an explosion in the cultivation of local foods in Ajo. In the first six years of ARFP’s existence, cultivated area increased nearly fourfold (from approximately 10,000 to 40,000 square feet) and food production increased nearly eightfold (from approximately 1,000 to 8,000 pounds per year).⁶³ These gains were achieved entirely through small, distributed cultivation, such as that carried out by Ajo CSA’s Gardeners Network.⁶⁴ The Gardeners Network is an extended network of residents practicing small-scale, intensive urban



General Information

- Population: 3,300
- Landownership: Primarily private
- Size: 33 square miles
- Stewardship economy activities since: 2008
- Presence of a CBO: Yes

Prominent Activities

- Community agriculture
- Development of food-based businesses & markets
- Cultivation of cultural foods and traditional farming methods
- Food & agriculture education, training, & support for youth, beginning farmers, & entrepreneurs
- Paid apprenticeship program & mini-grants

Key Enabling Factors

- Partnerships & networks support the community and the local foods movement
- Community-led vision & participation
- Fundraising success, including support from an EPA-USDA grant/technical assistance program

Key Constraining Factors

- Limited funding to expand efforts
- Small size & remote location
- Local misconceptions about the value of local foods
- Socioeconomic vulnerability of the region

agriculture in community and backyard gardens. Ajo CSA supports the network's members by providing seeds, seedlings, workshops, trainings, and networking opportunities. Growing food has become such a part of everyday life in Ajo that now, said an interviewee, "you cannot walk in Ajo anywhere without running into orchards and gardens." In 2016, approximately one-quarter of Ajo households were somehow involved in the local food movement.⁶⁵

Developing food-oriented jobs, businesses, and markets has been a key objective of the local food movement. Ajo CSA offers mini-grants to growers and a paid apprenticeship program for new farmers. Started by ARFP and run by Ajo CSA, the Authentically Ajo Farmers Market has flourished, in 2015 hosting 39 growers and over 5,000 visitors.⁶⁶ Supporting new job and business opportunities has been central to economic development efforts. The market has helped to incubate over 70 food vendors,⁶⁷ and in 2019, Ajo CSA opened the Ajo Farmer's Market and Cafe to serve as a cafe space, store, and a community kitchen and business incubator to support food entrepreneurship. Projects such as the cafe offer additional opportunities for farmers and food producers, as well as food packers, dishwashers, and electricians.

Agricultural activity and the local foods movement have triggered a broader recognition of and interest in cultural foods, in Ajo, on the reservation, and beyond. Tepary beans, which formerly were so rarely grown that they were only served to Native elders, are now grown and eaten in Ajo and on the reservation. Ajo CSA offers workshops on traditional Sonoran desert farming practices, with partners such as Tohono O'odham Community Action and the Arizona Department of Agriculture.⁶⁸ The organization has also started the volunteer-driven Adopt-A-Sonoran-Desert-Crop seed-saving program to preserve seed stock for regionally and culturally important crops.⁶⁹

Finally, youth programs help introduce kids to agriculture, the sciences and the natural environment, and local and culturally-appropriate foods. Through the Edible Ajo School Yard at a local elementary school, kids grow crops as part of their regular coursework; the food is then prepared and served in the school's cafeteria. In Kids at the Farm, kids participate in every step of cultivation at a local community garden, from sowing seeds to harvesting crops to cooking with their produce. The Agriculture Club for high school students offers the opportunity to grow Sonoran Desert crops and learn about agricultural and food career paths.

Blackfoot Watershed, Montana

Missoula, Powell, and Lewis and Clark Counties

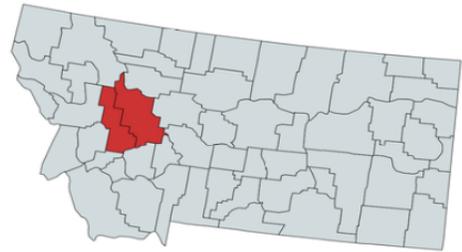
The 1.5 million-acre Blackfoot Watershed in Montana extends 132 miles west from the Continental Divide in Lewis and Clark County to the Clark Fork River in Missoula County. Part of the Crown of the Continent Ecosystem, this watershed is ecologically rich with over 600 species within its coniferous forests, sagebrush steppe, prairie grasslands, wetlands, and rivers. The watershed covers portions of Missoula, Powell, and Lewis and Clark counties and contains seven rural communities. It includes sections of the Lolo and Helena National Forests, the Scapegoat Wilderness, and BLM, USFWS, state, and private lands. Ranching is a major economic activity and logging was prominent historically, although only a few small sawmills operate today. Outdoor recreation has been a growing economic activity since the 1970s.

Background Context

During the 1970s, landowners and community members came together to discuss strategies for responding to growing recreation and development pressure within the Blackfoot Watershed. They recognized that the mosaic of land ownership types within the watershed necessitated a cross-boundary approach to land management. Over the next few decades, this group helped facilitate walk-in hunting and river access opportunities on private land. The Blackfoot Challenge was officially formed in 1993 to continue coordinating these efforts and has since expanded its focus to include conservation acquisitions and easements, forest restoration, drought planning, weed management, wildlife management and various community engagement activities including educational workshops for community members. Part of the organization's mission is to support rural livelihoods such as agriculture, ranching, and timber production while maintaining the neighborliness, sense of community, and resource sharing that characterizes the region and helps facilitate conservation work.

Stewardship Economy Activities and Accomplishments

Over 80% of the Blackfoot Watershed is forested and reducing fire risks on the wildland-urban interface is an important consideration for the seven communities in the watershed. Blackfoot Challenge works with the Montana Department of Natural Resources, the Forest Service, and other partners to conduct fuels reduction projects with landowners via a 50% cost-share program, usually for smaller properties between five and ten acres in size. Local contractors are prioritized for this work. Logging used to be a centerpiece in the



General Information

- Population: 2,500 households
- Landownership: 54% public
- Scale: 413 square miles
- Stewardship Economy Activities Since: 1993
- Presence of a CBO: Yes

Prominent Activities

- Water conservation & drought mitigation through irrigator agreements
- Forest restoration & community forestry
- Human-wildlife conflict reduction
- Education & community engagement

Key Enabling Factors

- Landowner leadership around community-identified issues
- Involvement in regional & national conservation efforts
- Assessments of community values & visions for the future

Key Constraining Factors

- Difficulty maintaining funding due to shifting federal grant program priorities
- Difficulty retaining leadership due to aging population & staff turnover
- Uncertainty about CBO role in economic development activities

local economies and Plum Creek Timber Company formerly owned over 20% of the watershed. When federal logging declined in the early 1990s, the company was forced to sell much of their land. Since this time, Blackfoot Challenge has worked with The Nature Conservancy, sportsmen, and other partners to transfer over 200,000 acres formerly owned by Plum Creek Timber Company into new public or private ownership, putting 90,000 of those acres into conservation easements. One of the largest acquisitions was the Blackfoot Community Project. This project involved using a Payment In Lieu of Taxes (PILT) with Powell County to do a private-to-public land transfer to create a 40,000-acre community forest. 70 percent of the forest is in public ownership and 30 percent remains in private ownership to be used for agriculture, timber production, and cattle ranching. Local contractors are prioritized for restoration work on the forest. Most mills in the watershed have closed, although Pyramid Mountain Timber in Seeley Lake continues to operate as a small-diameter saw mill which provides important capacity for processing wood from forest restoration projects in the area.

Water conservation and drought mitigation are prominent activities in the Blackfoot Watershed. The Blackfoot River hit drought status in twelve of the last nineteen years. Blackfoot Challenge's water committee works to alleviate the effects of drought by coordinating water conservation during times of low flow. The committee consists of state and federal agency representatives, local conservation districts, conservation organizations, recreationists, and over 100 irrigators. The committee works with irrigators to establish conservation plans that include response plans to enact during times of drought. The system relies on trust among the irrigators to enact these plans when called to do so in order to stay above a minimum flow of 5 cubic feet per second (cfs) on the Blackfoot River. When flows fall below five cfs, both the Montana Fish, Wildlife and Parks department and surrounding tribes can call for more water using their Murphy Water Rights, a state regulation that guarantees them a minimum in-stream flow. Enacting these rights creates uncertainty for irrigators regarding whether they will have enough water for the season, so irrigators have an incentive to conserve water and stay above this minimum flow. The water committee also conducts irrigation efficiency projects including equipment maintenance, assistance with water scheduling, and energy efficiency evaluations.⁷⁰

Human-wildlife conflict reduction is another important activity in the Blackfoot Watershed. As a part of the Crown of the Continent Ecosystem, the watershed is rich with many species that require careful adaptive management, particularly for wolves and grizzly bears. The first wolf returned to the Blackfoot Watershed in 2007. Blackfoot Challenge's wildlife committee works with landowners to reduce human-wildlife conflict by establishing fencing around calving sites and beehives and hiring a local contractor to pick up livestock carcasses. As a key facilitator between landowners and agencies interested in reducing these conflicts, Blackfoot Challenge helped procure the initial funding for these projects from the USFWS and state agencies while also finding landowners willing to be early program participants.

Other prominent activities in the watershed include integrated noxious weed management through cost-share programs involving over 400 landowners and community education opportunities such as gardening workshops, bird identification walks, and tours of the community forest. Blackfoot Challenge is currently developing a Rural Living Institute which will offer classes on various practical, hands-on rural living skills. The organization also engages with several regional and national organizations to share their work and ideas, learn from other partners, and to bring additional funding and capacity to their work in the watershed. In 2014, the organization worked with Headwaters Economics to study economic development barriers and opportunities in the watershed, identify local community priorities, and explore the possible role of Blackfoot Challenge in economic development.

Chama Peak Region

Archuleta and Conejos Counties, CO

Rio Arriba County, NM

The Chama Peak region spans the border of Southern Colorado and Northern New Mexico including parts of Archuleta and Conejos Counties, CO and Rio Arriba County, NM. The 1.4 million-acre region is defined by the boundaries of several sub-watersheds within the northern portion of the Rio Grande Watershed, originating in the San Juan Mountains of Southern Colorado. The central portion of the region consists of private and state land while the west and east sides of the region contain tribal land (Jicarilla Apache Nation) and the Carson National Forest, respectively. Cattle ranching is a prominent economic activity in the region, with many large-scale ranches between 10,000 and 50,000 acres. The region's hunting and fishing opportunities also bring in many outdoor enthusiasts from nearby metropolitan areas including Santa Fe and Albuquerque. These two cities also draw significant portions of their water from sub-basins within Chama Peaks. Forest and watershed restoration and wildlife habitat restoration are prominent stewardship economy activities.

Background Context

Chama Peak Land Alliance (CPLA) was founded in 2010 to give voice to ranchers and other landowners in the region. Alliance members currently represent over 200,000 acres of land and this membership base continues to grow. Members typically come from multi-generational rancher families, while others are ranch managers for absentee landowners. The initial purpose of CPLA was to advocate for policy at the state and national level that promotes private land conservation. The founding member who spearheaded this political advocacy work now does so through the Western Landowners Alliance. CPLA has since evolved to focus more on implementing hands-on land management and stewardship projects. CPLA typically has a small staff of 2-3 individuals, but with a highly engaged board—as well as partnerships with numerous organizations, land management agencies, and landowners—the organization is able to engage in many, landscape-scale stewardship activities.

Stewardship Economy Activities and Accomplishments

Forest and watershed restoration are important stewardship economy activities in the Chama Peak region. The region's sub-basins supply hundreds of thousands of downstream water users in Santa Fe, Albuquerque, and other cities. Upstream forest and watershed health have a direct relationship with



General Information

- Population: < 62,000
- Landownership: ~50% public
- Scale: ~2,200 square miles
- Stewardship Economy Activities Since: 2010
- Presence of a CBO: Yes

Prominent Activities

- Forest & watershed restoration
- Community fire adaptation planning & training workshops
- Fish & wildlife habitat restoration and research projects
- Outdoor recreation

Key Enabling Factors

- Funding from beneficiaries of ecosystem service improvements
- Partnerships & networks involving landowners, organizations, & agencies
- Manageable scope & scale of undertakings
- Sensitivity to landowner concerns

Key Constraining Factors

- Difficulty maintaining funding without changing organizational scope & focus
- Low access to human capacity & milling infrastructure due to geographic isolation

downstream water quality and supply for these users. Between 2015 and 2018, CPLA received funding from The Nature Conservancy's Rio Grande Water Fund to treat over 1,000 acres of private land with thinning and prescribed burns to improve watershed health. Much of this work was coordinated through the Navajo-Blanco Working Group, a coalition of conservation NGOs, private landowners, local governments and state and federal agencies collaborating to reduce wildfire risk and improve watershed health for downstream users. Given the initial success of their work, the Working Group is providing more funding for CPLA and others to continue forest and watershed restoration efforts in the region. The Working Group focuses on managing forests in a way that will facilitate recovery after disturbance and is working to track and evaluate the return on investment from their restoration activities.

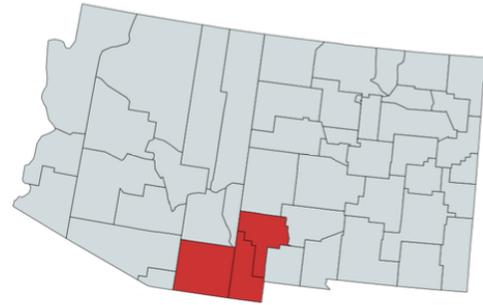
Much of the forest restoration work that occurs on public land within the Chama Peak region is made possible by the 2-3-2 Coalition, a partnership of several organizations and agencies that focus on 2 watersheds (Chama and Rio Grande), 3 rivers (San Juan, Rio Grande and Rio Chama) and 2 states (New Mexico and Colorado). The group serves as a learning network with frequent meetings and inter-agency projects, particularly on the west end of the Carson National Forest. The Coalition has helped raise over \$1.5 million for forest and watershed restoration projects, training events, and outreach and education opportunities.⁷¹ CPLA is an active member in this group and most recently helped with a hazardous fuel reduction project in the Blanco Basin just south of Pagosa Springs, Colorado.

CPLA has also been instrumental in enhancing local human capacity for forest restoration work. They periodically host a Prescribed Fire Training Exchange (TRES) which brings together forestry professionals, landowners, and community members interested in conducting cross-boundary prescribed burn projects. Each training focuses on an area already slated for prescribed burns so that additional labor can be tapped to complete these projects. The training not only brings in people from local communities like Pagosa Springs and Chama, but also people from other states and even a few international learners. CPLA is one of several organizations across the US that offers TRES workshops as part of a network led by The Nature Conservancy's North America Fire Initiative.⁷² CPLA also helps local communities develop Community Watershed Protection Plans (CWPP), which are defined under the Healthy Forests Restoration Act (HFRA). Having a signed and approved CWPP significantly improves the likelihood that a community will receive funding for hazardous fuels reduction projects. In 2017, CPLA completed a CWPP for Rio Arriba County that was approved by the County Commission. This CWPP included improving GIS data, revising maps, and gathering community input to improve fire response.⁷³

The Chama Peaks region contains several important migration corridors for elk and mule deer which crisscross state boundaries and both private and public land, such as from the San Juan mountains in Colorado to lower elevation woodlands in Northern New Mexico. Both elk and deer have suffered from reduced recruitment and over-harvest in the recent past. In response to these issues, CPLA member landowners often voluntarily reduced the number of game permits they issue in order to improve elk populations in the region. CPLA also conducted studies on mule deer and elk in the region in 2014 and 2018 to help inform and improve wildlife management for both Alliance members and wildlife agencies. Hunting brings in millions of dollars to both Archuleta County and Conejos County each year, so these studies are important for improving wildlife populations across different management boundaries and generating revenue for the regional outfitting and hospitality economy. CPLA also works to improve fish populations in the region. Stream diversions and introduction of non-native species have reduced the Rio Grande Cutthroat Trout's habitat to 12.5% of its historical levels. To respond to this issue, CPLA received a grant from the New Mexico Habitat Conservation Initiative to research Rio Grande Cutthroat Trout management including mapping its historic and current range, assessing social acceptability of reintroductions, and investigating opportunities to expand trout populations on private land.

Malpai Borderlands

Grant and Hidalgo Counties, NM Cochise County, AZ



Larger than the area of Rhode Island, the Malpai Borderlands region in southeastern Arizona and southwestern New Mexico is said to be one of the most biologically diverse areas in North America. Ranching is its primary economic driver, though many community members supplement income from ranching by taking on other jobs. Community members have incorporated stewardship work into their economic activities by conserving land to improve ranching practices and protect open space, building partnerships to facilitate fire management planning, and implementing watershed restoration projects.

Background Context

In the early 1990s, environmental groups in southern Arizona and New Mexico mounted a campaign to limit grazing on National Forest System and other public land. These campaigns, such as “No moo in ‘92” and “Cattle free in ‘93,” came at a time when lawsuits and “paralysis by analysis” were already stagnating or slowing work on federal land. Due to frequent appeals and lawsuits, agency personnel were hesitant to approve on-the-ground work. Projects, if they were approved, were often appealed, litigated, or otherwise delayed by environmental groups concerned about ranching practices irreparably degrading public land. Landowners and ranchers in the area soon became frustrated with rigid, slow, and unresponsive state and federal land management policies, which inhibited ranching practices and left the landscape badly in need of restoration. Further, as woody species increasingly encroached the grasslands, community members noticed a decline in the productivity and biological diversity of the landscape.

Community members were also becoming concerned about the role of fire on the landscape. A fire broke out in July of 1991, and though it posed little danger to nearby houses or buildings, the Forest Service quickly extinguished it. Community members, however, wanted to return fire to the landscape and saw no reason to quickly suppress wildfires with little chance of harming people or property.⁷⁴ More recently, the community has been contending with increasing development and subdivision in the area. Subdivision and loss of open space has raised property costs, challenged sustainable management of wildlife habitat, and threatened traditional rural livelihoods.

General Information

- Population: >15,000
- Landownership: 47% public
- Size: 1250 square miles
- Stewardship economy activities since: 1991
- Presence of a CBO: Yes

Prominent Activities

- Grassbanking program to prevent ecological degradation & conserve land through easements
- Watershed restoration improving range conditions & wildlife habitat
- Monitoring & research programs to better understand the impacts of prescribed fire

Key Enabling Factors

- Sustained leadership by landowners, NGO employees, & agency personnel
- Funds from foundations & individual donors
- Connection with land through site visits
- Shared value of open space & returning fire to the landscape

Key Constraining Factors

- Distance from & access to markets
- Lack of funding for community-based organizations
- Patchwork landscape impedes multi-jurisdictional projects
- Differing priorities among partners

Stewardship Economy Activities and Accomplishments

Shortly after the July 1991 fire, a group of ranchers and an ecologist began to meet and discuss their concerns. Given their desire to return fire to the landscape and protect open space, this group, “the Malpai Group,” found common ground with the environmental community. Soon after, the group became an official nonprofit community-based organization (CBO), known as the Malpai Borderlands Group (MBG), and expanded its membership to include agency personnel. While MBG is widely known in the conservation world for its innovative work in bringing ranchers and environmentalists together, there are a number of other players who work together to implement stewardship economy activities in the Malpai Borderlands. These players include inter-state land departments and game and fish departments, federal agencies such as the Bureau of Land Management and Coronado National Forest, universities, the Animas Foundation, and The Nature Conservancy, among others.

Two of these partners, The Nature Conservancy and the Animas Foundation, have been particularly key in advancing stewardship economy activities, namely through an innovative grassbanking program. In 1990, The Nature Conservancy purchased the Gray Ranch for \$18 million; at over one-third of the Malpai Borderlands area, this was one of the largest private land acquisitions in the history of conservation.⁷⁵ The Animas Foundation, a conservation-based not-for-profit, now manages the ranch and helps implement a grassbanking program, which allows ranchers to recover ranchland without disrupting ranching operations. When conditions, such as prolonged drought, result in a bad season for a rancher, that rancher can move cattle onto the Gray Ranch until ranchland adequately recovers. In return, the rancher turns an equal value of land to the MBG who put the land into an easement to prevent subdivision. This measure prevents ecological degradation, sustains rural livelihoods, and protects open space.

The area has also experienced the benefits of fire management planning. In the early 2000s, the Coronado National Forest and MBG spearheaded the first large-landscape programmatic fire plan. This plan, the Peloncillo Programmatic Fire Plan, encompassed 130,000 acres of federal, state, and private lands. Putting the plan together involved answering difficult research questions. National Forest personnel and MBG members convened teams of scientists to discuss fire risk for endangered species like the ridge-nosed rattlesnakes and nectar-feeding bats.⁷⁶ The plan has also served as a model for other large-landscape, community collaboration approaches to fire planning. Overall, fire has been returned to over 300,000 acres in the area, which has improved ecological conditions; helped sustain relationships between ranchers, agency personnel, and environmentalists; and enabled landowners to improve the efficiency and success of ranching operations.⁷⁷

Watershed improvements have similarly improved ecological health and wildlife habitat in the region. One watershed improvement project involves installing loose rock structures to redirect erosion and reduce runoff and ponding, which improves water infiltration. These rock structures are primarily installed by the Douglas Wildland Fire Crew during the winter, when there are no wildfires in the area, which helps provide year-round employment for area residents.⁷⁸ The Natural Resource Conservation Service, Coronado National Forest, and MBG have been responsible for the construction of more than 5,000 of these water harvesting structures, which means that almost 33 miles of watercourses have been treated using native materials.⁷⁹

In addition to grassbanking, fire management planning, and watershed improvements, the Malpai Borderlands community has brought in researchers to inform better management practices, established a Safe Harbor Agreement with the U.S. Fish and Wildlife Service, and shared their story with other communities looking to incorporate stewardship economy activities.

North Fork Valley, Colorado

Delta County

The North Fork Valley is located on the western slope of the Colorado Rockies in Delta County, Colorado and includes the towns of Paonia (population ~1400), Hotchkiss (~900) and Crawford (~400). The valley is bordered by the West Elk Mountains and Gunnison National Forest to the east and Grand Mesa National Forest to the north. The Gunnison River flows from Grand Mesa through the North Fork Valley, irrigating the valley's extensive farmland including orchards, vineyards, and other specialty crops. Agriculture has been a prominent economic activity since the valley was settled, and coal mining supported many area jobs since the 1960s. Stewardship economy activities in the valley include boutique and niche agriculture, renewable energy production, rural broadband expansion, and recreation and tourism.

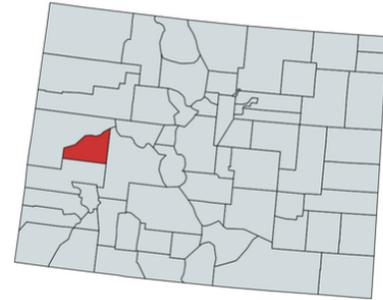
Background Context

Throughout most of the North Fork Valley's history, agriculture production has been a mainstay of the economy. The valley's abundant water resources and network of irrigation canals, along with a high altitude and mild weather that lasts into late autumn, make it an ideal location for growing fruit, wine grapes, and many other specialty crops. Beginning in the 1960s, large coal deposits were discovered in the area, and four coal mines were established. The mines supported hundreds of high-income jobs, though many coal workers continued to supplement their income with farming. Coal mining remained a major component of the valley's economy until recently when, mirroring national trends, the mines became less profitable. Between 2013 and 2016, three out of four coal mines closed and over 700 mining jobs were lost. Coal mining continues in the area today, though at significantly reduced capacity.

During and leading up to the mine closures, several important efforts were initiated by the community to enable economic transition. These efforts included fostering further development of the valley's agriculture economy, expanding renewable energy generation capacity, and expanding broadband internet access to the valley.

Stewardship Economy Activities and Accomplishments

Community visioning and planning have been important in advancing stewardship economy activities in the North Fork Valley. In 2010, valley citizens came together in a series of conversations, known as



General Information

- Population: 2,700
- Landownership: 55% public
- Scale: ~ 8 square miles
- Stewardship Economy Activities Since: ~2010
- Presence of a CBO: No

Prominent Activities

- Community visioning & planning
- Boutique & niche agriculture
- Renewable energy development
- Expansion of broadband internet access

Key Enabling Factors

- Strong leadership in multiple institutional & organizational settings
- Culture of community service & volunteerism
- Sense of place & pride
- Anchor institutions that provide funding, expertise, & other resources

Key Constraining Factors

- Challenges associated with rapid expansion of new economic activities
- Climate change & related uncertainty, especially for agriculture production
- Political division & contention over future economic activities

Vision 2020, to identify shared values and collective strengths that could be leveraged to build a diverse local economy. The nonprofit North Fork Valley Creative Coalition (NFVCC) was born out of this effort and worked to designate the valley as a Certified Creative District with Colorado Creative Industries, bringing in state funding and other resources to help foster the valley's creative arts, festivals, and value-added businesses. At the county level, the nonprofit Delta County Economic Development (DCED) procured several rural adjustment and assistance grants, some of which funded a third-party economic assessment for the county. The assessment highlighted several strategies that the county could use to diversify its economy including opportunities for the North Fork Valley to become a greater local food and organic agriculture hub, renewable energy producer, outdoor recreation attraction, and hub for location-neutral businesses. Other planning efforts included the development of a county trails master plan to encourage recreation and tourism and a change in county zoning regulations to encourage local business development.

Over the last decade, local communities have worked to promote and expand the valley's status as a local food hub. Organic farming, wine-making, value-added food businesses, and other boutique and niche agriculture operations are on the rise. Between 2012 and 2017, the number of farms in Delta County increased by nearly 30%, with many producers entering the specialty crop business.⁸⁰ Community members and organizations like NFVCC, Valley Organic Growers Alliance, and Colorado Farm and Food Alliance have worked to promote the valley as a local food hub. Local agritourism opportunities — such as harvest festivals, farm tours, and farmers markets — bring many tourists to the valley each year. Hemp production is also a growing industry in Delta County.

Renewable energy development has also been an important activity. Delta county has considerable renewable energy potential, with ample land and sunshine for solar energy projects and water resources for small-scale hydropower. The local rural electric cooperative, Delta-Montrose Electric Association (DMEA), was unable to develop these resources until recently, due to a contract with its wholesale energy provider that capped renewable energy generation at five percent. In 2019, DMEA successfully negotiated an exit agreement from this contract, and is now finalizing a contract with a different provider in which 20 to 40 MW of the county's 100 MW peak load will come from renewable energy. The Paonia-based Solar Energy International, a non-profit that hosts training workshops and certification programs for professionals in the solar industry, has also been an important catalyst for local renewable energy development. SEI worked with DMEA and DCED to develop a Solarize program in the North Fork Valley which provided funding and technical assistance to help businesses, agriculture producers, and homeowners install solar. The nonprofit also developed a Solar in the Schools program to teach local students about solar energy and related career opportunities. Furthermore, the town of Paonia was designated as a 'Solsmart' community by the Department of Energy in 2017 which has helped reduce barriers for developing solar in the community.⁸¹

Another crucial activity undertaken in Delta County has been the expansion of broadband internet access. This effort was driven by DMEA via the cooperative's Elevate initiative, a plan to deliver broadband access to all Delta County residents and businesses. The initiative was motivated in part by the closure of coal mines and community members' desire for more location-neutral job opportunities. As a rural electric cooperative, DMEA decided to spearhead this effort given that they already managed much of the infrastructure needed for internet delivery. DMEA prioritized hiring laid off coal miners for the broadband expansion efforts by partnering with a construction company that specialized in retraining coal miners in fiber-optic installation. Through this effort, DMEA was able to hire over 60 laid off coal miners.

Northeast Washington

Pend Oreille, Ferry, and Stevens Counties

Northeast Washington is a three-county region at the borders of Washington, Idaho, and Canada. Part of the Columbia River basin, this region also comprises the southern extent of the Columbia Mountains. The Colville National Forest, which is the focus of this case, comprises about 58% of Pend Oreille County, 33% of Ferry County, and 14% of Stevens County. The Colville Confederated Tribes own most of the southern half of Ferry County, about 48% of the county's total area. Logging and ranching have historically been important industries, and stewardship economy activities today often focus on forest management and restoration, watershed restoration, range improvements, and small-diameter timber processing.

Background Context

Like many of the timber-producing regions of the northwestern U.S., in the 1990s Northeast Washington experienced significant disruption and protracted conflict regarding national forest management. With fewer endangered species concerns and a more even mix of federal, private, and state-owned land, the region was shielded from some of the most acute economic and ecological challenges of that era. However, decline in the timber industry, growing concerns about forest health and fire risk, and staunch disagreement over the management of the 1.1-million-acre Colville National Forest were still powerful forces.

In this context, the Northeast Washington Forest Coalition (NEWFC) formed in 2002 to help disparate interests move beyond years of conflict. With representation from environmental groups, the timber industry, business owners, and forestry professionals, NEWFC has successfully built trust, fostered collaboration, and worked with the Forest on issues related to timber harvest, forest and watershed restoration, and endangered species conservation. As an interviewee described, "Collaboration is part of the fabric of these communities, regardless of what happens in DC or what the Forest Service chooses to do. Those relationships will persist." Projects with state and tribal governments have further contributed to partnership-driven management of the Colville National Forest.



General Information

- Population: 66,5000
- Landownership: 35% federal, 38% private, 21% tribal
- Size: 6,223 square miles
- SE activities since: 2002
- Presence of a CBO: No

Prominent Activities

- Vegetation management to improve forest health & reduce fire risk
- Public-private forest restoration & timber harvest partnership
- Small-diameter timber harvest & processing
- Watershed restoration (road removal, culvert replacement)

Key Enabling Factors

- Early & effective collaboration among environmental groups and the timber industry
- Successful & creative use of forest management programs & authorities (CFLRP, JCLRP, TFPA, GNA, 3rd-party NEPA analysis)
- A mix of different land owners reduce dependence on USFS for timber supply
- Visionary mill owners

Key Constraining Factors

- Troubled stakeholder dynamics & disruptions to collaborative processes
- Dependence on USFS capacity & engagement to implement NEWFC's recommendations

Stewardship Economy Activities and Accomplishments

In its collaborative efforts, NEWFC has achieved agreement in three main areas: front-country management, focused on sustainable timber production and wildfire risk reduction; backcountry management, focused on managing more remote, less-roaded areas for ecological restoration and habitat; and the creation of congressionally designated wilderness on the Colville National Forest. According to an interviewee, the collaborative has been quite successful in working with the Forest to achieve its first two goals. The two have partnered, in some capacity, on nearly 40 different vegetation management projects. Collectively, those projects have covered over 200,000 acres and produced over 400 million board-feet of timber.

To accomplish forest management projects, NEWFC and the Colville National Forest have used a wide variety of federal programs and congressionally-delegated authorities. Under the Tribal Forrest Protection Act (TFPA), which allows tribal nations to carry out management activities on federal land, the Forest carried out a project with the Kalispel Tribe and the Washington Department of Natural Resources. The NEPA planning team for that project included natural resource specialists from the tribe, the state, and the federal government. Additionally, NEWFC has received both CFLRP and JCLRP funding.

A public-private forest initiative between the Colville National Forest and Vaagen Brothers Lumber company is enabling the restoration treatment of up to 16,000 acres per year, producing up to 150 million board-feet. The work also includes road maintenance, culvert replacements to improve fish passage and water quality, and range improvements.^{82,83} Under the agreement, Vaagen Brothers is responsible for all the project work, from NEPA environmental analysis to implementing treatments and harvesting timber. The company owns all the wood from the project. The 10-year contract for 54,000 acres brings much-needed capacity to forest management, speeds up the timeline for restoration, and represents a new model for how the Forest Service could accomplish restoration projects.⁸⁴ According to an agency representative, “The private partners are treating areas of the forest faster, at lower costs and producing more sellable lumber than the Forest Service could on its own.”⁸⁵ Though the approach has drawn some criticism from environmental groups, it is fully backed by NEWFC; one of the Vaagen brothers is the president of NEWFC and a longtime participant in the group.

Despite the changes that have rocked the northwest timber industry over the past 30 years, Northeast Washington has been able to maintain its timber industry and the jobs that go along with it. While many mills have closed, there is still relatively robust infrastructure, including cedar mills, small-diameter mills, large-diameter mills, and a biomass cogeneration electricity and heat facility. This continued existence is owed—at least to some extent—to forethinking mill owners who had a vision of what the future of forestry would look like. According to an interviewee, “Visionary mill owners...invested in their technology and in updating their mills to be able to use smaller diameter timber. They looked out at the forest and knew that’s what they needed to be able to do.” Vaagen Brothers Lumbers, Inc. is chief among them; the company owns and operates a small-diameter mill in the town of Colville, producing cross-laminated timber.⁸⁶ Land ownership patterns across the region have also helped; when federal lands ceased supplying adequate volumes of logs to support the mills, there was enough industrial and state-owned land to supply at least some of the mills in the short run. As a result, Northeast Washington has been able to maintain sufficient milling capacity as it transitioned into a different, more restoration-focused, era for the timber industry.

Thunder Basin, Wyoming

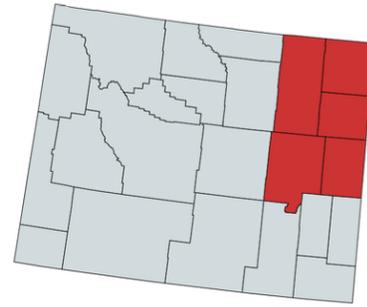
Campbell, Converse, Crook, Niobrara, Weston Counties

Located in northeastern Wyoming, the Thunder Basin contains some of the most intact prairie land in the United States.⁸⁷ Thunder Basin is part of the Powder River Basin, the country's leading coal-producing area.⁸⁸ It is largely dependent on nonrenewable energy development and ranching, though farming and renewable energy development does occur there. Community members have incorporated stewardship work into their economic activities through wildlife habitat improvements and agreements, research and symposiums on the economic benefits of sustainable ranching practices, and reclamation of retired mine sites.

Background Context

Stewardship economy activities were originally motivated by diminishing black-tailed prairie dog habitat. In the early 1900s, black-tailed prairie dog habitat comprised around 150,000 square miles in short and mixed-grass prairie areas. In 2000, however, a U.S. Fish and Wildlife survey estimated its habitat had been reduced to 3000 square miles, likely due to habitat conversion, landowners poisoning prairie dogs to reduce competition with cattle for forage, and sylvatic plague. The decline in prairie dog habitat was of particular concern, since prairie dog burrows provide habitat for many other species, which increases biodiversity and improves overall ecosystem health.⁸⁹ The community was also becoming increasingly concerned that Endangered Species Act regulations would inhibit or prevent traditional ranching practices in the region.

At the same time, seeing development and subdivision in neighboring communities led to increasing concerns about urbanization and encroaching infrastructure such as roads and power lines, which would raise land prices and threaten wildlife habitat. Ecological conditions posed further risks: destructive wildfire could damage land and property in the region, invasive plants were encroaching on rangelands and decreasing ranching productivity, and poor grazing management threatened to further degrade ecosystem health. Finally, community members recognized the need to coordinate planning and resolve conflict regarding nonrenewable and renewable energy development in the area.



General Information

- Population: 77,000
- Landownership: 23% public
- Size: 20,625 square miles
- Stewardship economy activities since: 1999
- Presence of a CBO: Yes

Prominent Activities

- Development of a region-wide conservation strategy to conserve wildlife habitat
- Research initiatives to inform land management & ranching
- Improved reclamation of retired mine sites
- Sage grouse monitoring programs

Key Enabling Factors

- Leadership by private landowners
- Network of partnerships, (agencies, businesses, universities, & landowners)
- Formal agreements for cross-boundary work
- Manageable scale
- Connection with land through site visits

Key Constraining Factors

- Distance from & access to markets
- Difficulty securing funding for community-based organizations
- Lagging reclamation efforts & lack of information about their impact on rural economies

Stewardship Economy Activities and Accomplishments

As the U.S. Forest Service began to engage in a forest planning process for the Thunder Basin National Grassland, a group of community members gathered to discuss ways to sustain rural livelihoods and economies amidst concerns that Endangered Species Act regulations would increase over time. The Thunder Basin Prairie Ecosystem Alliance (TBGPEA) formed in 1999 to address concerns over this issue. TBGPEA secured nonprofit status in 2002. This initial push by the community to sustain rural livelihoods and ensure ecological health brought in others as well: in addition to agency personnel, livestock and agricultural producers, research institutions, and energy production companies have promoted stewardship economy activities in recent years.

One of the Thunder Basin's most recent accomplishments centers on developing a region-wide Conservation Agreement, an MOU effective for at least 30 years and which encourages habitat conservation for 8 species of concern across more than 20,000 square miles. TBGPEA worked with U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, U.S. Forest Service, and the Wyoming Game and Fish Department for almost 18 years to establish this strategy. The Agreement has three components: private lands; lands with a federal nexus; and areas in which energy resources might be developed.⁹⁰ The Agreement enables a variety of community members — such as agricultural producers and ranchers, energy companies, and agencies — to voluntarily implement conservation measures to avoid habitat fragmentation. In assuring that property owners will not face additional regulations should a species be listed under the Endangered Species Act, the Agreement provides both ecological and economic benefits: it ensures ranchers and other private landowners can sustain their rural livelihoods, while encouraging them to engage in conservation measures on their land.

Organizations in Thunder Basin also engage in research initiatives, which inform management of invasive species, improved endangered species habitat, and more effective reclamation and ranching operations. Coordinated research efforts in the region began in earnest in 2014, when the University of Wyoming, Colorado State University, USDA Agricultural Research Service, and TBGPEA teamed up to form the Thunder Basin Research Initiative (TBRI).⁹¹ When TBRI was formed, land managers were contending with a dearth of research relevant to the area, and projects suffered because land managers did not know which measures would be most effective. Since its inception, TBRI's research has answered critical questions about the effect of prolonged drought and effective management of cheatgrass. Community members have also engaged in learning experiences that reiterate and explore the relationship between ecological health and their rural economy. In 2001, TBGPEA held a two-day symposium, "Building a Knowledge Base for a Management Plan," which helped established a common understanding of the history, ecology, and economy of the Thunder Basin. Co-sponsored by a range of organizations, the symposium included talks on the economic benefits of landscape health, landowner incentive programs for species management, and private landowner leadership in conservation.⁹²

Reclamation efforts in the region have also generated economic and ecological benefits. TBGPEA, in particular, works with mines to ensure reclamation plans have the greatest ecological benefit at the landscape scale. In 2017, four mining companies in the area, all of which had coordinated with TBGPEA on their reclamation plans, received a "Good Neighbor Award" from the Office of Surface Mining Reclamation and Enforcement (OSMRE). Reclamation projects have resulted in land management practices such as prescribed grazing and fire, herbicide application, and interseeding to prevent the spread of invasive species; mapping over 100 square miles of prairie dog colonies; improved water management by installing solar-based pump units, and outreach events on effective reclamation practices.⁹³ Though there is little data regarding reclamation's actual impact on rural economies, re-vegetation on Powder River Basin mines alone has the potential to create 19 to 28 full-time jobs.⁹⁴

West Central Colorado

Delta, Gunnison, Hinsdale, Mesa, Montrose, Ouray, San Miguel Counties

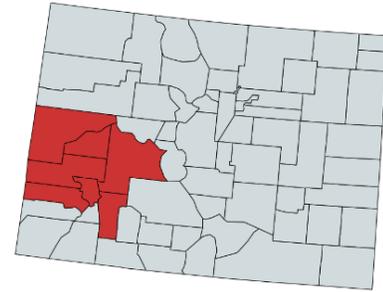
West Central Colorado comprises a seven-county region on the Colorado – Utah border. SE activities in Delta and Montrose Counties center on forestry and agriculture, while the other five counties lean more towards recreation- and tourism-based industries. Today, stewardship economy activities are carried out by a network of organizations, including environmental nonprofits, state and federal agencies, county governments, forestry and mining industries, and landowners and ranchers.

Background Context

In the early 1990s, community members were in conflict about the role of public lands in their rural economies. They grew concerned about increasing development of oil, gas, and coal industries, as well as the impact of grazing on public lands. These concerns catalyzed the formation of the Public Lands Partnership (PLP) in 1993. Comprised of area residents, local governments, federal and state land and wildlife management agencies, local businesses, forestry and mining industries, ranchers, and conservationists, the partnership provided a forum for civic discussion, while also promoting the health of public lands, rural economies, and a sense of place in the region. In recent years, the community has also turned its attention to the role of recreation and tourism and forest health. The latter has become particularly crucial, as the mountain pine beetle, an invasive species, has devastated lodgepole pine forests and threatened timber supply. With more dead and downed trees due to the beetles, the area faces increased vulnerability to catastrophic wildfire.

Stewardship Economy Activities and Accomplishments

In the early 2000s, the U.S. Forest Service and PLP accomplished an economically beneficial timber sale by fostering community involvement in how it was carried out. After a wildfire swept through Burn Canyon in 2002, the U.S. Forest Service planned to hold a timber salvage sale there. Tension between environmental groups and the timber industry threatened to impede the sale — both national and state environmental groups expressed concern about its ecological impacts. In response, PLP and a local county commissioner developed a plan for a multi-party monitoring partnership. This partnership would involve stakeholders to take part in assessing the sale and



General Information

- Population: > 250,000
- Landownership: 73% public
- Size: 12,947 square miles
- Stewardship economy activities since: 1993
- Presence of a CBO: Yes

Prominent Activities

- Use of CFLRP funds to create jobs through forest and watershed restoration
- Development of a multi-party monitoring agreement for a salvage timber sale
- Economic reporting of stewardship activities
- Expanding forest product processing infrastructure
- Youth education programs

Key Enabling Factors

- Partnerships with county governments and local agencies
- Community-led vision and participation
- Fundraising success, including support from a CFLRP grant
- Large-scale forest product processing infrastructure

Key Constraining Factors

- Limited funding & capacity to expand efforts
- Large scale of operation
- Values differences among counties
- Difficulty attracting new members & avoiding volunteer burnout

monitoring its impacts, thus moving it forward while also assuaging community conflict. With its varied membership (including environmental groups, agency personnel, PLP members, and local residents), the multi-party monitoring project attracted funding from the Ford Foundation, National Forest Foundation, and San Miguel, Ouray, Montrose, and Delta Counties. The monitoring partnership prevented appeals from environmental groups regarding two timber sales within the canyon, while also stopping a timber sale on steep land which would have resulted in ecological degradation from road construction. The salvage sale had economic benefits, too: it helped two local timber companies stay in business and ensured approximately \$1.4 million in economic benefit to nearby counties.⁹⁵

The U.S. Forest Service and Uncompahgre Partnersip developed SE activities and expanded forest restoration efforts by securing a Collaborative Forest Landscape Restoration Program (CFLRP) grant from the U.S. Forest Service in 2010. West Central Colorado's Uncompahgre Plateau was one of ten areas first selected by the U.S. Forest Service to receive this funding. Securing the grant likely stemmed from the accomplishments of the Uncompahgre Partnership (UP), which was formed in 1998 to address declining mule deer populations. The UP included the U.S. Forest Service, Bureau of Land Management, PLP, and the Colorado Division of Wildlife, all of which signed a memorandum of understanding to enable work across agency boundaries.⁹⁶ As of 2016, the Uncompahgre Plateau project had restored or enhanced 48 square miles of terrestrial habitat and 18 miles of stream habitat, mechanically treated 29 square miles and prescribed fire on 15 square miles (14.5 square miles of which were in the Wildland Urban Interface), maintained or improved 679 miles of trails, and controlled noxious weeds on 7 square miles of land. The CFLRP has also had significant economic impacts: it spurred 77,895 CCF of timber through stewardship contracts and agreements, as well as timber sale contracts. These efforts also created 899 full- and part-time jobs, with approximately \$2,000,000 going to local economies every year.⁹⁷

In addition to multi-party monitoring, the region has enabled forest restoration efforts by expanding forest product processing. In 2012, Neiman Enterprises, Inc. purchased a near-bankrupt mill in Montrose, after the Montrose Economic Development and the county and city of Montrose expressed support for the venture. The purchase was significant not only because it saved 150 jobs at the mill, but also because it retained one of the few facilities in Colorado that can process timber affected by pine beetles.⁹⁸ More recently, the mill, renamed Montrose Forest Products, announced it would invest more than \$18 million to update its facility. The mill managed to secure a viable ponderosa pine supply from the San Juan National Forest, while the Grand Mesa, Uncompahgre, and Gunnison National Forests are also expected to supply timber in coming years.⁹⁹ In addition to maintaining family-wage, year-round jobs in the area, these forest product processing infrastructure improvements enabled the San Juan National Forest and local counties to tackle growing fire risk through hazardous fuel thinning.

Finally, in 2007, Delta and Montrose Counties took part in an economic development study conducted by Colorado State University to report the economic impact of stewardship work. This study resulted in three reports, which lent important credibility to stewardship economy activities. Reports showed that from 2001 to 2002, PLP spent \$118,027 in the local economy and generated an additional \$54,304 within the counties, indicating that every dollar PLP spent generated an additional 46 cents for the local economy.¹⁰⁰ Moreover, these reports helped Delta and Montrose County residents understand foundational economic concepts, discuss the relationship between natural resource stewardship and rural economic development, and comprehend the contributions public lands make to local economies and vice versa.

- ⁴⁴ Sayre, N. F. (2005). Working wilderness: the Malpai Borderlands Group and the future of the western range. Tucson, AZ: Rio Nuevo Publishers.
- ⁴⁵ Who We Are (n.d.). *Sustainable Northwest*. Retrieved April 21, 2020 from <http://www.sustainablenorthwest.org/who-we-are>
- ⁴⁶ Lakeview Stewardship Group (2008). Retrieved from https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_061538.pdf
- ⁴⁷ Liedtke, K. (2019). Red Rock takes shape in Lakeview. *Herald and News*. Retrieved from https://www.heraldandnews.com/news/local_news/red-rock-takes-shape-in-lakeview/article_1134127d-3f89-5327-bf61-c076b1bfe5d2.html
- ⁴⁸ Hall, J. (2017). Black Cap solar capped off with event. *Lake County Examiner*. Retrieved from http://www.lakecountyexam.com/news/lake_county/black-cap-solar-capped-off-with-event/article_ed1fc138-2491-11e7-9a40-27d1c6aed562.html
- ⁴⁹ Innovation and Learning Center (n.d.). Retrieved April 21, 2020 from <http://cri.org/innovation-learning-center/>
- ⁵⁰ U.S. Census Bureau QuickFacts: Custer County, Idaho; Lemhi County, Idaho. (n.d.). Retrieved April 22, 2020, from <https://www.census.gov/quickfacts/fact/table/custercountyidaho,lemhicountyidaho/PST045218>
- ⁵¹ Barney & Worth, Inc. 2001. Inland Northwest Economic Adjustment Strategy Case Studies. <http://www.barneyandworth.com/reports/ineasreport.pdf>.
- ⁵² Upper Salmon Basin Watershed Program - The Program. (2019, September 4). Retrieved from <https://modelwatershed.idaho.gov/the-program/>
- ⁵³ Chaney, R. (2012, November 4). Firefighters say thinned forest stopped monster Idaho blowup. *Ravalli Republic*. Retrieved from https://ravalliirepublic.com/news/local/article_09a3887c-19a1-5936-9729-044491c125e6.html
- ⁵⁴ Salmon Valley Stewardship. (n.d.). Restoration Means Jobs in the Salmon River Region. Retrieved from <http://www.salmonvalley.org/wp-content/uploads/2016/01/Restoration-Means-Jobs-in-the-Upper-Salmon-River-Region-2014-FINAL.pdf>
- ⁵⁵ Miller-Adams, M. (2002). *Owning Up: Poverty, Assets, and the American Dream*. Washington, D.C.: Brookings Institution.
- ⁵⁶ Gunter, T. R. (2001). *Wallowa Resources: Beyond Green and Brown*. In *Workshop on Collaborative Resource Management in the Interior West*. Red Lodge, MT: Liz Claiborne Art Ortenberg Foundation.
- ⁵⁷ *Ibid.*
- ⁵⁸ *Ibid.*
- ⁵⁹ *Ibid.*
- ⁶⁰ Oregon's Wallowa Lake State Park showcases new "micro hydro" renewable energy resource at public open house Sept. 28. (2019, September 11). Retrieved April 20, 2020, from <https://www.pacificpower.net/about/newsroom/news-releases/wallowa-lake-state-park-micro-hydro.html>
- ⁶¹ Arizona Rural Policy Institute, Center for Business Outreach, W.A. Franke College of Business, Northern Arizona University. (n.d.). *Demographic Analysis of the Tohono O'odham Nation Using 2010 Census and 2010 American Community Survey Estimates*. Department of Planning & Economic Development Tohono O'odham Nation Tribe. Retrieved from <https://gotr.azgovernor.gov/file/7283/>
- ⁶² Fallows, D. (2020, March 15). Ajo, Arizona: A Small Town Pushed to the Brink, and Coming Back. *The Atlantic*. Retrieved from <https://www.theatlantic.com/national/archive/2015/03/ajo-arizona-part-1-a-small-town-pushed-to-the-brink/388976/>
- ⁶³ Local Foods, Local Places Technical Assistance Program Workshop. (2015). *Strengthening the Local Foods System and Downtown Revitalization: Actions and Strategies for Ajo, Arizona*. Retrieved from <https://www.ams.usda.gov/sites/default/files/media/flfpcapajo.pdf>
- ⁶⁴ *Ibid.*
- ⁶⁵ Local Foods, Local Places: Ajo, AZ. (2017, July 17). Retrieved April 20, 2020, from <https://www.epa.gov/smartgrowth/local-foods-local-places-ajo-az>
- ⁶⁶ Local Foods, Local Places Technical Assistance Program Workshop. (2015). *Strengthening the Local Foods System and Downtown Revitalization: Actions and Strategies for Ajo, Arizona*. Retrieved from <https://www.ams.usda.gov/sites/default/files/media/flfpcapajo.pdf>
- ⁶⁷ Local Foods, Local Places: Ajo, AZ. (2017, July 17). Retrieved April 20, 2020, from <https://www.epa.gov/smartgrowth/local-foods-local-places-ajo-az>
- ⁶⁸ Grand Opening of the Ajo Farmers Market & Café! . (2019, December). Retrieved from https://mailchi.mp/129c1606aa0b/ajo-center-for-sustainable-agriculture-newsletter-503269?fbclid=IwAR2ikokjxkwSB1dkN8-LQm7TB_z_-Eyn3iyzECiCsbt1e21DvYZFwfsDYIA
- ⁶⁹ Alvarez, C. (2018, April 23). 5 Reasons to Adopt a Sonoran Desert Crop in Arizona. Retrieved April 20, 2020, from <https://www.localfirstaz.com/news-blog/the-adopt-a-sonoran-desert-crop-program-is-a-must-for-local-farmers-and-food-producers>
- ⁷⁰ Water Resources Committee (n.d.). Blackfoot Challenge. Retrieved April 21, 2020 from <https://blackfootchallenge.org/Clone//category/how-we-work/wrc/>
- ⁷¹ Our work – 2-3-2 Cohesive Strategy Partnership. (n.d.). Retrieved April 20, 2020, from <https://232partnership.org/our-work/>
- ⁷² Conservation Gateway – Prescribed Fire Training Exchanges (2019). Retrieved from https://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/Documents/FactSheet_TREX.pdf
- ⁷³ Forest and Watershed Health -- Chama Peak Land Alliance. (n.d.). Retrieved April 21, 2020 from <https://chamapeak.org/forest-and-watershed-health>
- ⁷⁴ Sayre, N. F. (2005). Working wilderness: the Malpai Borderlands Group and the future of the western range. Tucson, AZ: Rio Nuevo Publishers.
- ⁷⁵ Sayre, N. F. (2005). Working wilderness: the Malpai Borderlands Group and the future of the western range. Tucson, AZ: Rio Nuevo Publishers.
- ⁷⁶ Traphagen, M. (n.d.). The Miller Fire, Fire Management the Way It Should Be. Retrieved from http://www.malpaiborderlandsgroup.org/files/resourcesmodule/51b2274fc3d6c/MBG_Newsletter_2019_Web_Version.pdf
- ⁷⁷ Sayre, N. F. (2005). Working wilderness: the Malpai Borderlands Group and the future of the western range. Tucson, AZ: Rio Nuevo Publishers.
- ⁷⁸ Watershed Improvement Project (n.d.). Malpai Borderlands Group. Retrieved April 22, 2020, from http://www.malpaiborderlandsgroup.org/?module=articlemodule&src=51ec47bca1754&action=view_article&id=45&subtheme=_none

- ⁷⁹ Land Management (n.d.). Malpai Borderlands Group. Retrieved April 22, 2020, from http://www.malpaiborderlandsgroup.org/?module=articlemodule&src=51ec47bca1754&action=view_article&id=39&subtheme=_none
- ⁸⁰ Delta County Colorado. (2017). 2017 Census of Agriculture. Retrieved from https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Colorado/cp08029.pdf
- ⁸¹ Delta County Independent (2018). County earns 'SolSmart Gold' honors. Retrieved from https://www.deltacountyindependent.com/news/delta/county-earns-solsmart-gold-honors/article_b9b2529e-7e95-5647-9364-92fb0bd98f3a.html
- ⁸² Weaver, M. (2018, August 3). U.S. Forest Service interim chief tours A to Z Project. *Capital Press*. Retrieved from https://www.capitalpress.com/state/washington/u-s-forest-service-interim-chief-tours-a-to-z/article_ec857dd1-97d5-5176-aefe-602a4e090aca.html
- ⁸³ Willenbrock, F. (2018, February 3). Colville National Forest poised to set records as both timber harvest, restoration increase. *The Spokesman-Review*. Retrieved from <https://www.spokesman.com/stories/2018/feb/03/colville-national-forest-poised-to-set-records-as-/#/0>
- ⁸⁴ Weaver, M. (2018, August 3). U.S. Forest Service interim chief tours A to Z Project. *Capital Press*. Retrieved from https://www.capitalpress.com/state/washington/u-s-forest-service-interim-chief-tours-a-to-z/article_ec857dd1-97d5-5176-aefe-602a4e090aca.html
- ⁸⁵ Hill, K. (2018, August 3). McMorris Rodgers, U.S. Forest Service chief tout public-private forest thinning partnership in Colville Forest. *The Spokesman-Review*. Retrieved from <https://www.spokesman.com/stories/2018/aug/03/mcmorris-rodgers-us-forest-service-chief-tout-publ/>
- ⁸⁶ NPR. (2019, October 23). Washington State Is Thinning Out Forests To Reduce Wildfire Risk. All Things Considered. Colville, Washington. Retrieved from <https://www.npr.org/2019/10/23/772775789/washington-state-is-thinning-out-forests-to-reduce-wildfire-risk>
- ⁸⁷ Thunder Basin. The Nature Conservancy. Retrieved from <https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/thunder-basin/>
- ⁸⁸ U.S. Fish and Wildlife Service, Department of the Interior (2016, November 25). Thunder Basin Grassland Prairie Ecosystem Association Conserves Wildlife and Applies to Gain Coverage under Endangered Species Act [Press release]. Retrieved from <https://www.fws.gov/mountain-prairie/pressrel/2016/11252016-Thunder-Basin-Grassland-Prairie-Ecosystem-Association-Conserves-Wildlife-and-Applies-to-Gain-Coverage-under-Endangered-Species-Act--.php>
- ⁸⁹ Johnson, T. B. (1999). The Black-Tailed Prairie Dog Conservation Assessment And Strategy. Arizona Fish and Game Department. Retrieved from <https://www.fws.gov/mountain-prairie/es/species/mammals/btprairiedog/BTPDCConservationAgreement1999.pdf>
- ⁹⁰ Thunder Basin Grasslands Prairie Ecosystem Association Conservation Strategy (n.d.). Retrieved from https://www.fws.gov/wyominges/ccaa_ThunderBasin.php
- ⁹¹ Our History (n.d.). Retrieved April 20, 2020 from <https://tbgpea.org/who-we-are/our-history>
- ⁹² The Thunder Basin Grasslands Prairie Ecosystem Association. (2001). Building A Knowledge Base For an Ecosystem Management Plan. In *The History, Ecology, and Economy of The Thunder Basin Prairie Ecosystem*. Casper City, WY. Retrieved from http://www.rswyoming.com/TBGPEA/pdf_files/FirstSymposium/AssnFirstSympWebIntro.htm
- ⁹³ Federal Agency recognizes four Wyoming mining companies. (2017, November 16). Retrieved from <http://deq.wyoming.gov/lqd/news/federal-agency-recognizes-four-wyoming-mining-companies>
- ⁹⁴ Powder River Basin Resource Council. (2018). Reclaim Wyoming: Prioritize Coal Mine Reclamation. Retrieved from <https://www.powderriverbasin.org/wp-content/uploads/2018/07/Coal-Mine-Reclamation-Web-Final.pdf>
- ⁹⁵ "Burn Canyon." Public Lands Partnership, <http://www.publiclandspartnership.org/projects/burn-canyon/>
- ⁹⁶ "Uncompahgre Partnership." Public Lands Partnership. Retrieved from www.publiclandspartnership.org/projects/uncompahgre-partnership/
- ⁹⁷ "Collaborative Forest Landscape Restoration Program Current Info." Western Colorado Landscape Collaborative. Retrieved from <http://www.westerncolc.org/current-info>
- ⁹⁸ Kiser, Andrew. "Sawmill Owner Makes Huge Impact on Montrose." *Montrose Press*, 10 Mar. 2018, https://www.montrosepress.com/news/sawmill-owner-makes-huge-impact-on-montrose/article_ca6a669e-2426-11e8-a772-6383e7f2cd4c.html.
- ⁹⁹ Heidelberg, Katharhynn. "Timber Mill Slates Major Expansion." *Montrose Press*, 24 Apr. 2018, https://www.montrosepress.com/news/timber-mill-slates-major-expansion/article_f6fa9e0c-4773-11e8-b7ae-db59d018dced.html.
- ¹⁰⁰ Seidl, A., & Myrick, E. (2007). *The Community Economics of Community Forestry: A Partial Analysis of Public Lands Partnership, Delta and Montrose Counties, Colorado*. Colorado State University. Retrieved from <https://webdoc.agsci.colostate.edu/DARE/EDR/EDR07-02.pdf>

Chapter 3: Stewardship Economy Strategies and Activities

Working at the intersection of natural resource stewardship, rural economic development, and rural community development, the thirteen communities we examine in this report have engaged in numerous and varied stewardship economy (SE) activities. Most directly, each community has undertaken projects that aim to steward natural resources while also generating resource-based jobs and economic benefits. The collective impact of these actions is considerable: communities have restored and conserved well over a million acres of land and supported local livelihoods for stewardship crews, restoration technicians, contractors, farmers, ranchers, market sellers, mill workers, and non-profit staffers and administrators. Under the umbrella of stewardship, communities have supported entrepreneurs and built natural resource businesses.

However, restoration, conservation, and job-creation represent only one arm of the SE activities that communities have undertaken. A host of facilitating and behind-the-scenes activities lay the groundwork for realizing economic benefits and on-the-ground stewardship. For example, communities have built partnerships, collaborative groups, and networks to resolve conflict, coordinate cross-boundary stewardship, and leverage limited human and financial resources. To finance their work, they have cast a wide net for funding, successfully sourcing tens of millions of dollars in the form of grants, contracts, appropriations, and investment. By prioritizing local outreach, education, and training, they have fostered community buy-in and supported in the next generation of SE workers and leaders. By developing and participating in regional and national networks and advocacy, they have increased the scope and scale of their impact. Looking toward the future, they have planned for and invested in community vitality and economic and ecological resilience.

In short, advancing SE activities is not as simple as employing local residents to restore forests or helping farmers realize some portion of their farms' value through conservation easements. Rather, to advance SE activities, communities have deployed a host of interrelated and mutually-facilitating strategies. Individually, each strategy or activity is but a single puzzle piece in the institutionally- and ecologically-complex SE landscape. To make progress and achieve meaningful impacts, communities have been working diligently to put the puzzle pieces together.

This chapter explores eight overarching strategies (see Table 3) employed in most of the thirteen communities. These strategies, and their associated activities, synergistically advance natural resource stewardship and generate positive social and economic outcomes. Together, these strategies and activities form the heart of the stewardship economy concept explored in this report.

The examples described below do not comprehensively represent all stewardship activities undertaken in the communities we studied. Instead, the examples highlight community efforts that are particularly clear illustrations of the types of activities that communities have engaged in to advance ecological stewardship and economic and community development.

Table 3: Major stewardship economy strategies and activities

<p>1. <u>Restoration and Conservation:</u> Pursuing stewardship activities that improve ecological conditions while also generating jobs and economic benefits</p> <ul style="list-style-type: none"> • Landscape-scale restoration • Stream and fisheries restoration • Open space and working lands conservation • Removal, remediation, and reclamation of mines, dams, and roads • Recreation development <p>2. <u>Job, Skill, and Workforce Development:</u> Creating jobs, developing skills, and building workforce capacity</p> <ul style="list-style-type: none"> • Stewardship contractors and crews • Jobs with community-based organizations • Job training and capacity-building • Youth skill development programs <p>3. <u>Investments in Businesses, Markets and Infrastructure:</u> Investing in and/or supporting local businesses and infrastructure that directly or indirectly promote stewardship</p> <ul style="list-style-type: none"> • Processing infrastructure • Business incubation and market development • Renewable energy opportunities • Ancillary services <p>4. <u>Collaboration, Partnerships, and Networks:</u> Building and/or capitalizing on local institutions to advance stewardship economy activities</p> <ul style="list-style-type: none"> • Local partnerships, relationships and networks • Collaboration • Voluntary cooperative conservation and land management • Volunteer organizations and interest groups • Overlapping grassroots action • Regional coalitions, networks, and organizations • Partnerships with researchers <p>5. <u>Funding:</u> Casting a wide net for funding</p> <ul style="list-style-type: none"> • Federal funding • State and local funding • Private funding • Conservation finance <p>6. <u>Tools, Authorities, and Programs:</u> Leveraging existing tools, authorities, and programs</p> <ul style="list-style-type: none"> • Conservation easements • Federal and state tools and authorities • County programs and policies <p>7. <u>Outreach and Education:</u> Undertaking outreach and education activities that demonstrate possibilities and build understanding and support</p> <ul style="list-style-type: none"> • Group fact-finding and learning • Stewardship-focused education and engagement <p>8. <u>Community Visioning and Planning:</u> Undertaking and realizing community visioning and planning processes to identify local aspirations and ideas, instill a sense of direction and self-determination, and build resilience</p> <ul style="list-style-type: none"> • Community land ownership and cooperative management of public lands • Community visioning • Land use and economic development planning • Recreation and tourism planning
--

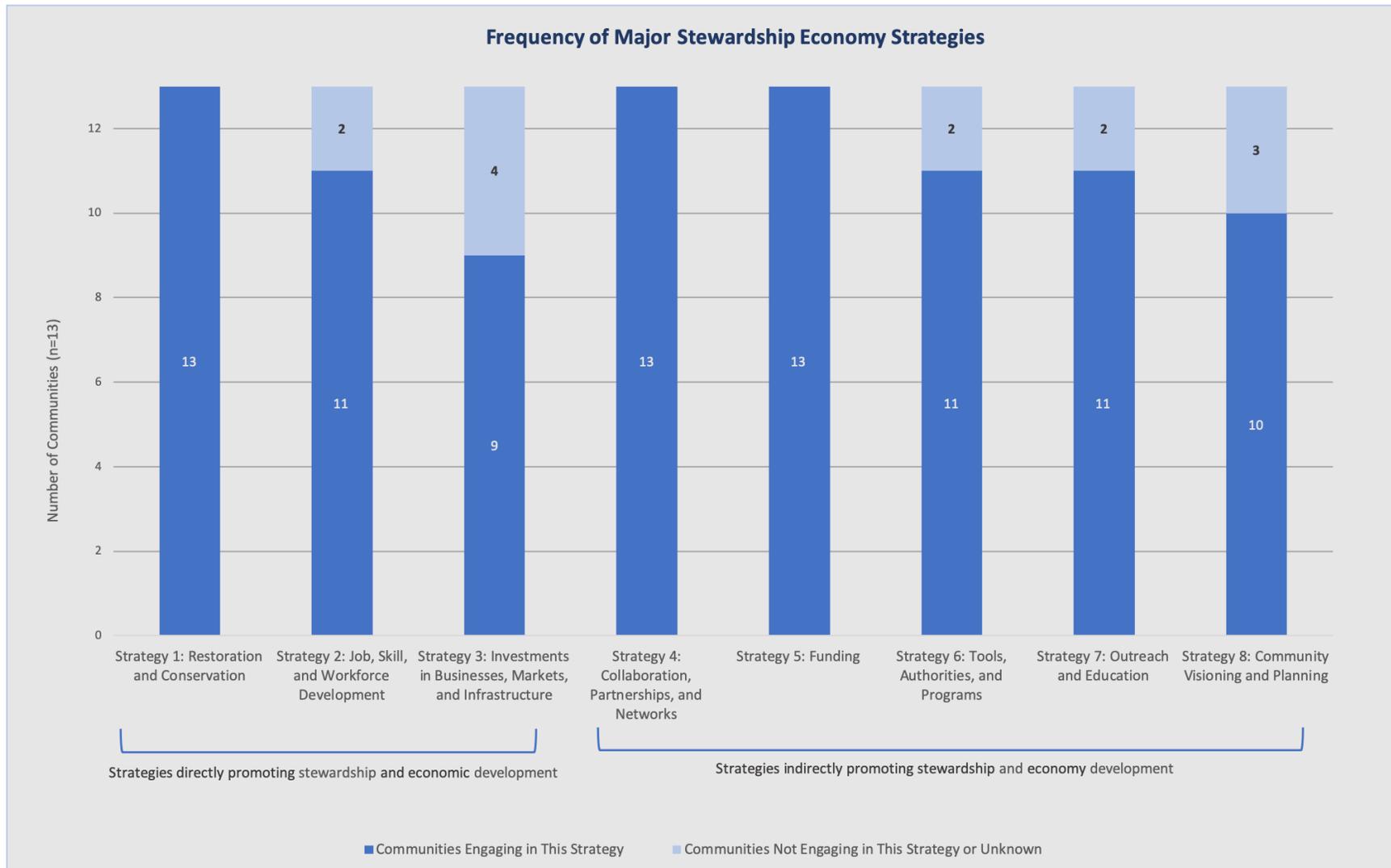


Figure 10: Frequency with which communities engaged in the eight major stewardship economy strategies.

Strategy 1: Restoration and Conservation

Every community we studied has pursued activities that improve ecological conditions while also generating local jobs and economic benefits. Restoration and conservation activities, which seek to directly regenerate, protect, and reinvest in the natural landscape, are perhaps the clearest, most tangible example of a stewardship economy activity. Economic benefits associated with these activities often come in the form of employment opportunities for the people who organize, manage, carry out, and support stewardship work, though in some instances, the byproducts of restoration activities also have economic value. Conservation decisions can also yield economic benefit to landowners, in the form of monetary payments or eligibility for grants, both of which help landowners sustain their livelihood and continue resource stewardship.

Communities have engaged in a wide variety of restoration and conservation projects, including landscape-scale restoration; stream and fisheries restoration; open space and working lands conservation; removal, remediation, and reclamation of mines, dams, and roads; and recreation development. In addition, a number of communities have created and employed stewardship crews for the express purpose of carrying out these activities.

Landscape-scale restoration

A significant number of the communities we studied have engaged in landscape-scale restoration projects. Many of these projects have taken place either on federally-managed land or across landscapes with multiple owners, including federal, state, and tribal governments; industry; and individual or family landowners. Common landscape-scale restoration activities include forest restoration to reduce the risk of catastrophic fire, create more heterogeneity, and increase forest health and resilience; rangeland restoration to mitigate overgrazing and protect habitat for sensitive species; and stream restoration to enhance riparian habitat, conserve water in streams, and restore fish passage.

- **West Central CO:** From 2010 to 2016, a Collaborative Forest Landscape Restoration Program (CFLRP) project in West Central Colorado conducted various treatments—including habitat restoration, mechanical forest thinning and prescribed fire, and noxious weed control—on over 64,000 acres of land. Eighteen miles of stream habitat and 670 miles of trails were also restored or maintained. This work produced over 93 million board-feet of timber and 899 full or part-time jobs, accounting for approximately an annual investment of \$2 million into the local economy.¹⁰¹
- **Lake County, OR:** In Lake and Klamath Counties, the Klamath Lake Forest Health Partnership (KLFHP) has supported restoration across hundreds of thousands of acres across both public and private land. Through four separate projects that cover approximately half a million acres, the KLFHP has reduced fire risk, increased in-stream water flow, removed noxious weeds, and improved wildlife habitat quality and connectivity. In one case, a ranch owner quickly noticed the benefits when the flow of water from a spring increased following the removal of juniper, a water-loving invasive species. At least one organization involved in the partnership—the Lake County Umbrella Watershed Council—has been able to hire more staff as a result of its involvement in the KLFHP.

- **Salmon River region, ID:** A 41,000-acre project on the Upper North Fork, which was funded by \$2.58 million from the Joint Chiefs' Landscape Restoration Project, included commercial and non-commercial timber harvest and thinning; ladder fuel reduction; shaded fuel breaks; prescribed burning; meadow, aspen and white-bark pine enhancement; and culvert replacement and riparian habitat restoration.¹⁰² The impact of a second project in the region, the 13,000-acre Hughes Creek project in the Salmon River region, was demonstrated when fire swept through the area the year after the restoration work concluded. Treated areas experienced much lower-severity fire than contiguous, untreated areas.
- **Malpai Borderlands:** The Malpai Borderlands Group has worked with both private landowners and federal agencies to restore fire to over 300,000 acres of land. Similarly, Wallowa County has seen a forest restoration project spanning 100,000 acres, including fuels reduction, prescribed fire, culvert replacement to improve fish passage, and road removal.¹⁰³

Stream and fisheries restoration

Stewardship activities focused on stream and fisheries restoration have also been common in many communities. Stream restoration has typically focused on both riparian habitat improvement and in-stream water conservation, e.g., through irrigation efficiency improvements and minimum flow agreements. Fisheries restoration activities have focused on fish passage, population recovery, and reintroduction. These activities are carried out as both individual and multi-party efforts. Investments in irrigation efficiency and fish passage infrastructure have yielded direct economic benefits to both individual landowners and communities, and can be valuable for landowners seeking to preserve their livelihoods and generate income. The protection of water, species, and cultural heritage is also an important motivator, especially for indigenous groups.

- **Wallowa County, OR:** One farmer converted about 879 acres of his farmland from flood to pressurized center pivot irrigation, conserving about 6.5 cubic feet per second (cfs) of water in May, June, and July and 2 cfs in August and September. Through grants and in-kind labor, he was able to install sixteen pivots in only fourteen months and execute a \$2.2 million project at no personal expense. This farmer also leases his late-season water rights to The Freshwater Trust for approximately \$135 per acre-foot, which conserves up to seven additional cfs and pays for approximately 65-75% of his annual mortgage. By shifting a single irrigation diversion point in the river, he left water in-stream for approximately four additional miles.
- **Lake County, OR:** In a landscape-scale restoration project, federal and state agencies, non-profits, and private landowners are working together to improve fish passage on the Warner River. Improvements include irrigation structure replacements, rock ramp fishways, widened culverts, and installation of flow monitoring equipment¹⁰⁴ to support the endangered Warner sucker and the Warner Lakes redband trout.

As a key partner in this and other projects, the Lake County Umbrella Watershed Council works closely with private landowners, providing funding and labor to improve their irrigation systems and reduce their land management costs. In 2019, the Watershed Council invested \$1.3 million across its forest health and stream and riparian projects, much of which was used to employ sixteen local contractors.¹⁰⁵ A Watershed Council employee noted that these projects round out work opportunities for contractors: "You get the impression that [contractors] are doing pretty well. They have work lined up for next season. You don't get the impression that they're worried about that...it's a good time to grow or jump into this business." She also noted that some, but not all, of the stream health contractors are local.

- **Mount Adams, WA:** Fisheries restoration carried out by Yakama Nation Fisheries provides jobs for over 200 people in building artificial habitat, managing hatcheries, monitoring and evaluating fisheries, and education and advocacy. Additionally, local representation on the Washington State Salmon Recovery Funding Board helps ensure that local contractors are hired for salmon recovery work carried out by groups including Yakama Nation Fisheries, Mid-Columbia Fishery Enhancement Group, Underwood Conservation District, and Columbia Land Trust.
- **Wallowa County, OR:** Through reintroduction and a captive breeding stock program, Wallowa County has seen the restoration of the Chinook salmon fishery, co-managed by the Nez Perce Tribe and the Oregon Department of Fish and Wildlife, as well as the return of Coho salmon and bull trout.

Open space and working lands conservation

Many communities have pursued land conservation as a stewardship economy activity. In some cases, community-led conservation efforts have protected open spaces and mixed-used landscapes as places for recreation, enjoyment, and community forestry or grazing. In other cases, individual landowners have established conservation easements on their land to liquidate some of their assets without foregoing their livelihood and/or selling to a developer. Landowners have also banded together to implement voluntary conservation agreements over broad swaths of land, motivated by a conservation ethic and an interest in avoiding potential regulatory restrictions, such as those under the Endangered Species Act. Finally, several communities are investing in an agricultural future, despite development pressures or as an alternative to mineral extraction. In these places, agriculture supports rural livelihoods, builds the local economy, and protects working lands from development.

Community-based conservation and forestry

- **Wallowa County, OR:** In early 2020 Wallowa County closed on a deal to protect almost 1,800 acres of formerly private land on the east moraine of Wallowa Lake. Now owned by Wallowa County, the east moraine will be managed as a mixed-use community forest for grazing, sustainable timber harvest, habitat protection, and non-motorized recreation.¹⁰⁶

Other communities have also invested in community-based conservation: the Weaverville Community Forest in Trinity County, Mount Adams Community Forest in Mount Adams, and Blackfoot Community Project in the Blackfoot Watershed serve similar multi-use purposes. In all these places, local workers conduct most of the land management work, either as contractors or direct employees of the managing entity.

Support for private landowners

- **Blackfoot Watershed, MT:** Community-based organizations and other non-profits also work with landowners to help them protect and restore private property. The Blackfoot Challenge works with the Montana Department of Natural Resources and Conservation, the U.S. Forest Service, and others to support fuel reduction projects on small private parcels via a 50% cost-share.

In the Mount Adams region, the Underwood Conservation District helps landowners with Firewise planning, small farm and livestock planning, watershed and habitat improvements, conservation plan development, and permitting, funding and other technical assistance.

Grasslands conservation

- **Malpai Borderlands:** Innovative ranching practices have helped steward grasslands and support ranchers in several communities. A partnership between the Malpai Borderlands Group, The Nature Conservancy (TNC), and the Animas Foundation created a grass-banking program through which ranchers can move their cattle to a TNC-owned ranch if their own land needs time to recover from drought or other stresses. In return for the use of TNC's land, ranchers agree to a conservation easement on an equally-valued portion of their own land. This program allows ranchers to continue their operations while preventing long-term degradation of their land. Additionally, investments in ranching infrastructure, such as wells, fences, and pipelines, have created more opportunities for cattle rotation, which helps ensure healthy vegetation communities and ecological conditions and better supports both wildlife and cattle.
- **Thunder Basin, WY:** Using a somewhat different approach, landowners in the Thunder Basin region have engaged in a voluntary strategy to conserve habitat for eight sensitive species. The 30-year strategy, developed with state and federal agencies, currently covers 13.2 million acres of mostly grassland, protects against habitat degradation or fragmentation, and offers ranchers certainty about their obligations should one of the target species be listed as federally threatened or endangered. Since its inception in 1999, the Thunder Basin Grasslands Prairie Ecosystem Association has put at least \$2.8 million toward improving shortgrass and sagebrush habitats, enabling the treatment of more than 35,000 acres for cheatgrass and enhancing nesting cover in 3,900 acres of core sage grouse areas.¹⁰⁷

Investments in agriculture

- **Ajo, AZ:** In its first six years of existence, the Ajo Regional Food Partnership saw the area under cultivation increase by nearly fourfold, from approximately 10,000 to 40,000 square feet. At the same time, annual food production in Ajo increased by nearly eightfold (from approximately 1,000 to 8,000 pounds per year).¹⁰⁸ These gains were achieved entirely through small, distributed cultivation, with careful attention to growing ecologically-appropriate crops and wisely using scarce resources such as water.¹⁰⁹ The Ajo Center for Sustainable Agriculture has also started the Adopt-A-Sonoran-Desert-Crop seed-saving program, in which it sends seeds of regionally and culturally important crops to willing growers, who cultivate the plant and harvest the seeds, and return some portion to Ajo CSA to maintain a seed stock.¹¹⁰
- **North Fork Valley, CO:** The number of farms in Delta County increased by nearly 30% between 2012 and 2017. Many of those farms produce specialty crops, bolstering the region's focus on boutique and value-added agriculture.¹¹¹ Today, the area is a hub for boutique and niche agriculture, including organic produce, wine, and value-added products. On a smaller scale, the Swift River Farm in the Salmon River region offers a community-supported agriculture program and supplies produce to local bakeries, restaurants, and outdoor recreation guiding companies.

Removal, remediation, and reclamation of mines, dams, and roads

While not the focus of most communities' work, removal, remediation, and reclamation of mines, roads, and dams still constitute an important part of natural resource stewardship. Communities are working to remediate the impacts of energy and transportation infrastructure and restore ecosystem structure and function, which also creates employment and business opportunities for local workers.

- **Thunder Basin, WY:** The Thunder Basin Grasslands Prairie Ecosystem Association works with mines to ensure that reclamation plans include the greatest possible ecological benefits on a

landscape scale. To do so, they have engaged in prescribed grazing and fire, herbicide application and interseeding to prevent invasive plant species such as cheatgrass, solar-powered water pumps, and mapping of 70,000 acres of prairie dog colonies.¹¹² Although data is lacking, it is estimated that for its duration, re-vegetation work alone could create 19 to 28 full-time-equivalent jobs.¹¹³

- **Mount Adams, WA:** Dam and road removal have yielded ecological benefits in the Mount Adams region. In 2011, the Condit Dam was removed from the White Salmon River, which became the first major Columbia River tributary in a century with year-round stream flow and fish passage. After acquiring 475 acres along the Klickitat River, the Columbia Land Trust and Yakama Nation Fisheries removed and restored 12 miles of road from 2004 to 2017, which included recycling over 170,000 tons of road fill, reintroducing native plants and woody log jams, and reconnecting side channels to the main stem of the river. The work is expected to benefit salmon, steelhead, squirrel, woodpecker, and black bear habitats.

Recreation development

While the economic importance of recreation and tourism varies, many communities have intentionally incorporated the development of recreation infrastructure into natural resource stewardship. Ensuring access to public lands and favorite places has helped motivate land protection and stewardship planning. As noted above, community-owned land projects frequently include development and maintenance of trails networks, which provide employment for local high school and college students. In some places, the importance of water-based recreation and cultural activities, such as fishing and rafting, also create incentives for ecological stewardship.

- **Mount Adams, WA:** On the Gifford Pinchot National Forest, the South Gifford Pinchot Collaborative directs some portion of retained receipts toward recreation improvements, in accordance with the Collaborative's Sustainable Recreation Strategy. Also in that region, Yakama Nation Fisheries and a local nonprofit called Share The White Salmon River are currently assessing conflicts between rafting and fish habitat along the White Salmon River, with the aim of keeping the river open for rafters while ensuring enough woody debris in the river for fish habitat. Yakama Nation Fisheries also works closely with the Columbia River Gorge National Scenic Area to avoid violations of its treaty rights, particularly related to fishing. Additionally, the Columbia Land Trust is actively engaged in providing hunting access on many of its conservation easements.
- **Salmon River region, ID:** The Lemhi Regional Land Trust has strategically purchased easements near recreation spots, such as the Dry Gulch trailhead, to ensure continued local access to public lands. In recognition of the important role that recreation plays in the region, the Central Idaho Public Lands Collaborative hosted a two-day workshop and field tour centered on regional recreational issues.
- **Lake County, OR:** The Lakeview Stewardship Group (LSG), a collaborative in Lake County, Oregon, has also incorporated recreation into its forest management plans. When renewing the Sustained Yield Unit in the late 1990s, the LSG developed a new, restoration-focused reauthorization proposal, which prioritized the development of recreation opportunities alongside fire protection projects, water quality improvements, and invasive species control.

Strategy 2: Job, Skill, and Workforce Development

Many communities we studied have built local capacity to perform stewardship economy activities by employing local workers and offering skills training opportunities. These opportunities include stewardship crews, job training, skill-specific workshops, and youth program. Notably, more communities have developed youth skill development and employment programs than any other type of training opportunity—perhaps recognizing that supporting local youth and developing important stewardship skills is a two-for-one investment.

Stewardship contractors and crews

Under ideal circumstances, all stewardship activities would be performed by local residents in order to provide jobs, keep wages local, and preserve a rural tradition of working on the land. While this is not always possible, several of the communities we studied have pioneered methods to employ local workers to conduct stewardship, especially on federal lands. In Wallowa and Trinity Counties, Wallowa Resources and the Watershed Research and Training Center were instrumental in developing stewardship contracting, which enables the Forest Service to work with communities and more readily reflect their values in its land management decisions. Stewardship contracting helps support and ensure work for private contractors, while also furthering stewardship goals. Another way of employing local workers is through the development of stewardship crews, which are typically hired by CBOs to work on federal lands. In either model, contractors and crews perform a wide variety of activities, including preparing and implementing forestry treatments; performing forest, watershed, fisheries, and wildlife monitoring; and carrying out treatments to reduce fire risk.

- **Trinity County, CA:** The Watershed Research and Training Center (WRTC) and the Trinity County Resource Conservation District employ stewardship crews to perform activities such as understory, plantation, and roadside thinning; preparing timber and silviculture contracts; creating shaded fuel breaks; restoring and monitoring watersheds and fisheries; and monitoring wildlife populations. Crews are often contracted by the local U.S. Forest Service offices, which supplements the agency’s limited capacity to manage its land. In the summer of 2019, WRTC crews provided jobs to over 20 individuals; the Resource Conservation District typically tries to maintain 10 to 15 crew employees. For WRTC, offering stewardship-based employment is the group’s *raison d’être*; one interviewee described payday as “the manifestation of our original intent.”
- **Mount Adams, WA:** Mount Adams Resource Stewards employs seasonal crews of three to five people to conduct entry-level stewardship work on the Mount Adams Community Forest, private land, and national forest land. From 2014 to 2017, restoration on the Mount Adams Community Forest supported 59 full-time-equivalent months of work. During the same time period, restoration on the nearby Conboy Lake National Wildlife Refuge supported 18 full-time-equivalent months of work. The restoration carried out by these crews have reduced fire risk on nearby properties by as much as 30%.
- **Wallowa County, OR:** Wallowa County was one of the early innovators in using stewardship contracting. Wallowa Resources was able to build relationships with local Forest Service leaders and convince them to use stewardship contracting, which helped protect the livelihoods of forestry contractors, who were hard-hit by the dramatic decline in commercial logging on federal land.

- **Salmon River region, ID:** Salmon Valley Stewardship employs summer field crews — targeted toward high school or college-age students — to monitor sage grouse and aspen populations. These summer jobs provide paid work, the opportunity for local youth to return home for the summer, and experience in restoration.
- **Blackfoot watershed, MT:** The region’s community forest, the Blackfoot Community Project, is managed by a panel of landowners, agency representatives and sportspeople as a multi-jurisdictional working landscape. 70 percent of the forest is in public ownership and 30 percent stayed in private ownership to be used for agriculture, timber and cattle ranching. In awarding contracts for restoration work, Blackfoot Challenge prioritizes local contractors.

Jobs with community-based organizations

The community-based organizations (CBOs) that lead and promote stewardship economy activities provide important employment opportunities to the communities in which they operate. These organizations coordinate projects that create work opportunities for contractors or revenue opportunities for landowners. At the same time, a number of CBOs directly employ stewardship crews. Finally, the project management, leadership, and administration of these organizations offer further employment opportunities in small communities where every job counts.

- **Trinity County, CA:** In 2018, the Watershed Center injected \$1.7 million into the community through its payroll. In the summer of 2019, it provided seasonal stewardship jobs to over 20 individuals. Additionally, most of the Watershed Center and Trinity County Resource Conservation District’s field technicians and administrators are locals who have returned home following their education, thanks to the existence of professional opportunities such as those offered by the two organizations.
- **Wallowa County, OR:** Wallowa Resources’s programs also generate numerous jobs within the community. In 2019, the organization supported 65 jobs through direct employment and contracting, accounting for over two percent of non-farm jobs in Wallowa County. These 65 jobs also support an additional 109 local jobs, or 4.1% of local non-farm employment. On a per capita basis, these jobs would equate to over 30,000 jobs in the Portland metro area.
- **Lake County, OR:** Support for the Klamath Lake Forest Health Partnership’s work has helped the Umbrella Watershed Council employ more people. The organization previously had one part-time employee coordinating all the work, but they now have two to three full-time employees.

Job training and capacity-building

In several communities, organizations have developed job-training programs with the intention of building a local cadre able to perform stewardship economy activities, preparing local workers for employment, and support the local development of certain industries. Communities’ job-training programs have included skills such as writing stewardship plans, farming, forest thinning, invasive spraying, or installing infrastructure.

Communities have also have offered community-oriented skill-development workshops to help expand local capacity, reduce the need for external expertise, and ensure that valuable skills are passed on in the community. Community-based workshops have focused on teaching community members skills such as prescribed burning, traditional agriculture, noxious weed identification and removal, and skills valuable for traditional rural living.

Job training

- **Wallowa County, OR:** Wallowa Resources trains people to write stewardship plans for private landowners; these plans are required for landowners to receive NRCS EQIP funds. Through this training program, Wallowa Resources hopes to create employment opportunities for the plan developers and the local contractors who implement the plans.
- **Ajo, AZ:** The Ajo Center for Sustainable Agriculture offers a paid apprenticeship program to train new farmers and provide financial support while they learn new skills. Cohorts of three to five people go through the apprenticeship training together so that they have a network of support as they learn and transition into business.
- **Salmon River region, ID:** Several recreation businesses have trained employees in restoration services such as tree thinning and invasive plant spraying. In addition to increasing local capacity to perform stewardship activities, this practice helps guiding and outfitting companies keep trained employees in the area during the off-season and helps workers plug the gaps in seasonal employment.
- **North Fork Valley, CO:** Delta-Montrose Electric Association (DMEA), the member-owned rural electricity cooperative, has prioritized hiring laid-off coal miners and employing them to support rural broadband delivery. To support this re-employment, DMEA partnered with a company that specializes in retraining coal miners in fiber-optic installation. Over 60 laid-off coal miners have been hired as part of this initiative.

Community skill-development

- **Chama Peak, CO/AZ:** The Chama Peak Land Alliance has periodically hosted prescribed Fire Training Exchanges, which bring together forestry professionals, landowners, and students interested in conducting prescribed burns. Each training focuses on an area already slated for prescribed burning to bring more capacity to specific burning projects, while also generally increasing local capacity to do burns. In the same vein, the Mount Adams region has hosted workshops on noxious weed identification and removal to expand local awareness and action.¹¹⁴
- **Ajo, AZ:** The Ajo Center for Sustainable Agriculture offers public workshops on traditional Sonoran Desert farming practices, with partners such as Tohono O’odham Community Action, Ramona Farms American Indian Foods, Arizona Department of Agriculture, and Pivot Produce. These workshops help ensure that important cultural practices are not lost and also increase residents’ ability to ensure their own food security.
- **North Fork Valley, CO:** The Valley Organic Growers Association is working to develop food and nutrition classes for English-language-learning families to help them produce food grown in their home countries and integrate these foods back into their diet.

Youth skill development programs

Youth programs constitute an important part of the skill development and workforce capacity-building programs in many of the communities studied. Through these programs, communities have aimed to ensure a future workforce and pass stewardship skills from one generation to the next. In some instances, youth programs have also been directly involved in on-the-ground stewardship.

- **Salmon River region, ID:** The Youth Employment Program, a nonprofit corporation, has helped local high school students gain experience in conservation and restoration. The program has employed local high schoolers to do range improvement and weed management projects for public land agencies, other local NGOs, and private landowners. Similarly, the Lemhi Regional Land Trust and Salmon Valley Stewardship have brought on interns and summer field crews to offer employment for college students and enable students and young professionals from the area to find work opportunities in their hometown.
- **Mount Adams, WA:** Skamania County, local school districts and the Gifford Pinchot National Forest have built a program called Forest Youth Success, which offers summer natural-resource based employment opportunities for local young people. Started in 2002 and paid for through Secure Rural Schools funding and stewardship contracting, Forest Youth Success is now the largest youth employer in the county. Participants, 40 to 60% of whom qualify as at-risk, perform work such as noxious weed removal, vegetation management, and trail maintenance. They also receive professional development and learning opportunities.
- **North Fork Valley, CO:** Non-profit organization Solar Energy International partnered with the Delta-Montrose Electric Association to develop a Solar in the Schools program, which trains students from second grade through high school in solar technology and installation. The program aims to give students hands-on solar installation technical skills and knowledge to prepare them for careers.
- **Wallowa County, OR and Trinity County, CA:** Community-based organizations in both places support a variety of youth programs. They offer summer camps, career education opportunities, and scholarships for local students pursuing higher degrees in natural resources or conservation. In addition, Wallowa County has a natural resource-oriented summer internship program, and Trinity County has youth stewardship and trails crews.

Strategy 3: Investments in Businesses, Markets, and Infrastructure

Even though market-based stewardship activities are less developed in the communities studied here, investments in businesses, markets, and infrastructure have either directly or indirectly helped many communities develop and continue stewardship economy activities. In some places, investments have focused on transforming legacy businesses like sawmills to a new purpose, such as small-diameter timber processing. In others, investments have intentionally supported a transition into new activities, such as local agriculture and renewable energy generation. Forward-thinking business incubation, entrepreneurship have also supported stewardship economy activities and created value for local investors and owners.

Business incubation and market development

Many communities studied have long histories as timber-producing regions. When the timber industry restructured at the end of the 20th century, many lost the logging jobs and sawmills that had formed the backbone of the local economy. Figuring out how to continue to derive value from many communities' single-biggest asset—the woods—while responding to forest degradation caused by decades of intensive logging and fire suppression has been a central focus in many of these places. As a

number of communities have shifted toward restoration forestry, they have also attempted to incubate forest product businesses that create value from the byproducts of restoration activities. These businesses have produced posts and poles, firewood, and heating fuels, among other products. Outside the forestry sector, a number of communities have also developed businesses and marketplaces devoted to agriculture, including farmers' markets, commercial farming, and value-added food products businesses. Some of these businesses provide ancillary services for SE activities, such as restoration service directories and fabricated fish passage structures.

Forest products businesses

- **Wallowa County, OR:** Through its for-profit subsidiary WR Community Solutions, Inc., Wallowa Resources supported a succession of local small-diameter timber businesses, the latest of which is Integrated Biomass Resources. IBR is located on the organization's Integrated Biomass Energy Campus, which was established with the intent of co-locating a small-diameter wood processing facility with biomass heat generation: co-location cuts real estate and management costs, and facilitates multiple processing activities in one location.
- **Trinity County, CA and Mount Adams, WA:** Other communities have also attempted to incubate small-diameter forest products businesses, but with more limited success. Mount Adams Resource Stewards started a business incubator log yard in 2008 to host companies interested in developing businesses that utilize small-diameter timber. The campus has hosted firewood and post and pole manufacturers, though none are presently active. In Trinity County, the Watershed Center has also attempted to incubate a number of forest products companies. Unfortunately, the one business that did take off—Jefferson State Forest Products, which produced wooden food display crates and at its peak employed 50 people locally—was purchased and relocated by an out-of-state buyer.

Agricultural businesses

- **Ajo, AZ:** One of the Ajo Regional Food Partnership's flagship initiatives is the Authentically Ajo Farmers Market, which is managed by Ajo Center for Sustainable Agriculture. In 2015, 39 growers, 70 vendors, and over 5,000 customers participated in the market.^{115,116} Ajo CSA also provides mini-grants to farmers to enable them to participate in the farmers' market. In 2019, the organization opened the Ajo Farmer's Market and Cafe, a café space that aims to be another market in which local growers and makers of value-added products can sell their wares.
- **Salmon River region, ID:** The Lemhi County farmer's market was supported in its early years by Salmon Valley Stewardship. It has since achieved financial independence, which is a point of pride for both the organization and community members.
- **North Fork Valley, CO:** Value-added food products businesses have been a key component of the North Fork Valley's economic transition. The community now hosts numerous agricultural festivals, agri-tourism such as for-profit farm tour businesses, and a variety of value-added food products businesses.

Ancillary services

- **Salmon River region, ID:** In 2015, Salmon Valley Stewardship, Lemhi County Economic Development Association, and Custer Economic Development Association put together a directory that lists local restoration services providers. These individuals and businesses perform work such as culvert installation, ecological monitoring, and hazardous fuel removal.

One local business, Peterson Metal, fabricates fish passage structures. The business got its start when the traditional supplier of fish screens to U.S. Fish and Wildlife Service lacked the capacity to produce enough. Today, Peterson Metal ships some of its products out-of-state, while also producing cattle guards, picnic tables, and campground rings for federal agencies.

Another business in the Salmon River region has run a native plant nursery. The Bureau of Land Management, in particular, has purchased native trees for riparian plantings from the nursery. With lower shipping costs, the local business has helped decrease the agency's planting costs, allowing for greater efficiency and better return on grant funding. For similar reasons, the Trinity County Resource Conservation District in California also runs a native plant nursery.

Infrastructure

Stewardship economy businesses cannot succeed without the necessary infrastructure. In communities with a history of logging, retaining and/or building sawmills and other infrastructure to process small-diameter timber has been at the heart of efforts to realize value from restoration forestry. Places that have sought to build agricultural economies have likewise invested to improve growing practices and create food processing facilities.

Forest products infrastructure

- **Northeast Washington:** Northeast Washington has been fortunate to retain a relatively robust milling infrastructure, including cedar mills, small-diameter mills, large-diameter mills, and a biomass cogeneration facility. This is attributable to a variety of factors, including less dependence on federal land for timber supply, given the presence of other major landowners such as industrial forest landowners. Individuals have also played key roles: as one interviewee commented, "visionary mill owners [invested] in their technology and updated their mills to be able to use smaller diameter timber. They looked out at the forest and knew that's what they needed to be able to do." Vaagen Brothers Lumbers, Inc. is chief among them; the company owns and operates a small-diameter mill in Colville, producing cross-laminated timber.¹¹⁷
- **Wallowa County, OR:** Integrated Biomass Resources (IBR) has produced a variety of products from the byproducts of forest restoration, including firewood, densified heating fuel, posts and poles, and landscaping timber. As of 2019, it was the third-largest producer of bundled firewood in the Western U.S. and the first to offer certified pest-free firewood. IBR is currently developing a new specialty firewood product and has received two \$250,000 woody biomass grants from USDA for research and development. One grant will fund the development of a biochar pyrolysis process, while the other will support experimentation with a rot-prevention barrier that would allow IBR to sell a wider range of tree species into the post market. (Currently, larch and Douglas fir are difficult to treat.) By participating in a market for the byproducts of forest restoration, IBR facilitates restoration treatments, forestry contracting jobs, and wood processing jobs.

Agricultural infrastructure

- **North Fork Valley, CO:** Several funding sources and state programs have helped the Valley construct the infrastructure needed to support its growing agricultural economy. Some producers have received federal grants to construct raised irrigation tunnels and more efficient irrigation delivery systems in order to decrease water salinity; this promotes both crop production and provides benefits for downstream water users in Arizona. Additionally, the investment non-profit Slow Money has pooled low-interest loans for agriculture producers to support capital improvements on farms.

- **Ajo, AZ:** A number of Ajo organizations have made key investments in infrastructure to support the community's local food movement and the development of food businesses. For example, when opening the Ajo Farmer's Market and Cafe, Ajo CSA also included a commercial kitchen and space to support entrepreneurs in developing food products businesses and preparing commercial goods. Other Ajo organizations have also provided crucial infrastructure for agricultural activities, such as space for gardens and chicken coops.

Highlight: How business owners, government, and agencies in two communities have partnered to construct and retrofit small-diameter wood processing facilities

Lake County, OR has been successful in attracting and maintaining a number of wood processing facilities. In 2007, with the support of a 35% tax credit from the county, Collins Company invested over \$6 million to open the Fremont Sawmill, which processes logs less than ten inches in diameter. This facility helped sustain over 100 local logging jobs while supporting restoration on surrounding BLM and U.S. Forest Service lands.¹¹⁸ The Stewardship Unit on the Fremont-Winema National Forest provided 25 to 30 percent of Collins's log input requirements over the 2000 to 2009 period.

As one community member put it, "Economically, the survival of the Lakeview Collins Pine sawmill is a pretty considerable achievement, considering that most other sawmills in Eastern Oregon and the interior West have had to close in the past 20 years...Lakeview was able to survive in part because they had made the transition to the small log mill and were able to operate that efficiently through the recession." Despite this success, the future of the mills is currently uncertain following the decision in early 2020 to not reauthorize the Stewardship Unit.

More recently, the County has supported the construction of a Red Rock Biofuels biomass facility, which will process woody debris into diesel and jet fuel. The new facility is expected to create 120 permanent jobs (42 at plant and at least 70 in the woods). Another facility in the area, Biomass One, produces biomass energy and biochar from restoration byproducts.

In West Central Colorado, with the support of the Montrose Economic Development Corporation, Montrose County, and the City of Montrose, Neiman Enterprises purchased a mill in Montrose in 2012 and invested \$10 million to refurbish it. The head of the Montrose Economic Development Corporation estimated that economic benefits to the county from the mill improvements topped \$36 million. Additionally, the purchase and retrofit saved 150 jobs and helped retain one of the few facilities in Colorado that can utilize wood that has been affected by pine beetles.¹¹⁹

Recently, Montrose Forest Products announced it would invest more than \$18 million to purchase a planer mill, a new gang saw, and a 60,000 square-foot building for the new planer mill. The company has been working to secure ponderosa pine commitments from the San Juan National Forest, as well as Dolores, Montezuma, and Archuleta Counties (which need to approve road access). The Grand Mesa, Uncompahgre, and Gunnison National Forests are also expected to supply some ponderosa pine to the mill. Montrose Forest Products would turn this ponderosa pine into flooring, beaded ceiling, paneling, moulding, and wainscoting. In addition to maintaining family-wage, year-round jobs in the area, these forest product processing infrastructure improvements would allow the San Juan National Forest and local counties to tackle growing fire risk through hazardous fuel thinning. These improvements anticipate declining supply of beetle-kill timber; as the sawmill's general manager said, these improvements will provide "longevity with the new species, once all this beetle-kill (timber) has run its course and is no longer available to us."¹²⁰

Renewable energy opportunities

Investing in renewable energy development has been an important stewardship economy activity in many places. Renewable energy takes advantage of resources readily available to many of the communities studied (high solar irradiance, sufficient land and water for small-scale solar and hydro, and ample biomass), while also helping communities build resiliency by lessening their dependence on non-local power sources. For many landowners, renewable energy generation can offset costs or even create a new source of revenue.

- **Lake County, OR:** Lake County Restoration Initiative (LCRI) has led the development of a variety of solar projects in the region, including at least five separate solar arrays with over 8.5 megawatts of capacity, a closed-loop geothermal system that heats the four-school district and local hospital, and a separate geothermal system for the state-run prison. LCRI estimates that since the geothermal system for the school district and hospital went online in 2013, they have achieved an annual carbon reduction of approximately 800 tons per year and savings in heating costs of up to \$100,000 per year. The district has not burned “a single drop of diesel to heat all of the in-town school facilities since December 17, 2013.”¹²¹
- **Mount Adams, WA:** Klickitat County is currently working to develop a \$7 billion solar pump storage project, which has received funding from the Bonneville Power Administration, as BPA is required to compensate for losses in renewable energy as it decommissions dams.
- **Wallowa County, OR:** Communities have also explored micro-hydro projects to take advantage of water resources. A micro-hydro project along the municipal water supply line at Wallowa Lake will generate from 130 to 150 megawatt hours of clean energy per year, supplying 85% of the electricity needed to pump drinking water to homes and businesses by the lake.^{122,123} Additionally, Wallowa Resources is spearheading a 40-kilowatt project on the upper Lostine River with ten more locations being assessed as future sites. The Wallowa Resources’s micro-hydro initiative has so far created one full-time position within the organization.

Private landowners are also realizing value from renewables. One Wallowa County farmer produces 50 megawatts of solar energy on his farm, which covers up to 90% of his electricity bill.

Strategy 4: Collaboration, Partnerships, and Networks

Engaging in landscape-scale stewardship to secure ecological, economic, and community benefits often requires working across ownership boundaries, engaging multiple jurisdictions, pooling limited resources, and balancing diverse interests. Cooperation and collaboration are necessary. In light of these realities, every community we studied has built and utilized institutions, relationships, partnerships, and networks as a way to lead, facilitate, fund, and champion stewardship activities.

While many of the relationships, partnerships, and networks that we observed are local or regional in scale, communities have also engaged with a wider array of organizations, supporting networks, and experts. Interacting beyond the local region has been an important strategy for communities seeking to increase their know-how, expand capacity, obtain technical assistance, and benefit from emotional support. The communities studied here are small, rural, and often isolated from peer communities and major centers of financial and intellectual capital. Accordingly, they needed to look beyond the local area or region to find crucial forms of support. Several communities have also flipped this model on its

head, sharing their own experiences in advancing stewardship economy activities to help communities less far along make progress of their own.

To do so, organizations and entities engaged in stewardship economy activities have: built effective working relationships with one another; participated in collaborative processes; undertaken voluntary action and engaged volunteer groups; coordinated grassroots action; engaged in regional coalitions, networks, and organizations; and partnered with universities and researchers.

Local partnerships, relationships, and networks

The work of each of the communities we studied is grounded in relationships and partnerships among individuals, non-profit organizations, local governments, land management agencies, workers, and businesses. Because stewardship economy activities often aim for landscape-scale or community-wide impacts, partnerships are critical to achieving outcomes at scale. Individuals and organizations in communities frequently formalize relationships and partnerships in order to improve coordination, increase capacity, expand scope, and bring in external resources.

- **Lake County, OR:** The members of the Klamath Lake Forest Health Partnership (KLFHP) initially established their partnership when they realized they were working separately on related regional issues. Creating a formal partnership helped them pool resources, coordinate efforts, and significantly expand the scope and scale of restoration by incorporating and reaching out to a large number of public and private landowners. Today, members of KLFHP include the U.S. Natural Resource Conservation Service, the U.S. Forest Service, the Bureau of Land Management, Oregon State University, the Oregon Department of Forestry, private forestry groups, watershed councils, conservation groups, and private landowners. One member, the Lake County Umbrella Watershed Council, has gone through its own process of formalizing partnerships: it formed in 2007, when the five independent watershed councils working in Lake County merged to coordinate their efforts and make better use of resources.
- **Trinity County, CA:** The Watershed Research and Training Center (WRTC) and the Trinity County Resource Conservation District (TCRCD) have entered into multi-party stewardship agreements with the Six Rivers National Forest and the Shasta-Trinity National Forest. Under these agreements, workers employed by the two non-profits undertake on-the-ground land management on behalf of the agency, which lacks the staff and funding to perform the work. WRTC and TCRCD face fewer hurdles in hiring, so they can more readily employ people with the specialized skill sets that are required for land management.
- **Blackfoot watershed, MT:** A partnership between twelve vegetation management areas, three county weed districts, and state and federal agencies has overseen integrated weed management since the 1980s. This partnership, which involves nearly 400 private landowners, is overseen by Blackfoot Challenge. Blackfoot Challenge also has a water committee, which coordinates water sharing in times of low flow, to reduce impacts of irrigators and anglers. This committee, which oversees over 100 irrigators, consists of state and federal agency reps, local conservation districts, conservation organizations, recreationists, landowners, and irrigators.
- **Chama Peak, CO/AZ:** Much of the vegetation management that occurs on public land in the Chama Peak region is made possible by the 2-3-2 Coalition, a partnership of organizations and agencies that focus on two watersheds (Chama and Rio Grande), three rivers (San Juan, Rio Grande and Rio Chama) and two states (New Mexico and Colorado). The group serves as a learning network, hosting frequent meetings and inter-agency projects. It has also helped raise

over \$1.5 million for improving forest and watershed health through restoration, training and outreach and education.¹²⁴

- **Ajo, AZ:** Grassroots agriculture, food justice, and community and economic development are supported by a significant number of community partners, many of which participate in the Ajo Regional Food Partnership. These organizations include the Ajo Center for Sustainable Agriculture, the International Sonoran Desert Alliance, the Ajo Community Garden Consortium, the Desert Senita Community Health Center, the Pima County Parks and Recreation Department, and the local school district. The network of growers includes many local residents, numerous NGOs, and many of the same organizations mentioned above. Many of these growing activities are coordinated and supported by the Ajo Center for Sustainable Agriculture.

Collaboration

Six of the communities we studied are home to formal collaborative groups. These groups bring together community members, local government, conservation groups, timber industry representatives, forestry contractors, agency staff and others to discuss issues of shared concern and identify mutually beneficial paths forward. Many of these groups were established at a time of intense conflict between the community and federal land management agencies that was undermining trust and impeding land management actions due to frequent lawsuits. Hence, part of the mission of these groups is to try to help those involved to find common ground and advance land management recommendations that are widely-supported.

Abating conflict

- **Salmon River, ID:** During a 2008 to 2009 BLM plan revision process, diverse stakeholders—including ranchers, motorized recreationists, mountain bikers, environmentalists, landowners, and other interested citizens—came together to develop a travel plan that ultimately went unchallenged. At the outset of the planning process, no one had thought that outcome was possible.
- **Mount Adams, WA:** The Southern Gifford Pinchot Collaborative group has developed NEPA-ready plantation thinning projects in many of its eight planning areas. During the past seven to eight years, the group has coordinated thinning in most of those areas, and no one has filed formal objections to the collaborative's projects since 2011.
- **Trinity County, CA:** Members of the Trinity County Collaborative Group (TCCG) have developed specific prescriptions for shaded fuel breaks to offer the Forest Service guidance on where and how to implement fuels treatments. When TCCG first developed these prescriptions, seeing eye to eye on anything was an accomplishment in and of itself; the group had spent its first few years learning how to painstakingly move past ideological disagreement. In the words of a collaborative member, "Nobody's getting 100% of what they want but we're moving forward, for crying out loud."
- **Northeast Washington:** Over nearly two decades, diverse interests collaborated to resolve issues related to logging, endangered species conservation, and other forest management decisions. The Northeast Washington Forest Coalition (NWFC) has achieved agreement in three main areas: frontcountry management (focused on sustainable timber production and wildfire risk reduction); backcountry management (more remote, less-roaded areas managed for ecological restoration and habitat); and the creation of congressionally designated wilderness

on the Colville National Forest. As reported by an interviewee, NWFC has successfully worked with the Forest to implement projects on two of these three issues, which has resulted in nearly 40 different vegetation management projects that have covered over 200,000 acres and produced over 400 million board-feet of timber.

- **West Central Colorado:** When the Grand Mesa Uncompahgre and Gunnison National Forests began planning a controversial salvage logging sale, the Public Lands Partnership (PLP) and a San Miguel County Commissioner developed a plan for a multi-party monitoring partnership involving environmental groups, agency employees, PLP members, and local residents. Informed by data gathered through monitoring, a sale in one location was ultimately avoided, while sales in another helped local timber companies stay in business and generated approximately \$1.4 in economic benefits for the nearby counties. Overall, the monitoring partnerships helped prevent objections and appeals while also generating information about the ecological, social, and economic impacts of potential sales.
- **Malpai Borderlands, AZ/NM:** Nearly thirty years ago, the Malpai Borderlands Group formed to respond to conflict between ranchers, federal agencies, and conservationists over grazing and fire management. Fast forward nearly to present day, and the group is recognized as a pioneer in bridging the gap between these parties. Working with the U.S. Forest Service, they developed the agency's first large-landscape programmatic fire plan, and returned fire to over 300,000 acres.¹²⁵

Issue-specific collaboration

- **Salmon River, ID:** The Central Idaho Aspen Working Group supports aspen communities through landscape-scale monitoring, adaptive restoration, community education, and an "Adopt an Aspen" program.¹²⁶ Its members include community members, state and federal agency representatives, and staff from environmental groups.

Similarly, the Central Idaho Rangelands Network (CIRN) is a network of ranchers and conservationists, all of whom seek to develop "innovative approaches to grazing, land and water management that sustain and enhance the natural and community values" in the region.¹²⁷ The group has collaborated with state and federal agencies, local soil and water conservation districts, and NGOs to host meetings, field trips, and workshops, as well as hire a rangeland specialist to conduct monitoring on CIRN member allotments.¹²⁸

Voluntary cooperative conservation and land management

In a number of communities with significant private land, landowners have voluntarily developed cooperative conservation and management strategies to improve environmental outcomes and ensure continuity for their livelihoods. These voluntary measures include efforts by ranchers to protect habitat for sensitive species, minimum flow agreements among irrigators along the same reach of a river, and water conservation plans to be implemented in times of drought.

- **Thunder Basin, WY:** In 1999, ranchers joined together to form the Thunder Basin Grasslands Prairie Ecosystem Association (TBGPEA). Over its 20-year history, the nineteen livestock/agricultural producers involved in TBGPEA have partnered with state and federal agencies to develop a 30-year, 13.2 million-acre strategy for public and privately-owned lands to encourage habitat conservation for species of concern. By voluntarily undertaking habitat conservation, ranchers and private landowners have received assurances about their obligations

should species be listed under the Endangered Species Act. This certainty makes it easier for them to sustain their traditional livelihoods.

- **Wallowa County, OR:** In partnership with The Freshwater Trust, irrigators along the Lostine River have entered a voluntary agreement to maintain a certain volume of in-stream flow. Under this agreement, irrigators will collectively manage their water usage to maintain the minimum flow. If, as a group, irrigators comply with the agreement, then funds available through the Columbia Basin Water Transfer Program enter a shared account and become available to use for efficiency projects. After four years, the fund has a balance of \$126,000.
- **Blackfoot Watershed, MT:** Responding to a stick rather than a carrot, over 100 irrigators in the Blackfoot Watershed have established drought conservation plans for their land, created with the help of Blackfoot Challenge and other experts on its water committee. These measures help ensure that minimum-required flows on the Blackfoot River avoid triggering state laws that require more in-stream water.

Volunteer organizations and interest groups

In many communities, volunteers and interest groups have stepped up to the plate to steward resources and provide crucial support. In some instances, groups have responded to declines in the capacity of federal agencies to manage their resources. In others, volunteers have acted to steward resources of particular interest to them after seeing a need in their community. Volunteerism provides ancillary support for SE activities by building capacity and getting the ball rolling. As an interviewee in Wallowa County noted: “Most things [here] are done through volunteers. People who live there really care about the environment, and many are in a situation where they can give back. It gives people something to be proud of.”

- **Wallowa County, OR:** The Wallowa Mountains Hells Canyon Trails Association (WMHCTA) performs volunteer trail work on U.S. Forest Service land because the agency does not have adequate staff to perform the work itself. In its first year of existence, WMHCTA maintained over 26 miles of trail through over 1,000 volunteer work hours.¹²⁹
- **Salmon River, ID:** The multi-party Salmon Challis Trails Group has partnered with the Salmon-Challis National Forest to implement an “Adopt-a-Trail” program, which promotes and supports trail maintenance. Comprised of nonprofits, county and city representatives, federal agency employees, community members, and other trails advocates, the trails group has worked to designate Lemhi County as a Continental Divide Gateway Community, develop trails action plans for Salmon Valley and the Challis community, and organize trail work events.¹³⁰
- **Mount Adams, WA:** Yakama Nation Fisheries and the local Cabin Owners Association partnered with VetsWork and the Cascade Mountain School to engage over 500 volunteers in planting native species and building a trail at the site of the Condit Dam removal. Additionally, Mount Adams Resource Stewards brings in community volunteers for projects in their community forest.

Overlapping grassroots action

In communities without a community-based organization acting as a coordinating and convening body, stewardship economy activities have been propelled by multiple organizations working simultaneously. In these places, independent organizations with varied missions and foci have individually undertaken

related action: for example, on small-scale agricultural production, which does not require landscape-scale coordination. Others may decide to get involved after seeing pilot efforts, which eventually results in a critical mass of people and organizations working on similar activities and promoting a coordinated “stewardship economy identity.”

- **North Fork Valley, CO:** Activities promoting the energy transition and development of an agricultural economy have been carried out by a diverse array of organizations, including the county governments, Delta County Economic Development, a citizen-led initiative called Vision 2020, North Fork Valley Creative Coalition, the Delta-Montrose Electric Association, Solar Energy International, the Valley Organic Growers Association, and the Colorado Farm and Food Alliance. These entities are much less tightly networked than the organizations in other communities we studied, and no single organization coordinates or leads stewardship economy activities. Rather, their common understanding of the community’s needs advances a coordinated agenda.
- **Ajo, AZ:** Ajo’s local foods movement has been developed by participation of a broad set of community-oriented groups. The International Sonoran Desert Alliance and the Ajo Center for Sustainable Agriculture help to lead the Ajo Regional Food Partnership (ARFP), which itself is a network of nonprofits, school districts, businesses, and health care organizations all working to develop a sustainable and just local food system. Many of these organizations serve independent missions and purposes beyond the local food movement, yet they work collectively to promote food and agriculture-based economic and community development.

Regional coalitions, networks, and organizations

Regional coalitions, networks, and organizations have been critical to the success of many of the small, community-based organizations that have championed stewardship economy activities (see Table 4) for a summary of some of the more prominent network organizations). These organizations have created forums for communities to learn from one another, participate in trainings and workshops, and advocate for policies that support stewardship economy activities. See the highlight box below for a description of Wallowa County and Trinity County’s decades-long partnership, enabled by coalitions, networks, and joint projects.

Highlight: On-going partnership between Trinity County and Wallowa County through coalitions, networks, and joint projects

In the 1990s, both the Watershed Research and Training Center and Wallowa Resources participated in the Collaborative Learning Circle, a forum that brought together communities and organizations in Oregon and Northern California. For several years, the Circle met two or three times a year. For the Watershed Center, these meetings were an opportunity to learn from others and gather ideas about measures it could try locally. On top of capacity-building and transferable lessons, the Circle also offered peers, cheerleaders, and camaraderie in the arduous work of developing stewardship economy activities. This support network was not always immediately available at home; as one Watershed Center interviewee noted, when things do not work out, “you can’t go cry at the bar with the guy you just laid off.” Today, the Rural Voices for Conservation Coalition serves a similar purpose through its annual meeting, peer learning workshops, and dissemination of tools and information.¹³¹

Engaging in regional organizations has also supported the development of ambitious, regional-scale projects. From 2009 to 2014, Sustainable Northwest led the Dry Forest Investment Zone (DFZ), an initiative to support forest-based stewardship economy activities across northern California and central and eastern Oregon. Wallowa Resources and the Watershed Center were primary partners in the project, which aimed to generate

economic value from forest stewardship and restoration, develop biomass utilization and renewable energy projects, build CBOs and collaborative processes, advance supportive policy, and measure and communicate the outcomes of the process. Networks and organizations were central to the project’s theory of change: “The DFZ project sought to improve forest stewardship and community wellbeing by using networks and diffusing innovations across a defined region with shared socioeconomic and ecological challenges.”¹³²

Direct outcomes of the DFZ project include creation of over 72 full-time-equivalent jobs, the treatment of nearly 9,000 acres of public and private land for forest restoration and reduced fire hazard, and significant engagement from forest collaboratives and the Forest Service Region 6. The Dry Forest Zone project also advocated for federal policy programs to support sustainable forest stewardship—including the Collaborative Forest Landscape Restoration Program, stewardship contracting, and the National Cohesive Wildland Fire Strategy—which were adopted during this time.¹³³

As community-based organizations advancing stewardship economy activities have matured, they have sought to “pay it forward” to other communities. Today, Wallowa Resources has advanced SE activities throughout Northeast Oregon and has worked across the West help other communities adopt some of its successful innovations, especially its integrated biomass energy campus. Wallowa Resources is also the fiscal sponsor for RVCC. Similarly, much of the Watershed Center’s work takes place beyond Trinity County. The organization has engaged in a number of regional, state, and national initiatives to build coalitions and capacity for community-based fire and forest planning, including the Northern California Prescribed Fire Council, the California Biomass Working Group, California’s Regional Forest and Fire Capacity Program, and nationwide Fire Adapted Communities Network, which it leads.

The Trinity County Resource Conservation District is also experimenting with this model for expanding impact. As one of the few California Resource Conservation Districts with a forestry emphasis, it has begun sharing its expertise with other resource conservation districts that are considering expanding their forestry programs in the wake of major fires.

Table 4: Prominent regional coalitions, networks, and organizations championing stewardship economy activities

	Geographic Focus	Services Provided
Aspen Institute Rural Development Innovation Group (Washington, D.C.)	U.S.	<ul style="list-style-type: none"> • Convenes rural development practitioners and others to support rural community and economic development • Promotes change by advocating for federal policies and philanthropic investment
Fire-Adapted Communities Network (Hayfork, CA)	U.S.	<ul style="list-style-type: none"> • Facilitates information exchange and collaboration to help communities improve wildfire adaptation practices • Promotes the diffusion of best practices and innovation among adaptation practitioners, land managers, emergency responders, policy-makers, and governments
Land Trust Alliance (Washington, D.C.)	U.S.	<ul style="list-style-type: none"> • Advocates for policy, education, and training to support land trusts • Promotes conservation through regional programs and partnerships with federal agencies, nonprofits, and businesses

National Association of Counties (Washington, D.C.)	U.S.	<ul style="list-style-type: none"> • Supports county leaders and employees through leadership development and knowledge exchange • Promotes counties’ interests to state and federal governments • Advances county governance by developing model policies and practices
National Forest Foundation (Missoula, MT)	U.S.	<ul style="list-style-type: none"> • Provides training, peer-learning, facilitation, and funding for forest collaborative groups • Administers grant programs to support on-the-ground stewardship work • Advocates and builds public awareness of and support for the National Forest system
Quivira Coalition (Santa Fe, NM)	Western U.S.	<ul style="list-style-type: none"> • Provides technical support to help agricultural producers develop management plans (geared towards adaptation to and mitigation of climate change) • Offers agricultural apprentice and mentorship programs • Hosts annual conference and other education initiatives
Rural Voices for Conservation Coalition (Portland, OR)	Western U.S.	<ul style="list-style-type: none"> • Facilitates peer learning through annual meetings, workshops, and local technical assistance programs • Tracks, analyzes, and interprets applicable policy
Sustainable Northwest (Portland, OR)	Northwest U.S.	<ul style="list-style-type: none"> • Assists with facilitation, conflict resolution, and negotiation of multi-party agreements • Advocates for and provides input on state and federal policies • Provide legal, scientific, and technical expertise
Western Governors’ Alliance (Denver, CO)	Western U.S.	<ul style="list-style-type: none"> • Promotes the interests of western U.S. states and territories to the federal government on a bipartisan basis • Focuses on a broad range of environmental and economic issues
Western Landowners Alliance (Santa Fe, NM)	Western U.S.	<ul style="list-style-type: none"> • Supports, facilitates, and disseminates research regarding best land management practices • Shares information through peer-learning networks • Advocates for and interpret policy initiatives • Tells the stories of western landowners through films and publications

Partnerships with researchers

Many communities have partnered with universities and researchers to bring additional expertise to their programs. These partnerships help communities evaluate and assess their needs and demonstrate the impact of their work. In addition to providing strategic direction, this information has helped communities communicate the value of their work to policy-makers, granting organizations, and potential funders.

- **Salmon River, ID:** In 2014, Salmon Valley Stewardship worked with Headwaters Economics, a community-development and land management think tank, to capture the economic impact of restoration in the area, which culminated in a report titled “Restoration Mean Jobs in Central Idaho.” The report analyzed 137 restoration projects that took place from 2008 to 2013, on both public and private land, as well as fourteen conservation easements in the two counties. Between the restoration projects and easements, the local workforce (within 100 miles of a project) captured more than \$17.2 million of the \$39.6 million spent on restoration and mining reclamation projects during the six-year period. According to one nonprofit employee, this report was helpful both “back east and at home.” When non-profit staffers met with community

members in Idaho and policy-makers in Washington, D.C., having concrete numbers helped them advocate for the importance and impact of restoration work.

- **West Central Colorado:** A partnership with the Colorado State University Extension Services led to three reports detailing the economic impacts of the Public Lands Partnership. According to the data, from 2001-2002, PLP spent \$118,027 in the local economy in Delta and Montrose Counties and generated an additional \$54,304 within other counties, representing a 46% return on investment.¹³⁴
- **Thunder Basin, WY:** The Thunder Basin Prairie Ecosystem Alliance has joined forces with the University of Wyoming, USDA's Agricultural Research Service, and Colorado State University to form the Thunder Basin Research Initiative to study the ecological side of grasslands stewardship. This group has studied methods for managing invasive species, improving wildlife habitat, improving mine reclamation, and responding to drought and cheatgrass.
- **Malpai Borderlands, AZ/NM:** The Malpai Borderlands Group has partnered with the University of Arizona, New Mexico State University, and the USGS Desert Lab to study fire, climate, vegetation, grazing and wildlife. This partnership has helped demonstrate that rangeland ecosystems can thrive alongside ranching.
- **Wallowa County, OR:** Wallowa Resources has a long history of partnering with universities. Most recently, it engaged in a 7-year collaboration with Colorado University - Boulder, the University of New Hampshire, and Oregon State University to investigate long-term forest change, social perceptions of that change, and how social perceptions influenced management actions and community initiatives.

Strategy 5: Casting a wide net for funding

Almost all of the communities in this study have relied on external sources of funding to support stewardship economy activities. While stewardship activities can produce saleable goods and generate a revenue stream, the volume and/or value of these goods has typically not been sufficient to support the breadth of stewardship activities in which communities want to engage. To close the gap, communities have looked to a wide array of sources to support their work, including all levels of government, private foundations, individual donors, and more novel financial mechanisms.

Federal funding

A variety of federal sources have provided critical funding to the communities we studied, though some have declined in recent years. While stewardship contracts and cooperative agreements with federal agencies support stewardship activities to a limited extent, revenue from other sources—such as revenue sharing from logging or mining, the Secure Rural Schools and Community Self-Determination Act (SRS), and the Payment in Lieu of Taxes program—have declined or grown more uncertain.¹³⁵ Accordingly, communities have increasingly looked to other federal programs to finance stewardship economy activities. These federal programs are aimed at landscape-scale and/or multi-jurisdictional projects, fish and wildlife habitat restoration, fire risk reduction and mitigation, agricultural programs, and land acquisition, among others.

- **Northeast Washington:** Both the U.S. Forest Service’s Collaborative Forest Landscape Restoration Program (CFLRP) and USDA Joint Chiefs’ Landscape Restoration Program (JCLRP) provide long-term funding for large, landscape scale restoration projects. Northeast Washington is one of the five communities we studied that has received funding from one of these programs, and one of two communities that has received grants from both. The Northeast Washington Forestry Coalition (NEWFC), a collaborative group for the Colville National Forest, was an early CFLRP recipient. Over their combined lifetimes, the two grants are expected to bring over \$33 million to restoration treatments on the Colville National Forest.
- **Wallowa County, OR:** Federal funds also support fish and wildlife habitat restoration, particularly for species listed as threatened or endangered. The Bonneville Power Administration’s (BPA) dam mitigation program has provided substantial funding for fish and wildlife (especially salmon) restoration, as required by the 1980 Northwest Power Act.¹³⁶ In Wallowa County, BPA funded a new weir at the Nez Perce Tribal Acquisition site to support fisheries restoration on the Lostine River. The weir is part of the captive breeding stock program, co-managed by the Nez Perce Tribe and the Oregon Department of Fish and Wildlife, to maintain native genetics for populations of Chinook salmon, Coho salmon, bull trout, and steelhead. The Nez Perce Tribal Acquisition site is among the most successful salmon restoration sites.

Federal funding was also critical to the R&D and capital investment that led to the start of Integrated Biomass Resources (IBR), which processes the type of small-diameter timber that is the byproduct of forest restoration. More recently, the USFS State and Private Forestry Program has provided funding to support projects at IBR exploring juniper utilization and biochar production.

- **Trinity County, CA:** Many federal funds are targeted towards mitigating fire risk. In California, for example, fire risk reduction and mitigation funding from the U.S. Forest Service, BLM, National Park Service, and Fish & Wildlife Service is channeled through the California Fire Safe Council, a state-chartered non-profit organization. From this organization, Trinity County has received support for cross-boundary forest health projects with the Six Rivers and Shasta-Trinity National Forests and fire protection projects on the wildland-urban interface. Additionally, the Watershed Center in Trinity County received funds from the 2008 American Recovery and Reinvestment Act to support its stewardship crews, as well as a Community Development Block Grant from the Department of Housing and Urban Development to establish a small forest-products business.
- **Salmon River region, ID:** As part of the Salmon River region’s efforts to increase local capacity to process small-diameter timber, the England Sawmill received a USDA Woody Biomass Utilization grant in 2006. The grant helped the mill fund a dry kiln and add Douglas fir flooring and house logs to its product line. Designed to process forest products between two and fourteen inches in diameter, it is the only small-diameter sawmill located within 150 miles of the Salmon-Challis National Forest.¹³⁷
- **Ajo, AZ:** Ajo has received federal support from the EPA and USDA’s Local Food, Local Places program, which supports “locally led, community-driven efforts to protect air and water quality, preserve open space and farmland, boost economic opportunities for local farmers and businesses, improve access to healthy local food, and promote childhood wellness.”¹³⁸

While patchworked boundaries can often impede the success of restoration, private landowners have overcome this hurdle by tapping into federal funding. Landowners from at least eight communities have received support from the Natural Resource Conservation Service (NRCS), including the agency's Environmental Quality Incentives Program, the Conservation Stewardship Program, the New and Beginning Farmer Program, and the Agricultural Conservation Easement Program. NRCS programs have supported landowners in at least seven communities, and possibly others.

State and local funding

Funding at the state level has been equally important in supporting stewardship economy activities. State programs have provided support for wildlife habitat restoration, salmon recovery, renewable energy, watershed restoration, and economic development such as value-added agriculture. These funds may be channeled through quasi-governmental entities such as watershed councils or conservation districts. Where state funds may not be accessible or flexible enough to support localized efforts, communities have also relied on fiscal support from county governments.

- **Lake County and Wallowa County, OR:** The State of Oregon has funded a variety of stewardship economy activities. The Oregon Watershed Enhancement Board has provided financial support for fish and forest restoration projects in both Lake County and Wallowa County¹³⁹; in Lake County, this money has frequently been funneled through local watershed councils. A Wallowa County irrigation conversion project was 75% funded by \$2.1 million from the Oregon Water Resources Department's Oregon Water Loan Fund, which invests in water efficiency projects that provide public benefit. The state's slew of renewable energy grant programs and tax incentives have supported solar and micro-hydro projects in both Wallowa and Lake counties.
- **Salmon River region, ID:** The state of Idaho has been particularly willing to support sage grouse habitat initiatives. Recently, the state agreed to provide more than \$300,000 as a match for NRCS's Sage Grouse Initiative funds; this funding has helped landowners in the Salmon River region implement voluntary conservation measures.
- **North Fork Valley, CO:** The Colorado Office of Economic Development and International Trade has funded the North Fork Valley Creative Coalition (NFVCC) to support their development of creative industries, such as the arts and value-added agriculture. This funding has helped foster economic activity around these activities; the North Fork Valley was formally designated as a "Creative District" in 2014. By nurturing community networks, encouraging self-sufficiency, and celebrating local heritage through festivals and events, NFVCC has continued to foster economic activity around creative industries such as value-added agriculture.

Private funding

Foundation grants, individual donations, and for-profit business contributions have been important sources of funding in many communities. Whereas governmental funding often comes with restrictions and limitations regarding how and when funds are spent, private funding can provide valuable flexibility and a little wiggle room when unexpected problems arise. For community-based nonprofits in particular, private funders offer critical financial support to help them "keep the lights on."

- **Mount Adams, WA and Wallowa County, OR:** The first acquisition for the Mount Adams Community Forest was fully funded by private donors, many of whom were local. In Wallowa County, private donations from both locals and people in Portland who value the recreation

opportunities in Wallowa County provided important support for the acquisition of the east moraine of Wallowa Lake.

- **West Central Colorado and Thunder Basin:** In several places, for-profit organizations have supported stewardship economy activities, including local businesses in West Central Colorado and energy companies in the Thunder Basin region. In 2001, the Powder River Coal Company co-sponsored a two-day symposium that drew connections between the social, economic, and ecological health of the region.

Table 5: Foundations supporting stewardship economy activities

Philanthropic organizations have played a key role in fostering stewardship economy activities throughout the American West. Their ability to provide larger grants that may have fewer restrictions than government funds has provided vital resources to communities that often lack financial capital. The communities we studied have received funds from quite a few foundations and granting organizations, including (but not limited to):

American Forest Foundation
 Brainerd Foundation
 Community Foundation of Southern Arizona
 Hewlett Foundation
 Ford Family Foundation
 Ford Foundation
 National Forest Foundation
 Murdock Charitable Trust
 Orton Family Foundation
 Oregon Community Foundation
 Rocky Mountain Elk Foundation
 The Nature Conservancy
 Wilburforce Foundation

Conservation finance

Innovative conservation finance programs have helped link rural communities with urban sources of capital. These programs help to overcome a challenge faced by rural communities: limited capital to protect, restore, and manage rural forests and watersheds. Conservation finance not only promotes local restoration businesses, but also provides important benefits to urban communities, including a cleaner water supply and reduced fire risk. While few communities studied have fully implemented conservation finance approaches, many are interested in the potential of conservation finance to fund stewardship economy activities.

- **Chama Peak, CO/AZ:** This region has leveraged its position as the headwaters of Albuquerque's water supply to attract support for local stewardship activities. The Navajo-Blanco—a coalition of conservation NGOs, private landowners, local governments, and state and federal agencies collaborating to reduce fire risk and improve watershed health—have worked with The Nature Conservancy's Rio Grande Water Fund to treat over 1,000 acres with thinning and prescribed burns. Financial support for the Rio Grande Water Fund is provided in part by the Albuquerque Bernalillo County Water Utility Authority.

Strategy 6: Tools, Authorities, and Programs

The communities we studied have made extensive use of the tools, authorities, and programs commonly used in the fields of conservation, restoration, and rural economic development. These resources have included legal and financial instruments, government programs, and government authorities and planning tools. Collectively, these tools and programs have helped communities steward natural resources, increase their capacity to engage in stewardship economy activities, realize economic value from those activities, plan for the future, and demonstrate success. Prominent examples include conservation easements, tools and programs established under federal land management authorities, and county-level zoning and tax policies.

Conservation easements

Conservation easements have allowed private landowners in many communities to liquidate some portion of their properties' value without selling to developers (who typically offer the highest value). On top of their financial benefits, easements also forestall encroaching development, help create greater habitat connectivity, and attract public funding by demonstrating how a piece of land will be used in the future. Conservation easements can also provide important sources of income, in that they help farmers and private forestland owners maintain ownership, continue operations, and re-invest in stewardship: landowners in Salmon River region, Wallowa County, Mount Adams, and the Blackfoot watershed all noted that easements have been important sources of revenue.

- **Wallowa County, OR:** Having a conservation easement in place can make it easier to secure public funding for projects, as the easements signal the land's potential to provide public benefits and creates certainty about the future of the land parcel. One farmer noted that having easements on his property helped him bring in funds through cost-share programs such those offered by NRCS.
- **Salmon River region, ID:** In some cases, land trusts have gone beyond standard conservation easements. The Lemhi Regional Land Trust facilitated the purchase of Swift River Farm by carrying part of the loan for the buyers, who were two experienced farmers interested in moving to the area but could not afford to buy land outright. Facilitating the purchase of the farm directly supported rural lifestyles and conserved open land in the area. As one of the farm owners described, this investment was “not just in a conservation easement, but [in] the conservation of agricultural stewardship.”
- **Blackfoot Watershed, MT:** Plum Creek Timber Company formerly owned over 20% of the watershed, but when federal logging declined in the early 1990s, it was forced to divest of much of its forest land. When over 200,000 acres were transferred from Plum Creek to new public or private ownership, Blackfoot Challenge worked with The Nature Conservancy to establish easements on 90,000 of those acres.
- **Malpai Borderlands, AZ/NM:** The Malpai Borderlands Group (MBG) has also worked to protect and sustain rural livelihoods in the face of development pressure. For nearly 30 years, MBG has helped protect around 86,000 acres of private land on 18 family ranches.

Federal and state tools and authorities

The communities studied have used a variety of federal and state tools and authorities geared towards supporting forest stewardship and rural economic development. Following the downturn in natural

resource-based economies due to automation and changes in federal timber harvest policies in the 1990s, federal agencies sought to sustain rural communities through tools and programs aimed at ensuring that rural communities continue to receive revenue from timber harvest. Stewardship contracting, cooperative management, fire planning, and third-party and tribal contracting have allowed communities to directly restore and maintain healthy forest ecosystems, while also providing a source of income and employment. Communities have also used community wildfire protection plans, the Tribal Forest Protection Act, and the Good Neighbor Authority to promote forest stewardship and capture local benefits.

Beyond federal land management authorities, communities have looked to other programs to expand their capacity. Federal programs such as AmeriCorps have provided critical volunteer capacity, and a variety of federal and state programs have enabled communities to promote renewable energy development.

Land management

- **Mount Adams, WA and Trinity County, CA:** Stewardship contracting has played a variety of roles. On the Gifford Pinchot National Forest in the Mount Adams region, the Southern Gifford Pinchot Collaborative has invested retained receipts from stewardship contracting into activities that meet the broader Gifford Pinchot Forest Plan and promote economic opportunities. Stewardship contracting is used for ecological monitoring, road obliteration, recreation improvements, and non-commercial thinning (small-diameter), all of which employ local contractors and ensure an adequate supply for local processing. Funds from stewardship contracts also support Forest Youth Success, a program that provides summer natural resource-based employment opportunities for youth in the county.

Cooperative management can also ensure that communities capture local benefits. Despite its community forest status, the Weaverville Community Forest in Trinity County continues to be owned by the Bureau of Land Management, though it is cooperatively managed by the County (via the Resource Conservation District) under a stewardship contract. This structure ensures that management of the parcel provides local benefits and aligns with community-defined values. Today, the community forest is managed for timber, forest health, water quality, fire protection, and recreation.

- **Lake County, OR:** When the Lakeview Federal Sustained Yield Unit on the Fremont-Winema National Forest was up for renewal in the late 1990s, the Lakeview Stewardship Group (a forest collaborative) developed a reauthorization proposal that focused on restoration, fire protection, water quality, invasive species control, recreation, and community and economic benefits.¹⁴⁰ This management structure helped support local forest product industries, including the primary mill in the area, and provided ecological benefits including restored stream corridors, improved aquatic and terrestrial wildlife habitat, the preservation of old growth stands, and reduced fire risk. Despite its benefits, the Sustained Yield Unit — which later became known as a Stewardship Unit — was not reauthorized in 2020.¹⁴¹
- **Trinity County, CA and Chama Peak, CO/NM:** These communities have both developed Community Wildfire Protection Plans (CWPP), originally authorized under the Healthy Forests Restoration Act of 2003. Interviewees in Trinity County noted that having a signed and approved CWPP significantly improves the likelihood of receiving funding for hazardous fuels reduction projects. Indeed, Trinity County was one of the first counties in the country to develop a community wildfire protection plan. In the Chama Peak region, the Chama Peak Land Alliance

helps local communities develop Community Wildfire Protection Plans under the Healthy Forests Restoration Act.

- **Malpai Borderlands, AZ/NM:** In the early 2000s, the Malpai Borderlands Group and the U.S. Forest Service spearheaded the first large-landscape programmatic fire plan. The Peloncillo Programmatic Fire Plan encompassed 130,000 acres of federal, state, and private lands and created a new norm for USFS landscape-scale collaborative fire planning.
- **Northeast Washington:** The Colville National Forest was one of the first forests in the country to hire third-party contractors to conduct NEPA analyses. A public-private timber sale/forest restoration project between the forest and a local sawmill delegates all responsibility—from NEPA analysis to implementing treatments and cutting trees—to the sawmill and its contractors. The ten-year contract for 54,000 acres brings additional capacity to forest management, speeds up the timeline for restoration, and has been backed by the area’s multi-interest forest collaborative group.

The Northeast Washington Forest Coalition and the Colville National Forest have used the Tribal Forest Protection Act, which allows tribal nations to carry out management activities on federal land, for a project with the Kalispel Tribe and the Washington Department of Natural Resources. The NEPA planning team for that project included natural resource specialists from the tribe, the state, and the federal government. The Colville National Forest has also employed the Good Neighbor Authority, which enables state forest agencies to conduct management work on federal land.

Renewable energy

- **North Fork Valley, CO:** In a different vein, the Delta-Montrose Electric Association, a rural electricity cooperative took advantage of federal rules under the Public Utility Regulatory Policies Act to exit a contract with an electricity wholesaler that capped renewable energy generation. Terminating the contract was a critical step in transitioning to renewable energy and supporting the area’s budding renewables economy.
- **Lake County, OR:** Oregon’s Rural Renewable Energy Zone (RREZ) program has supported renewable energy development in Lake County. Designated as the state’s first RREZ in 2008, Lake County was able to offer renewables developers a temporary property tax break when they sited renewable infrastructure such as the county’s numerous solar arrays. Oregon has numerous policies promoting renewable energy development, including tax incentives for renewable energy development and statutory mandates for renewable portfolio standards and small-scale renewables.

Staffing

- **Salmon River region, ID:** Salmon Valley Stewardship has hosted several AmeriCorps VISTA volunteers, who provided critical support for on-the-ground projects. A Salmon Valley Stewardship employee called the AmeriCorps VISTA program “a game changer” for the nonprofit. VISTA volunteers played a key role in developing the farmer’s market, ensuring that important tasks and community outreach did not fall by the wayside. The Ajo Center for Sustainable Agriculture and the Chama Peak Land Alliance have also hosted VISTA volunteers.

County programs and policies

A number of communities have also worked closely with their local county governments to develop programs and policies that advance stewardship economy activities. As a result, counties have been able to use zoning and education to facilitate renewable energy development. Other county governments have creatively employed tax incentives, such as payment in lieu of taxes (PILT), to purchase land for a community forest and attract forest product processing firms.

- **Mount Adams, WA:** To facilitate renewable energy development, in 2015 Klickitat County created an Energy Overlay Zone. By making it easier to site renewable energy infrastructure, this zoning tool has helped the area significantly expand its renewable energy generation capacity, especially through the installation of photovoltaic solar arrays, wind turbines, and methane capture at the county landfill.
- **North Fork Valley, CO:** To expand renewable energy development, the non-profit Solar Energy International worked with Delta County, the electricity cooperative, and Delta County Economic Development to develop the Solarize program, which educated residents and businesses on solar installation and reduced costs by 15%. Between 2015 and 2017, the program generated over \$1.25 million of investment in the installation of hundreds of PV systems.¹⁴²
- **Lake County, OR:** The Lake County government has used tax incentives to encourage companies to site wood processing facilities in Lake County. By offering a tax break, Lake County attracted the Collins Company in the early 2000s. The reduced cost also made it possible for the company to invest in a small-diameter sawmill. More recently, the County negotiated a PILT agreement with Red Rock Biofuels, which will use local biomass material to generate jet and diesel fuels. The negotiated payment provides a financial incentive for the company to site its facility in Lake County.

Strategy 7: Outreach and Education

Most of the communities have used outreach and education activities to build understanding of and support for stewardship economy activities. Because so many of these activities are premised on voluntary, grassroots participation and partnerships, community buy-in is essential to building and scaling initiatives to the point where they impact livelihoods. To create this buy-in, communities have used a variety of techniques, including group learning and fact-finding such as joint monitoring and field trips, and stewardship-focused education and engagement programs.

Group fact-finding and learning

In many communities, group learning has helped people build a shared understanding of ecological conditions and the impacts of activities such as timber harvest and thinning. Forest collaborative groups have frequently used group learning as a tool to move beyond a distrust of data collected by a single party and disputes over baseline ecological conditions. When all parties see the same forest conditions on a field trip or contribute to the development of a monitoring protocol, the data and information that inform decision-making become more credible. Communities have also advanced stewardship economy activities by working with opinion leaders and well-regarded landowners to demonstrate the benefits of stewardship projects.

Field trips

- **Lake County, OR:** In the late 1990s, members of the collaborative Lakeview Stewardship Group agreed that restoration activities on the Sustained Yield Unit should be subject to careful, consistent monitoring. The monitoring program would assess the outcomes of the new, stewardship-oriented management plan. Accordingly, Lake County Restoration Initiative led the creation of a program in which county schools train students in monitoring protocols, while also providing opportunities for students to gain natural resource management experience.

In addition to documenting the ecological benefits of the stewardship activities on the Unit, the monitoring program also helped transform the Lakeview community's relationship with local forests. As one interviewee remarked, "Having local high school students and graduates staffing the program has done a lot to improve the local community's...understanding of the restoration activity that's going on and the needs for restoration."

- **Salmon River region, ID:** Collaborative groups have also often used field trips to build a shared understanding of on-the-ground conditions. In 2018, the Central Idaho Public Lands Collaborative hosted a two-day workshop and field tour about recreation, and in 2019, the collaborative hosted another one on wildfire. These workshops and tours were attended by collaborative members, federal and state agency personnel, and private landowners. Shortly after the latter event, the collaborative's Wild and Scenic River Taskforce organized a two-day, overnight camping trip to assess sections of river that could fall under the Wild and Scenic River designation. Amidst a complex forest planning process, one collaborative member explained that it was "much easier to come up with and talk about ideas on a field trip." The collaborative member noted the value of learning alongside one another and informal conversations with other stakeholders and the Forest Service planning staff.

A collaborative member in Trinity County shared similar sentiments regarding field trips: "Once we got out into the field, we were able to agree on a surprising number of things."

Symposia and conferences

- **Malpai Borderlands, AZ/NM:** The Malpai Science Advisory Panel hosts an annual science conference, in which researchers present to one another and the general public. Through the research presented at the conference, ranchers, in particular, have been able to show agencies that the ecological condition of rangeland can improve alongside ranching operations. Sharing photographs have made communicating these improvements much easier, which has led to decreased tension between landowners, agencies, and conservationists.
- **Thunder Basin, WY:** In 2001, the Thunder Basin Grasslands Prairie Ecosystem Association hosted a two-day symposium for community members called "Building a Knowledge Base for a Management Plan." The symposium aimed to build an understanding of the relationship between the ecological, economic, and social health by incorporating talks on economic benefits of landscape health at the county-level (given by a Campbell County commissioner), historic fire regimes, and landowner incentive programs for species management.¹⁴³

Local opinion leaders and well-regarded landowners

- **Lake County, OR:** The Umbrella Watershed Council notes that landowners often agree to participate in projects once they have seen positive outcomes or heard positive reports from their neighbors. The Watershed Council strategically engages neighbors of existing project

participants, commenting to nearby landowners, “Your neighbor’s going to do this watershed restoration work, are you also interested?”

Similarly, in both the Malpai Borderlands and the Salmon River region, the participation of prominent ranchers has lent credibility to collaborative groups and restoration projects, been instrumental in bringing other interests to the table, and demonstrated that it is okay to work with federal agencies and conservation organizations.

Stewardship-focused education and engagement

Communities have also engaged in a variety of outreach and engagement opportunities for community members. These opportunities help build appreciation for and understanding of the value of stewardship economy activities. Many communities have targeted educational programs to young people, through school programs, summer camps, work opportunities, and internships. A focus on youth education helps develop the next generation of community leaders, and serves as an effective method of engaging a broad swath of the community in stewardship economy activities.

Eight of the communities have some type of youth engagement program. Many have programs for both young kids and young adults, which focus on outdoor learning and exploration, participatory education, and skill development through in-school programs, summer camps, and youth training and mentoring programs. In the Salmon River region, the Mount Adams region, and Ajo, community-based organizations have helped develop school gardens and academic curricula centered on these gardens. Other communities have developed education programs for people of all ages to engage residents in stewardship economy activities.

- **Ajo, AZ:** The Edible Ajo School Yard program enables elementary school students to participate in agricultural activities as coursework; they then eat the food they grow in the cafeteria. The Agriculture Club, for high school students, offers opportunities to grow Sonoran Desert crops and learn about food and agricultural career paths, with the hope that students may later choose to pursue agricultural careers. Outside of school, Ajo’s Kids at the Farm supports kids’ participation in community gardening.
- **Mount Adams, WA:** Mount Adams Resource Stewards (MARS) has offered programs in both agriculture and renewable energy. In 2006, the organization helped a school in Glenwood build a greenhouse and community garden. In 2011, MARS then installed a 5.7-kilowatt solar array on the school and helped develop a new renewable energy curriculum.
- **Wallowa County, OR:** Every year, Wallowa County middle school students participate in stream monitoring activities in partnership with the Nez Perce Tribe Fisheries, U.S. Fish & Wildlife Services, and Oregon Department of Fish & Wildlife.¹⁴⁴
- **Blackfoot Watershed, MT:** In Blackfoot Challenge’s early days, when it was trying to build social license for its work, its education committee began efforts to engage local communities in conservation work. Today, Blackfoot Challenge offers gardening and horticulture workshops, bird identification walks, tours of the community forest, and an adopt-a-swan program.

Strategy 8: Community Visioning and Planning

Communities have undertaken community visioning and planning processes as a way to identify local aspirations, instill a sense of community direction and self-determination, and build rural resilience. These processes respond to the feeling, common in many communities, that they are at the mercy of broader forces, including global shifts in natural resource industries and climate change. Simultaneously, communities have struggled to articulate and generate support for local values in state and federal land management decisions and policy initiatives. As a tool for self-empowerment, visioning and planning have helped communities identify, build, and implement a shared vision for the future. Communities have not only articulated shared local values and desired future conditions, but they also have taken an active role in creating the social and economic conditions that support a healthy environment; a strong local economy with traditional, land-based jobs; and a thriving rural community. Outcomes have included community land ownership and co-management, formal land use and economic development plans promoting certain uses and industries, and planning for recreation and tourism.

Community land ownership and cooperative management of public lands

Several communities have pursued management of community-owned lands and co-management of public lands as ways to achieve a degree of self-determination and manage natural resources according to community values. Particularly in places with a high proportion of federally-managed land, community land ownership allows people to make decisions that reflect the community's own needs and interests. Communities managing their own land can respond directly to local concerns about fire risk, conservation, forestry jobs, and recreation opportunities, without having to continuously petition a federal agency.

- **Trinity County, CA:** In 2005, Trinity County established the Weaverville Community Forest on BLM land near the town of Weaverville. The agency had been preparing for a land swap with the Sierra Pacific Industries timber company, but Weaverville residents opposed the deal. Responding to community sentiment, Trinity County Resource Conservation District (TCRCD) began exploring alternatives to the land swap, and BLM ultimately suggested using stewardship contracting to ensure the forest be managed according to the community's goals.¹⁴⁵ A steering committee with community representation was established to ensure that forest management practices align with the community's priorities; the Resource Conservation District develops and implements management plans. Today, nearly 15,000 acres across BLM and USFS land are co-managed with TCRCD as the Weaverville Community Forest.
- **Mount Adams, WA:** In establishing the Mount Adams Community Forest in 2011, the goal of Mount Adams Resource Stewards was to re-establish forestland with diverse age classes that could support timber production, grazing, and recreation. The organization worked diligently to build community support for a community forest, organizing a trip to tour community forests in the northeast U.S. in 2009; they also held a public meeting in Glenwood in 2009 to listen to community members' interests and concerns. These actions created a strong sense of engagement in and ownership over the project: ultimately, 100% of the funds raised to acquire the first parcel were from individual donations, most from local residents.¹⁴⁶
- **Blackfoot Watershed, MT:** The 40,000-acre Blackfoot Community Project, a community forest, was formed via a public-to-private land transfer. Approximately 5,600 of these acres are owned by Blackfoot Challenge and managed by a committee of landowners, agency representatives,

and sportspeople. Local contractors are prioritized for restoration work on this forest, which also hosts public tours to educate local residents about the value of the community forest.

Community visioning

Several communities have undertaken visioning processes to identify and articulate community members' needs and hopes for the future. These processes have also helped generate ideas, direction, and momentum for communities actively undergoing economic transition. The results of a visioning process have informed economic and land use planning, community organizing, and stewardship economy endeavors.

- **North Fork Valley, CO:** In 2010, residents of the North Fork Valley launched a community visioning effort called "Vision 2020"; in 2012, the citizen group leading Vision 2020 was awarded a grant to conduct a series of interviews and focus groups with valley residents. Completed in 2014, the resulting assessment highlighted the community's shared values, which centered on preserving the valley's rural character, natural environment, and sense of community while also expanding economic opportunities.¹⁴⁷ The shared vision developed through this process subsequently informed planning and economic development projects.
- **Blackfoot Watershed, MT:** Blackfoot Challenge has also assessed community members' vision for the future of their regional economy. In 2014, the group partnered with Headwaters Economics to check in with the 17 communities in the watershed. Through focus groups, Headwaters Economics asked people how they felt about their environment, community and economy; how they would like these things to change over the next twenty years; and what role Blackfoot Challenge should have in this vision. The results provided Blackfoot Challenge with feedback about what components of its stewardship economy work were most valued by residents.

Land use and economic development planning

Communities have engaged in land use and economic development planning as a way to work toward a future that prioritizes stewardship economy activities. In many cases, communities have been subject to external change such as shifts in natural resource industries, and they are seeking resilience and revitalization. Communities have used economic and land use planning as a tool to respond productively to change, while also building a future that embodies community values.

- **North Fork Valley, CO:** The North Fork Valley has engaged in formal land use and economic development planning as part of an effort to transition the region's economy away from coal mining. Following the 2013 closure of a local coal mine, the non-profit organization Delta County Economic Development and rural electricity cooperative Delta-Montrose Electric Association began discussing initiatives to help the local economy recover. They worked with a planning firm to identify diversification opportunities including local and organic food, renewable energy, and outdoor recreation. In concert with the visioning described above, this planning process guided much of the community's subsequent work in promoting a local food economy, expanding broadband, and investing in renewable energy. Additionally, in 2018, Delta County completed a new master plan, which aligns the region's vision of economic diversification with the protection of natural resources and amenities. Finally, regional planning efforts coordinated by the Region 10 Economic Development District of Colorado, administered by the federal government's Economic Development Association, have also contributed to the valley's economic diversification.

Recreation and tourism planning

A few communities have also planned for recreation and tourism. While none of the communities we studied have pursued amenity-based recreation and tourism as their primary economic development strategy — as have other Western towns — they still recognize projects such as trail development, public land access, and water-based recreation as valuable stewardship economy activities.

- **North Fork Valley, CO:** A Delta County trails master plan completed in 2018 promoted greater access to public lands as part of its new economic diversification strategy.¹⁴⁸
- **Salmon River region, ID:** The Salmon Challis Trails Group led trails planning in the Salmon River region and updated its trails action plan in 2017, with a focus on public lands access, river access, motorized and non-motorized opportunities, and quality of life and community benefit.
- **Mount Adams region, WA:** Because recreation is one of its focus areas, the Southern Gifford Pinchot Collaborative has a sub-committee that oversees a Sustainable Recreation Strategy for the forest. Yakama Nations Fisheries is also involved in planning sustainable recreation activities in the Columbia Gorge area.

Conclusion

As seen in this chapter, the communities we studied have engaged in an incredible breadth of stewardship economy activities. A significant number of these activities have been on-the-ground stewardship work—in the woods, on a farm, or alongside a river. But in addition, communities have built local capacity to carry out community-led stewardship, as well as the relationships and institutions that facilitate large-scale, high-impact projects. They have pursued funding and aimed to utilize every type of resource available—whether material, financial, human, policy-based, or otherwise—that could be deployed to stewardship economy activities. Communities have offered education about and built broad support for these activities, both at home and on a regional and national scale. They have planned for a future that values and incorporates stewardship economy activities, and they have made investments in infrastructure and skill-development to realize that future.

In listing these activities, it is important to recognize that communities’ accomplishments are truly grassroots. These places typically have few people, not a lot of money, and little political clout. Instead, their stewardship economy activities were realized by leveraging the traditional, can-do values that characterize many of these communities: hard work, creativity and entrepreneurship, stepping up to meet a need, trying something different, setting aside differences to serve a common goal, and a commitment to place and community that embodies the “stewardship economy” concept. The next chapter explores in-depth the factors that have enabled these accomplishments.

¹⁰¹ Collaborative Forest Landscape Restoration Program Current Info. Western Colorado Landscape Collaborative. Retrieved April 20, 2020 from <http://www.westerncolc.org/current-info>

¹⁰² Joint Chiefs’ Landscape Restoration Partnership – Idaho (n.d.). Retrieved April 20, 2020 from <https://www.blogs.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/initiatives/?cid=nrcseprd1455450>

- ¹⁰³ Plaven, G. (2017, March 22). Forest Service signs off on Lower Joseph Creek restoration. *The Washington Times*. Retrieved from <https://www.washingtontimes.com/news/2017/mar/22/forest-service-signs-off-on-lower-joseph-creek-res/>
- ¹⁰⁴ Lake County Umbrella Watershed Council. (n.d.). Retrieved April 20, 2020 from <http://lakecountywsc.com/project-highlights.html>
- ¹⁰⁵ *Ibid.*
- ¹⁰⁶ Campaign for the East Moraine. (n.d.). Retrieved April 20, 2020, from <https://www.morainecampaign.org/>
- ¹⁰⁷ Thunder Basin Prairie Ecosystem Alliance (n.d.). Retrieved April 20, 2020 from <https://tbgpea.org>
- ¹⁰⁸ Local Foods, Local Places Technical Assistance Program Workshop. (2015). *Strengthening the Local Foods System and Downtown Revitalization: Actions and Strategies for Ajo, Arizona*. Retrieved April 20, 2020 from <https://www.ams.usda.gov/sites/default/files/media/lflpcapajo.pdf>
- ¹⁰⁹ *Ibid.*
- ¹¹⁰ Alvarez, C. (2018, April 23). 5 Reasons to Adopt a Sonoran Desert Crop in Arizona. Retrieved April 20, 2020, from <https://www.localfirstaz.com/news-blog/the-adopt-a-sonoran-desert-crop-program-is-a-must-for-local-farmers-and-food-producers>
- ¹¹¹ USDA National Agricultural Statistics Service. (2017). 2017 Census of Agriculture County Profile: Delta County, Colorado. Retrieved from https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Colorado/cp08029.pdf
- ¹¹² Federal Agency recognizes four Wyoming mining companies. (2017, November 16). Retrieved from <http://deq.wyoming.gov/lqd/news/federal-agency-recognizes-four-wyoming-mining-companies>
- ¹¹³ Powder River Basin Resource Council. (2018). *Reclaim Wyoming: Prioritize Coal Mine Reclamation*. Retrieved from <https://www.powderriverbasin.org/wp-content/uploads/2018/07/Coal-Mine-Reclamation-Web-Final.pdf>
- ¹¹⁴ Grand Opening of the Ajo Farmers Market & Café! . (2019, December). Retrieved April 20, 2020 from https://mailchi.mp/129c1606aa0b/ajo-center-for-sustainable-agriculture-newsletter-503269?fbclid=IwAR2ikokjxkwSB1dkN8-LQm7TB_z_-Eyn3iyzECICsbtle21DvYZFwfsDYIA
- ¹¹⁵ Local Foods, Local Places: Ajo, AZ. (2017, July 17). Retrieved April 20, 2020, from <https://www.epa.gov/smartgrowth/local-foods-local-places-ajo-az>
- ¹¹⁶ Local Foods, Local Places Technical Assistance Program Workshop. (2015). *Strengthening the Local Foods System and Downtown Revitalization: Actions and Strategies for Ajo, Arizona*. Retrieved April 20, 2020 from <https://www.ams.usda.gov/sites/default/files/media/lflpcapajo.pdf>
- ¹¹⁷ NPR. (2019, October 23). Washington State Is Thinning Out Forests To Reduce Wildfire Risk. All Things Considered. Colville, Washington. Retrieved from <https://www.npr.org/2019/10/23/772775789/washington-state-is-thinning-out-forests-to-reduce-wildfire-risk>
- ¹¹⁸ (2008). Lakeview Stewardship Group. Retrieved April 20, 2020 from https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_061538.pdf
- ¹¹⁹ Kiser, A. (2019, March 10). Sawmill owner makes huge impact on Montrose. *Montrose Daily Press*. Retrieved from https://www.montrosepress.com/news/sawmill-owner-makes-huge-impact-on-montrose/article_ca6a669e-2426-11e8-a772-6383e7f2cd4c.html
- ¹²⁰ Heidelberg, K. (2018, April 24). Timber mill slates major expansion. *Montrose Daily Press*. Retrieved from https://www.montrosepress.com/news/timber-mill-slates-major-expansion/article_f6fa9e0c-4773-11e8-b7ae-db59d018dced.html
- ¹²¹ Renewable Energy Installations in Lake County. (n.d.). Retrieved April 20, 2020, from <http://lcri.org/renewable-energy/renewable-energy-in-lake-county/>
- ¹²² Oregon's Wallowa Lake State Park showcases new "micro hydro" renewable energy resource at public open house Sept. 28. (2019, September 11). Retrieved April 20, 2020, from <https://www.pacificpower.net/about/newsroom/news-releases/wallowa-lake-state-park-micro-hydro.html>
- ¹²³ Tool, S. (2019, August 28). MicroHydro plant provides power. *Wallowa County Chieftain*. Retrieved from https://www.wallowa.com/news/microhydro-plant-provides-power/article_4fd6821a-c7c6-11e9-9686-0745971bbcd0.html
- ¹²⁴ Our work – 2-3-2 Cohesive Strategy Partnership. (n.d.). Retrieved April 20, 2020, from <https://232partnership.org/our-work/>
- ¹²⁵ Sayre, N. F. (2005). Working wilderness: the Malpai Borderlands Group and the future of the western range. Tucson, AZ: Rio Nuevo Publishers.
- ¹²⁶ Lemhi Regional Land Trust and Salmon Valley Stewardship. (2019, Summer). Retrieved April 20, 2020 from <http://www.lemhilandtrust.org/wp-content/uploads/2019/09/Summer-2019-Newsletter-Web.pdf>
- ¹²⁷ (n.d.). Retrieved April 20, 2020, from <http://idahorangelands.org/>
- ¹²⁸ The Nature Conservancy. (n.d.). Central Idaho Conservation Area. Retrieved April 20, 2020 from <http://projects.tnc.org/ag/assets/CIRN.Overview.pdf>
- ¹²⁹ WMHCTA: A (Brief) History. (n.d.). Retrieved April 20, 2020, from <https://wmhcta.org/history/>
- ¹³⁰ What We Do. (n.d.). Retrieved April 20, 2020, from <https://www.salmonchallstrails.com/mission>
- ¹³¹ Rural Voices for Conservation Coalition. (n.d.). Our Learning Network. Retrieved April 26, 2020, from <https://www.ruralvoicescoalition.org/fostering-learning>
- ¹³² Ecosystem Workforce Program. (n.d.). Dry Forest Zone. Retrieved April 26, 2020, from <https://ewp.uoregon.edu/dfz>
- ¹³³ Davis, E. J. (2014). *Stewarding Forests and Communities: The Final Report of the Dry Forest Zone Project*. Ecosystem Workforce Program. Retrieved from http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_48.pdf
- ¹³⁴ Seidl, A., & Myrick, E. (2007). *The Community Economics of Community Forestry: A Partial Analysis of Public Lands Partnership, Delta and Montrose Counties, Colorado*. Colorado State University. Retrieved from <https://webdoc.agsci.colostate.edu/DARE/EDR/EDR07-02.pdf>
- ¹³⁵ Haggerty, M. (2019, December 18). *PILT Proposal Would Help Small-Population Counties*. Headwaters Economics. Retrieved April 20, 2020, from <https://headwaterseconomics.org/public-lands/county-payments/pilt-proposal/>
- ¹³⁶ BPA invests in fish and wildlife. (2019, January). Retrieved April 20, 2020 from <https://www.bpa.gov/news/pubs/FactSheets/fs-201901-BPA-invests-in-fish-and-wildlife.pdf>
- ¹³⁷ Livingston, J. (2008). *Small-Diameter Success Stories III*. USDA Forest Service. Retrieved from https://www.fpl.fs.fed.us/documnts/fplgtr/fpl_gtr175.pdf
- ¹³⁸ Local Foods, Local Places: Ajo, AZ. (2017, July 17). Retrieved April 20, 2020, from <https://www.epa.gov/smartgrowth/local-foods-local-places-ajo-az>

-
- ¹³⁹ Benitez, F. (2019, April 29). Wallowa conservation projects win OWEB grant. *The Observer*. Retrieved from https://www.lagrandeobserver.com/news/local/wallowa-conservation-projects-win-oweb-grant/article_e9b556c6-87b4-5b45-97d8-34bf39bd95ef.html
- ¹⁴⁰ (2008). Lakeview Stewardship Group. Retrieved April 20, 2020 from https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_061538.pdf
- ¹⁴¹ Lakeview federal sustained yield unit comes to an end. (2020, January 18). *Herald and News*. Retrieved from https://www.heraldandnews.com/news/local_news/lakeview-federal-sustained-yield-unit-comes-to-an-end/article_e6e98094-292c-568d-a938-f2061c9b94e7.html
- ¹⁴² Solarize Delta County. (2019, January 10). Retrieved April 20, 2020, from <https://www.solarenergy.org/solarize-delta-county/>
- ¹⁴³ The Thunder Basin Grasslands Prairie Ecosystem Association. (2001). Building A Knowledge Base For an Ecosystem Management Plan. In *The History, Ecology, and Economy of The Thunder Basin Prairie Ecosystem*. Casper City, WY. Retrieved April 20, 2020 from <http://www.rswyoming.com/TBGPEA/pdf files/FirstSymposium/AssnFirstSympWebIntro.htm>
- ¹⁴⁴ (n.d.). Retrieved December 2019, from <https://www.wallowaresources.org/index.php/what-we-do/youth-education/school-program/watershed-monitoring>
- ¹⁴⁵ Flickwir, E. M. (n.d.). Weaverville Community Forest: Background. Retrieved April 20, 2020, from <https://tcrd.net/wcf/background.htm>
- ¹⁴⁶ Washington Department of Natural Resources. (2018). *Economic Impacts of the Mt. Adams Community Forest, 2014-2017*. Retrieved from https://wecprotects.org/wp-content/uploads/2018/11/Report_Economic_Impacts_of_the_Mt._Adams_Community_Forest_2014-2017_FINAL_EDIT.pdf
- ¹⁴⁷ Better City. (n.d.). Delta County Economic Assessment. Retrieved April 20, 2020 from [https://deltacountyed.org/resources/Documents/Phase 1 - Delta County Economic Assessment - Final\[1\].pdf](https://deltacountyed.org/resources/Documents/Phase 1 - Delta County Economic Assessment - Final[1].pdf)
- ¹⁴⁸ DHM Design Corporation with SGM, Inc. (2018). Delta County Recreation and Trails Master Plan. Delta County, Colorado. Retrieved April 20, 2020 from <http://deltacounty.com/DocumentCenter/View/10870/2018-Recreation-and-Trails-Master-Plan?bidId=>

Chapter 4: Factors that Enable Stewardship Economy Activities

The many stewardship economy (SE) strategies and activities described in Chapter 3 did not magically come about. What made possible these activities and the accomplishments they led to? This chapter describes the key factors that have enabled stewardship economy activities to emerge and thrive in numerous communities in the American West. The presence of these factors helps to explain how communities have made progress integrating stewardship as a part of their local economies.

The enabling factors described in this chapter range from distinctly local characteristics to critically important government programs and policies. Sustained local leadership and institutional support played an important role in all communities. An entrepreneurial and opportunistic outlook and approach enabled communities to seize opportunities, innovate, get traction, and build momentum. A strong sense of place and responsibility, as well as a common vision, motivated action in these communities. Partnerships and network support were indispensable. Local assets and infrastructure provided a foundation to build upon, and charitable foundation and individual donor funding provided much needed and flexible support. Finally, government policies and programs at the county, state and federal levels provided essential funding, authorities, and programmatic opportunities with which to pursue SE activities.

Table 6: Factors that enable stewardship economy activities

<p>1. <u>Sustained local leadership and institutional support</u></p> <ul style="list-style-type: none"> • Engaged community organizations • Supportive county government • Watershed council and conservation district leadership • Supportive land management agency staff • Private landowner leadership <p>2. <u>An opportunistic and pragmatic outlook and approach</u></p> <ul style="list-style-type: none"> • Opportunistic responses to external change • Entrepreneurial approaches • Pragmatic and grounded outlook <p>3. <u>Local support rooted in a sense of place, responsibility, and common vision</u></p> <ul style="list-style-type: none"> • Sense of place and pride • Shared land ethic • Culture of volunteerism • Unity around a common issue or need • Shared community values and vision for the future • Culture of collaboration <p>4. <u>Partnerships and networks</u></p> <ul style="list-style-type: none"> • Formal agreements • Research partnerships • Informal partnerships • Networks <p>5. <u>Charitable foundation and individual donor support</u></p> <ul style="list-style-type: none"> • Grants to initiate SE activities • Flexible foundation funding • Consistent foundation and nonprofit support • Individual donor support <p>6. <u>Local infrastructure and assets</u></p> <ul style="list-style-type: none"> • Wood processing infrastructure • Enterprise zones • Public spaces and services • Accreditations and certifications <p>7. <u>Government policies and programs</u></p> <ul style="list-style-type: none"> • Table 7.1 - Forest restoration • Table 7.2 - Fish and watershed Restoration • Table 7.3 - Agriculture improvements • Table 7.4 - Private land conservation • Table 7.5 - Wildlife conservation • Table 7.6 - Community and economic development • Table 7.7 - Renewable energy • Table 7.8 - Capacity-building and partnerships

Enabling Factor 1: Sustained local leadership and institutional support

“The key factor [was] bringing together a small team of good individuals who can look at the issues and execute.”

- Interviewee, North Fork Valley, CO

“These are the things that need to get done to do this work. Why don’t we step up and fill gaps?”

- Interviewee from the Watershed Training and Research Center, Trinity County, CA

“Wallowa Resources helped familiarize the community with working together.”

- Community member, Wallowa County, OR

“[Public Land Partnership] hold(s) a table of trust, where anyone can come and talk about anything.”

- Public Land Partnership member, West Central CO

A common factor that enabled SE activities across many communities was the presence of sustained leadership and institutional support at the local level. Engaged community organizations, supportive county governments and land management agencies, community-minded individuals, and watershed council and conservation district staff all played central roles in convening, connecting, funding, and supporting the development of SE activities. Individuals in these organizations were attuned to and concerned about local issues and had unique assets and connections that could make things happen.

Engaged community organizations

The sustained leadership of community organizations, in particular community-based organizations (CBOs)[†], enabled SE activities in several ways. These organizations typically created a forum for convening community members, catalyzing projects and programs, and directing funds towards SE activities. While some organizations had a narrow niche and focus, across the board CBOs had the ability to encourage activities that addressed the local community’s multiple, unique needs.

Hubs for multiple activities

In several communities, CBOs provided a launching pad for multiple kinds of activities. CBOs conducted demonstration projects, provided educational opportunities, and supported planning efforts, all with the objective of advancing new initiatives in the community and promoting local economic development.

[†]Community-based organizations: “[N]on-profit organizations, which are based in rural areas, and that conduct practical work on both rural economic development and natural resource stewardship.”

Abrams, J., Davis, E. J., Ellison, A., Moseley, C., & Nowell, B. (2016). *Community-Based Organizations in the U.S. West: Status, Structure, and Activities. Ecosystem Workforce Program*. Retrieved from http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_67.pdf

- **Wallowa County, OR:** Wallowa Resources (a CBO) has supported small-business incubation, noxious weed management, youth education, renewable energy generation, and stewardship plan development for landowners.
- **Lake County, OR:** Lake County Resources Initiative (LCRI) expanded its work beyond restoring the Lakeview Federal Sustained Yield Unit to include supporting local education opportunities and developing local renewable energy resources.
- **Mount Adams, WA:** Mount Adams Resource Stewards (MARS) has developed solar and greenhouse demonstration projects in the local school and helped the community expand broadband access while also establishing a community forest and employing seasonal stewardship crews.

Ability to channel and administer funds

CBOs with tax-exempt status helped channel funds into communities for SE activities. These organizations had the administrative capacity and knowledge to manage grants and other funding resources, thereby enabling experimentation and development of SE activities.

- **Wallowa County, OR; Trinity County, CA; Lake County, OR:** Wallowa Resources, the Watershed Research and Training Center (WRTC), and LCRI brought substantial funding into local communities through community-based forestry grants provided early on by the Ford Foundation.
- **Mount Adams, WA:** MARS has directly funded seasonal workers through a variety of state funding sources, U.S. Forest Service and U.S. Fish and Wildlife Service grants, and private foundation grants.
- **Salmon River region, ID:** Salmon Valley Stewardship (SVS) brought in support from private foundations and secured federal grants such as a Rural Business Development Grant through USDA Rural Development.

Partnerships, networks, and relationships that could be tapped

The partnerships, networks, and relationships of CBO directors and board members and other leaders in the communities also helped advance SE activities. These leaders were respected and trusted and had relationships with county government officials, influential landowners, local agency staff, and partners beyond the local community. Their networks and relationships enabled these leaders to navigate barriers, inspire new ideas, and build additional support and capacity for SE activities. Relationships with elected officials, agency officials, and private landowners helped CBOs and other local organizations attract attention and funding for SE activities.

- **Trinity County, CA:** Relationships with people at multiple levels of the Forest Service helped both WRTC and its agency partners identify new opportunities and work through challenges together.
- **Mount Adams, WA:** Relationships with state representatives helped bring in state grants for forest restoration on the Gifford Pinchot National Forest.
- **Lake County, OR:** Relationships with Oregon's congressional delegation contributed to the delegation's ongoing support for the Collaborative Forest Landscape Restoration Program (CFLRP) at the national level.

- **Blackfoot Watershed, MT:** Blackfoot Challenge developed a successful program to reduce wolf depredation of cattle by building upon relationships with a few initial landowners. These early adopters let Blackfoot Challenge staff pick up carcasses from their properties and build fencing around their calving sites. Seeing these pre-existing relationships between the organization and landowners, many more landowners have since gotten involved with this program.

Ready platforms for communication

CBO gatherings provided a natural platform for communication among parties who needed to work together to foster SE activities.

- **Malpai Borderlands, AZ/NM:** Malpai Borderlands Group (MPG) prioritized creating time and space for partners to socialize and build connections. Interviewees noted that the resulting informal conversations helped partners maintain relationships and stay informed of each other's projects and priorities.
- **Chama Peak, CO/NM:** Chama Peak Land Alliance (CPLA) gave landowners a forum to demonstrate their conservation practices to land management agency staff, which helped both the agencies and landowners learn from each other.
- **Blackfoot Watershed, MT:** Blackfoot Challenge's sub-committees provided a venue for landowners to express concerns and share ideas with agency staff while also giving agency staff a venue to share important land management information with the landowners.

These gatherings also enabled early communication, which enabled the community to tackle large issues sooner rather than later.

- **West Central CO:** Public Land Partnership (PLP) took on coal mining issues early in the organization's history, which helped the community secure funding for a railroad crossing safety project despite many people saying it would not be able to reach any agreement on this issue.
- **Mount Adams, WA:** The Southern Gifford Pinchot Collaborative (SGPC) prioritized early communication on more controversial forest management issues, bringing in experts and giving collaborative members time to develop a shared understanding before decisions were made.

Supportive county government

County commissioners and other county officials leveraged their unique connections, funding resources, regulatory status, and influence, thereby enabling SE activities to be undertaken. In some cases, they did so through direct financial support.

- **Mount Adams, WA:** Skamania County was a fiscal sponsor of SGPC. With this support, the collaborative had greater administrative capacity to manage a robust stewardship contracting program that resulted in job creation for local forest contractors and many forest restoration projects. Skamania County Commissioners also had relationships with Washington state legislators, which in 2010 helped SGPC secure two state forest restoration grants amounting to \$400,000.

Where county governments did not provide direct financial support, they sometimes enabled SE activities with other tools.

- **Mount Adams, WA:** A Klickitat County Division of Natural Resources staff person has been a leader on the regional Salmon Recovery Funding Board. In this position, they helped ensure projects funded through the Board were completed by local contractors.

County governments also have the ability to incentivize businesses and nonprofits that support SE activities.

- **Lake County, OR:** Lake County commissioners used payments in lieu of taxes (PILT) to attract Collins Company in the early 2000s, helping make it financially possible for the company to invest in a small-diameter sawmill.
- **Wallowa County, OR:** Shortly after Wallowa Resources was established, the Wallowa County Board of Commissioners passed a resolution recognizing the organization as a new lead agency to help the County implement its recently adopted strategic plan for economic development. The goal of this plan was to “retain a natural resource-based economy.” This county recognition was critical to establishing the credibility and legitimacy of the new non-profit.

In some cases, counties tapped into federal funding resources that provided them with greater administrative capacity to prioritize stewardship.

- **Mount Adams, WA:** Skamania County took advantage of funding from the Secure Rural Schools Act, some of which supported Resource Advisory Committees to fund and coordinate forest restoration projects in the county.
- **North Fork Valley, CO:** Delta County secured several rural adjustment and assistance grants that supported the North Fork Valley’s economic transition as coal mining declined. Some of these funds were used to conduct a county-wide economic diversification assessment which guided the county’s subsequent investment in rural broadband, local agriculture, and renewable energy development.

Finally, some rural county governments engaged in economic diversification activities that subsequently enabled SE activities to be undertaken.

- **Mount Adams, WA:** Klickitat County government worked to make renewable energy development more affordable across the county in order to diversify the local economy. The County developed an Energy Overlay Zone that provided financial incentives for renewable energy developers, which in turn provided farmers and ranchers with the opportunity to supplement their income with renewable energy projects on their properties.
- **North Fork Valley, CO:** Delta County has engaged in several economic diversification activities, including expanding broadband internet access to create more location-neutral job opportunities. This enabled SE activities in several ways: former coal workers were trained to help construct the new broadband infrastructure which helped retain jobs in the valley amidst the recent closure of local coal mines, and broadband has supported several value-added agriculture businesses.

Watershed council and conservation district leadership

Watershed councils and conservation districts played a unique role in enabling SE activities. These entities are non-regulatory and hence are perceived as less threatening than some governmental entities. The entities also had long-standing and trusted relationships with private landowners and were

able to bring new resources to the table. Their leadership encouraging voluntary stewardship practices by landowners enabled SE activities to take root across large landscapes.

- **Lake County, OR:** The Lake County Umbrella Watershed Council was the go-to partner for working with landowners on stream restoration and fish passage projects in Lake County. Landowners had seen the Council successfully complete projects with their peers over more than a decade, causing many more landowners to partner with the Council on projects of their own. These projects helped the landowners improve their water delivery infrastructure while also improving habitat for sensitive fish species.
- **Mount Adams, WA:** The Underwood Conservation District (UCD) filled a regional niche in Mount Adams, working with individual landowners on projects like fire-wise treatments, small-scale fish passage improvements, and soil testing. Landowners in the region viewed UCD as a go-to resource for improving conservation practices on their properties, particularly since engaging with UCD was completely voluntary and the organization has been around since the 1940s.

Supportive land management agency staff

Supportive land management agency staff enabled SE activities in most cases. They stayed actively involved and demonstrated commitment to collaborative groups, thereby building trust among parties and helping projects advance more smoothly. They recognized and were sensitive to stakeholder concerns.

- **Trinity County, CA:** A longtime Forest Service district staffer recognized that local people were fearful about the impact of agency decisions. As a result, they worked harder to emphasize working together and created mutual education opportunities in the field where stakeholders could get to know each other better.
- **Lake County, OR:** Forest Service staff were heavily involved in the development of the Lakeview Stewardship Group, the collaborative that managed the Lakeview Federal Sustained Yield Unit. They took the time to organize field trips, helped with NEPA planning, assisted with developing a CFLRP proposal, provided key technical information to the collaborative members, and in general, listened and responded to their different perspectives.
- **Mount Adams, WA:** Staff from the Mount Adams Ranger District were very involved in the Southern Gifford Pinchot Collaborative. They worked with collaborative members to develop Zones of Agreement that identify areas where collaborative members generally agreed on current and future forest management practices so that the group did not have to continuously re-assess how these areas should be managed.

Private landowner leadership

Projects on private land are often an important component of SE activities. Landowners who took an active, sustained role in working with environmental organizations, agencies, tribes, and other entities, enabled more work to be accomplished across the landscape.

- **Malpai Borderlands, AZ/NM:** The fact that ranchers initiated the creation of Malpai Borderlands Group lent the organization credibility and made it easier to engage in collaborative prescribed burning projects between landowners and the Forest Service.

- **Lake County, OR:** Landowners who worked with the Klamath Lake Forest Health Partnership to implement forest thinning on their land often encouraged their neighbors to get involved too, greatly expanding the overall area treated.

Enabling Factor 2: An opportunistic and pragmatic outlook and approach

“As much as we talked about projects, we could always see policymakers’ ears perk up when we mentioned jobs.”

- Interviewee, Salmon River region, ID

“If we’re not predictable and sustainable, our infrastructure will go away, and then what will we do? ... [It is] important to have all kinds of people across the political spectrum and experience levels be involved. That’s why I like this approach of the non-profit groups.”

- National Forest staff member, Trinity County, CA

“[Malpai Borderlands Group] will never do anything to someone ... Rather, it will only do something with them, at their invitation.”

- Malpai Borderlands Group founding document, Malpai Borderlands, AZ/NM

“Not every project can be done, and not every project should be done.”

- Interviewee, Thunder Basin, WY

“We’ve purposely tried to stay lean and local.”

- Interviewee, Chama Peak, CO/NM

“Once there is consensus, we see that as our marching order.”

- Interviewee, Blackfoot Watershed, MT

An opportunistic and pragmatic outlook and approach enabled SE activities to take form and succeed in many places. The opportunistic approaches of people working on these activities enabled them to effectively respond to external change and foster entrepreneurial and innovative projects and efforts. At the same time, many people had a pragmatic and grounded outlook which enabled them to focus on the SE activities that were most important so that limited capacity and resources could be put to optimal use.

Opportunistic responses to external change

Rural places have contended with many external changes, from shifting forest management policies and priorities to timber market fluctuations, which has presented challenges for people working to develop SE activities. Those who viewed change as an opportunity to try new approaches enabled SE activities by creating space for and promoting new ideas.

- **Trinity County, CA:** The spotted owl conflict resulted in an erosion of control over forest management by the timber industry and Forest Service. In Trinity County, the resulting management void created space for the Watershed Research and Training Center (WRTC) to develop a model for forest management that more explicitly supported both stewardship and economic activity. WRTC's early leaders developed stewardship crews to work on forest restoration and promoted this as a model for other rural communities that faced changing forest and industry conditions. WRTC also worked to build relationships and networks with county government, conservation districts, businesses, agencies, and elected officials to bring in additional support for and involvement in this new model of forest management. This opportunity-seeking perspective has continued over the years. More recently, WRTC has capitalized on new funding resources as the State of California has increasingly allocated funding to reduce wildfire threats.
- **Wallowa County, OR:** Wallowa Resources has explicitly prioritized flexibility and opportunism as an organizational approach. This opportunism was reflected in its response to changes in Forest Service staff and capacity in the County. At the request of the County, Wallowa Resources invested in developing a partnership between the County and the Forest Service. The organization also brought together a broad range of stakeholders that had been at odds with each other so that all parties could understand and appreciate the situation. This convening of parties helped manage people's expectations and created a shared understanding of local forest management. The approach also fostered a collective understanding among forest contractors and the timber industry that the Forest Service's hands were often tied due to factors outside of its control. This shared understanding subsequently helped motivate responses to the void in agency capacity and local milling capacity. For example, the volunteer-based Trails Association was created to help manage trails on local Forest Service land, and Integrated Biomass Resources, a small-diameter wood processing business, was established to help support local forest restoration.

Entrepreneurial approaches

Many people in the places we studied had an entrepreneurial outlook and approach which enabled them to identify and foster various SE activities such as business or organization start-ups or creative forest contracting approaches.

Several people in the places studied had a ready ability to identify new business or organization opportunities. This ability enabled them to help local community members step in and benefit from these ideas.

- **Trinity County, CA:** Seeing a need to create local jobs and processing infrastructure for restoration byproducts, WRTC incubated Jefferson State Forest Products (JSFP), a business that manufactured wooden display crates for Whole Foods. The business was created at a time when Whole Foods was expanding significantly, which helped JSFP succeed as it kept up with this growth.
- **Wallowa County, OR:** Seeing a gap in Forest Service capacity to manage trails, Wallowa Resources helped start the Wallowa Mountain Hells Canyon Trails Association. They financed employee time and provided a physical base for operation so that the organization could get off the ground and become self-sustaining.

An entrepreneurial outlook also enabled people to develop innovative and creative approaches to forest contracting work.

- **Salmon River region, ID:** People in agencies and local organizations decided to have non-local contractors train local contractors so that the locals could conduct similar projects in the future. An NGO also worked with a state agency to create a unique contracting mechanism that helped it get around a federal requirement to employ seasonal employees only for a specific duration of time. The NGO agreed to hire the employees when its seasonal contracts ended, then received compensation from the state agency through other available funding sources. Having consistent employment enabled skilled contractors to stay in the area.
- **Mount Adams, WA:** The Southern Gifford Pinchot Collaborative (SGPC) developed a creative approach to stewardship contracting. Many collaboratives administer stewardship contracts on a project-by-project basis and do not track project metrics over time. SGPC, by contrast, tracked various metrics of each contract such as which contractors were involved, job creation benefits, and ecological outcomes. This programmatic approach to stewardship contracting enabled SGPC to improve how it prioritized and awarded contracts over time.

Pragmatic and grounded outlook

In many places, people working to advance SE activities stayed true to their mission and objectives and maintained focus on what was most important. This pragmatic and grounded outlook enabled them to work within well-defined, manageable boundaries and a subset of issues so that their resources and capacity could be put to optimal use.

Manageable scope and scale of undertakings

- **Chama Peak, CO/NM:** Chama Peak Land Alliance (CPLA) has been relatively strict about working only within the “Alliance Region” — an area spanning the Colorado-New Mexico border — even when there were funding opportunities for projects outside of this area. The organization has also focused on a small subset of projects related to watershed and forest restoration, landowner engagement, and research. This approach enabled CPLA to accomplish significant restoration work while providing important opportunities for landowners to collaborate with agencies and other partners.
- **Malpai Borderlands, AZ/NM:** Malpai Borderlands Group was careful to start small at its inception, using logical boundaries to draw its borders. The organization intentionally left out areas where more complex and challenging issues would need to be addressed. This approach enabled the organization to slowly build capacity so it could eventually tackle the more difficult management issues once it was better-prepared.
- **Thunder Basin, WY:** Given the vastness of the five-county Thunder Basin region, Thunder Basin Grasslands Prairie Ecosystem Association (TBGPEA) focused on a few, focal species and areas and was careful about what research projects to take on with universities, only focusing on studies that could reasonably be acted upon. This approach enabled the organization to maintain a focus on its mission and develop several lasting projects such as a 30-year conservation strategy.

Community-centered focus

- **Ajo, AZ:** Ajo Center for Sustainable Agriculture (Ajo CSA) programs evolved out of what community members said they needed most. For example, the organization provided tools and resources that helped Ajo residents help themselves become local food producers. This community-centered focus enabled the organization to help Ajo residents take charge and make meaningful contributions to the local food economy.
- **Blackfoot Watershed, MT:** Blackfoot Challenge formed its subcommittees based on challenges identified by landowners rather than by the CBO itself. The CBO simply acted as a convener and provided support. This community-driven approach to identifying issues enabled landowners to feel that their contributions and ideas were important and that their voluntary participation on the subcommittees was worth their time. For example, landowners benefit from participation on the drought subcommittee since their collective efforts to maintain a minimum flow in the Blackfoot River prevent state agencies from mandating water shut-offs.

Enabling Factor 3: Local support rooted in a sense of place, responsibility, and common vision

“No matter how important certain individuals or institutions have been, the strength of the group has come from the community of people acting together.”

- *Malpai Borderlands Group, Malpai Borderlands, AZ/NM*¹⁴⁹

“Without that [community engagement], I can’t see much of anything getting done, in any significant fashion anyways.”

- *Trinity County Resource Conservation District staff member, Trinity County, CA*

“[This] collaboration is part of the fabric of these communities, regardless of what happens in DC or what the Forest Service decides to do. Those relationships will continue to persist.”

- *Forest collaborative member, Northeast Washington*

“a concerted effort . . . to create programs in which we can work together to implement the values we share.”

- *Malpai Borderlands Group’s founding document, Malpai Borderlands, AZ/NM*

“The NFV really attracts people who want to get back to land, have a healthy lifestyle and want to be part of a new economy...There are just so many working towards this vision of a new, resilient economy.”

- *Interviewee, North Fork Valley, CO*

“The Ajo community is interested and involved residents are willing to invest time, resources, and expertise to improve these economic and health outcomes in Ajo.”

- *Interviewee, Ajo, AZ*

Community support for SE activities was an important enabling factor in several places. When community members were engaged in and supportive of SE activities, these activities were more likely to take root and last. This community support was rooted in a sense of pride and place, shared land ethic and ownership, a culture of volunteerism, unity around common issues and needs, shared community values and vision for the future, and a culture of collaboration.

Sense of place and pride

A shared sense of pride in and care for the local natural environment and associated rural livelihoods characterized several communities examined in this study. This sense of pride enabled individuals and organizations to build greater community ownership and participation in SE activities.

- **Blackfoot Watershed, MT:** People involved on Blackfoot Challenge sub-committees tended to take their membership very seriously since they shared a deep care for both the natural resource-based livelihoods and recreation opportunities that the watershed supports. This shared pride in and care for the watershed was important because the Blackfoot Challenge's decentralized sub-committee model necessitated consistent, voluntary participation from landowners.

A sense of pride around a specific stewardship-related livelihood also helped guide communities to pursue SE activities.

- **North Fork Valley, CO:** The North Fork Valley has a strong agricultural heritage. Shortly after the valley was settled, it became well-known nationally for its orchards, with Paonia apples winning several awards at the 1893 Chicago World Fair. Several people working to support the local food economy invoked this historical identity in their promotion of the valley as a unique food experience.

Shared land ethic

A shared ethic about how land should be managed or used was present in several communities, enabling the community to take pride and ownership in advancing SE activities.

- **Mount Adams, WA:** Glenwood community members shared a land ethic about managing forests for diverse uses including timber production, grazing, and recreation. With this shared land ethic in mind, Mount Adams Resource Stewards (MARS) had a clear directive for establishing the Mount Adams Community Forest (MACF) and managing it for this mix of uses. Community members have been eager to donate time and money to maintaining and expanding the community forest since it is managed with their land ethic in mind. The MACF has enabled the retention of local forest contracting jobs and a reduction of wildfire risks near Glenwood.
- **Ajo, AZ:** There has been a growing, shared ethic around small-scale, local food production in Ajo. In 2015, one-sixth of households in Ajo were involved in the production and consumption of local food, and many community organizations and agencies have supported the local food economy by providing physical spaces for food production. This shared ethic helped put Ajo on the map as a local food hub, enabling groups like Ajo CSA to attract outside funding opportunities such as a grant from the EPA-USDA Local Food, Local Places program.

Culture of volunteerism

A culture of volunteerism enabled community members to get involved with SE activities in several places. This involvement of volunteers in SE activities helped meet project labor needs, provided an opportunity for community members to add important ideas and perspectives to projects, and built a sense of ownership around resource stewardship.

- **Mount Adams, WA:** A strong culture of volunteerism was one factor that enabled the restoration of the Condit Dam site after the dam was removed. Over 500 volunteers got involved, enabling the construction of trails, replanting of native vegetation, and development of interpretative materials to teach people about the dam removal and restoration project. The project also built community interest and ownership around river restoration, catalyzing plans to form a new community organization to work on similar projects. Mount Adams Resource Stewards (MARS) also benefited from a strong local culture of volunteerism. The organization has frequently had high attendance at its volunteer events, in which landowners, contractors, and Forest Service staff have come together to help MARS complete restoration projects. Not only did this culture of volunteerism provide labor for these projects, it also provided an opportunity for these stakeholders to come together and share ideas.
- **Wallowa County, OR:** A culture of volunteerism helped provide much-needed labor and support for stewardship work in the county. Many community members wanted to give back and had useful technical skills from careers in the Forest Service or other land management jobs. For example, the Trails Association was able to accomplish much of its work with volunteer labor. The organization amassed over 1,000 hours of trail work in its first year, conducting over 26 miles of trails improvements.
- **North Fork Valley, CO:** A culture of volunteerism enabled the Valley's numerous, volunteer-coordinated festivals and community events, such as the Mountain Harvest Festival and Hard Cider Festival. Volunteers also round out labor needs for many of the valley's agriculture producers. One producer noted that having a volunteer who could fill in for him at the local farmer's market when he made trips to Front Range farmer's markets was a major asset, as well as having someone fill in for a few weeks when one of his farm workers was injured.

Unity around a common issue or need

In many cases, unity around a common issue or need enabled SE activities to get underway. For example, in some cases, community members collectively understood the need to diversify local income opportunities and build resilience.

- **Lake County, OR:** Lake County Resources Initiative (LCRI) garnered support for expanding beyond its original focus on forest restoration work, in recognition of the community's interest in new local education opportunities and more renewable energy. This expansion was largely driven by a need to create new career development and income opportunities in the face of the declining availability of local forestry work.
- **Wallowa County, OR:** Many community members in Wallowa County understood the need to develop more local renewable energy generation to make the rural area more resilient, especially given power shut offs that can occur due to high wildfire risk.

Other communities coalesced around the need to prevent economic decline and foster economic transition after a local collapse of an extractive industry.

- **Lake County, OR:** Interest from Lake County commissioners in getting involved with forest collaborative efforts was enabled in part due to the community's collective recognition that previous timber harvest practices were not sustainable.
- **North Fork Valley, CO:** Many residents and community leaders in the North Fork Valley were wary of the boom-and-bust nature of extractive industries due to the recent collapse of local coal production. These collective concerns motivated community members to proactively resist natural gas production; residents of the North Fork Valley have consistently submitted thousands of comments on Bureau of Land Management natural gas leasing proposals.¹⁵⁰

Shared community values and vision for the future

In many places, a shared community vision or set of values enabled greater support for SE activities. Shared visions and values not only guided SE activities, but also facilitated collective understanding and ownership over community issues.

- **Malpai Borderlands, AZ/NM:** Landowners, environmentalists, agencies, and other partners in the Malpai Borderlands shared a vision of returning fire to the landscape and protecting open space. This shared vision enabled subsequent cooperation, study, and joint efforts related to prescribed fire and open space issues.
- **North Fork Valley, CO:** The North Fork Heart and Soul Project—a community-wide assessment of people's vision for the future of the North Fork Valley—highlighted that residents shared common values including rural and natural environment, small town feel and sense of community, steady economy, independence and personal responsibility, and local traditions and heritage.¹⁵¹ These shared values have helped guide the Valley's economic diversification activities that promote value-added agriculture and renewable energy.

Culture of collaboration

A strong culture of collaboration enabled SE activities in several places. A history of community involvement in collaborative problem-solving demonstrated to funders that a community had the potential to effectively carry out projects. Additionally, a history and culture of collaboration gave people familiarity with the collaborative processes necessary for pursuing SE activities.

- **West Central CO:** Public Lands Partnership had a history of taking on controversial issues and working through them, such as coal mining, where it “holds a table of trust, where anyone can come and talk about anything.” This history of collaboration helped engage funders by demonstrating that community members and organizations were willing to work together.
- **Northeast Washington:** The Northeast Washington Forest Collaborative had a culture of collaboration related to navigating tricky forest management issues with creative solutions. As one member described, “[This] collaboration is part of the fabric of these communities, regardless of what happens in D.C. or what the Forest Service decides to do. Those relationships will continue to persist.”

Enabling Factor 4: Partnerships and networks

“In water restoration, relationships are the game-changer.”

- Interviewee from the Watershed Research and Training Center, Trinity County, CA

“Folks know that if you say you’re going to do something, you’ll follow through.”

- Watershed council staff person, Lake County, OR

“[The] social network has benefitted as a result of people working together and sharing information.”

- Lakeview Stewardship Group member, Lake County, OR

“[Partnerships with universities are] a luxury that few people have [and have helped us] address management issues and questions in a way that is timely and user-friendly.”

- Interviewee, Thunder Basin, WY

“You give a tour, and six months later someone calls you up and says ‘hey, I have some more funding that you might be interested in.’”

- Interviewee, Chama Peak, CO/NM

“It’s pretty neat when two collaborative groups can start bumping into each other, especially when they truly are collaborative. All of the sudden you can see some really cool growth and unlimited possibilities.”

- Interviewee, Chama Peak, CO/NM

“[Networks create] a really strong root system, even if you can’t see much of the ‘plant’ above it.”

- Interviewee, Ajo, AZ

In several places, partnerships and networks enabled SE activities to get underway and take root. Some partnerships involved formalized agreements (e.g., between CBOs and agencies) that streamlined SE activities and made them more financially feasible. These agreements included cost-sharing partnerships, memoranda of understanding (MOUs), and other types of formal agreements. Research partnerships allowed several communities to better understand socio-economic and ecological characteristics of their region, enabling them to improve or refine their SE activities or demonstrate the impacts of these activities to funders and policymakers. Other partnerships were more informal, such as sharing event spaces or transportation costs, which enabled partners to advance SE activities by more efficiently using human capacity, funding, and other resources that are limited in rural communities. Finally, the presence of networks — such as communication networks or resource-sharing networks — enabled several places to advance SE activities by bringing local issues to the fore and attracting attention and funding.

Formal partnership agreements

Formal agreements between partners enabled SE activities in several places. These agreements included cost-sharing agreements, memoranda of understanding (MOUs), participating agreements (PAs), and

other formal agreements. Formal agreements were usually between NGOs, businesses, agencies, and landowners and helped build consistency, flexibility, and financial viability into SE activities.

Cost-share agreements

- **Mount Adams, WA:** Cost-share agreements between Underwood Conservation District and landowners enabled landowners to engage in forest thinning and stream restoration projects on their properties that they otherwise could not afford.
- **Malpai Borderlands, AZ/NM:** Cost-share agreements with Malpai Borderlands Group, the NRCS, and the USFS made it more affordable to procure conservation easements, engage in prescribed burns, and conduct range improvement projects with landowners such as drilling wells and building fences.

Memoranda of understanding (MOUs)

- **Lake County, OR:** MOUs replaced outdated fire agreements in Lake County. These helped formalize and reduce liability concerns for prescribed burn projects.
- **Chama Peak, CO/NM:** A coalition of NGOs and agencies called the 2-3-2 Coalition are establishing an MOU in the Chama Peak region to help navigate the complex process of fighting fires along the Colorado-New Mexico border. The MOU would allow fire control districts to travel a certain number of miles into another state when a fire is less accessible to fire districts within the state where the fire originated.

Other formal agreements

- **Northeast Washington:** A formal agreement between the Colville National Forest and Vaagen Brothers Lumber enabled Vaagen Brothers to take on responsibility for all phases of a forest restoration project, from NEPA and environmental analysis to implementing treatments and cutting trees. This agreement brought additional capacity to the Forest Service and sped up the timeline for restoration.
- **Thunder Basin, WY:** The Conservation Strategy — one of the largest voluntary conservation agreements in the US — enabled landowners, agencies, mineral companies, and other partners in the Thunder Basin to engage in cross-boundary land management projects across the 13.2-million-acre region. The Conservation Strategy enabled these partners to improve the protection of sensitive species and management of invasive species.

Research partnerships

Partnerships with researchers and experts enabled several places to advance SE activities. Researchers and experts generally came from universities, research firms, NGOs, and agencies and helped rural communities conduct studies to better understand ecological phenomena, socio-ecological systems, and the economic impacts of stewardship work. Insights from this research helped communities refine SE activities or demonstrate the impacts of their work to attract the attention of policymakers and funders.

University researchers

- **Mount Adams, WA:** Forestry experts from universities in the Northwest met with members of the Southern Gifford Pinchot Collaborative (SGPC) when the group was deliberating over more controversial forest management topics. This enabled collaborative members to make better-informed decisions about forest management.

- **Malpai Borderlands, AZ/NM:** Researchers helped conduct land management studies in the Malpai Borderlands which helped move restoration projects along. One study on whether prescribed fire would harm an endangered rattlesnake species helped landowners and agencies proceed with burn projects when they discovered that smaller fires were unlikely to negatively affect the species.
- **West Central CO:** Colorado State University helped residents of Delta and Montrose counties develop an economic development report that helped community members understand foundational economic concepts and how they relate to public lands and natural resource management. This enabled community members in West Central Colorado to have important conversations around the nexus of stewardship and the rural economy.

Independent research organizations

- **Salmon River region, ID:** Headwaters Economics worked with Salmon Valley Stewardship (SVS) to develop two reports (“The Economic Impacts of Restoration: Custer and Lemhi Counties, Idaho”¹⁵² and “Restoration Means Jobs in Central Idaho”¹⁵³), which enabled SVS and other community members to demonstrate the impact of stewardship work in terms of job creation. This helped attract more attention to the region from elected officials and funders.
- **North Fork Valley, CO:** A research firm worked with the nonprofit Citizens for a Healthy Community (CHC) to develop a report on the economic impacts of natural gas development in the North Fork Valley. This report gave CHC tools to communicate the potential negative impacts of natural gas development with community members and elected officials.

NGO experts

- **Malpai Borderlands, AZ/NM:** The Malpai Borderlands Group provided an external source of insights for West Central Colorado’s Public Lands Partnership (PLP). PLP brought in members of Malpai Borderlands Group to discuss ranching and stewardship which enabled community members to become more attune to rangeland stewardship and economic development issues.
- **North Fork Valley, CO:** The availability of regional energy experts like Rocky Mountain Institute (RMI) enabled Delta-Montrose Electric Association (DMEA) to exit a contract with its wholesale energy provider. This has enabled DMEA and other partners in the North Fork Valley to begin the process of developing more local renewable energy resources. RMI provided policy, legal, and technical expertise and feedback as DMEA navigated this process.

Research agencies

- **Thunder Basin, WY:** Researchers from the USDA Agricultural Research Service (as well as universities) helped the Thunder Basin Grassland Prairie Ecosystem Association study and improve rangeland management practices in Thunder Basin.

Informal partnerships

Some partnerships were less formal but no less important for enabling SE activities. These informal partnerships were generally between a combination of NGOs, agencies, or businesses. Participants understood their partners’ constraints and worked together to fill the gaps between their respective work. These informal partnerships included arrangements for sharing funding and programmatic duties,

partnerships for determining which entity takes the lead on projects, and other resource-sharing arrangements such as sharing space for events.

Arrangements for sharing funding and programmatic duties

- **Trinity County, CA:** The Watershed Research and Training Center (WRTC) and the Trinity County Resource Conservation District (TCRCD) are both grant-eligible organizations working on similar forest restoration projects. An informal agreement between the organizations enabled them to increase the amount of grant money coming in for projects. The organizations have also worked together to meet NEPA and California Environmental Quality Act requirements.
- **Mount Adams, WA:** An informal partnership between Yakama Nation Fisheries and the Cabin Owners Association enabled the restoration of the Condit Dam site after the dam was removed. The Cabin Owners Association provided both volunteers and political support since it had clout within the local community. Yakama Nation Fisheries provided technical expertise and procured grants for the project.

Partnerships to determine who takes the lead

- **Mount Adams, WA:** An informal partnership between Mount Adams Resource Stewards (MARS), Columbia Land Trust (CLT), and SDS Lumber helped inform who should purchase private forest lands that became available in the region. MARS sought forest tracts that were close to Glenwood and could be added to its community forest, CLT looked for forested land that could be protected with conservation easements, and SDS Lumber looked for forest tracts that could be easily added to its holdings for sustainable rotation and harvest. Each of these entities knew of one another's interests and priorities and notified one another of available forest tracts that met these criteria. This informal partnership enabled each entity to meet its interests, while also building mutual-trust.
- **Lake County, OR:** An informal partnership existed between the Lake County Umbrella Watershed Council and several agencies including the Oregon Department of Forestry, Oregon Fish & Wildlife Department, Soil & Water Conservation Districts, BLM, USFS, USFWS, and NRCS. The Watershed Council would take the lead on projects involving landowners who wanted to act more quickly or who were less trusting of the agencies given that the Watershed Council had greater funding flexibility and trust among landowners. This informal partnership has enabled the involved parties to navigate complex, cross-boundary forest restoration projects involving hundreds of private landowners.

Other resource-sharing arrangements

- **North Fork Valley, CO:** Solar Energy International (SEI), a nonprofit in the North Fork Valley, loaned its vans to local nonprofits for projects that involved transportation and provided its property for community events. Additionally, farmers in the Valley shared transportation costs by paying one farmer to transport several farmers' products to Front Range farmer's markets. These informal resource-sharing partnerships made it more financially feasible for local organizations and agriculture producers with limited resources to pursue SE activities.
- **Ajo, AZ:** The Ajo Regional Food Partnership has included many NGOs that worked together to provide a variety of resources to enable the development of the local food economy. These resources included spaces for gardening, youth internship programs, a commercial kitchen,

organizational leadership, and a willingness to incorporate local agriculture and food issues into an existing mission.

Networks

Networks of organizations, agencies, collaborative groups, and other entities — both within and outside of communities — enabled several places to bring local issues to the fore and advance SE activities. Regional and national network organizations[‡] provided ideas, expertise, funding, and other opportunities that enabled communities to initiate and maintain SE activities. Regional collaborative groups provided funding and support to local collaborative groups and other community organizations, enabling these local groups to advance SE activities at the local level or scale up activities to the regional level. Finally, informal communication networks within local areas helped maintain communication consistency needed to advance SE activities.

Regional and national network organizations

Several network organizations exist to support and promote activities that connect rural livelihoods and environmental stewardship. These organizations operate across large-scale regions, or even nationally. Network organizations that engaged with communities in this study are identified and described in Chapter 3, Table 4, pg. 74. These groups enabled rural communities to pursue SE activities by providing educational resources, on-the-ground management assistance, networking opportunities, policy advocacy, and funding.

- **Trinity County, CA:** Organizations including the Rural Voices for Conservation Coalition (RVCC) and Sustainable Northwest enabled the Watershed Research and Training Center to learn from and support other community-based organizations working to promote SE activities related to forest and watershed restoration.
- **Salmon River region, ID:** RVCC, Western Landowners Alliance (WLA), and the National Association of Counties (NaCo) provided both Salmon Valley Stewardship and individual landowners with the opportunity to better understand and advocate for impactful policies at the state and national level.
- **Blackfoot Watershed, MT:** Engagement by RVCC and WLA with Blackfoot Challenge facilitated co-learning and awareness building opportunities around Blackfoot Challenge's model of partnership-oriented conservation.

Regional collaboratives

While most collaborative groups exist at the local level, some operate across a much broader region. In some cases, these groups supported local collaborative groups and other community organizations by providing funding, ideas, or helping them scale up SE activities to connect with efforts happening across a broader region.

- **Salmon River region, ID:** The multi-state Heart of the Rockies Collaborative High Divide Collaborative (HDC) provided organizations in the Salmon River region with the opportunity to discuss, coordinate, and support projects with other leaders outside of the region. HDC also provided the Salmon River region with greater access to funding resources. For example, HDC

[‡]Network organizations operate at the regional or national scale to provide financial and technical assistance to local organizations, create cross-community learning opportunities, and advocate for supportive state and federal policies.

spearheaded a proposal to use Land and Water Conservation Funds for conservation work across the high divide.

- **West Central CO:** Western Colorado Landscape Collaborative is a regional collaborative group that gives communities greater communication access to state and federal land management agencies and regional energy utilities. Public Land Partnership benefitted from engaging with this group to leverage additional funding and expertise.

Additionally, collaborative groups in a nearby region can provide support for organizations working to advance SE activities.

- **Chama Peak, CO/NM:** Collaborative groups just north of the Chama Peak region provided Chama Peak Land Alliance (CPLA) with the opportunity to learn how other collaboratives operate. CPLA also provided these groups with insights and feedback, thereby building CPLA's reputation and creating opportunities for future partnerships.

Informal communication networks

In many places, informal communication networks enabled consistent communication opportunities among partners to improve the coordination of stewardship work.

- **Lake County, OR:** Partners involved in the Klamath Lake Forest Health Partnership stayed apprised of one another's current project and administrative needs through phone calls and meetings and referred one another to people who could provide assistance. This informal communication network enabled partners to navigate the complex process of funding and executing forest restoration projects with hundreds of landowners across hundreds of thousands of acres.
- **Trinity County, CA:** The Watershed Research and Training Center (WRTC) noted how an informal communication network with people at multiple tiers of the Forest Service enabled WRTC to keep projects moving forward. If some agency staff did not currently have the interest or capacity to help with a project, WRTC could work with other agency staff in order to maintain momentum on projects.

Enabling Factor 5: Charitable foundation & individual donor support

"Sustained investment that values local knowledge and has flexibility is incredibly important."
- Interviewee, Trinity County, CA

The availability of foundation and individual donor support was an important enabling factor in most of the places studied. First, foundations that provided flexible start-up funding enabled communities to get their SE activities off the ground. Additionally, funding resources that were flexible — that is, those that allowed funds to be used in accordance with the unique ecological, economic, and community context of a local area — enabled communities to advance SE activities most effectively. Furthermore, foundations that provided funds consistently rather than on a one-time basis helped communities build more lasting projects. Finally, support from individual donors enabled SE activities since this funding

came with few strings attached. For a list of foundations that supported stewardship economy activities, see Chapter 3, Table 5, pg. 79.

Grants to initiate SE activities

In several places, having access to a large, flexible grant aimed at helping organizations get projects started made the difference for helping SE activities get off the ground. For example, several places benefited immensely from early grants provided by the Ford Foundation for starting community-forestry efforts.

- **Trinity County, CA; Wallowa County, OR; Lake County, OR:** Leaders used Ford Foundation funding to start the Watershed Research and Training Center (WRTC) and to engage with the Collaborative Learning Circle, a support group that “provided technical assistance to and from sustainable forestry and watershed practitioners” in Southern Oregon and Northern California.¹⁵⁴ In Wallowa County and Lake County, the Ford Foundation funding was used to start Wallowa Resources and Lake County Resources Initiative (LCRI), respectively, which have both now been in existence for two decades.
- **Lake County, OR:** A grant aimed at providing support for conservation organizations just starting to get involved with formal collaboration efforts enabled The Wilderness Society’s early involvement in the Lakeview Stewardship Group.
- **North Fork Valley, CO:** A grant from the Orton Family Foundation funded the North Fork Heart and Soul Project — a community visioning assessment that enabled the North Fork Valley to start developing economic diversification strategies.

In all of these cases, foundations were willing to invest in trying something new instead of only funding projects that have continuously demonstrated success. Having this start-up funding enabled individuals and organizations to initiate and maintain SE activities.

Flexible foundation funding

Flexible foundation funding enabled organizations to direct funds to the aspects of its work that needed it most, such as project development, relationship-building, improving organizational capacity, and taking time to innovate.

- **Salmon River region, ID:** The National Forest Foundation’s mid-capacity grant provided steady salary support for Salmon Valley Stewardship’s director for two years, which enabled her to work more hours and take time to try new things.
- **Wallowa County, OR:** The Freshwater Trust was able to procure a grant that specifically funded relationship-building, enabling the organization to develop relationships with irrigators who were essential to coordinating water conservation efforts on the Lostine River.
- **Mount Adams, WA:** A flexible grant from EcoTrust enabled partners involved in the removal of Condit Dam to help pay for several unanticipated costs that could have halted the project.
- **Malpai Borderlands, AZ/NM:** A flexible grant from the Hewlett Foundation enabled Malpai Borderlands Group to maintain its general operations and support its project development efforts.

Consistent foundation and non-profit support

Grants that pay out repeatedly or in periodic installments afforded much greater flexibility to organizations supporting SE activities. Consistent funding and support enabled organizations to expand staff and operating capacity, focus on ongoing projects, and not spend too much time finding new sources of funding, all of which enabled these organizations to advance SE activities more effectively.

- **Ajo, AZ:** A multi-year grant from the EPA-USDA Local Food, Local Places program enabled Ajo Regional Food Partnership to lead ongoing efforts to support food-based entrepreneurship in Ajo.
- **Malpai Borderlands, AZ/NM:** Consistent support from The Nature Conservancy in the form legal and financial advice enabled the Malpai Borderlands Group to achieve 501(c)(3) status and train board members how and where to fundraise.
- **Salmon River region, ID:** One of Salmon Valley Stewardship's (SVS) donors provided funding to a nonprofit that supports and advises other nonprofits in budgeting and finance. These services were also made available to SVS at no cost. This connection helped SVS receive consistent feedback on its messaging, financing, and other administrative activities which enabled the organization to improve its operations over time.

It is important to note that while some places identified consistent funding as a factor that enabled their efforts, many interviewees noted that they usually had to continually apply for and report on grants, which took considerable time and capacity. For more discussion of this challenge, see Chapter 5, pg. 140.

Individual donor support

Financial support from individual donors, particularly those willing to provide funding that can be used at the discretion of organizations pursuing SE activities, enabled these organizations to carry out projects in accordance with the community's unique, local context.

- **Mount Adams, WA:** An individual donor provided Columbia Land Trust (CLT) with general operation funding. CLT used these funds for its relationship-building efforts, such as for informal meet-ups with influential landowners, county officials, community organizations, and other partners. These relationships have enabled CLT to foster and maintain a positive reputation in the region.
- **Wallowa County, OR:** Support from individual donors in Portland who care about the recreation opportunities in Wallowa County helped give Wallowa Resources some flexible funding for its general operations.

Enabling Factor 6: Local infrastructure and assets

“The fact that High Cascade [a local mill] exists really makes a lot of our work possible.”

- *National Forest staff member, Mount Adams, WA*

“Having local high school students and graduates staffing the program has done a lot to improve the local community’s...understanding of the restoration activity that’s going on and the needs for restoration.”

- *Interviewee, Lake County, OR*

“Economically, the survival of the Lakeview Collins Pine sawmill is a pretty considerable achievement, considering that most other sawmills in Eastern Oregon and the interior west have had to close in the past 20 years...Lakeview was able to survive in part because they had made the transition to the small log mill and were able to operate that efficiently through the recession.”

- *Interviewee, Lake County, OR*

“People are now looking specifically for North Fork Valley products more than they used to. They have a story behind them and [a] quality difference.”

- *Interviewee, North Fork Valley, CO*

Local infrastructure and assets — such as sawmills, enterprise zones, and public spaces and services — enabled SE activities in several places. Some communities retrofitted or improved upon pre-existing milling infrastructure to enable restoration work. Enterprise zones enabled rural communities to undertake renewable energy development projects and other SE activities. Public spaces and services, such as community meeting spaces and local schools, provided a forum for several SE activities, including business incubation and youth engagement in natural resource management. Finally, accreditations and certifications were important assets in several places, helping bring attention and funding to SE activities.

Wood processing infrastructure

In several places, the presence of local wood processing infrastructure enabled subsequent forest restoration work and job creation. This infrastructure was often retrofitted or built upon to enable these activities.

- **Mount Adams, WA:** The Mount Adams region was fortunate to have a large regional pulp mill (SDS Lumber in Klickitat County) and a separate smaller mill (WKO/High Cascade in Skamania County) that weathered the decline in federal logging. These mills lasted, at least in part, because they were adapted to process small-diameter timber made available from stewardship contracting in the region. SDS Lumber and WKO/High Cascade provided ongoing work opportunities for local forest contractors who lost their jobs in the aftermath of the timber wars.
- **Lake County, OR:** The existence of Collins Pine — a well-trusted milling company in the Lakeview community — helped support nearly two decades of forest restoration on the Lakeview Stewardship Unit. All other mills in Lakeview closed during the timber wars, but Collins stepped

in and invested \$5 million into a mill so that it could process small-diameter timber and continue providing jobs for forest contractors in Lake County.

- **Northeast Washington:** The existence of Vaagen Brothers Lumber, Inc. has been a major asset in Northeast Washington. The company had the foresight to see changing forest conditions and adapt its mills accordingly to process small-diameter timber. The company also took an active role in collaboration: its owner is a leader of the Northeast Washington Forestry Coalition, and Vaagen Brothers has entered into public-private partnerships with the Forest Service to treat large areas of the Colville National Forest. This work included the A-to-Z project, in which the company took on responsibility for all phases of forest restoration, from NEPA planning to treatments.

Enterprise zones

Enterprise zones enabled communities to put existing land, businesses, and organizations to work in support of new SE activities. These zones were usually at the county or state level and enabled activities such as renewable energy development and organizational development opportunities for community organizations.

- **Mount Adams, WA:** Klickitat County's Energy Overlay Zone doubled the assessed value of the county, which has enabled agricultural producers to lease their land for renewable energy production. Doing so has helped some producers maintain the financial viability of their agricultural operations.
- **Lake County, OR:** Lake County's Enterprise Zone and Renewable Energy Zone provided tax breaks for new construction of biomass facilities and renewable energy projects in the county.¹⁵⁵ For example, these zones helped make it possible for Red Rock Biofuels, a company that converts forest products into low-carbon jet and diesel fuel, to construct a facility in Lake County. This facility will provide several hundred temporary construction jobs and over 120 permanent feedstock processing and transportation jobs.¹⁵⁶
- **North Fork Valley, CO:** The Colorado Enterprise Zone gave Solar Energy International (SEI), a Valley nonprofit, the ability to give its donors a 25% tax credit. The tax credit helped SEI rely more on private donations and less on community foundation grants, reducing competition for other nonprofits.

Public spaces and services

Public spaces and services — including lodging or services that support tourism, physical spaces for public meetings and business incubation, local schools, and farmer's markets — helped several places create ancillary support for SE activities.

Local businesses and infrastructure that support tourism opportunities enabled several places to bring in consistent revenue from recreation.

- **Mount Adams, WA:** Skamania County — with the help of a federal loan — invested in building the Skamania Lodge in 1993, which provided a tourist destination for people from Portland. The lodge also helped employ many locals that had been laid off during the timber wars.¹⁵⁷

- **Salmon River region, ID:** The retention of grocery stores, hotels, bakeries, and a farmer's market in the town of Salmon helped the community bring in revenue from seasonal recreationists who come to the area for hiking, OHV-use, and rafting opportunities.

The availability of public spaces for use by community groups and business start-ups helped several places create community and economic development opportunities.

- **Ajo, AZ:** Local clinics, schools, and organizations provide public spaces for urban agriculture, teaching demonstration sites, and a commercial kitchen, all of which support the local food economy in Ajo.
- **Wallowa County, OR:** A space in the public library has been used for business incubation and community meetings.
- **Malpai Borderlands, AZ/NM:** The Malpai Ranch has served as a space for public meetings for over two decades, providing a neutral and familiar meeting space for the many partners involved in SE activities.
- **North Fork Valley, CO:** Solar Energy International's training facilities were used by several organizations for harvest festivals and other public events that supported the local food economy in the Valley.

In several communities, local schools provided a platform to engage the community, especially young people, in SE activities.

- **Lake County, OR:** Local schools provided a venue for Lake County Resources Initiative (LCRI) to foster new educational opportunities. For example, LCRI helped develop extension education services in the local schools, giving county residents the ability to obtain an associate's degree. This has enabled local residents to stay in Lake County instead of leaving to pursue education elsewhere. LCRI also developed training programs (administered by the local schools) that enable students to get involved with forest restoration and monitoring work on nearby national forests.
- **Mount Adams, WA:** In Glenwood, Mount Adams Resource Stewards (MARS) worked with the local high school to develop greenhouses and solar energy demonstration projects which were used by both students and community members to develop gardening skills and learn about renewable energy.
- **North Fork Valley, CO:** Local schools in the North Fork Valley partnered with Solar Energy International, using its training facilities and expertise to teach students about solar and battery technology. These projects enabled students to develop their science skills and learn about career opportunities in renewable energy.

Particularly for places developing a local food economy, farmer's markets enabled producers to bring in extra income which helped make local agriculture possible. Farmer's markets also provided other ancillary community development opportunities.

- **Salmon River region, ID:** A local farmer's market in Salmon, Idaho supported local farmers while also providing several other community benefits. For example, two interviewees identified the farmer's market as one of the reasons why they moved to Salmon; they saw it as a sign of the community's health and well-being. Additionally, one interviewee credited the creation of the

farmer's market with helping the community become more comfortable with change. This comfort with change enabled the development of collaborative groups in the area, such as the Lemhi Forest Restoration Group.

- **Ajo, AZ:** Many local food producers in Ajo have sold products at the Ajo Farmer's Market and Cafe, which also has served as a community kitchen/incubator to support food entrepreneurship, including e-commerce. The market also accepts Supplemental Nutrition Access Program (SNAP) benefits, which has enabled lower income community members to take advantage of the market.
- **North Fork Valley, CO:** Many agricultural producers in the North Fork Valley have sold their produce in the local farmer's markets. The markets also have provided another attractive destination for tourists who come to the valley to explore its wineries, harvest festivals, and agritourism opportunities.

Accreditations and certifications

Accreditations and certifications enabled several places to build legitimacy and gain additional support and funding for SE activities. These sources of recognition were usually awarded to a region, community, or individual business or organization.

- **Salmon River region, ID:** The designation of the Upper Salmon River region as a Model Watershed by the State of Idaho enabled organizations like the Bureau of Land Management and Trout Unlimited to leverage funds for watershed restoration projects.
- **North Fork Valley, CO:** The town of Paonia in the North Fork Valley was designated as a "Creative District" by Colorado Creative Industries (a statewide nonprofit), which helped attract attention and brought people to the Valley to explore its food, art, and festivals.
- **Mount Adams, WA:** Columbia Land Trust (CLT) is seeking accreditation with the Land Trust Alliance. This accreditation will enable CLT to gain access to grants offered by the State of Washington for wildlife conservation and recreation projects.
- **Salmon River region, ID:** The Lemhi Regional Land Trust's accreditation with Land Trust Alliance enabled the organization to access professional development training, small grants, and assistance with strategic planning.
- **Lake County, OR:** A certification from the Forest Stewardship Council for Collins Company — the company which invested in a small-diameter saw mill in Lakeview after the timber industry collapsed — helped the company garner trust from environmental groups and other partners on the Lakeview Stewardship Group.

Enabling Factor 7: Government policies and programs

“That tool [participating agreements] has really allowed us to be adaptive as the situations for both funding and focus have shifted within the agency.”

- *National Forest staff member, Trinity County, CA*

“[Compared to Stewardship Contracting] regular timber sales don’t have that level of engagement.”

- *Researcher from Portland State University, Mount Adams, WA*

“If it didn’t come from the ground up it would have come from the top down.”

- *Interviewee, Blackfoot Watershed, MT*

Across all places studied, government policies and programs from the county, state, and federal levels were a major enabling factor, providing funding and other kinds of support for SE activities. Some government policies and programs explicitly connected stewardship with economic activity. Others prioritized stewardship work while indirectly generating economic benefits, or vice versa. Policies and authorities that enabled collaboration helped build the partnerships that were necessary to conduct SE activities. Finally, a few regulations acted as a stick rather than a carrot, motivating communities to engage in stewardship work in order to avoid regulatory burdens.

The following tables summarize and provide examples of government policies and programs by the type of SE activity they enabled in the places studied.

- **Forest restoration (Table 7.1):** Many government programs enabled forest restoration work, such as grants for cross-boundary fire resilience projects or agreements that gave preference to local forest contractors.
- **Fish and watershed restoration (Table 7.2):** Several government funding resources enabled fish and watershed restoration, ranging from grants to improve fish habitat to programs that enabled the purchase of water rights for improving instream flows, to county water utilities that compensated organizations for improving watershed conditions through upstream restoration projects.
- **Agriculture improvements (Table 7.3):** Government policies and programs enabled agriculture producers to make conservation and efficiency improvements on their land and within their operations, such as through cost-share programs or grants.
- **Private land conservation (Table 7.4):** Some programs enabled the permanent protection of private land, such as through conservation easements.
- **Wildlife conservation (Table 7.5):** A few policies and programs enabled wildlife conservation by providing grants for habitat protection or by motivating communities to protect wildlife habitat in order to avoid top-down regulatory action.
- **Community and economic development (Table 7.6):** Other government policies and programs enabled SE activities by directly supporting community and economic development, helping communities diversify their economies or support local businesses and organizations.

- **Renewable energy development (Table 7.7):** Government funding enabled renewable energy development in several places, such as by providing technical assistance, grants, or incentivizing renewable energy development through tax breaks. This renewable energy development enabled rural communities to improve their resilience and make other SE activities more financially feasible.
- **Capacity-building and partnerships (Table 7.8):** Several policies and programs enabled partners to form collaborative partnerships which added capacity and improved coordination of SE activities.

Note: These tables are not an exhaustive account of all government policies and programs that enable SE activities; some communities might have used these or other government funding resources to support SE activities even if not identified in interviews or background research. Furthermore, the examples provided should be seen as a snapshot of the policy or program in action, not an indication that other communities did also not use these resources.

Table 7.1: Forest restoration			
Name	Type	Description	Examples
CalFire grant programs	State grant program	California Department of Forestry and Fire (CalFire) offers grant programs for a variety of forestry and fire resilience projects including forest health restoration, fire prevention, and volunteer fire assistance. ¹⁵⁸	Trinity County, CA: CalFire and the Firesafe Council provided a \$1.3 million grant for cross-boundary forest health projects with Six Rivers and Shasta-Trinity National Forests and fire protection projects on the wildland-urban interface.
California Proposition 68	State policy	California Proposition 68, Parks, Environment, and Water Bond, authorized a \$4 billion bond for state and local parks, environmental protection projects, water infrastructure projects, and flood protection projects. Prop 68 set up several grant programs administered by state agencies for forest and watershed restoration projects. ¹⁵⁹	Trinity, CA: Funding from Prop 68 has provided support for some of the Watershed Research and Training Center’s work.
Collaborative Forest Landscape Restoration Program (CFLRP)	Federal grant program	Established through the Omnibus Public Land Management Act of 2009, CFLRP is a USDA program aimed at accelerating forest restoration on Forest Service land. CFLRP funds collaborative, landscape-scale, science-based forest management partnerships to reduce fire risk, improve forest conditions, and strengthen rural economies through restoration work.	Lake County, OR; Northeast Washington; West Central CO: CFLRP funding was used in each of these locations. In Lake County, part of the CFLRP funding enabled restoration of a 150,000-acre area. The project supported local jobs and the local sawmill, Collins Pine. ¹⁶⁰
Community Forest Program (CFP)	Federal grant program	CFP provides grants to tribes, local governments, and qualifying non-profits to establish community forests that provide community benefits including jobs, clean water, wildlife habitat, educational opportunities, and recreation access. ¹⁶¹	Mount Adams, WA: Mount Adams Resource Stewards received a \$400,000 CFP grant. The grant covered 50% of the costs to purchase a 300-acre forest tract to add to the Mount Adams Community Forest. ¹⁶²
Good Neighbor Authority (GNA)	Federal authority	GNA allows the Forest Service to enter into agreements with state forestry agencies to conduct management and restoration work. ¹⁶³ States may enter into these agreements for areas where state forest land borders BLM or FS land. The purpose of the GNA is to expedite forest, rangeland, and watershed restoration activities	Northeast Washington: The Washington Division of Natural Resources awarded a GNA restoration harvest timber sale to Vaagen Brothers Timber Company to treat a 604-acre area on the Colville National Forest. ¹⁶⁴
Joint Chiefs Landscape Restoration Partnership (JCLRP)	Federal grant program	JCLRP is a cross-agency funding program between the Forest Service and the NRCS. The program supports collaborative, landscape-scale conservation work on	Trinity County, CA; Salmon River region, ID; and Northeast Washington: JCLRP was used in each of these locations to thin plantation forests,

		adjacent public and private forests and grasslands.	build fire resistance, restore fire-damaged hillsides and road systems, and support a variety of other collaborative forest restoration activities.
Oregon Department of Forestry (ODF) - FFR grants	State grant program	ODF has authority to administer funding from the Federal Forest Restoration program to support cross-boundary forest management in Oregon. Through this authority, ODF provides grants and other incentives for private landowners to engage in voluntary forest restoration work. ¹⁶⁵	Lake County, OR: ODF grants were one of the funding resources that enabled the success of the Klamath Lake Forest Health Partnership (KLFHP), a multi-hundred-thousand-acre forest restoration partnership involving state and federal agencies, conservation groups, and hundreds of landowners in Klamath and Lake Counties.
Oregon Department of Forestry (ODF) - seasonal hiring policy	State policy	Oregon state policy also mandates that some ODF funds are used to hire seasonal workers to help the USFS increase the pace and scale of its activity. ¹⁶⁶	Lake County, OR: The hiring of seasonal workers by the Oregon Department of Forestry provided important human capacity for forest restoration projects.
Participating Agreements	Federal policy	Participating Agreements allow the Forest Service to work with partners to perform work that generates mutual benefits, such as forestry job training, prescribed burns, pollution abatement, supporting Resource Advisory Committees, and watershed restoration. ¹⁶⁷	Trinity County, CA: Both the Watershed Research and Training Center (WRTC) and Trinity County Resource Conservation District have engaged in multi-party participating agreements with the Six Rivers National Forest Mad River District and the Shasta-Trinity National Forest. The agreement between Six Rivers National Forest and WRTC involves a \$200,000 fixed commitment by the Forest; WRTC then assumes responsibility for implementing the stewardship activities on the ground, such as understory and plantation thinning, preparing contracts for timber or silviculture projects, creating roadside and shaded fuel breaks, and ecological and wildlife monitoring. These partnerships have allowed the Forests to maintain a higher level of active management than would otherwise be possible, given their very low staffing levels.

<p>Regional Forest and Fire Capacity (RFFC) program</p>	<p>State grant program</p>	<p>The RFFC program provides non-competitive block grants for creating regional forest plans, developing and permitting restoration projects, and implementing demonstration projects consistent with California’s Forest Carbon Plan.¹⁶⁸ The program is funded through California Climate Investments, a program that uses revenue from California’s Cap-and-Trade program to reduce greenhouse gas emissions, strengthen economies, and improve public and environmental health, particularly in underserved communities.¹⁶⁹</p>	<p>Trinity County, CA: RFFC has supported forest restoration work in Trinity County. Additionally, some of the Watershed Research and Training Center’s statewide work exploring investment opportunities in forest and fire management has been supported by California Climate Investments.¹⁷⁰</p>
<p>Secure Rural Schools and Community Self-Determination Act (SRS) - Resource Advisory Committees (RAC)</p>	<p>Federal policy</p>	<p>SRS provides payments to counties that traditionally received revenue from timber sales before the decline in federal logging. Some of the funding goes to Resource Advisory Committees that recommend projects that will improve local Forest Service land. These committees consist of 15 local citizens representing a broad array of backgrounds and interests.¹⁷¹</p>	<p>Trinity County, CA; Mount Adams, WA: Interviewees in both Trinity County and Mount Adams noted that RACs helped fund and support forest restoration activities. In Trinity County, the Watershed Research and Training Center’s youth programs used to receive money from local RACs.</p>
<p>State of Washington 20-year Forest Health Strategy</p>	<p>State funding program</p>	<p>Washington’s 20-year Forest Health Strategy sets a state-wide goal for restoring 1.25 million acres of forest to healthy conditions over two decades. The program involves several Good Neighbor Authority and Shared Stewardship agreements, funding for cost-share programs with landowners, and grants offered to forest conservation organizations.¹⁷²</p>	<p>Mount Adams, WA: The 20-year Forest Health Strategy provided some of the funding and capacity to accomplish forest restoration work in Mount Adams.</p>
<p>Stewardship Contracting (SC)</p>	<p>Federal policy</p>	<p>Stewardship contracting is a funding mechanism for supporting both forest product removal and other service work items on National Forests. Other services include road removal, erosion control, noxious weed management, or recreation improvements. Stewardship contracts are awarded to contractors who conduct services (e.g. road removal) which generate credits or “retained receipts” that can then be reimbursed by removing timber equal to this credit and selling it to a mill. If the value of timber exceeds this credit, the Forest Service generates retained receipts that are then used for subsequent service projects.¹⁷³</p> <p>Stewardship contracting enables the Forest Service to efficiently allocate funding to various forest restoration</p>	<p>Mount Adams, WA: The Southern Gifford Pinchot Collaborative (SGPC) coordinates stewardship contracting in Mount Adams, supporting numerous forest thinning, stream passage, erosion control, and recreation site improvement projects conducted by local contractors. Stewardship contracting also supported the annual Forest Youth Success program which created 28 summer restoration jobs for high school students in the region in 2017.¹⁷⁴ A study of the economic impact of stewardship contracting on the nearby Mount Hood National Forest found that stewardship contracting creates a greater economic multiplier effect in local rural counties than the</p>

		<p>efforts — such as prescribed burning, thinning, and stream restoration — while also benefiting local rural communities. Stewardship contracts help round out employment for local forest contractors. The contracts can also be used to support projects that engage communities in natural resource management, such as through youth education and job training programs.</p>	<p>direct federal payments to county governments for timber sales that were used in the past.¹⁷⁵</p>
<p>Tribal Forest Protection Act (TFPA)</p>	<p>Federal policy</p>	<p>TFPA allows tribes with land adjacent to Forest Service or BLM land to enter into stewardship contracts and agreements with these agencies in order to protect tribal lands against fire, disease, or other threats coming from these adjacent public lands. The agencies use a “best value basis” to determine which agreements to enter into with tribes based tribal factors and considerations for local jobs and businesses.¹⁷⁶</p>	<p>Northeast Washington: TFPA enabled to a forest restoration partnership between the Kalispel Tribe and Washington Department of Natural Resources in Northeast Washington.</p>
<p>Washington’s All Lands Forest Restoration Grant Program and Building Forest Partnerships Program</p>	<p>State grant program</p>	<p>The All Lands Forest Restoration program provides forest collaborative groups in Washington with funding to conduct forest health treatments, such as thinning overly dense forests. The state also provides funding for these groups to engage with potential partners and members of the public via the Building Forest Partnerships Program.¹⁷⁷</p>	<p>Mount Adams, WA: The State of Washington provided nearly \$400,000 of support to the Southern Gifford Pinchot Forest Collaborative in Mount Adams via these two programs, enabling thinning and prescribed burn projects and partnership development.</p>

Table 7.2: Fish and watershed restoration			
Name	Type	Description	Examples
Albuquerque Bernalillo County Water Utility Authority (ABCWUA) - Rio Grande Water Fund	County investment and regional grant program	County water authorities can encourage stewardship work by compensating organizations that improve watershed conditions, thereby improving water quality and quantity for downstream users. The ABCWUA is one of several investors in the Rio Grande Water Fund which awards grants for watershed improvement projects on the Rio Grande and its tributaries. ¹⁷⁸	Chama Peak, AZ/NM: The Rio Grande Water Fund supported Chama Peak Land Alliance and other partners to conduct forest and watershed restoration work in the Chama Peak region.
Bonneville Power Administration (BPA) - Fish and Wildlife Program	Federal funding program	BPA is a federal agency that markets all power from federal hydroelectric projects in the Pacific Northwest. As mandated under the Northwest Power Act of 1980, the agency provides funding via its Fish and Wildlife Program to enhance habitat, improve hatchery practices, and protect lands and streams in order to mitigate the impacts of dams on fish and wildlife in the Columbia River Basin. This funding can be used by other federal agencies, state agencies, tribes, conservation organizations, and various other partners. ¹⁷⁹	Wallowa County, OR: BPA funding supported irrigation efficiency projects and the construction of a fish weir on the Lostine River managed by the Nez Perce tribe in Wallowa County. Mount Adams, WA: BPA funding supported several fish passage, stream flow, and habitat improvements implemented by Yakama Nation Fisheries (a nonprofit) and several other partners. BPA funding also supported a solar-hydro pumping project in Klickitat County since BPA funds can be used to mitigate net losses in renewable energy generation that occur as dams are decommissioned. Salmon River region, ID: BPA provided funding for irrigation efficiency projects that improved stream flows and led to more connected waterways, creation of beaver dam analogs, and culvert replacements to improve fish passage.
BPA Columbia Basin Water Transactions Program (CBWTP)	Federal policy	The Bonneville Power Administration’s CBWTP offers incentives to landowners who wish to voluntarily restore stream flows for sensitive fish habitat. The program works through local entities who acquire water rights from landowners. The program supports grantees in Oregon, Washington, Idaho, and Montana. ¹⁸⁰	Wallowa County, OR: CBWTP helped facilitate the existence of minimum flow agreements and provided the motivation for some of the water conservation work occurring with irrigators, the Freshwater Trust, Nez Perce tribe, and other partners along the Lostine River in Wallowa County. Salmon River region, ID: Local landowners and The Nature Conservancy teamed up to leverage CBWTP funds, which helped them acquire a 630-acre conservation

			easement and protect over 7 miles of river habitat.
California Department of Conservation - grants for watershed coordinators	State grant program	The California Department of Conservation previously offered a grant for a watershed coordinator. In addition to covering administrative costs, this grant required the organizations applying in the same area to decide for themselves which organization should win the grant. This approach promoted cooperation and partnerships, in lieu of direct competition.	Trinity County, CA: The Watershed Research and Training Center became close partners with the organization that it had to work with to determine who should be the local watershed coordinator.
Oregon Allocation of Conserved Water Program	State policy	The State of Oregon recognizes in-stream water use as a beneficial use and provides economic incentives for water users to conserve water via the Allocation of Conserved Water Program. Under this program, a landowner who demonstrates that they have voluntarily conserved water can dedicate the water as a water right for later use or an in-stream use. A percentage of the water right is given to the State of Oregon (typically as an instream water right). ¹⁸¹	Wallowa County, OR: This program is part of the reason why partners working to restore in-stream flow on the Lostine River have successfully received state funding in Wallowa County.
Oregon Water Resource Department (OWRD) loans	State loan program	OWRD provides Water Project Grants and Loans to help Oregon meet in-stream and out-of-stream water supply needs and produce economic, environmental, and social/cultural benefits. ¹⁸²	Wallowa County, OR: Irrigators in Wallowa County have received loans from this resource to fund irrigation efficiency projects.
Oregon Watershed Enhancement Board (OWEB)	State funding program	OWEB channels state funding towards 59 watershed councils across the state of Oregon. These groups work with local, state, and federal partners, as well as landowners, on stream and watershed restoration. ¹⁸³	Lake County, OR: OWEB was a major funding source for the Lake County Umbrella Watershed Council which works with landowners, state and federal agencies, and other partners in the county to improve stream flows, fish habitat, and watershed health.
Washington Regional Fisheries Enhancement Groups (REFGs)	State funding program	Washington state has 14 REFGs which channel a combination of state and federal funding towards salmon recovery projects. ¹⁸⁴ REFGs engage with a variety of partners including landowners, tribes, and state and federal agencies. REFGs also prioritize hiring local contractors to complete projects.	Mount Adams, WA: The Mid-Columbia Fisheries Enhancement Group (MCFEG) is the operating REFG in Mount Adams and conducts numerous salmon habitat and watershed restoration projects. ¹⁸⁵ It also prioritizes hiring local contractors to conduct this work.

Table 7.3: Agriculture improvements

Name	Type	Description	Examples
Agricultural Research Service (ARS)	Federal agency	The USDA’s ARS administers several national agricultural research programs that support hundreds of agriculture research projects across the US. ¹⁸⁶ Many of these projects are focused on improving the environmental and economic outcomes of agriculture production.	Thunder Basin, WY: A partnership between Thunder Basin Grasslands Prairie Ecosystem Association and the USDA’s Agricultural Research Service in Thunder Basin supported drought studies and other research projects.
Beginning Farmers and Ranchers Loans (BFRL)	Federal loan program	BFRDP is a program administered by the USDA Farm Service Agency to assist new agriculture producers during their start-up years by providing greater access to land and financial capital. ¹⁸⁷	Salmon River region, ID: Some agriculture producers acquired a low-interest loan through the Beginning Farmers and Ranchers program, which helped them purchase land and start an organic farm in the area.
Conservation Stewardship Program (CSP)	Federal grant program	CSP is an NRCS program that provides agriculture producers with assistance to improve their conservation practices based on local priority resource concerns established by state NRCS offices. Payments are determined based on conservation performance. ¹⁸⁸	Salmon River region, ID: Various landowners used funds from the NRCS’s Conservation Stewardship Program to support conservation practices to improve fish habitat, soil quality, and soil moisture.
Environmental Quality Incentives Program (EQIP)	Federal grant program	EQIP is an NRCS program that provides both technical and financial support for agriculture producers to implement conservation practices. Producers can elect to receive up to 50 percent of the funding in advance of implementation. ¹⁸⁹	Salmon River region, ID; Wallowa County, OR; North Fork Valley, CO: EQIP enabled agriculture producers in these cases to engage in activities including thinning, land management planning, and irrigation improvements.
Local Foods, Local Places Program (LFLP)	Federal grant program	LFLP is a program administered by the USDA, EPA, and Northern Border Regional Commission that supports community-driven efforts to preserve farmland, boost local farmers and food businesses, and improve access to local healthy food. ¹⁹⁰	Ajo, AZ: Ajo Center for Sustainable Agriculture received a large grant from the EPA Local Food, Local Places program which helped Ajo Regional Food Partnership provide technical assistance for food-based entrepreneurship projects.
Western Sustainable Agriculture Research & Education (Western SARE)	Federal grant program	Western SARE, administered by the USDA, provides competitive grants for farmers, ranchers, researchers, and agriculture professionals in the Western US. ¹⁹¹ Grant programs are aimed at professional development, research, technical assistance, and projects that improve the economic, environmental, and social outcomes of agriculture.	North Fork Valley, CO: Some agricultural producers used grants from the Western SARE program to engage in agricultural experiments with other growers and extension agents. ¹⁹²

Table 7.4: Private land conservation			
Name	Type	Description	Examples
Land and Water Conservation Fund (LWCF)	Federal grant program	LWCF, established by Congress in 1968, uses funds from depletion of natural resources, such as oil and gas production, to support conservation and protection of land and water in the US. In addition to supporting national parks, forests, wildlife refuges, and recreation areas, the funds can also be used for voluntary conservation on private land.	Wallowa County, OR: Wallowa Resources used funding from the Land and Water Conservation Fund to acquire the east moraine of Wallowa Lake which will help protect it from future development.
Resource conservation districts	State policy	All states in the US provide funding for county- or region-level resource conservation districts that support landowners, nonprofits, tribes, and state and federal agencies in conducting conservation projects. Conservation districts provide support in a variety of ways, such as by providing funding, expertise, or even equipment.	Mount Adams, WA: The Underwood Conservation District helps landowners implement a variety of fire resilience, riparian restoration, soil testing, and other services through cost-share programs.

Table 7.5: Wildlife conservation			
Name	Type	Description	Examples
Endangered Species Act (ESA)	Federal policy	The ESA supports the conservation of threatened and endangered (T&E) species and is implemented by the FWS and NOAA. Since many rural communities are in or adjacent to landscapes that contain T&E species, the possibility of facing top-down regulatory action motivates some communities to work towards more voluntary, community-driven solutions for protecting T&E species in their area.	<p>Salmon River region, ID; Mount Adams, WA; Wallowa County, OR; Lake County, OR: Protections for salmon and other endangered fish species motivated much of the fish and watershed restoration work that occurred in these cases.</p> <p>Thunder Basin, WY: Protections for the black-tailed prairie dog encouraged landowners to engage in voluntary conservation efforts in the Thunder Basin.</p> <p>Blackfoot Watershed, MT: Protections for wolves helped encourage landowners in the Blackfoot Watershed to get involved with carcass pick-up and calving-site fencing programs administered by Blackfoot Challenge.</p>
Idaho Sage Grouse Initiative	State grant program	The State of Idaho agreed to provide more than \$300,000 as a match for the NRCS's Sage Grouse Initiative which provides financial and technical assistance to help ranchers protect sage grouse habitat. The state also developed a plan to sustain sage grouse populations where agencies must limit infrastructure development in areas where sage grouse numbers drop by a certain percent.	<p>Salmon River region, ID: This funding supported sage grouse conservation work in the Salmon River region, which includes changes to livestock management and installation of wildlife-friendly fencing.</p>
Washington Wildlife and Recreation Program (WWRP)	State grant program	WWRP is Washington's largest public funding source for habitat conservation and outdoor recreation opportunities that support jobs, economic activity, and quality of life for Washington residents. ¹⁹³ The funding is available to accredited land trusts and state agencies via grants.	<p>Mount Adams, WA: Columbia Land Trust noted that it will soon be able to take advantage of the Washington Wildlife and Recreation Program after it receives accreditation with the Land Trust Alliance.</p>

Table 7.6: Community and economic development			
Name	Type	Description	Examples
American Recovery and Reinvestment Act (ARRA)	Federal policy	ARRA was a fiscal stimulus package signed into law by the Obama Administration in 2009 to provide relief for the 2008 Recession. ¹⁹⁴ Some of this funding provided support for retaining jobs in rural communities impacted by the recession.	Trinity County, CA: ARRA provided funding for WRTC to add additional forest contractors to their work crews after the 2008 Recession. ¹⁹⁵
AmeriCorp VISTA	Federal program	Any nonprofit organization or public service agency engaging in projects that involve poverty alleviation can apply to receive support from AmeriCorp VISTA interns. Interns are at least 18 years old and generally serve full-time at an organization for one year. ¹⁹⁶ The program provides an important source of labor and human capacity for many communities.	Salmon River region, ID: The AmeriCorp VISTA program helped Salmon Valley Stewardship bring in interns that supported the development of a farmer's market in Salmon and other projects the organization might not have otherwise been able to conduct.
Colorado Broadband Fund	State grant program	Administered by the Colorado Department of Regulatory Agencies, the CBF supports broadband expansion in Colorado's underserved communities. ¹⁹⁷	North Fork Valley, CO: Some of Delta County's broadband expansion work was funded through the Broadband Fund. Broadband internet access has enabled the creation of location-neutral businesses that support SE activities, such as value-added agriculture businesses.
Community Development Block Grants (CDBGs)	Federal grant program	CDBGs are administered by the Department of Housing and Urban Development to build stronger, resilient communities. The grants can be used for a variety of activities including economic development projects, infrastructure improvements, public service improvements, and housing redevelopment. ¹⁹⁸	Trinity County, CA: WRTC helped Trinity County write a Community Development Block Grant which supported the creation of Jefferson State Forest Products.
Economic Development Administration (EDA) - Economic Adjustment Assistance Programs (EAA)	Federal grant programs	EDA offers several economic adjustment assistance grant programs to support economically distressed communities and regions to address a wide variety of economic needs including workforce development, attracting private investment, and enhancing manufacturing capacities. ¹⁹⁹	North Fork Valley, CO: Delta County received several rural adjustment and assistance grants from the Economic Development Association (EDA), some of which supported the county's efforts to hire a third-party research firm to conduct an economic assessment that guided the county's economic diversification strategy. EDA also provides funding for regional economic planning efforts, such as the Region 10 Economic Development District of Colorado which includes the North Fork Valley.

			The District supported an initiative to enhance agriculture, education, and energy clusters across the region called the ENGAGE Initiative.
Historically Underutilized Business (HUB) Zone	Federal designation	The HUBZone program, administered by the Small Business Administration, gives small businesses preferential access to federal contracts. Businesses designated under HUBZone have to be at least 51 percent owned and controlled by US citizens, a community development corporation, an agriculture cooperative, Native Hawaiian organization, or Indian tribe. ²⁰⁰	Salmon River region, ID: Counties in the Salmon River region benefited from becoming a Historically Underutilized Business (HUB) Zone which ensures that at least 3% of federal bids go to small businesses. Since both Lemhi and Custer Counties are HUB Zones, local businesses are able to take advantage of having better access to federal contracts.
Rural Business Development Grants (RBDGs)	Federal grant program	RBDGs, administered by the USDA, provide technical assistance and training for small rural businesses. ²⁰¹	Salmon River region, ID: Salmon Valley Stewardship received a Rural Business Development Grant to develop a system that reports the job creation impacts of stewardship work, thereby helping the organization demonstrate its impact and procure more funding and support. Lake County, OR: LCRI received a USDA Rural Business Development Grant to assist businesses with developing rooftop solar.
USDA Woody Biomass Utilization Grants	Federal grant program	Wood Innovations Grants, formerly known as Woody Biomass Utilization Grants, support projects that reduce hazardous fuels and improve forest health by utilizing wood material, such as for construction or biomass energy. ²⁰²	Salmon River region, ID: England Sawmill acquired a \$250,000 Woody Biomass Utilization Grant.

Table 7.7: Renewable energy development			
Name	Type	Description	Examples
Colorado Commercial Property Assessed Clean Energy (C-PACE)	Private investment program authorized by state policy	C-PACE allows eligible commercial and industrial property owners to finance energy efficiency, renewable energy, and water conservation improvements through private capital providers and competitive repayment terms. The program was authorized under Colorado’s New Energy Jobs Creation Act. ²⁰³	North Fork Valley, CO: C-PACE provided support for local businesses to develop renewable energy in the North Fork Valley.
Colorado HB 1261	State policy	Colorado’s HB 1261 requires that 90 percent of the state’s energy comes from renewable sources by 2050. ²⁰⁴	North Fork Valley, CO: Part of the motivation behind the Delta Montrose Electric Association’s interest in exiting its contract with Tri-State to develop more renewable energy comes from HB 1261.
Delta County Solarize Program	County program	Counties can create programs that incentivize renewable energy development. Delta County partnered with a nonprofit and local rural electric cooperative to fund and administer a solarize program encouraging homeowners, businesses, and agricultural producers to install solar.	North Fork Valley, CO: The Solarize Program has helped businesses and agriculture producers implement solar projects.
Federal Energy Regulatory Commission - Ruling on Qualifying Facilities under PURPA	Federal ruling	In 2016, FERC issued a ruling that the ability of a rural electric cooperative to purchase renewable energy from Qualifying Facilities (QF) supersedes its power supply agreements with wholesale energy providers. ²⁰⁵ A QF is defined under the Public Utility Regulatory Policies Act (PURPA) of 1978. This ruling greatly enhanced the ability of rural electric cooperatives to engage in renewable energy generation.	North Fork Valley, CO: The PURPA ruling provided the opportunity for the Delta-Montrose Electric Association (DMEA, a rural electric cooperative) to exit a contract with its wholesale energy provider Tri-State. ²⁰⁶ The contract was preventing DMEA from generating more than 5 percent of its service area’s electricity from renewable energy resources. Now that DMEA has exited its contract, it is significantly expanding renewable energy generation in its service area, including in the North Fork Valley.
Oregon Solar Tax Credits	State policy	Oregon offers tax credits for residential solar. These include the solar electric incentives program which provides rebates between \$.02/Watt and \$.025/Watt and the Oregon residential energy tax credit which provides a \$1.70/Watt tax credit. ²⁰⁷	Lake County, OR: The Oregon Solar Tax Credit programs supported renewable energy development in Lake County.
Oregon’s Rural Renewable Energy Zone (RREZ)	State policy	RREZ provides tax breaks for renewable energy development projects in rural areas that have been designated as a	Lake County, OR: RREZ supported renewable energy development in Lake County.

program		Zone. These tax breaks usually come in the form of 3-5-year property tax exemptions. ²⁰⁸	Designated as the state's first RREZ in 2008, Lake County can offer renewables developers receive a temporary property tax break when they site new infrastructure.
Payments in lieu of taxes (PILT)	County policy	Counties can use payments in lieu of taxes to encourage a variety of economic development activities tied to stewardship.	Lake County, OR: PILT was used to attract a biomass facility and encourage renewable energy development in Lake County.
Renewable Energy Development Assistance Program (REDA)	Federal grant program	REDA is a grant program administered by the USDA. The program provides rural businesses and agriculture producers with renewable energy technical assistance such as for conducting energy audits and site assessments. ²⁰⁹	Lake County, OR: Lake County Resources Initiative used REDA grants to provide technical assistance to businesses and agricultural producers in Lakeview that were considering developing solar and other renewable energy resources.
Solsmart	Federal designation	Solsmart is a program funded by the US Department of Energy Solar Energy Technologies Office. Communities apply to be designated as a Solsmart community, which gives them access to a national team of experts who provide no-cost technical assistance for developing solar in the community.	North Fork Valley, CO: The town of Paonia received a Solsmart community designation through the US Department of Energy which has helped reduce barriers to installing solar at the community level. ²¹⁰
Renewable Portfolio Standards (RPS)	State policy	Many states have adopted renewable portfolio standard. For example, Washington's mandates that 100 percent of the state's energy come from renewable sources by 2045. ²¹¹	Mount Adams, WA: An interviewee in Klickitat County mentioned that Washington's RPS is part of the reason why the county worked to establish an Energy Overlay Zone and, in general, is working to develop more renewable energy.

Table 7.8: Capacity-building and partnerships

Name	Type	Description	Examples
Collaborative Forest Landscape Restoration Program	Federal grant program	CFLRP provides funding for collaborative, landscape-scale, science-based forest management partnerships. The program encourages key stakeholders to engage with each other and renew commitments to overcome past conflict. Through this process, existing collaborative groups are strengthened or new ones are formed improving an area's capacity to perform restoration work with diverse interests. ²¹²	Lake County, OR: After over a decade of forest restoration work, CFLRP funding helped maintain the operations of the Lakeview Stewardship Group (LSG). The funding enabled LSG to continue building partnerships and trust among stakeholders as it worked to overcome forest management challenges, such as a 2012 fire that badly hurt the local timber industry. ²¹³
County fiscal sponsorship of collaborative groups	County funding resource	Counties can fiscally sponsor a local collaborative group, such as by providing funding to cover some of its general administrative and operational costs. This funding gives collaborative groups greater capacity and flexibility to spend time and resources fostering the relationships and partnerships necessary for effective collaboration.	West Central CO: Funding from local and county governments supported Public Land Partnership's efforts to engage with community members on different stewardship issues. Mount Adams, WA: Skamania County, as well as Mount Adams Resource Stewards, is fiscal sponsor of the Southern Gifford Pinchot Collaborative. This sponsorship helps cover some of SGPC's general operations so that it can more easily perform its essential functions such as building and maintaining relationships with collaborative members.
Good Neighbor Authority (GNA)	Federal authority	GNA allows state forestry agencies and the Forest Service to coordinate their efforts to improve forest management. ²¹⁴ This support helps expand the capacity of these entities to undertake more timely and cost-efficient forest management.	Northeast Washington: The Northeast Washington Forest Collaborative used GNA to support forest restoration work on the Colville National Forest.
Multi-Agency Fire Plans	Landscape-level agency policies	In some cases, land management agencies can change their fire control policies to reflect local stakeholder needs. This promotes collaboration among parties to improve fire management, such as in cases where public land abuts private land.	Malpai Borderlands, AZ/NM: After landowners in the Malpai Borderland region began advocating for returning fire to the landscape, they met with federal and state agencies in the area and developed an agreement that agency fire control policies would be "informed and guided" by landowners' management goals. This promoted collaboration between agencies and landowners, including the creation of a fire map reflecting how landowners

			wanted fires treated on their land and more multi-agency coordination.
Participating Agreements	Federal agreement	Participating Agreements allow the Forest Service and its partners to perform work that will generate non-monetary mutual benefits. Activities supported by these agreements include forestry job training, prescribed burns, pollution abatement, support for Resource Advisory Committees, and watershed restoration. ²¹⁵	Trinity County, CA: The Forest Service’s ability to enter into these agreements supports capacity-building and collaboration in Trinity County, particularly between the local CBO, resource conservation district, and the agency.
Stewardship Contracting	Federal policy	Stewardship contracting fosters collaborative forest management by giving the Forest Service the ability to enter into partnerships with public and private entities. These partnerships enable forest and watershed restoration projects that create local community benefits while expanding the capacity of the Forest to perform restoration work. ²¹⁶	Mount Adams, WA: The Southern Gifford Pinchot Collaborative is the lead entity that coordinates retained receipt expenditures for stewardship contracting. Through this work, the collaborative has strengthened its legitimacy and reputation and increased the capacity of forest stakeholders to conduct collaborative forest management on the Gifford Pinchot National Forest.

Conclusion

As demonstrated throughout this chapter, a variety of factors at the local, state, regional, and national level enabled place-based SE activities. Local factors, such as the availability of institutional capacity or pre-existing community characteristics or assets, varied from place to place. However, the availability of external resources, particularly funding opportunities, was an essential factor for building on these local resources in most cases. As Tables 7.1 through 7.8 demonstrate, the places examined in this study utilized a wide array of government grants, programs, and authorities to support their work. The next chapter highlights the constraining factors which challenged communities pursuing SE activities.

¹⁴⁹ Sayre, N. F. (2005). Working wilderness: the Malpai Borderlands Group and the future of the western range. Tucson, AZ: Rio Nuevo Publishers.

¹⁵⁰ Citizens for a Health Community. (n.d.). Retrieved April 24, 2020, from <http://www.chc4you.org/about/>

¹⁵¹ Halbert, A. (2014). *What Matters Most to the North Fork Valley*. North Fork Heart & Soul Project. Retrieved from <http://paoniachamber.com/wp-content/uploads/2014/04/What-Matters-Most.pdf>

¹⁵² Headwater Economics. (2014). The Economic Impacts of Restoration Custer and Lemhi Counties, Idaho. Retrieved from <http://headwaterseconomics.org/land/reports/idaho-restoration-impacts>

¹⁵³ Salmon Valley Stewardship. (n.d.). Restoration Means Jobs in the Salmon River Region. Retrieved from <http://www.salmonvalley.org/wp-content/uploads/2016/01/Restoration-Means-Jobs-in-the-Upper-Salmon-River-Region-2014-FINAL.pdf>

¹⁵⁴ One Forest at a Time: Providing Technical Assistance for Sustainable Forestry and Watershed Practitioners. (n.d.). Retrieved April 24, 2020, from <http://www.ceedweb.org/forests/>

¹⁵⁵ Tax Credits - Enterprise Zone Program (Lakeview, OR). (n.d.). Retrieved April 24, 2020, from https://www.lakecountyor.org/business/tax_credits.php

- ¹⁵⁶ Dinh, M., & Manternach, J. (2019). *Doe Bioenergy Technologies Office (Beto) 2019 Project Peer Review Red Rock Biofuels Project Update*. Retrieved from [https://www.energy.gov/sites/prod/files/2019/04/f61/Woody Biomass Biorefinery Capability Development_EE000DPA2.pdf](https://www.energy.gov/sites/prod/files/2019/04/f61/Woody_Biomass_Biorefinery_Capability_Development_EE000DPA2.pdf)
- ¹⁵⁷ Bailey, S. (2020, January). Skamania County Profile. Retrieved April 24, 2020, from <https://esd.wa.gov/labormarketinfo/county-profiles/skamania>
- ¹⁵⁸ CAL FIRE Grant Program. (n.d.). Retrieved April 24, 2020, from <https://www.fire.ca.gov/grants/>
- ¹⁵⁹ Proposition 68 Restoration Grant Programs. (n.d.). Retrieved April 24, 2020, from <https://wildlife.ca.gov/Conservation/Watersheds/Prop-68>
- ¹⁶⁰ Antuma, J., Esch, B., Hall, B., Munn, E., & Sturges, F. (2014). *Restoring Forests and Communities Lessons from the Collaborative Forest Landscape Restoration Program*. School for Environment and Sustainability.
- ¹⁶¹ Community Forest Program. (n.d.). Retrieved April 24, 2020, from <https://www.fs.usda.gov/managing-land/private-land/community-forest>
- ¹⁶² Ganguly, I., Webster, M., McLaughlin, J., Pierobon, F., Gopalakrishnan, B. N., Bormann, B., ... Kaemingk, G. (n.d.). *Economic Impacts of the Mt. Adams Community Forest, 2014-2017*. Department of Natural Resources. Retrieved April 24, 2020 from https://wecprotects.org/wp-content/uploads/2018/11/Report_Economic_Impacts_of_the_Mt._Adams_Community_Forest_2014-2017_FINAL_EDIT.pdf
- ¹⁶³ US Forest Service - Good Neighbor Authority. (n.d.). Retrieved April 24, 2020, from <https://www.fs.usda.gov/managing-land/farm-bill/gna>
- ¹⁶⁴ DNR Announces First Good Neighbor Timber Sale. (n.d.). Retrieved April 24, 2020, from <https://www.fs.usda.gov/detail/colville/news-events/?cid=FSEPRD594767>
- ¹⁶⁵ Oregon Department of Forestry Programs. (n.d.). Retrieved April 24, 2020, from <https://www.oregon.gov/odf/AboutODF/Pages/Programs.aspx#main-content>
- ¹⁶⁶ Oregon Department of Forestry. (n.d.). *80th Oregon Legislative Assembly 2019-21 Biennial Budget Ways and Means Presentation February 2019*. Retrieved from <https://olis.leg.state.or.us/liz/2019R1/Downloads/CommitteeMeetingDocument/162923>
- ¹⁶⁷ USDA Forest Service Partnership Guide (2014). Retrieved April 24, 2020, from https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3813391.pdf
- ¹⁶⁸ State of California Natural Resources Agency (2019). *Regional Forest And Fire Capacity Program Grant Guidelines Part Of California Climate Investments*. Retrieved from <https://www.conservation.ca.gov/dlrp/grant-programs/Documents/RFFCP%20Draft%20Guidelines.pdf>
- ¹⁶⁹ California Climate Investments. (n.d.). Retrieved April 24, 2020, from <http://www.caclimateinvestments.ca.gov/>
- ¹⁷⁰ Davis, E. J., Jolley, A., & Goulette, N. (2020). *Investment Opportunities for Increasing Forest and Fire Management Capacity in California*. Retrieved from https://static1.squarespace.com/static/5d7fbfdd7fed606396f41e20/t/5e384e18be55567743848f37/1580748323320/RFFC_CapacityNeeds_w eb.pdf?fbclid=IwAR1uwzAYkurKAQgnjDYMJLnmkOJEj2mpTCNYB8kSjoJqU0FGqLYXg9TFNS
- ¹⁷¹ Shasta-Trinity National Forest - Resource Advisory Committees. (n.d.). Retrieved April 24, 2020, from <https://www.fs.usda.gov/main/stnf/workingtogether/advisorycommittees>
- ¹⁷² 20-Year Forest Health Strategic Plan: Central and Eastern Washington. (n.d.). Retrieved April 24, 2020, from <https://www.dnr.wa.gov/ForestHealthPlan>
- ¹⁷³ Stewardship & the U.S. Forest Service. (2014, July). Retrieved April 24, 2020, from https://www.nationalforests.org/assets/files/Stewardship-Authority-Overview_2014-7-24.pdf
- ¹⁷⁴ Forest Youth Success. (2018, March 7). Retrieved April 24, 2020, from <http://southgpc.org/2018/03/07/forest-youth-success/>
- ¹⁷⁵ Daniels, J. M., Nielsen-Pincus, M., Paruszkiewicz, M., & Poage, N. (2018). The Economic Contribution of Stewardship Contracting: Two Case Studies from the Mount Hood National Forest. *Journal of Forestry*, 116(3), 245-256.
- ¹⁷⁶ Tribal Forest Protection Act in Brief. (n.d.). Retrieved April 24, 2020, from <https://www.fs.usda.gov/detail/r5/workingtogether/tribalrelations?cid=stelprdb5351850>
- ¹⁷⁷ Nine Organizations Across Washington Receive New Forest Restoration Grants Totaling \$1.8 Million. (2019, January 23). Retrieved April 24, 2020, from <https://www.dnr.wa.gov/news/nine-organizations-across-washington-receive-new-forest-restoration-grants-totaling-18-million>
- ¹⁷⁸ The Nature Conservancy (n.d.). Rio Grande Water Fund Retrieved April 24, 2020, from <https://www.nature.org/en-us/about-us/where-we-work/united-states/new-mexico/stories-in-new-mexico/new-mexico-rio-grande-water-fund/>
- ¹⁷⁹ Bonneville Power Administration. (2019). *Fact Sheet - Bpa Invests in Fish and Wildlife*. Retrieved from <https://www.bpa.gov/news/pubs/FactSheets/fs-201901-BPA-invests-in-fish-and-wildlife.pdf>
- ¹⁸⁰ National Fish and Wildlife Foundation (n.d.). Columbia Basin Water Transaction Program. Retrieved April 24, 2020, from <https://www.nfwf.org/programs/columbia-basin-water-transactions-program>
- ¹⁸¹ Oregon Water Resources Department: *Allocation of Conserved Water Program*. (n.d.). Retrieved April 24, 2020, from https://www.oregon.gov/OWRD/WRDPublications1/ACW_One_Pager_11_13.pdf
- ¹⁸² Oregon Water Resources Department (n.d.). Water Project Grants and Loans. Retrieved April 24, 2020, from <https://www.oregon.gov/OWRD/programs/FundingOpportunities/WaterProjectGrantAndLoans/Pages/default.aspx>
- ¹⁸³ Network of Oregon Watershed Councils (n.d.). About Watershed Councils. Retrieved April 24, 2020, from <https://www.oregonwatersheds.org/who-we-are/oregon-watershed-councils/>
- ¹⁸⁴ Washington State Regional Fisheries Enhancement Groups. (n.d.). 1995 - 2014: Outcomes and Accomplishments. Retrieved April 24, 2020, from <https://wdfw.wa.gov/publications/01721>
- ¹⁸⁵ Mid-Columbia Fisheries Enhancement Group (n.d.). Making a Difference for Salmon in Central Washington Retrieved April 24, 2020, from <https://midcolumbiafisheries.org/>
- ¹⁸⁶ Agriculture Research Service (n.d.). National Programs. Retrieved April 24, 2020, from <https://www.ars.usda.gov/research/programs/>
- ¹⁸⁷ Beginning Farmers and Ranchers Loans (n.d.). USDA Farm Services Agency. Retrieved April 24, 2020, from <https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/beginning-farmers-and-ranchers-loans/index>
- ¹⁸⁸ Natural Resource Conservation Service (n.d.). Conservation Stewardship Program - Payment for Performance Retrieved April 24, 2020, from https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/financial/csp/?cid=nrcs143_008316
- ¹⁸⁹ Natural Resource Conservation Service (n.d.). Environmental Quality Incentives Program. Retrieved April 24, 2020, from <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/eqip/?cid=stelprdb1044009>
- ¹⁹⁰ Environmental Protection Agency (n.d.). Local Foods, Local Places. Retrieved April 24, 2020, from <https://www.epa.gov/smartgrowth/local-foods-local-places>

- ¹⁹¹ Western SARE (n.d.). About Us. Retrieved April 24, 2020 from <https://www.westernsare.org/About-Us>
- ¹⁹² Western SARE (n.d.). Retrieved April 24, 2020, from <https://www.westernsare.org/>
- ¹⁹³ Washington Wildlife and Recreation Coalition (n.d.). Washington Wildlife and Recreation Program. Retrieved April 24, 2020, from <https://wildliferecreation.org/our-work/washington-wildlife-and-recreation-program/>
- ¹⁹⁴ The Balance (n.d.). American Recovery and Reinvestment Act. Retrieved April 24, 2020, from <https://www.thebalance.com/arra-details-3306299>
- ¹⁹⁵ Federal Transition Administration (n.d.). American Recovery and Reinvestment Act. Retrieved April 24, 2020, from <https://www.transit.dot.gov/regulations-and-guidance/legislation/arra/american-recovery-and-reinvestment-act-arra>
- ¹⁹⁶ AmeriCorps VISTA (n.d.). Is AmeriCorps VISTA Right for Your Organization? Retrieved April 24, 2020, from https://www.nationalservice.gov/sites/default/files/documents/Is_VISTA_Right_for_Your_Organization.pdf
- ¹⁹⁷ Colorado Department of Regulatory Agencies (n.d.). The Broadband Fund. Retrieved April 24, 2020, from <https://www.colorado.gov/dora-broadband-fund>
- ¹⁹⁸ US Department of Housing and Urban Development (n.d.). Community Development. Retrieved April 24, 2020, from https://www.hud.gov/program_offices/comm_planning/communitydevelopment/
- ¹⁹⁹ US Economic Development Administration (n.d.). Funding Opportunities. Retrieved April 24, 2020, from <https://www.eda.gov/funding-opportunities/>
- ²⁰⁰ US Small Business Administration (n.d.). HUBZone Program. Retrieved April 24, 2020, from <https://www.sba.gov/federal-contracting/contracting-assistance-programs/hubzone-program>
- ²⁰¹ USDA Rural Development (n.d.). Rural Business Development Grants. Retrieved April 24, 2020, from <https://www.rd.usda.gov/programs-services/rural-business-development-grants>
- ²⁰² USDA Forest Service (n.d.). Wood Innovations. Retrieved April 24, 2020, from <https://www.fs.usda.gov/science-technology/energy-forest-products/wood-innovation>
- ²⁰³ Colorado Commercial Property Assessed Clean Energy (n.d.). About. Retrieved April 24, 2020, from <https://copace.com/about/>
- ²⁰⁴ Conservation Colorado (2019, May 2). Colorado Leaders Applaud Passage of HB 19-1261. *Press Team*. Retrieved from <https://conservationco.org/2019/05/02/press-colorado-leaders-applaud-passage-of-hb-19-1261/>
- ²⁰⁵ National Renewable Energy Laboratory (n.d.). FERC Ruling Paves Way for Increased Local Renewable Energy Generation. Retrieved April 24, 2020, from <https://www.nrel.gov/state-local-tribal/blog/posts/ferc-ruling-paves-way-for-increased-local-renewable-energy-generation.html>
- ²⁰⁶ Institute For Local Self Reliance (2018, July 17). DMEA Co-op Serving Up Broadband and Innovation in Colorado - Community Broadband Bits Podcast 314 <https://muninetworks.org/content/dmea-co-op-serving-broadband-and-innovation-colorado-community-broadband-bits-podcast-314>
- ²⁰⁷ EnergySage (n.d.). 2020 Oregon Solar Incentives. Retrieved April 24, 2020, from <https://www.energysage.com/solar-panels/solar-rebates-incentives/or/>
- ²⁰⁸ Business Oregon (n.d.). Rural Renewable Energy Development Zone. Retrieved April 24, 2020, from <https://www.oregon4biz.com/Oregon-Business/Tax-Incentives/Renewable-Energy/Zones/>
- ²⁰⁹ USDA Rural Development (n.d.). RURAL ENERGY FOR AMERICA PROGRAM ENERGY AUDIT & RENEWABLE ENERGY DEVELOPMENT ASSISTANCE GRANTS. Retrieved April 24, 2020, from <https://www.rd.usda.gov/programs-services/rural-energy-america-program-energy-audit-renewable-energy-development-assistance>
- ²¹⁰ SolSmart (n.d.). Retrieved April 24, 2020, from <https://www.solsmart.org/>
- ²¹¹ Mckenna, Phil (2019, May 7). Washington Commits to 100% Clean Energy and Other States May Follow Suit. *Inside Climate News*. Retrieved from <https://insideclimatenews.org/news/07052019/100-percent-clean-energy-map-inslee-washington-california-puerto-rico>
- ²¹² Monroe, A. S., & Butler, W. H. (2016). Responding to a policy mandate to collaborate: structuring collaboration in the collaborative forest landscape restoration program. *Journal of Environmental Planning and Management*, 59(6), 1054-1072.
- ²¹³ Antuma, J., Esch, B., Hall, B., Munn, E., & Sturges, F. (2014). *Restoring Forests and Communities Lessons from the Collaborative Forest Landscape Restoration Program*. School for Environment and Sustainability.
- ²¹⁴ US Forest Service (n.d.). Good Neighbor Authority. Retrieved April 24, 2020, from <https://www.fs.usda.gov/managing-land/farm-bill/gna>
- ²¹⁵ USDA Forest Service Partnership Guide (2014). Retrieved April 24, 2020, from https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3813391.pdf
- ²¹⁶ Moseley, C. (2010). *Strategies for supporting frontline collaboration: Lessons from stewardship contracting*. IBM Center for the Business of Government.

Chapter 5: Factors that Constrain Stewardship Economy Activities

Despite the numerous accomplishments achieved by communities pursuing stewardship economy activities (SE activities), many face barriers that have forestalled progress and limited success. These constraining factors prevent communities from reaching their full potential as they work towards achieving positive ecological, economic, and community outcomes.

Several constraining factors are rooted in the reality of working in rural areas; these places have fewer individuals, organizations, and institutions with the capacity to support SE activities. Rural communities also receive less attention from funders compared to more urban areas, making it difficult to bring in desperately needed donations and grants. Furthermore, not all local community members, government officials, and other leaders in rural areas hold the same level of support for SE activities as those who propose and pursue them. Resistance from these individuals can make it difficult to proceed with projects or garner broad-based support. Additionally, even if there are partners who might support SE activities, these partners may also be constrained for a variety of reasons which inhibits their ability to contribute.

At a broader level, factors far outside of local control place a burden on rural areas and limit progress as communities work to advance SE activities. Biophysical factors such as climate change present uncertainty for people working to restore ecosystems or make a living off the land, while fluctuations in financial markets are often felt acutely in rural areas, preventing people in natural resource-based livelihoods from generating a steady income. Furthermore, state and federal policies, contracting mechanisms, and land management agency procedures that should ideally support efforts to pursue SE activities are often misaligned with the unique context of rural areas and thus generate limited positive outcomes.

While these challenges are certainly not without remedy, they present ongoing barriers for many communities. This chapter discusses the overarching factors that inhibit communities from advancing SE activities.

Table 8: Factors that constrain stewardship economy activities

<p>1. <u>Insufficient institutional capacity and leadership at the local level</u></p> <ul style="list-style-type: none"> • Insufficient staff in community-based organizations • Difficulty sustaining local leadership • Lack of funding to support staff and build organizational capacity • Absence of structures or entities for coordinating activities <p>2. <u>Lack of flexible and consistent funding</u></p> <ul style="list-style-type: none"> • Mismatch between foundation grants and local community needs • Burdensome reporting requirements • Lack of unrestricted funds that enable flexibility and relationship-building • Shifting funding priorities <p>3. <u>Complicated local geographic and socioeconomic context</u></p> <ul style="list-style-type: none"> • Geographic isolation • Cost or absence of services such as housing and education • Declining and aging population <p>4. <u>Insufficient community buy-in, support, and participation</u></p> <ul style="list-style-type: none"> • Resistance to change • Conflicting values and visions for the future • Misperceptions and stereotypes about the value of active land management • Distrust, stereotypes, and misunderstandings <p>5. <u>Agency and partner organization limitations</u></p> <ul style="list-style-type: none"> • Limited agency staffing at the local level • Limited local government authority • Staff turnover • Inability or disinclination to innovate • Difficulty engaging with tribal groups <p>6. <u>Challenges and uncertainty associated with the scope and scale of activity</u></p> <ul style="list-style-type: none"> • Large-scale biophysical challenges including climate change • Uncertainty about the effective scale of activities • Tension between working locally and regionally • Management and regulatory complexity in patchworked landscapes <p>7. <u>Market-related constraints</u></p> <ul style="list-style-type: none"> • Market challenges and forces beyond local control • Uncertain timber supplies • Costs associated with shifting to new economic activities • Limited workforce • Competing land/resource uses that may be more profitable than stewardship • Absence of critical infrastructure or financing mechanisms <p>8. <u>Policy challenges</u></p> <ul style="list-style-type: none"> • Regulatory requirements • Government funding requirements • Difficulty operating at the scale required by federal contracts • Federal contracting inflexibility • Unclear or inappropriate federal standards
--

Constraining Factor 1: Insufficient institutional capacity and leadership at the local level

“Here, we can see a lot further than we can go.”

- Interviewee, Trinity County, CA

In several places examined in this study, institutional capacity and leadership at the local level was weak, non-existent, or distant, making it difficult to advance SE activities. Particularly in places with significant public land and few incorporated municipalities, agencies and local government had limited human power. Even where communities built greater local capacity with a community-based organization, CBOs faced difficulties sustaining leadership and ongoing operations to effectively maintain SE activities.

Insufficient staff in community-based organizations

Not surprisingly, inadequate numbers of staff in community-based organizations (CBO)⁵ affected the extent to which SE activities could be advanced.

- **Salmon River region:** Salmon Valley Stewardship staff spent much of their time facilitating local collaborative groups and coordinating restoration and monitoring projects. Given the organization’s limited capacity, one interviewee commented that they are unable to engage with and help the community as much as they would like.
- **West Central Colorado:** Limited staffing within Public Lands Partnership made it difficult to search for new funding to help build capacity or to engage younger community members as founding members aged or moved on to other endeavors.
- **Mount Adams, WA:** Mount Adams Resource Stewards (MARS) only had one to two full-time staff. The director noted that it was very difficult for an organization of this size to complete reporting requirements for grants or monitor ecological outcomes of their work which grant-funded projects often required.

Difficulty sustaining local leadership

In many places, maintaining a cadre of leaders — that is, finding local individuals to replace current leaders who need to cut back their efforts, or attracting new leaders to rural areas — presented an ongoing challenge for maintaining momentum on SE activities.

- **Mount Adams, WA; Lake County, OR; Blackfoot Watershed, MT:** CBO staff in each of these locations expressed concerns with finding replacement leaders within their organizations given that the population was aging and there were few younger individuals available to step-in as older leaders retired.

⁵Community-based organizations: "Non-profit organizations, which are based in rural areas, and that conduct practical work on both rural economic development and natural resource stewardship." Abrams, J., Davis, E. J., Ellison, A., Moseley, C., & Nowell, B. (2016). *Community-Based Organizations in the U.S. West: Status, Structure, and Activities. Ecosystem Workforce Program*. Retrieved from http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_67.pdf

- **Blackfoot Watershed, MT and West Central CO:** Finding replacement leaders was particularly problematic for organizations that were driven by volunteer landowner or community member engagement, such as Blackfoot Challenge and Public Lands Partnership.
- **Chama Peak, CO/NM:** Board members of Chama Peak Land Alliance struggled to hire executive directors for the organization since there were limited work opportunities available for their spouses.

Lack of funding to support staff and build organizational capacity

Funding to support staff or organizational capacity was limited, making it difficult for communities to capitalize on funding resources that did become available. Additionally, because most funding was restricted to on-the-ground projects, some organizations struggled to maintain internal administrative processes that support these projects.

- **Thunder Basin, WY:** Thunder Basin Grasslands Prairie Ecosystem Assessment (TBGPEA) had only one full-time project coordinator and a part-time employee who primarily did GIS work. The organization could not capitalize on as many funding opportunities as it would like. TBGPEA staff were also stretched thin as they balanced coordinating on-the-ground work with pursuing funding.
- **Mount Adams, WA:** MARS had a full-time director who spent considerable time coordinating a seasonal stewardship crew, which made it difficult to take the time to build relationships with funders or partners who could provide additional financial support.
- **Blackfoot Watershed, MT:** Blackfoot Challenge had difficulties finding support to train staff on how to procure and administer private foundation grants, especially as federal funding sources have declined.

Absence of structures or entities for coordinating activities

SE activities required planning and coordination to build support, find funding, and keep projects moving forward, but all this was difficult when there was no designated individual or organization available to lead these efforts.

- **Wallowa County, OR:** Several interviewees highlighted the need for a water governance organization or structure so that irrigators could coordinate water management and bring in funding for water conservation initiatives. However, it was unclear who or what organization could take this on and there was a lack of capacity to develop a new organization.
- **Mount Adams, WA:** Some interviewees noted that it would be useful to have a watershed group to help coordinate more cross-boundary stream restoration and water conservation projects. However, current leaders were stretched too thin to start such an organization or attend more meetings.

Constraining Factor 2: Lack of flexible and consistent funding

“It’s much easier to fund specific projects, rather than keeping the lights on.”

- NGO employee, Salmon River region, ID

“Sustained investment that values local knowledge and has flexibility is incredibly important.”

- Interviewee, Trinity County, CA

The limited availability of flexible and consistent funding made it difficult to pursue SE activities in several communities. Many communities tried to take a long-term view, but most funding opportunities were for individual, short-term projects. Grants also came with reporting requirements that were challenging for organizations with limited capacity. Additionally, funding priorities did not always fit the kind of projects needed to support SE activities, and foundations rarely allowed for the flexibility and relationship-building needed to make projects successful. Finally, there were limited funding resources available for directly supporting staff or organizational capacity-building efforts that were desperately needed by many of the organizations pursuing SE efforts.

Mismatch between foundation grants and local community needs

Grants from foundations often focused on individual, short-term projects and did not always reflect the need for more long-term, complex SE activities. Stewardship-related projects were often ecologically and socially complex, and there was a need for grants that were responsive to this complexity.

- **Trinity County, CA:** One interviewee from Trinity County noted that it is unreasonable to expect measurable change in one or even three years: “Sustained investment that values local knowledge and flexibility is incredibly important.”
- **Wallowa County, OR:** Land and Water Conservation Funds allocated for the protection of the east moraine on Wallowa Lake had to be used by the end of 2019, a stipulation that necessitated considerable fundraising on a tight deadline.

Additionally, some projects evolved over very long time-frames, which did not align with most funding cycles.

- **Thunder Basin, WY:** An interviewee from Thunder Basin noted that consistent funding for long-term community-based projects had room for improvement. Most grant cycles were limited to only a few years, while organizations like the Thunder Basin Grasslands Prairie Ecosystem Assessment’s (TBGPEA) had to spend 18 years developing a region-wide Conservation Strategy.

Burdensome reporting requirements

Many grants came with documentation and reporting requirements that were difficult to meet, particularly given the need for demonstrating tangible outcomes to funders.

- **Wallowa County, OR:** Funding for irrigation projects provided by the NRCS and Columbia Basin Water Transfer Program required considerable documentation and complex reporting processes. Furthermore, funding was not provided until these requirements were met. One

farmer who used these resources had to take out a loan for some of the up-front project costs and then had to spend significant time making phone calls to program administrators before funds were granted.

- **Salmon River region, ID:** Landowners often faced challenges when engaging in habitat-level conservation projects that involved multiple agencies. Each agency used different monitoring and reporting requirements which did not align with each other. For example, one landowner had to contend with four different reporting processes for a fourteen-acre project.

Lack of unrestricted funds that enable flexibility and relationship-building

Many funding sources did not come with the flexibility to allow for changes that occurred over the course of projects, and few provided “soft funding” for building relationships with the partners who needed to be involved.

- **Salmon River region, ID:** Salmon Valley Stewardship facilitated opportunities for landowners, agencies, and other partners involved in stewardship projects to build important relationships with each other. However, funding sources did not always readily support this work, due in part to the difficulty of quantifying the benefits of collaboration. As one interviewee put it, “[it is difficult to demonstrate] the impact of providing a space for civil dialogue.”
- **Mount Adams, WA:** The Columbia Land Trust (CLT) noted a lack of “soft funding” for CLT staff to get to know people involved in or impacted by their projects. For example, a road removal project required ongoing outreach efforts with local community members who would be impacted over the multiple phases of the project, but grants provided limited support for the time and effort needed to build relationships.

Funding for relationship-building was especially important for projects that required engaging with private landowners.

- **Trinity County, CA:** One interviewee commented that foundations want to take interpersonal relationships out of the picture even though these relationships are critical to SE activities, such as encouraging landowners to adopt more efficient irrigation infrastructure.

Additionally, in several places, grants only supported direct project costs and did not offer the flexibility to cover basic administration and operational costs.

- **Trinity County, CA:** The Watershed Research and Training Center (WRTC) found that grants to support new forest product businesses did not necessarily cover equipment maintenance costs. WRTC also found it difficult to find funding for the collection of baseline hydrological and ecological data, as well as on-going monitoring, despite the fact that these data were critical to determining interventions and evaluating approaches over the course of projects.
- **Lake County, OR:** A member of the Lakeview Stewardship Group (LSG) noted that there was a lack of funding for transportation costs. Many grants only paid for work on-the-ground, such as prescribed thinning, rather than travel time. This presented challenges since several LSG members who provided expertise and support for these projects lived far from Lake County, such as in Portland.

Shifting funding priorities

The need to align with specific foundation priorities made it difficult for community-based organizations (CBOs) to maintain focus on the highest priority projects and not to overextend resources and capacity.

- **Trinity County, CA:** The Ford Foundation’s reduced support for its community forestry program was a significant loss for the the Watershed Research and Training Center.
- **Malpai Borderlands, AZ/NM:** Malpai Borderlands Group interviewees noted that shifting foundation priorities meant that staff had to spend significant time cultivating new funding sources, which took time away from accomplishing on-the-ground activities.

Constraining Factor 3: Complicated local geographic and socioeconomic context

“If someone forgets a bag of screws, you can’t just drive to the nearest Wal-Mart to replace it.”

- Interviewee, Thunder Basin, WY

The geographic isolation of communities made it difficult for individuals and organizations to access support for SE activities. Socioeconomic challenges compounded, as communities’ populations aged and declined in number and providing services such as education and housing became more challenging.

Geographic isolation

For several communities studied, geographic isolation presented barriers such as higher transportation costs and difficulty accessing social, intellectual, and financial capital.

High transportation costs

Transportation costs made it difficult for several communities to access markets or important supplies.

- **Salmon River region, ID:** Interviewees noted how transportation costs made it challenging to get products to distant markets, particularly for timber products. Forest products must be driven to market, which was far more expensive, especially for low-grade, small-diameter timber. For this reason, forest thinning has often resulted in a net loss of funds.

High transportation costs also presented barriers for agriculture producers.

- **Ajo, AZ and North Fork Valley, CO:** Agriculture producers in both of these locations reported difficulties accessing farmers markets in urban areas where they could make more money, simply because it was too expensive to transport their products long distances.

Additionally, transportation costs made it difficult for organizations to access supplies that support SE activities.

- **Thunder Basin, WY:** A Thunder Basin Grassland Prairie Ecosystem Association (TBGPEA) member noted, “if someone forgets a bag of screws, you can’t just drive to the nearest Wal-Mart to replace it.”

Distance from social and intellectual capital

Geographic isolation also made it difficult for communities to access social and intellectual capital that support SE activities.

- **Salmon River region, ID:** The Salmon River region is isolated from other communities and universities, both of which could provide networking opportunities for discussing new ideas and building partnerships. Particularly for agricultural producers, this lack of opportunities to network with other producers or agriculture researchers made it difficult to solve problems, build skills, and learn about funding or business development resources. Similarly, the lack of access to intellectual capital presented difficulties for young people in the region who were unsure of what skills or career opportunities they should pursue as timber and mining declined.

Difficulty accessing financial capital

Geographic isolation presented challenges for accessing the financial capital necessary to support stewardship economic activities. Compounding these issues, while donations from individual donors gave organizations the flexibility to spend funds at their discretion, it was difficult to find these donors within rural communities since many residents have less disposable income.

- **Wallowa County, OR:** There were not many individual donors in Wallowa County who could invest financial resources in local SE activities. For example, it was difficult to find local donors with deep pockets to supplement funding from the Land and Water Conservation Fund to protect the east moraine of Wallowa Lake.
- **Ajo, AZ:** An interviewee noted that the low visibility of the Ajo community in urban areas made it difficult to find donors who could support projects that advance the local food economy. As a small, rural community, Ajo also finds it difficult to compete for grants against bigger towns or urban areas. Ajo is not as visible as some of its rural competitors. For instance, the Navajo people and reservation are better known than the Tohono O'odham.

Cost or absence of services such as housing and education

Many rural communities struggled to maintain basic services like education and housing. A stewardship economy was not perceived as salient in face of these challenges and made it difficult to retain community members or attract new community members who could support SE activities.

- **Salmon River region, ID:** A lack of affordable housing and other services made it difficult for community members to support or see the benefits of SE activities. One landowner engaged in stewardship work described how other community members ask him why, if stewardship work supports the local economy, "school enrollments were dropping and so many people are still on Medicaid."

A lack of affordable housing made it particularly difficult to retain local contractors and skilled workers who could engage in stewardship work.

- **Mount Adams, WA:** The Columbia Gorge's recreation amenities have driven up housing prices for forest contractors, making it difficult for them to stay in the region.
- **Lake County, OR:** Temporary construction workers on renewable energy projects have driven up the cost of housing for rural community members.

The lack of affordable housing also made it difficult to accommodate temporary workers and interns.

- **Salmon River region, ID and North Fork Valley, CO:** Interviewees from both locations noted how important interns were for supporting SE activities but that it was difficult to find them temporary and affordable places to live.

Finally, in places that lacked local services, money sometimes flowed out of communities to more urban areas.

- **Blackfoot Watershed, MT:** There were very few health clinics, grocery stores, and other basic services in the watershed. Consequently, many people had to make trips to Missoula or Helena, Montana for these services and their revenue escaped the local communities.

Declining and aging population

With a small, or even declining, population, some rural communities had difficulties retaining a tax base to support SE activities.

- **Mount Adams, WA:** The declining population base in Glenwood, Washington meant that local schools constantly faced pressure to consolidate. One interviewee noted that when a community loses a school it can be quite difficult for local families to come to or stay in an area.

Mirroring trends in rural areas across the US, the communities studied also had a relatively high proportion of older people.²¹⁷ This reality presented challenges for both retaining labor and having people whose values supported the advancement of SE activities.

- **Wallowa County, OR:** The aging population made it difficult to continue finding volunteers to help with trail work in the County.
- **Lake County, OR:** Interviewees noted that many local forest contractors were retiring and moving away.
- **Mount Adams, WA:** Many farmers and ranchers in Klickitat County were retiring and interviewees noted that this trend could undermine the retention of a working landscape, since some agricultural producers might choose to subdivide their ranches for development.

Furthermore, an aging population introduced changing values and interests.

- **Wallowa County, OR:** As people in the county retire, some were concerned whether the next generation would value the working landscapes as much as previous generations.
- **Blackfoot Watershed, MT:** Interviewees noted that it will be difficult to find younger landowners who are as interested and engaged as some of the current, older volunteers on Blackfoot Challenge's sub-committees.

Constraining Factor 4: Insufficient community buy-in, support, and participation

“One of the lessons from what has happened with [the] forest plan revision process is that having agreements among environmentalists and the timber industry is a good starting place...but if you don’t bring along some of the other interests, like county government, like grazing...and if your Forest Service partners aren’t willing to step up to the plate and make hard decisions, it’s insufficient.”

- Interviewee, Northeast Washington

“The locals still have an inherent distrust of the federal land management agencies. It’s going to take years for that to break.”

- Interviewee, Salmon River region, ID

“One individual [on a collaborative group] can easily stop the process”

- Interviewee, Lake County, OR

Many places struggled to secure community support for or interest in SE activities. This variable interest occurred for several reasons, including a general resistance to change, conflicting values and visions about the future among community members and partners, and misperceptions and stereotypes about the value of land management. Additionally, distrust, misunderstandings, and misconceptions about the role of the federal government, collaborative groups, and landowners — all of whom were important players involved in SE activities — further inhibited progress.

Resistance to change

SE activities sometimes required people in the community to try something new and unfamiliar, and some community members resisted these changes.

- **Wallowa County, OR:** As regulations and ecological conditions prompted a shift towards restoration thinning, some people lamented the loss of conventional logging and its value to the local economy. As one interviewee put it, some community members feel that “we just need to get the mills back” to solve the community’s problems. Similarly, irrigators in the county have sometimes resisted getting involved in unfamiliar, multi-landowner water conservation projects that could streamline water management.
- **Lake County, OR:** Renewable energy development is on the rise in the county, but an interviewee noted that some community members expressed NIMBYism about these projects and about prescribed burning.
- **Ajo, AZ:** Stereotypes and lack of awareness created some resistance to local food work. As the local food economy expanded, there was resistance to shopping at or supporting local farmer’s markets since some viewed these markets as a “rich white person thing.” Similarly, other community members in Ajo viewed foods with cultural heritage as undesirable or expensive. In general, it was challenging for organizations and communities to shift focus and try something new after a long history of doing things a certain way.

Conflicting values and visions for the future

In some places, community members disagreed about the meaning or role of stewardship and valued natural resources and conservation practices differently. These differing values and perceptions created tensions among community members, impeding their ability to prioritize issues and work together toward shared goals.

- **Salmon River region, ID:** As one interviewee explained, some saw conservation as a buzzword which was really just a strategy to “tie up all the land and give it to the federal government.” Conflicting views of the value of designated wilderness also challenged stewardship efforts in the Salmon River region. Those opposed contended that wilderness would reduce the county’s already miniscule tax base, create access issues for the disabled and elderly, and make it difficult to perform thinning and burning to prevent wildfires. One Salmon River region interviewee noted that after the Jim McClure-Jerry Peak Wilderness was designated, little could be accomplished at subsequent planning meetings due to residual frustration and resentment.
- **North Fork Valley, CO:** Value conflicts were at play in the North Fork Valley between those who support niche and boutique agriculture and resist local oil and gas development and those who prefer to maintain conventional farming and ranching in the county and support natural gas development.
- **Ajo, AZ:** While some have envisioned a local food economy in Ajo supported by younger community residents, many young people have grown up with the belief that they must “escape” Ajo in order to succeed.

Misperceptions and stereotypes about the value of land management

Differing perceptions and values associated with active land management also challenged SE activities.

- **Trinity County, CA:** An interviewee commented that environmentalists did not always acknowledge how commercial harvests can be valuable from both a financial and silvicultural perspective.
- **Wallowa County, OR:** Some observed a rural-urban divide in which environmentalists, recreationists, and absentee landowners from outside of the area did not fully understand the role or value of forest management. They were more likely to question or oppose forest thinning activities.
- **Mount Adams, WA:** Newer community members sometimes perceived land management as a bad thing. An interviewee noted how community transplants to the rural town of Trout Lake, Washington sometimes complain about the “sight, sound, and smell” of agriculture, while another interviewee involved in forest restoration described a reluctance to conduct thinning projects in more visible places.

Distrust, Stereotypes, and Misunderstandings

In several communities, collaborative interactions and project implementation were complicated by long-standing distrust of the federal government, misunderstandings about the objectives and role of collaborative groups, and questions associated with private landowner motivations and actions.

Distrust of the federal government

Distrust of the federal government loomed large in many communities, and this distrust challenged the collaborative approach to land management associated with SE activities.

- **Salmon River region, ID:** Distrust stemmed from a history of conflict over wolf reintroductions, changes in federal land management policy, and a perception that the federal government contributed to the local economic downturn. Insufficient U.S. Forest Service capacity to effectively support and engage in local SE activities and last-minute changes made by the agency to stewardship contracts further fueled this distrust.
- **Trinity County, CA:** An interviewee described how some sub-committees on the Trinity County Collaborative Group made the Forest Service out to be an enemy that unnecessarily holds up projects.
- **Lake County, OR:** New or temporary federal employees created tensions. One interviewee noted that when an incident command team came to Lake County during a large fire, some community members assumed that they would not have the community's best interests in mind.

Misunderstandings about the role of landowners

Many SE activities relied on private landowner engagement, particularly for multi-jurisdictional projects. Private landowners often made financial commitments and on-the-ground contributions to restoration — such as voluntarily fencing cattle out of riparian areas to protect streams — that most people did not know about, much less express appreciation for. Landowner involvement in projects affected their normal operations in both expected and unexpected ways.

- **Salmon River region, ID:** One rancher explained that, “ranchers are time-bound by seasonal weather conditions, rather than a traditional calendar, so (stewardship) projects on a ranch disrupt its normal cycles.”
- **Thunder Basin, WY:** A landowner felt that some partners do not understand what it means to make a living off the land. When people fail to acknowledge or respect landowner contributions these landowners can become discouraged from getting involved in future activities.

Distrust and misunderstanding about the role of collaborative groups

While collaborative groups provided important mechanisms for coordinating SE activities, local distrust and misunderstandings about the role of these groups made it difficult to get things done in several communities. Collaborative groups often filled a gap in institutional structure and generated consensus agreements on proposed activities. However, other individuals or groups with different values sometimes contested these groups' decisions or organized an opposition.

- **Lake County, OR:** Even though the Lakeview Stewardship Group has been around for two decades, interviewees noted that there were still people who got involved with the group to try to shift the collaborative's agenda in a more ideological direction, which has sometimes made it difficult to develop consensus.
- **Salmon River region, ID:** The Salmon-Challis National Forests planning process yielded such different community views about the role of public lands that two separate community groups emerged to participate in it: a grassroots advisory group and a collaborative. The once-joint plan ended up being split between the two Forests, in part to address these different viewpoints.

- **Northeast Washington:** A coalition of ranchers, motorized recreationists, and county commissioners formed with the sole purpose of opposing the Northeast Washington Forest Collaborative’s compromise-based recommendations for designating wilderness.

Furthermore, tensions can arise between collaborative groups and formal authorities.

- **Trinity County, CA:** A Forest Supervisor was not supportive of a consensus agreement developed by the local forest collaborative group, which prevented the group from moving forward with a project. This kind of incident, in which people external to collaborative groups or even within them do not agree with a consensus decision, made it difficult to keep projects moving forward.
- **Chama Peak, CO/NM:** An interviewee noted issues when new collaborative groups’ work overlapped with that of more established organizations. New groups did not realize they were overlapping with the work of other organizations, creating an awkward situation and possible competition for the same funding. The interviewee noted that this kind of situation begs careful communication between organizations so they can find ways to complement each other.

Constraining Factor 5: Agency and partner organization limitations

“We haven’t been able to use the tools we’ve been helping to envision and create [such as stewardship contracting or joint NEPA analyses] because there’s no one to use them with.”
- Interviewee, Trinity County, CA

“Everyone has to be in play to make these things [happen]. If you didn’t have partners, you couldn’t make it happen. If you didn’t have landowners interested, you couldn’t make it happen. If you didn’t have contractors...you couldn’t make it happen. You have to have all players.”
- Interviewee, Lake County, OR

“It can be challenging to work with an agency employee who doesn’t disagree with what you’re doing but has something else on the agenda.”
- Interviewee, Malpai Borderlands, AZ/NM

In many of the places studied, the extent to which SE activities could be accomplished was often a function of the support provided by partner organizations and agencies. The need for innovation and experimentation was sometimes constrained or derailed by the needs and constraints of these partner organizations and agencies. These limitations included frequent staff turnover, insufficient staff, an inability or disinclination to change standard operating procedures, and difficulty knowing how to effectively engage with some groups and institutions, such as tribal governments.

Limited agency staffing at the local level

Communities with a high percentage of public land and few incorporated municipalities had limited presence of local governance. In these places, the federal government was a primary source of authority, yet federal agencies were sometimes difficult to engage with given their limited capacity. As the U.S. Forest Service's budget was consumed by firefighting, it was less able to allocate as many resources and staff to rural areas. This made it challenging for the agency to engage effectively with rural communities.

- **Salmon River region, ID:** Community members noted that the Forest Service downsized and shifted more employees to offices in Salmon, the largest town in the region, which made it difficult for smaller towns to engage with Forest Service staff. Without staff members in these smaller communities, community members sometimes sensed that their concerns were not heard.
- **Trinity County, CA:** The lack of Forest Service capacity has affected every level of its work in the County, from planning and administering partnerships, to completing NEPA analyses, to implementing natural resource management.
- **Wallowa County, OR:** Previously, over 300 Forest Service employees were located in Wallowa County; today only 50 remain. One interviewee mentioned that there were about 1.5 staffers to manage over 1,200 miles of trails.

Limited local government authority

Limited presence or authority of government at the local level also made it difficult for community-based organizations to maintain political and institutional support for SE activities.

- **North Fork Valley, CO:** Some interviewees noted that it was difficult to garner support from county government officials for efforts to develop a local food economy and renewable energy resources. The County seat is located outside of the North Fork Valley and officials sometimes have less enthusiasm for these activities than valley residents do.

Staff turnover

In several places, staff turnover made it difficult to keep SE activities moving forward, maintain trust and relationships between partners, and sustain institutional knowledge so that shared lessons were not lost. When federal employees left an area due to transfers or other reasons, it took time to build relationships with new staff, particularly in rural communities where there was a level of distrust of the federal government. When staff were not replaced, it left a void that could undermine stewardship. Likewise, turnover within collaborative groups or other partner organizations challenged initiatives.

- **Blackfoot Watershed, MT:** Staff turnover within land management agencies affected relationships with landowners on the Blackfoot Challenge sub-committee, making it difficult to maintain momentum on projects.
- **Chama Peak, CO/NM:** Turnover in the leadership of a collaborative group in the Chama Peak region brought new priorities and introduced a level of unpredictability for its partners, including for Chama Peak Land Alliance.

Inability or disinclination to innovate

In some communities, barriers to innovation prevented partner organizations and agencies from helping advance SE activities.

- **Trinity County, CA:** Agencies often found it difficult to innovate or implement the ideas presented by the Watershed Research and Training Center, because they faced staff and funding limits and it was risky to support nontraditional activities. For example, local district rangers have had trouble trying things outside of the Forest Service's standard operating procedures without first getting buy-in from higher-ups who may resist doing things in a new way.

Inflexible budgeting processes also made it difficult for partner organizations and agencies to try new things.

- **Mount Adams, WA:** A district ranger noted that with rigid line items in the budget, the District faced difficulties developing more integrated teams and projects.
- **Lake County, OR:** The Klamath Lakes Forest Health Partnership faced difficulties partnering with private companies since federal programs restrict funding to private entities.
- **Northeast Washington:** An interviewee noted how too much federal funding has been dedicated to fighting fires and planning rather than carrying out on-the-ground work such as laying out timber sales or stewardship contracts.

Difficulty engaging with tribes

Several places studied include or abut tribal land, and some groups working in these places noted challenges engaging with tribal governments. The groups recognized that building relationships with tribes could help them do a better job coordinating multi-jurisdictional stewardship projects, but doing so has been a challenge.

- **Mount Adams, WA:** Staff from the Columbia Land Trust and Southern Gifford Pinchot Collaborative noted how they have had limited success engaging with tribes, admitting that it stems in part from a lack of understanding about how to do so effectively.
- **Chama Peak, CO/NM:** CPLA has had difficulty networking with tribes in the past, noting high turnover in tribal leadership and lack of interest from these leaders.

Constraining Factor 6: Challenges and uncertainty associated with the scope and scale of activity

“We took on the last issue two and a half years ago, and then there wasn’t another issue to take on. Now we’re asking: what do we do?”

- Interviewee, West Central CO

“Staying ‘lean and local’ means you run the risk of having funding resources dry up.”

- Interviewee, Chama Peak, CO/NM

Several communities and organization staff struggled to determine the appropriate scale for SE activities, trying not to overextend themselves. Part of this challenge stemmed from difficulties contending with large-scale factors outside of local control, such as climate change. Additionally, while there may be a clear need for fostering a combination of stewardship, community, and economic development activities, it was difficult for some organizations to know how best to address these needs given current operational constraints or the uncertainty and risk associated with new areas of work.

Large-scale biophysical challenges including climate change

Biophysical challenges outside of a local community’s control introduced uncertainty into some SE activities.

- **Salmon River region, ID:** Despite significant improvements in stream quality, salmon and steelhead runs in the region were not as good as hoped for, likely because of changing ocean conditions and dams on the Snake River. An interviewee noted that “you can make the streams habitable for fish, but you can’t make the fish come.”

The increasing intensity and severity of wildfires similarly challenged local stewardship efforts.

- **Trinity County, CA:** Higher-intensity fires lead to more surface runoff and oaks growing back “where they shouldn’t.”
- **Lake County, OR:** An interviewee noted that fire, insect, and disease were much more pressing issues now than they were in the past resulting in loss of timber products and wildlife habitat.

Climate change also presented challenges beyond those related to fire.

- **North Fork Valley, CO:** Interviewees explained multiple impacts of climate change. One interviewee noted that variable early frosts were making it difficult for agriculture producers to predict planting times, while another stated that West Nile virus cases were on the rise. The virus recently took the life of an important community leader involved in fostering economic transition as the local coal mines closed.

Uncertainty about the most effective scale of activities

Several nonprofits and community-based organizations faced uncertainty knowing whether and how to expand the scope of SE activities, especially given limited resources and capacity. This uncertainty was particularly prevalent in places where there were many issues to take on but few local organizations to address them.

- **Thunder Basin, WY:** Researchers have posed many research questions that Thunder Basin Grassland Prairie Ecosystem Association (TBGPEA) wanted to answer, but the organization noted the need to be careful not to take on too many resource-intensive projects.
- **West Central CO:** While Public Land Partnership has been asked to take on recreation and tourism projects in the past, an interviewee noted the organization is not always able to get involved due to limited capacity. To focus on these issues, a second, more focused group might need to form in the future.

Organizations also faced pressure to get involved with issues when it was clear that no other organization would fill the gap, even if these issues were outside of the organization's scope and capacity.

- **Blackfoot Watershed, MT:** Staff from Blackfoot Challenge recognized that some communities in the Blackfoot Watershed wanted to engage in new economic development activities such as fostering sustainable recreation opportunities. There was no local economic development organization to assist this work, yet economic development has traditionally been outside of Blackfoot Challenge's scope. Expanding into this area would require more funding, a new strategic plan, and further organizational capacity.

Paradoxically, an organization faced challenges when it chose not to scale-up SE activities due to limited capacity.

- **Chama Peak, CO/NM:** Chama Peak Land Alliance (CPLA) decided to focus on a subset of projects in a specific region in order to stay "lean and local," yet an interviewee noted this also left the organization more vulnerable to shifting funding priorities.

Tension between working locally and regionally

Some organizations faced difficulties deciding an appropriate scale of operation, in particular, whether to stay local or work across a wider region.

- **Mount Adams, WA:** Mount Adams Resource Stewards (MARS) staff understood the need to engage with partners outside of the community of Glenwood, Washington, where MARS is based, in order to build a positive reputation and attract funding. However, they also wanted to stay committed to Glenwood, the community that the organization has sought to support. This tension between local and regional engagement presented challenges for the organization when forest parcels far from Glenwood become available. It was unclear whether it would be good to pursue adding these parcels to the Mount Adams Community Forest (MACF); if the parcels are not close enough to the community, Glenwood residents might lose interest in providing further support for the community forest.
- **Lake County, OR:** The Lakeview Stewardship Group (LSG) recently exhausted funding and finished conducting much of the needed treatments on the USFS Stewardship Unit near Lakeview. Now the organization faces uncertainty about whether to expand its work into a different region, such as by getting involved with Klamath Lake Forest Health Partnership, which encompasses some of Klamath County. Community members based in Lakeview who are part of LSG feel that this expansion might fall outside of the organization's scope.

Management and regulatory complexity in patchworked landscapes

Many communities had to deal with complexities associated with managing SE activities across a patchworked landscape. Most places had a high percentage of public land, often with multiple jurisdictions, mixed in with private land. Working on these landscapes presented difficulties both due to their large scale and associated regulatory complexity.

- **Malpai Borderlands, AZ/NM:** A mosaic of land ownership patterns made it difficult for ranchers to implement stewardship projects. Since different agencies had varying sets of rules about prescribed fire, it was difficult for area ranchers to coordinate with one another on burn projects across large areas.
- **Salmon River region, ID:** The Upper Salmon Basin Watershed Program had to approach irrigation efficiency projects with caution. Projects that reduced water use downstream could allow more water use upstream. This upstream water use, in turn, could still degrade downstream water use and violate state law.

Additionally, some community-based organizations operated across a very large area which necessarily led to management complexity.

- **West Central CO:** Public Lands Partnership (PLP) worked across a multi-county region where some counties were interested in supporting agricultural livelihoods while others were more interested in promoting industrial tourism. These different values made it difficult for PLP to determine what kinds of projects to take on and which efforts to support.

For other places, operating across a patchworked landscape also meant contending with some people who were less supportive of SE activities.

- **Trinity County, CA:** Many area landowners grow marijuana and do not want people on their land. This has made it difficult for the Watershed Research and Training Center and other partners to manage cross-boundary projects such as landscape-scale prescribed burns.

Constraining Factor 7: Market-related constraints

“In the timber industry, they’re producing as much wood and paper pulp as they ever have, but they don’t have any places to sell it.”

- Interviewee, Salmon River region, ID

“Change is a major challenge — we’re trying to keep the land productive instead of letting it get developed.”

- Mount Adams Resource Stewards board member, Mount Adams, WA

“Profits are not a four-letter word.”

- Interviewee, Wallowa County, OR

Many SE activities relied on favorable market conditions in the communities studied, yet markets were limited for several reasons. In some cases, products were difficult to market due to being low-value or

expensive to transport. Several communities noted challenges advancing forest restoration specifically due to a lack of timber supply guarantees from the federal government. Additionally, expanding into new areas of economic development presented risks for some communities, while in others, activities were limited by competing land and resource uses. Furthermore, some communities were hampered by having a small workforce or a lack of supporting infrastructure or financial mechanisms.

Market challenges and forces beyond local control

Market dynamics originating far beyond communities affected their ability to develop or market products from stewardship activities.

- **Trinity County, CA:** While the Watershed Research and Training Center (WRTC) successfully incubated a forest product business in Trinity County, it was sold to a larger Oregon-based company that eventually relocated the business to Oregon, laying off 50 local workers in the process. On another occasion, subsidized logging in Canada in response to an insect outbreak undermined the development of a second forest products business.
- **Wallowa County, OR and Mount Adams, WA:** A 2017 trade disagreement with Canada and the 2019 US-China trade dispute shifted the market away from low-value forest products, limiting small-diameter operations in these places.

Limited local milling capacity and equipment, combined with transportation costs, made it difficult for rural places to extract value from small-diameter timber and other low-value forest products that resulted from forest restoration work.

- **Lake County, OR:** An interviewee noted that small-diameter timber had limited viability on its own; businesses generally needed at least some larger-diameter logs to make a profit.

Uncertain timber supplies

Several communities had difficulties investing in wood product businesses or supporting sustained forest contracting jobs due to uncertain timber supply.

- **Salmon River region, ID:** Interviewees noted that federal agencies will have to guarantee a steadier supply of timber to make it economical for the community to invest in processing infrastructure. Additionally, uncertainty in federal contracts meant that many federal employees were hesitant to share information about upcoming projects with local contractors, fearing that it would create expectations they cannot be followed through on. However, not sharing this information made it difficult for contractors to plan ahead.
- **Trinity County, CA:** WRTC also noted issues with supply commitments from agencies. For example, as WRTC purchased the Hayfork mill, it received a verbal commitment for timber supply from the Forest Service. However, the agency was unable to fulfill that commitment, which was one factor in a series of challenges that led to the failure of WRTC's firewood business and community enterprise park.
- **Wallowa County, OR:** Some interviewees indicated that low supply guarantees of both small-diameter timber and regular board feet made it difficult to plan and maintain the viability of forest product businesses.

Costs associated with shifting to new economic activities

While some communities pursued SE activities, they were concerned about their ability to sustain these activities due to new circumstances that were difficult to predict.

- **Lake County, OR:** As the county rapidly expanded its development of renewable energy, greater strain was placed on the county's infrastructure. Many more trucks came through the area, increasing wear and tear on local roads, while new laborers in the area constrained local housing availability. A county commissioner noted that taxation often lagged behind these renewable energy projects and that more funding was needed for county planning and building departments. There were concerns that the renewable energy development could also stimulate the need for a very costly transmission infrastructure upgrade.
- **North Fork Valley, CO:** A similar challenge was highlighted by interviewees from the North Fork Valley, who contended that rapid renewable energy development — stimulated by the local electric cooperative exiting an agreement with its wholesale energy provider — would require more labor and new expertise. Additionally, as Delta County ramped up broadband expansion, the real estate market took off, which in some cases priced local people out of the North Fork Valley.

Some communities also expressed skepticism or concern about new economic activities creating issues unique to rural areas.

- **Wallowa County, OR:** An interviewee noted that community members are skeptical about carbon pricing as a means for encouraging SE activities since this could have a disproportionate impact on rural communities that are more reliant on fossil fuels, such as for transportation.

Limited workforce

Several places struggled to find the workforce necessary to support SE activities.

- **Lake County, OR:** Many forest contractors have retired, while the closest town with additional contractors is over 100 miles away from restoration sites. Furthermore, the county has faced difficulties finding new employees who can pass background checks.
- **Chama Peak, CO/NM:** An interviewee noted that because the region is very isolated and has never substantially supported a timber industry, there were very few local forest contractors available to help with needed restoration work.
- **Trinity County, CA:** Few local people were available with the expertise to conduct technical assessments for NEPA and California Environmental Quality Act (CEQA) requirements.

Other communities found that community members were not necessarily interested in starting businesses to advance SE activities.

- **Mount Adams, WA; Lake County, OR; Trinity County, CA:** CBOs in each of these places have struggled to find people interested in doing more entrepreneurial work such as starting small-scale forest product businesses. Residents accustomed to contract labor sometimes felt that they did not have the know-how to start a business or were not interested in taking on the risk.

Competing land/resource uses that may be more profitable than stewardship

Some uses of land and natural resources were more profitable and therefore have outcompeted SE activities. These competing uses included housing development (often tied to increased interest in recreation), speculative land acquisitions of water rights, marijuana and hemp production, and natural gas production.

- **Salmon River region, ID:** A growing number of recreationists helped support the local economy, although they also made it difficult for seasonal workers to find housing. Some interviewees noted that recreation also brought in people who do not appreciate the value of land management, instead wanting land to be protected as wilderness.
- **Mount Adams, WA:** The Columbia River Gorge National Scenic Area offers many recreational opportunities, which has attracted some people who complain about forest thinning and agriculture. While recreation pressure has driven up housing prices near the Gorge, people started to move further north, where development pressure competes with other stewardship activities. For example, some ranchers and farmers found it more profitable to subdivide their ranches into ranchettes or build houses rather than continuing to maintain a working landscape. Meanwhile, private forest owners found it more profitable to sell their land for subdivisions, which made it difficult for groups like Mount Adams Resource Stewards to afford these parcels as additions to the community forest.
- **Wallowa County, OR:** Interviewees noted that the threat of land conversion for development increased pressure on current landowners, contractors, and biomass facility operators to turn a profit, lest they be priced out of the market. Additionally, some speculators came to the county to purchase land simply to obtain water rights with no intention of keeping the land in production. Meanwhile, recreation pressure has driven up prices in the rental market, creating affordability issues for local citizens. These issues were further compounded by minimum lot sizes and zoning that limited the availability of rental housing.
- **Trinity County, CA:** Marijuana growing, now a significant economic activity, has made it difficult to engage in cross-boundary management projects, because growers do not like having people on their land. Additionally, forest stewardship employers have competed with marijuana growers for labor, since the latter is better paying or easier work.
- **North Fork Valley, CO:** Some interviewees noted that the hemp industry was attracting people who were looking for a quick wage and did not have the long-term health of the community in mind. They also noted that hemp could undermine the small-scale agriculture economy since hemp requires significantly more land and water than other products grown in the valley. Additionally, the North Fork Valley has contended with natural gas development pressure; which some interviewees were concerned would threaten soil and water quality for agriculture producers and the image of the valley as a local food hub.

Absence of critical infrastructure or financing mechanisms

Another market limitation faced by several communities was the lack of infrastructure or financing mechanisms to make SE activities profitable, or even financially feasible.

- **Mount Adams, WA and Wallowa County, OR:** Interviewees in both these places noted that a lack of equipment for processing small-diameter timber “in the woods” made it difficult to prepare products for biomass facilities, which often have pre-sorting requirements.

Several places also lacked critical transportation infrastructure.

- **Salmon River region, ID and Wallowa County, OR:** Interviewees in both these places noted that not having an inter-regional railroad to transport timber meant that often-costly trucking was the only means of transport.
- **Lake County, OR:** A lack of access to more versatile transportation vehicles like chip vans made it difficult to collect and process restoration by-products without building new roads.

Some communities also noted that SE activities were not economical due to the lack of funding mechanisms.

- **Mount Adams, WA:** A mill manager noted that his company provided significant ecosystem services through watershed restoration, but they lacked a mechanism to demonstrate these impacts or receive compensation. He noted that having such a mechanism in place would make small-diameter thinning more financially viable.

The absence of a funding mechanism was not limited to the forest product industry.

- **North Fork Valley, CO:** Some agriculture producers noted that it was difficult to get into value-added agriculture without upfront investments in packaging and food safety. These investments were cost-prohibitive for many producers.

Constraining Factor 8: Policy challenges

“It’s hard to get acknowledgement from the government that wildlife habitat spans ownership boundaries.”

- Landowner, Salmon River region, ID

“We need to do a better job as a public agency...Our policies have to change with the times. We have to be open to change.”

- National Forest staff member, Trinity County, CA

“[Currently] we have to report acres treated even when it doesn’t matter that they’ve been treated.”

- National Forest staff member, Mount Adams, WA

While policies and regulations motivate or support SE activities, several interviewees discussed ongoing challenges associated with federal laws and government programs. Some regulations made it cost-prohibitive to engage in proactive conservation work. Additionally, the policies, programs, and contracting mechanisms that would ideally support SE activities were sometimes misaligned with local context and needs.

Regulatory requirements

As discussed in Chapter 4, pg. 116, regulations at times created the motivation for stewardship work. However, regulatory requirements and a fear of litigation limited SE activities in several places.

- **Salmon River region, ID:** Interviewees noted difficulties contending with the requirements of the Endangered Species Act (ESA) and National Environmental Policy Act (NEPA). These requirements generally made it difficult to engage in small-scale forest restoration or stream improvement projects because environmental analyses are cost-prohibitive at smaller scales. Additionally, a history of litigation in the 1990s — were conflicting interests among community members, agencies, and environmental groups in general — made communities hesitant to try new things. For example, the use of Categorical Exclusions or programmatic Environmental Assessments are generally ruled out since environmental groups fear these approaches will lead to too much unchecked activity on federal land.
- **Trinity County, CA:** NEPA and California Environmental Quality Act (CEQA) requirements made it difficult for organizations and community members in Trinity County to acquire permits for water restoration projects. NEPA and CEQA requirements were particularly difficult to meet given the lack of agency staff or other professionals in the region with the expertise to help navigate these requirements. Interviewees noted that some prescribed fuels reduction and aquatic restoration projects would greatly benefit from emergency CEQA exemptions or programmatic NEPA analyses.
- **Malpai Borderlands, AZ/NM:** In a somewhat different example, an interviewee from the Malpai Borderlands Group noted that while NEPA and ESA processes were cumbersome and made everything take longer, they generally did not completely stifle projects for the organization. The interviewee noted that local agencies were hoping to make these processes simpler by not requiring repeat EAs and EISs for the same project each year.

Regulatory requirements related to timber sales presented challenges in some places too.

- **Mount Adams, WA:** The Forest Service's use of lengthy planning horizons for timber sales were too long for some local mills. Additionally, the agency offered a very short window within this time frame for companies to process a very large volume of timber all at once.
- **Lake County, OR:** There were particularly burdensome requirements and restrictions that prevented biomass facilities from using material from public land. For example, the new Red Rock Biofuels facility in Lakeview was unable to assign renewable identification numbers to biomass from public lands (which would let it take advantage of state renewable energy incentives), nor could it use chips from Collins Pine, the other mill in the region which processed some material from public land.

Challenging regulatory requirements were not limited to federal policies.

- **Thunder Basin, WY:** Corporate policies and timekeeping processes prevented coal companies and researchers from communicating the benefits of mine reclamation to the local economy. These requirements made it difficult to demonstrate job creation potential and encourage further investment in and support for mine reclamation in the region.

Additionally, different levels of strictness between state regulations presented challenges.

- **Salmon River region, ID:** Meat inspection laws are stricter in Idaho than in Montana, putting ranchers and other meat producers in the Salmon River region at a disadvantage to sell meat locally.

Government funding requirements

As described on pg. 140 of this chapter, grants from both foundations and the government came with difficult reporting requirements. However, interviewees noted several additional burdensome requirements associated with government funding sources. These included high match requirements, limited ability to use the same funding resource more than once, unreasonable project time frame commitments, the inability of agencies to code unique projects in their reporting systems, and restrictions on who could use government funding and for what activities.

Several places struggled to meet the match requirements for federal grants.

- **Salmon River region, ID:** Interviewees noted that local organizations often do not have the capital to meet these requirements.
- **Lake County, OR:** An interviewee from the Klamath Lake Forest Health Partnership (KLFHP) noted that high administrative rates for federal grants made it difficult to manage federal funding sources in rural areas.

Additionally, some places noted that federal funding sources often restricted the same place from receiving funds multiple times, which made it difficult to maintain ongoing projects.

- **Lake County, OR:** Interviewees from both KLFHP and the Lakeview Stewardship Group noted that most of the federal grants they have used were close to being exhausted, while state funding from Oregon Water Enhancement Board also cannot be applied for repeatedly, even though it was one of KLFHP's most important funding sources.

Several places noted that the requirements of federal grants were misaligned with local time constraints or people's interest in innovation.

- **Salmon River region, ID:** An interviewee noted that Conservation Stewardship Program funding required a five-year commitment from landowners, which was unrealistic given uncertainties in the rural economy and changing agricultural conditions.
- **Wallowa County, OR:** A landowner from Wallowa County explained that the NRCS was unable to code one of his more unique projects in their record-keeping system, which limited his ability to promptly implement a more innovative agriculture improvement project.
- **West Central CO:** A member of the Public Land Partnership (PLP) explained that federal funding requirements became stricter over time, which made it more difficult to innovate. Previously, agencies were able to transfer funds to PLP so that the organization could administer the funds to other partners with fewer constraints. Now, the agencies are unable to transfer funding in this manner.

Difficulty operating at the scale required by federal contracts and grants

Local businesses and nonprofits in some places faced difficulties operating at the scale that federal contracts and grants were designed for. Federal contracts and grants were intended for large-scale projects and often include certain requirements, yet rural areas lacked the human or financial capacity to undertake projects at these scales.

- **Salmon River region, ID:** A local contractor noted that he had the capacity to manage projects between \$20,000 and \$60,000, whereas the Forest Service put out much larger contracts. Additionally, some contracts required GIS software which was cost-prohibitive for small businesses to purchase. Nonprofit organizations also noted having a hard time benefitting from large federal programs with complicated reporting and invoicing requirements.
- **Trinity County, CA:** Interviewees noted that as an agency, the Forest Service has had limited local benefit criteria within in contracting systems. The agency has prioritized low-bid contracting, which has benefitted large, mobile contractors over local operations. Furthermore, it has been difficult for small-scale contractors to find supplemental work from private land contracting — as contractors in some rural areas can do — given the extent of public land in the county.

Federal contracting inflexibility

In several places, federal contracting processes were inflexible and made it difficult for communities to engage in stewardship work.

- **Mount Adams, WA:** Interviewees noted that stewardship contracting has provided economic benefits for the region but does not match the more flexible support that county governments previously received from direct payments for timber sales. Additionally, an interviewee noted that year-to-year programs that are supported stewardship contracting, such as the Forest Youth Success program, were inconsistent and difficult to manage due to changes in funding availability; annual support for this program has ranged from \$30,000 to \$100,000.
- **Salmon River region, ID:** Interviewees noted that federal contracting mechanisms were also inflexible about where products can come from, at what times, and who can have access. For example, a collaborative member described needing dead and downed trees for a stream restoration project that could have easily been taken from nearby Forest Service land that needed thinning. However, agency protocol prevented them from getting the trees, and they had to acquire them from elsewhere. Additionally, another interviewee noted that contracting procedures did not account for setbacks or unexpected needs, which meant projects were sometimes delayed significantly when things did not go as planned.

Unclear or inappropriate federal standards

A few places contended with challenges related to policies or specific liability standards that were unclear or inappropriate for local context, making it difficult to advance SE activities.

- **Wallowa County, OR:** An interviewee noted that water law focuses on water level rather than flow rate. This has created a loophole for irrigators who could theoretically take a more water than what they are legally allowed if the flow rate is high enough.

- **Lake County, OR and Malpai Borderlands, AZ/NM:** In both these places, unclear liability standards for prescribed burning present challenges. State laws lack a clear liability standard, making it difficult for insurance companies to insure prescribed burn projects.

Conclusion

As previous chapters have highlighted, SE activities have required a combination of factors such as local leadership and institutional support, innovative leadership, outside funding, and supportive policies. Yet, as this chapter highlights, many of these factors were limited or absent in the communities studied. In some cases, the local context of rural areas did not afford the institutional capacity, community support, or attention from funders that was needed to advance SE activities. At the same time, broader factors such as fluctuating timber markets, a difficult regulatory environment, and climate change presented uncertainty and difficulties for communities pursuing these activities.

Fortunately, the communities we studied had considerable successes despite these challenges, in part by finding innovative ways to navigate many around them. The final chapter of this report provides recommendations to help these and other communities to circumvent these constraining factors and achieve greater success in fostering and continuing SE activities.

²¹⁷ Smith, Amy and Trevelyan, Edward (2019, October 22). In Some States, More than Half of Older Residents Live in Rural Areas. *United States Census Bureau*. Retrieved April 24, 2020, from <https://www.census.gov/library/stories/2019/10/older-population-in-rural-america.html>

Chapter 6: Conclusions & Recommendations

Conclusions

This project has examined thirteen communities in the American West that have been trying to reinvigorate their local communities and economies by drawing on a foundation of natural resource stewardship. Each community's experience serves as an experiment that can reveal promising ways to link stewardship and economy; this study serves as an assessment of those experiments. In this report, we have documented the activities and accomplishments of these communities and assessed key factors that appear to be enabling and constraining their progress. Here, we outline a core set of lessons that describe the scope of stewardship economy (SE) activities, how they work, and what the future may hold, and provide recommendations for advancing SE activities targeted to several audiences.

Overarching Lessons

As acknowledged in the introduction, our research has demonstrated that from an empirical perspective, no single place fully realizes an idealized "stewardship economy model," that is, a generalized model that communities can adopt in which stewardship activities generate enough value to self-perpetuate and support a thriving community. We learned that SE activities alone – at least at this point in time – have not been the sole contributor to the vitality of rural communities. In some place, SE activities have achieved profitability, but they do not generally support an entire community or economy in the way that, for example, logging or mining used to. Rather, different communities have pursued SE activities as one component of their broader economies. Moreover, instead of following a single approach, the thirteen communities are pursuing SE activities in different ways, as shaped by their local ecological, economic, and social contexts.

Nonetheless, SE activities do provide important contributions to rural communities. Locally, SE activities are valued economically and as expressions of communities' rural culture, resilience, and self-determination. The communities we studied have restored and conserved well over a million acres of land, and in the process, have employed stewardship crews and supported livelihoods in forestry, ranching, farming, and wood processing. Communities have been opportunistic, creative, and tireless in pursuing resources to support their work. Collectively, they have brought in tens of millions of dollars to their communities, while also taking advantage of a wide array of enabling resources: from conservation tools and government programs to university experts and land management authorities. Communities have also invested in businesses and infrastructure to support SE activities, create economic value, and provide job opportunities.

Social achievements are no less important. Many communities have identified a shared vision for their future, which often overcame a history of conflict; their visions involve restoring, investing in, and sustainably using forest, range, farmland, and water. To get there, they have built strong partnerships, networks, and institutions that pool resources to achieve outsized impacts. At home, community leaders

and organizations have created local education and training opportunities; regionally, they have shared what they have learned to help other communities chart their paths forward.

What helps to advance stewardship economy activities at the local level?

There are many factors and forces at the local level that played a critical role in advancing stewardship economy activity.

- Leadership and vision at the local level was essential. Anyone can be a leader in this context, including individuals, community-based organizations (CBOs) **, county governments, and citizen groups. Without leadership, little would have happened. The sustained and entrepreneurial actions of these leaders initiated early SE projects, demonstrated possibilities, instilled hope and pride, and engaged community members. Critically, they built momentum that mobilized the community in a SE direction. This work was not easy; it takes time, hard work, stamina and patience, and it needs to be sustained over the long-term in order for SE activities to be productive and expand.
- Relationships, partnerships, and networks among local community leaders, organizations, agencies, and other institutions significantly expand the capacity of a community to undertake SE activities. They allow partners to more efficiently and effectively use human capacity, funding, and other resources that can be limiting factors in rural communities. Partnerships and networks have synergistic impacts, allowing people and organizations to achieving more through their coordination of their efforts than they could by working independently.
- Communities benefited greatly from having local assets and infrastructure to build on. One strategic question that effective communities and leaders asked was: What resources (natural, financial, institutional) do we have? What knowledge and skills can we use? What infrastructure do we have? Embracing and leveraging these assets typically involves working to support and expand the social, financial, and technical capacity of people, institutions, businesses, infrastructure, and markets.

Notably, communities that were able to retain or build critical local infrastructure found more success in generating revenue from SE activities, while communities without that infrastructure tended to struggle more. Having the right mix of infrastructure is key, e.g., processing facilities for small-diameter timber and an economical way of transporting finished products. Additionally, supply chain factors — such as the number and diversity of suppliers of raw materials — can increase the resilience of local industries.

- Across the board, communities embraced their local context and culture. SE activities are inherently place-based, led by a particular community and reflecting local natural resources, culture, assets, and aspirations. The grassroots nature of these activities is a source of strength and pride. Even so, varying levels of local buy-in created challenges in mobilizing and unifying community action; social conflict disrupted and created barriers to SE activities.

What helped to advance stewardship economy activities from beyond the local level?

It is also clear that communities can only do so much on their own; external factors play an important role.

** Community-based organizations (CBOs): “Non-profit organizations, which are based in rural areas, and that conduct practical work on both rural economic development and natural resource stewardship.” Abrams, J., Davis, E. J., Ellison, A., Moseley, C., & Nowell, B. (2016). *Community-Based Organizations in the U.S. West: Status, Structure, and Activities*. Ecosystem Workforce Program. Retrieved from http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_67.pdf

- Communities were embedded in a broader set of networks and partnerships that in turn provided ideas, assistance and connections, along with resources including technical assistance, information, and access to capital. Networks included organizations pursuing similar work in different places; advocacy groups; regional and national network organizations^{**} providing grants, learning opportunities, and technical assistance; foundations; and universities and researchers. Communities participated in these networks as a way to develop critical capacity and as a way to expand the scale and scope of their impact.
- SE restoration activities may be unlikely to happen without outside investment by philanthropic organizations, the government, or private capital. To date, philanthropic, state, and federal policies and programs designed to be implemented at the local level have been most influential. These investments incentivize and enable SE activity by supporting actions by individuals and organizations and partnerships between communities and agencies. Private investment in SE activities has lagged behind, depriving communities of more nimble capital that would be deeply influential in advancing SE activities.

The relationship between SE communities and the government could be viewed as one in which communities are dependent on government investment, but another way to view the relationship is as a mutually-beneficial arrangement, in which stewardship activities are carried out in a manner that advances both local and broader public objectives. Reduced fire risk, increased water availability, better educated youth or jobs that produce tax revenues provide critical benefits for the broad public interest. Many of the communities we studied will continue to need government support and incentives to carry out stewardship activities and build a more robust local private sector. But it is wrong to view this support as a hand-out or an economic development program. Rather, these arrangements create public goods and in the long term can reduce the amount of government investment in land management and social welfare. Favorable policies and programs provide crucial support for rural communities engaging in SE activities; but these enable win-win possibilities for both the communities and the broader society.

- SE activities benefit greatly from accessible markets for their products. Even if communities have sufficient infrastructure to produce saleable products, they cannot generate revenue if they cannot access a market for those products. Some communities have worked to build local markets; this practice seems to be more readily achievable in the renewable energy and food and agriculture sectors, where infrastructure already exists and local demand is easier to cultivate. In contrast, in communities that lost most of their timber processing infrastructure, transporting logs to distant sawmills was often prohibitively expensive. Fluctuations in local markets driven by national or international shifts present additional challenges.
- Political support from county, state and federal policymakers was important. This is evident in the impact of state and federal policies and programs that invest in SE activities at the local level. Without policymakers championing these policies and programs, funding directed to rural communities may decline or stop altogether. In this light, the status of federal land management agencies presents a cautionary tale. Budgetary shortfalls, reductions in staff, and administrative challenges have left local offices without the necessary resources to steward the lands under their jurisdiction.

^{**} Network organizations operate at the regional or national scale to provide financial and technical assistance to local organizations, create cross-community learning opportunities, and advocate for supportive state and federal policies.

Moving Forward

At a fundamental level, stewardship economy activities demonstrate the potential for a different type of relationship to develop between natural resource stewardship and economic development; understanding this potential is critical for places where environment and economy have been cast as opposing interests. Where successful, SE activities suggest that economic activity and ecological stewardship can co-exist, and even enable one another, and in doing so, can reinforce the legitimacy of traditional rural livelihoods. Since most communities envision a future in which their children can sustain and be sustained by the local community and culture, successful SE activities may help them get there.

In this way, SE activities are quite different from more traditional models of rural economic development. Those models are often growth-focused and do not consider local identity and culture. For many SE communities, the objective is community vitality and resilience, not growth. Communities do not want to become something different; rather, they want to build on who they are. To do this, they need to find synergies between economic activity and ecological stewardship.

At this point, it is uncertain how far SE activities can take communities in their quest to achieve sustained economic, ecological, and community well-being. Will SE activities, alone, ever deliver community vitality? Or will they remain contributors in varying ways and to varying degrees, depending on the community? We cannot say for sure. However, even if they remain a small (or even medium) component of local economies, SE activity appears to be foundational—a strategy that contributes not only to the economy and natural resource stewardship, but also to a sense of place, pride, efficacy, and agency for community resilience and revitalization.

Recommendations

Embedded in this report are clues about what might help these and similar communities to pursue and expand stewardship economy activities. The remainder of this chapter offers recommendations for steps that might be taken to support and advance SE activities in rural western communities. How might enabling factors be enhanced? How might constraining factors be managed or minimized? Our recommendations are tailored to different target audiences, each of which has a crucial role to play. In general, communities need resources and a helping hand. They need the support and validation of those in a position to advocate on their behalf. They need organizational and administrative assistance. And they need inspiration and a sense of hope to fuel their hard work.

There are several ways to help meet these needs. Recommendations are provided below for community leaders and organizations; regional and national network organizations; agencies; policymakers; philanthropic organizations; and universities and researchers. The recommendations are not exhaustive; rather, they reflect the wishes of many of the people we interviewed and describe additional insights gleaned from our analysis.

For Communities and Community Leaders

Committed individuals and organizations working together at the community level form the heart stewardship economy activities. Part of their role is to inspire and educate community members about SE activities. They also facilitate the formation of the trustful relationships and partnerships that build local capacity for SE activities. The other part of their role is to engage community members in early SE activities and solicit the ideas and assistance of others, both within and beyond the community.

Recommendations for Communities and Community Leaders

1. Share stories of success within the community, including the impact of stewardship economy activities on natural resources, the community, and individuals.
2. Host formal and informal social gatherings to build and strengthen the relationships, networks, and capacity that serve as the foundation for SE activities.
3. Organize hands-on grassroots events to engage the community in stewardship economy work, foster a stewardship economy ethos, articulate community values, and develop a sense of pride and place.

1. Share stories of success within the community, including the impact of stewardship economy activities on natural resources, the community, and individuals.

Advancing a stewardship economy requires support, engagement, and buy-in from community members. One way to foster this buy-in and support is by telling compelling stories that convey what stewardship economy activities entail, what outcomes are possible, and why they are important. Community leaders can cultivate support by sharing the successes and impacts of earlier SE activities (both from within their own communities and other similar communities), with a specific focus on

positive outcomes for the environment, the community, and individuals. Local examples will resonate the most, as they demonstrate the feasibility and benefits of a given activity in a specific place.

Trusted messengers are also important. People listen to individuals they respect and trust and/or who are similar to themselves in occupation and values. In many communities, landowners were convinced to undertake voluntary stewardship activities or engage in a cross-boundary initiative after they heard from a neighbor or respected community member who had already done so. Personal interaction may be the most powerful factor in encouraging individuals to participate in SE activities, especially when paired with seeing the results of these activities, on public land or a neighbor's property. In the communities studied, field trips allowed for informal conversations and learning opportunities among people or groups who might otherwise approach one another with hesitation or distrust. Community leaders can organize field trips to pioneering projects to help build understanding and buy-in.

In addition to encouraging individuals to get involved, it is also important to engender broader community support for SE activities. Community leaders can do this by telling success stories—or by helping individuals tell their own success stories—at local events or through local media.

2. Host formal and informal social gatherings to build and strengthen the relationships, networks, and capacity that serve as the foundation for SE activities.

On the community level, SE activities are enabled by trustful relationships and partnerships. Communities can help build these types of relationships through informal social events that bring people together and offer opportunities for conversation about SE activities. Both scholarship and interviewees in the communities studied have highlighted the importance of both getting people in the same room and informal socializing, such as coffee or lunch.²¹⁸ These interactions build the understanding and trust required for collaborative natural resource activity.

Community leaders seeking to advance SE activities can offer opportunities for these interactions to take place. Field trips, “buffer time” before and after meetings, and food and drink provide important opportunities for informal interaction. More formal gatherings, such as training, workshops, and speakers, offer opportunities for shared learning, relationship-building, and communication between people working on the same issues from different angles.

Social gatherings for the entire community are also valuable, as they can build awareness of and support for stewardship economy activities, while also recruiting new participants. For example, Mount Adams Resource Stewards (MARS) hosts an annual pig roast, billed as “an all-ages opportunity to catch up with your ‘neighbors’, play some games (forestry themed of course!) and engage with MARS staff and board about our work and plans for our latest forest purchase.”²¹⁹ Salmon Valley Stewardship similarly throws a Harvest Celebration every year, offering music and locally-grown food to the community.

3. Organize hands-on grassroots events to engage the community in stewardship economy work, foster a stewardship economy ethos, articulate community values, and develop a sense of pride and place.

Grassroots events, in which community members plan and engage in stewardship economy activities, can harness awareness and relationships that translate into action. These types of events get the ball rolling, familiarize people to the process of working together, and demonstrate commitment to SE activities, which can help leverage further commitment and investment down the road. Additionally, hands-on grassroots events respond to the feeling—common especially among communities with

threatened and endangered species and a high percentage of public land—of being stuck or at the mercy of larger forces.

Organizing grassroots events allows community members to demonstrate the values and ethos they aspire for their community. In identifying and acting on those values, community members create a public narrative about who the community members are, what they value, and what they hope for moving forward. They are also taking ownership over their community’s future, which fosters pride in being part of an empowered and motivated community.

For example, in the 1990s, agricultural producers in Salmon River region organized themselves and undertook a “fish flush,” during which a significant number of the irrigators on the Lemhi River turned off their irrigation systems when the salmon were spawning, to ensure more water in the river for fishes’ passage. A magazine article described the scene: “‘We stayed out there almost all night, ranchers and agency folks, drinking beer on the bank,’ [said a Bureau of Land Management fish biologist]. It was the culmination of over a decade of forming relationships.”²²⁰ In Salmon, these sorts of grassroots efforts contributed to the region’s designation as Idaho’s Model Watershed, which has been key in bringing funding and state support for restoration projects to the area.

Grassroots action can also snowball into more organized, permanent efforts. Many of the CBOs, collaborative groups, and partnerships studied in this report began when community members identified a problem or a need and came together in an attempt to devise a solution. Wallowa Resources, the Watershed Center, Blackfoot Challenge, Lake County Resource Initiative, Malpai Borderlands Group, and Ajo Center for Sustainable Agriculture—among others— all got their start when motivated community members decided to take responsibility for addressing local needs and building the future they wanted to see for their community.

For Community-Based and Similar Organizations

Community organizations (including CBOs, local governments, economic development agencies, conservation districts, land trusts, collaborative groups, and local partnerships) drive stewardship economy activities. These organizations are in a unique position to get the ball rolling and to keep it rolling, through R&D, pilot projects, and program initiation. By thinking creatively, fostering informal community conversations, and experimenting, these organizations can provide the impetus that makes things happen. These organizations build and leverage a strong sense of place, purpose, and community identity, and can work to expand the scope and scape of local SE activities by engaging with organizations and networks across a broader region.

Recommendations for Community-Based and Similar Organizations

1. Share stories of success that demonstrate the impact and celebrate the accomplishments of individuals, the community, and the organization.
2. Provide early support to grassroots and community-led initiatives to get the ball rolling.
3. Formalize relationships with partners via mechanisms such as memoranda of understanding (MOUs).

4. Capitalize on capacity-building programs and opportunities.
5. Establish methods and/or bring in expertise to assess and report on the impacts of stewardship economy activities.
6. Invest in the next generation of leadership for stewardship economy activities.
7. Ensure on-going financial support for stewardship economy activities.
8. Connect and interact with other communities and CBOs doing similar work in other places

1. Share stories of success that demonstrate the impact and celebrate the accomplishments of individuals, the community, and the organization.

Advancing a stewardship economy requires support and buy-in from community members. Support and buy-in can be fostered by telling a convincing narrative about what stewardship economy activities and outcomes are possible and why they are important. As organizations that lead and champion stewardship economy activities, CBOs and similar local organizations can share stories that demonstrate the success, impacts, and value of those activities. These stories should emphasize the community-based, collaborative nature of stewardship economy activities by highlighting the work of individuals, partnerships, and community events, in addition to the work of the organization itself. Sharing success stories helps build feelings of possibility and momentum, as well respect for the work and a broader base of support.

Organizations can use a variety of channels to tell stories, including websites, digital and/or paper newsletters, local media, and community events. Several of the organizations studied, including Malpai Borderlands Group and Salmon Valley Stewardship, publish quarterly or annual newsletters highlighting their accomplishments. At its annual Harvest Celebration, Salmon Valley Stewardship also recognizes one community member who has shown an exemplary commitment to the triple bottom line—economy, community, and environment—over the past year.²²¹

2. Provide early support to grassroots and community-led initiatives to get the ball rolling.

Community organizations, and especially CBOs, are well-positioned to provide key early support to grassroots and community-led initiatives. This early support can enable those initiatives to undertake their initial projects, helping them to build a record of success that they can then point to when seeking further support and resources down the road. Early support also facilitates and catalyzes the adoption of SE activities within the community. Support can come in a variety of forms, including staff time, office space, technical assistance, training opportunities, and micro-grants.

For example, Wallowa Resources has long acted to catalyze and pilot other local projects, getting the ball rolling before handing over the reins. As a staff member described, “Our intent is to be R&D and show people what is possible, otherwise they’re not willing to make that initial investment.” Wallowa Resources facilitated the development of Wallowa County’s first Community Wildfire Protection Plan (CWPP), hiring a consultant to help write the plan; today, the County and its partners manage the CWPP. Wallowa Resources also led the first county’s first solar projects and donated employee time and an office to the Wallowa Mountain Hells Canyon Trails Association in the latter’s early days. Similarly, in the Salmon River region, Salmon Valley Stewardship (SVS) spearheaded and supported Lemhi County’s farmers market for several years, before weaning the market to

independence. In the first year of transition, SVS paid the salary of the market's manager and provided marketing materials. The second year, it provided only marketing materials. By the third year, the farmer's market was self-sustaining.

Early support can be directed to individuals as well as organizations. In its effort to cultivate a local foods economy, the Ajo Center for Sustainable Agriculture provides apprenticeships to beginning farmers and micro-grants to food entrepreneurs.

3. Formalize relationships with partners via mechanisms such as memoranda of understanding (MOUs).

Many communities engage in SE activities via bilateral or multilateral partnerships among organizations, agencies, local governments, collaborative groups, and other entities. CBOs and other local organizations can formalize those relationships via mechanisms such as memoranda of understanding and participating agreements with the U.S. Forest Service. The use of these mechanisms helps leverage the resources and strengths of multiple organizations in pursuit of shared goals. Formalized partnerships also help ensure that all parties enter into an agreement on equal footing, with shared understanding of objectives and roles, and that agreements create benefits for an organization and serve its mission.

For example, in California, the Watershed Center and the Trinity County Resource Conservation District have made extensive use of multi-party participating agreements in their work with the Six Rivers and Shasta-Trinity National Forests. These agreements enable the two non-profits to conduct land management activities on U.S. Forest Service land, which helps steward natural resources and provides work for the organizations' crews. Conversely, these partnerships enabled the Forests to maintain a higher level of management than would otherwise be possible, given their very low staffing levels.

Participating agreements could also be used to build efficiencies into joint projects. For example, Salmon Valley Stewardship is looking into establishing a single agreement with local agencies for both forest and range management activities, which would reduce the need for multiple or on-going deliberations. Once the participating agreement has been established, any participant could direct money toward a stewardship activity.

4. Capitalize on capacity-building programs and opportunities.

Community organizations are often lean operations, working with limited capacity and resources. To supplement their resources, organizations should look to public and private programs that help local communities build their capacity for stewardship economy activities.

For example, organizations in the communities have hosted AmeriCorps VISTA volunteers, received support from the National Forest Foundation's collaborative capacity-building grants; and received technical assistance from the EPA and USDA's Local Foods, Local Places program. Programs such as these help ensure that key resources are available when SE activities are first getting underway.

Regional or issue-focused network organizations also often have capacity-building resources. For example, the Rural Voices for Conservation Coalition offers an annual workshop, peer-learning exchanges, and a variety of guidebooks, case studies, and toolkits. The National Forest Foundation also hosts regular peer-learning webinars. Similarly, Sustainable Northwest helps communities in the northwest region address challenges associated with SE activities. The Quivira Coalition and the Western Landowners Association both offer a number of knowledge and planning resources to support working lands and ranchers interested in SE activities.

5. Establish methods and/or bring in expertise to assess and report on the impacts of stewardship economy activities.

Assessing and reporting on the local impacts of SE activities has been a powerful tool for many communities, helping them measure the value of their work and leverage support from policymakers, foundations, and key stakeholders and supporters. To reap similar benefits, community organizations can invest in assessment and reporting methodologies and practices. CBOs that found the most success in assessment and reporting partnered with universities and research groups to undertake this work: CBOs led or coordinated many of the SE activities, while researchers led assessments of those activities.

For example, in 2014 Salmon Valley Stewardship (SVS) worked with Headwaters Economics to capture the economic impacts of landscape-scale restoration projects over a five-year period, culminating in a report called “Restoration Means Jobs in Central Idaho.” According to an SVS employee, this report helped SVS and other organizations discuss the importance of restoration work both with state and national policymakers, as well as community members. Similarly, in West Central Colorado, Delta and Montrose Counties took part in an economic assessment led by Colorado State University - Extension Services, which found that from 2001 to 2002, Public Lands Partnership (PLP) spent \$118,027 in the local economy and generated an additional \$54,304 within the counties. In other words, every dollar spent by PLP in the local economy generated an additional 46 cents.²²²

6. Invest in the next generation of leadership for stewardship economy activities.

Developing the next generation of leadership is critical for any community with a long-term vision for SE activities, and especially so in rural communities with an aging population. CBOs can play an important role in preparing younger community members to become future leaders in the community, including on SE activities. Engaging youth in ongoing activities, offering skills training opportunities, and creating fellowship and apprenticeship programs can provide the foundation for leadership development. These opportunities help young people develop an interest in the place where they live and the work occurring therein, which may entice them to either remain in their hometown over the long-term or return after receiving an education elsewhere.

Almost every community we studied offers some type of youth program focused on connecting youth to the local landscape and building their understanding of natural resource stewardship. For young kids, CBOs can organize field trips and run summer camp. For older kids, internship or youth employment programs offer the chance to develop an interest in and skills related to SE activities. For example, the Youth Employment Program, a nonprofit in the Salmon River Region, employs local high schoolers to do range improvement and weed management projects for public land agencies, local NGOs, and private landowners. Community-based organizations in both Trinity County and Wallowa County also support stewardship and trails crews, natural resource-oriented summer internships, natural resource career education opportunities, and scholarships for local students pursuing higher degrees in natural resources or conservation.

CBOs can also partner with local schools to offer young people experience with SE activities. In several of the communities studied, CBOs and other non-profits have worked with elementary schools to build school gardens and write curricula focused on local foods and renewable energy. In Lake County, in partnership with the local high school and Forest Service office, Lake County Restoration Initiative has developed a program in which students are trained in monitoring techniques and then assist the agency in conducting real-world forest monitoring, which then informs management decisions. Similarly, the Ajo Center for Sustainable Agriculture works with the local high school’s Agriculture Club to offer high

school students an opportunity to grow Sonoran Desert crops and learn about food and agricultural career paths.

7. Ensure on-going financial support for stewardship economy activities.

Most communities have met with limited success in developing revenue streams associated with outcomes of SE activities. In most circumstances, market-based revenue is either unreliable, carries high transaction costs, or is insufficient to sustain stewardship activities or an organization's operations. Accordingly, local organizations can aim to secure financial support for their endeavors from public and private grants and contracts. Grants from state and federal government sources, as well as private foundations, have provided critical funding to the majority of communities in this study.

For example, the Watershed Center and Trinity County Resource Conservation District in Trinity County attribute a significant portion of their success to their ability to capture a disproportionate amount of the federal and state funds available for community wildfire protection and forest health and restoration. Together, the two organizations have brought millions of dollars to the region—in the form of appropriated funds, grants, and contracts—that would otherwise not be there.

See Chapter 4 for an overview of key funding sources.

8. Connect and interact with other communities and CBOs doing similar work in other places.

Community organizations can seek support and lessons-learned from others doing similar work, especially in places that are ecologically and institutionally similar. Network organizations such as the Rural Voices for Conservation Coalition, the Quivira Coalition, the National Forest Foundation, and the Western Landowners Alliance all offer opportunities for community leaders to connect with people in other communities undertaking SE activities. These opportunities—including conferences, workshops, summits, field courses, and other meetings—enable CBOs and other local organizations to gather ideas and learn best practices from communities that have “been there, done that.”

Opportunities for connection also provide valuable emotional support for CBOs and community leaders engaged in challenging work. For the Watershed Center, participating in the Collaborative Learning Circle—an early network of CBOs engaged in community-based natural resource management—was about more than capacity-building and transferable lessons. It was also about having peers, cheerleaders, and camaraderie in the arduous work of advancing a stewardship economy. This support network was not always immediately available at home; as one Watershed Center interviewee said, when things do not work out, “you can't go cry at the bar with the guy you just laid off.”

For Regional and National Network Organizations

Regional and national network organizations currently provide critical support to communities and CBOs engaging in SE activities. As intermediaries and connections between the people on the ground and policymakers, funders, and experts, they are uniquely positioned to understand and respond to community-level needs, provide financial and technical assistance, and connect communities to external resources. They also provide ideas, administrative guidance, and emotional support to help empower communities. At one level, our major recommendation to network organizations is to keep doing what you are doing! We highlight several valued network organization functions below that clearly matter to

communities and should be maintained. Hopefully, additional thoughts will come to mind as these network organizations review the project findings in this report.

Recommendations for Regional and National Network Organizations

1. Collect and share stories of success to bring attention to communities engaging in stewardship economy activities and inspire action in new communities.
2. Support community-based organizations in carrying out key functions, such as strategic planning, organizational development, grant-writing, and accessing capital, technology, and markets.
3. Help communities form and strengthen partnerships and collaborative efforts.
4. Help communities build stronger relationships with tribes.
5. Support professional development opportunities for current and future community and CBO leaders.
6. Support private landowners to participate in state and federal grant programs.
7. Facilitate and enable cross-community convening, learning, capacity-building, support, and inspiration.
8. Help communities engage universities and researchers to help them assess their needs, evaluate the impact of their work, and explore new opportunities.

1. Collect and share stories of success to bring attention to communities engaging in stewardship economy activities and inspire action in new communities.

As small entities with limited budgets operating in rural and isolated places, community leaders and community-based organizations engaging in SE activities often face challenges in communicating the value and impact of their work to a broader audience. However, with their extended networks and regional or national audiences, network organizations can help inform the broader world about SE activities, which helps build support for that work. As a first step, network organizations can collect stories from their community partners that highlight communities' endeavors, accomplishments, and challenges. Network organizations can then share these stories with a variety of audiences—including funders, state and federal policymakers, and their own supporters—across state, regional, and national scales.

For example, the Quivira Coalition hosts a podcast called "Down to Earth" that profiles farmers, ranchers, scientists, land managers, writers and others working to build regenerative agriculture systems. In an entirely different vein, Rural Voices for Conservation Coalition engages in policy advocacy on state and national levels, sharing the stories of its members with decision makers who can support policies that would support their constituents' work. Universities studying SE activities can feature their community partners in research presentations and general-audience publications about their work.

2. Support community-based organizations in carrying out key functions, such as strategic planning, organizational development, grant-writing, and accessing capital, technology, and markets.

Many communities expressed a need for support in key organizational functions, especially strategic planning, organizational development, grant-writing, and accessing capital, technology, and markets. Network organizations may be able to provide some of that support by developing and sharing resources such as training opportunities, how-to guides, and best practices utilized in other communities (see recommendation #2). Newer organizations, smaller organizations, and organizations actively seeking to expand their work into new areas may have a particular need for this type of support.

CBOs also expressed a desire for guidance and training in applying to private, state, and federal foundation grants, especially when seeking funding from a new source for the first time. Additionally, CBOs seek support in determining whether, and how, to form new partnerships and expand into new issues. For example, organizations more comfortable focusing on natural resource stewardship are considering ramping up their economic development work, which might include business incubation or connecting local contractors to restoration work. In some cases, network organizations may be able to directly support community organizations in grant-writing and organizational development. If they cannot directly meet a need, network organizations can help CBOs identify and connect with appropriate expertise, or provide grant support for CBOs to secure support and training on their own.

Due to their broader reach and role as intermediaries, network organizations can also help make connections between communities and foundations and private investors interested in SE activities. They can also urge policymakers to invest governmental resources in on-the-ground SE activities and develop economic incentives to support technology adoption and market development.

3. Help communities form and strengthen partnerships and collaborative efforts.

Much of the innovation taking place around SE activities stems from the creation of partnerships and collaborative efforts, and the development and testing of new ideas by those partnerships and collaboratives. However, conducting SE activities via partnerships and collaboratives can be slow and time consuming, as it requires establishing trust, building working relationships, and developing procedures for coordinating activities. To wit, collaborative members in several communities described how the first year or two of meetings were spent building trust and establishing a common baseline of understanding.

Given the importance of collaborative and partnership efforts in advancing SE activities, network organizations can invest in supporting the development and continuation of those efforts. For example, they can provide financial support, technical assistance, and training opportunities to help existing collaboratives expand their capacity and new collaborative groups get off the ground. They can also provide mini-grants to help organizations work with one another to get an idea off the ground.

4. Help communities build stronger relationships with tribes.

Community initiatives are strongest when they represent, respond to, and are supported by a broad swath of the community. In many communities, people described their desire to work more closely and inclusively with tribes in collaborative groups and on federal land management planning processes. However, these desires were not fully realized, despite outreach to tribal representatives. Communities working to advance SE activities are not alone in their hopes to build more productive working relationships with tribes; federal and state land management agencies have long-struggled to effectively

include tribes in their planning processes. This lack of meaningful engagement with tribes comes at a cost, as they possess valuable knowledge, perspectives, and capabilities that can help advance to stewardship project ideas and their implementation.

Helping communities and agencies to better understand the unique interests and concerns of tribes and to begin building bridges is a role that network organizations could fill. Surmounting this challenge could benefit all involved, bringing new knowledge of local landscapes and new capacities for undertaking projects. Network organizations are uniquely positioned to help foster progress on this front by convening tribal representatives, community members, and agency staff in informal gatherings through which trusting relationships and understanding might be fostered.

5. Support professional development opportunities for current and future community and CBO leaders.

Both now and in the future, communities engaging in SE activities need leaders who are knowledgeable and show a strong interest in both stewardship and the success of the community. This is a familiar theme: both scholarship and interviewees in the communities studied cite the importance of leadership in carrying out community-based natural resource management.²²³ In the aging, rural places where SE activities often take place, investing in leadership is even more important. Many communities have recognized this need and are actively working to develop the next generation of leaders, through education and engagement programs that engage young people of all ages.

Network organizations can provide crucial support for SE activities by supporting and investing in current and future community leaders. This may include hosting professional development opportunities, providing financial support for current leadership to engage in professional development opportunities, or helping community organizations provide consistent and fair compensation to their leadership. Network organizations can work to build awareness about SE activities among young professionals, as well as provide them with financial support and career development opportunities.

Recruiting and retaining young professionals in rural and isolated places can be challenging: any incentive or opportunity that network organizations can provide may help ensure that communities will have the leadership they need.

6. Support private landowners to participate in state and federal grant programs.

Landowners in many communities described the burdens associated with participation in state and federal grant programs. These individuals—owners of private forest, agriculture, and ranch land—want to participate in programs that support stewardship and conservation activities, such as NRCS's Environmental Quality Incentives Program. However, both bureaucratic hurdles and high match requirements create challenges, especially for individuals with a small annual revenue window. Network organizations can support landowners in this position by providing micro-grants or other financial assistance targeted for landowners to help them meet match requirements for state and federal grants.

In an illustrative example, one farmer in Wallowa County described how he had to borrow money to complete an irrigation efficiency project, because the Columbia Basin Water Transfer Program did not pay in advance. There was a six-month delay from the time the grant was awarded to the time the contract was drafted, and even following the completion of the project, it took numerous phone calls to the agency for the funds to come through.

It is important to ensure landowners' ability to participate in state and federal programs, as their participation brings valuable funding and technical assistance for SE activities on private lands. As appropriate, network organizations can grant funds directly to landowners or channel them through local CBOs. Additionally, network organizations can help develop assistance resources or technical expertise to support landowners in navigating agency systems that can feel byzantine. In some cases, network organizations could even develop partnerships with agencies to help them better understand, writ large, the challenges that landowners face. They could also advocate for, help develop, and pilot streamlined programs that reduce the barriers landowners face.

7. Facilitate and enable cross-community convening, learning, capacity-building, support, and inspiration.

Network organizations already play an important role in convening community leaders and CBOs that are engaging in SE activities across different states and regions. For communities and CBOs, these opportunities have been a vital source of knowledge, capacity-building, social support, and inspiration.

Moving forward, network organizations can continue this practice by organizing and investing in shared learning and networking opportunities that help transfer best practices across space, communities, and organizations. Additionally, network organizations can expand their reach beyond individuals and CBOs to provide opportunities for a wide array of locally-focused institutions to learn from and support one another, including CBOs, county governments, collaboratives, land trusts, conservation districts, land management agencies, and economic development agencies. Programming can focus not only on what peer organizations can learn from one another, but also on how different types of organizations—for example, CBOs and county governments—can strengthen their coordination and partnerships. These cross-community learning opportunities could be conducted in person, or network organizations could solicit lessons from communities, compile them, and then share them with the network via newsletters or online resources.

8. Help communities engage universities and researchers to help them assess their needs, evaluate the impact of their work, and explore new opportunities.

Nearly two-thirds of the communities studied have partnered with universities and research groups on projects relating to SE activities. Researchers have helped communities and CBOs determine and evaluate the ecological, economic, and social needs and impacts of SE activities.

For example, the Ecosystem Workforce Program, a joint research group between the University of Oregon and Oregon State University, partnered with Wallowa Resources and the Watershed Center to assess the social and economic impacts of a multi-party, multi-year regional initiative called Dry Forest Investment Zone Project. Similarly, the Thunder Basin Grasslands Prairie Ecosystem Association has worked with universities in Wyoming and Colorado to determine the ecological condition and needs of the landscape that they were working to restore and protect. In the Blackfoot Watershed, the research group Headwaters Economics helped the Blackfoot Challenge survey communities' economics vision for the future.

Network organizations can support these partnerships in several ways. First, they can help communities identify the projects that might benefit most from professional research, in part by sharing the experiences and best practices of communities and CBOs that have already engaged in research partnerships (see Recommendations #1 and #2). Second, network organizations can act as liaisons between communities and research institutions, especially if network organizations already have

scientific advisory panels or similar connections. Third, they can offer funding for research projects to communities and CBOs, which can help those parties engage with researchers as equal partners.

For Agencies

In many communities, state and federal land management agencies are crucial partners in developing and sustaining SE activities. In most instances, SE activities undertaken in partnership between communities and agencies are a win-win. The activities benefit the communities at the same time that they provide much needed restoration, treatments, human capacity, and community support for agencies. Agency leadership might take note of these community innovations and recognize the value they bring to the agency in a time of diminishing budgets and political support. While recognizing that their hands are often tied by policies outside local control, local offices and staff can still support these activities in the more immediate term.

Recommendations for Agencies

1. Creatively use existing tools and authorities to develop capacity and capitalize on opportunities.
2. Build relationships and work with communities, collaboratives, and landowners.
3. Recognize and respond to the scale and capacity of local contractors in offering contracts.

1. Creatively use existing tools and authorities to develop capacity and capitalize on opportunities.

Federal agencies have creatively used existing tools and authorities to advance land management in partnership with local communities. These tools and authorities have included participating agreements, stewardship contracting, rights of way, third-party NEPA planning, CFLRP and JCLRP, Good Neighbor Authority, and new, locally-devised protocols. To take the greatest possible advantage of the options at their disposal, agencies can look to the example of these communities, take inspiration from their success, and mimic their actions. Employing and strengthening tools such as partnerships agreements and stewardship agreements is essential for agencies with limited resources to successfully engage in SE activities that, in turn, advance the agency's own land management goals and objectives.

Participating agreements have been invaluable tools in many communities. In Trinity County, the Six Rivers National Forest and the Shasta-Trinity National Forest are both party to participating agreements with two local non-profit organizations. Under these contracts, the non-profits' stewardship crews implement a wide variety of on-the-ground management work, supplementing the agency's capacity. In the words of a Shasta-Trinity National Forest staff, "[Participating agreements have] really allowed us to be adaptive as the situations for both funding and focus have shifted within the agency."

Stewardship contracting has also been used creatively in Trinity County. On BLM land, the Weaverville Community Forest is jointly managed by the agency and the County (via the Trinity County Resource Conservation District) through the use of a stewardship contract. A local steering committee with citizen membership ensures that the Forest is managed in accordance with community values and objectives.

The idea to establish a community forest via stewardship contracting arose from community opposition to a proposed land swap between the industry and an industrial forest owner.

Rights of way have also been used to advance SE activities. In the Salmon River region, one landowner granted Idaho Fish and Game a right of way through his land, and the agency was able to value the right-of-way and use it as the landowner's match for a watershed restoration project on the landowner's property. This creative approach to what constitutes a match helped ensure a win-win outcome for both parties while also furthering watershed restoration.

In Northeast Washington, the Colville National Forest was one of the first forests in the country to use 3rd-party NEPA contractors. In a public-private timber sale and forest restoration project between the Colville National Forest and Vaagen Brothers (a local milling company), Vaagen Brothers was responsible for all the project work, from NEPA environmental analysis to implementing treatments and cutting trees. This arrangement, supported by the Forest's multi-interest collaborative, has helped reduce project costs and speed up the implementation of restoration treatments. The Colville National Forest has also used the Tribal Force Protection Act for a project with Kalispel Tribe and the Washington Department of Natural Resources, as well as the Good Neighbor Authority.

The Mount Adams Ranger District (MARD) has created its own protocols that help ensure all stakeholders remain focused on the highest-priority issues. On the South Zone unit of the Gifford Pinchot National Forest, MARD established Zones of Agreement, which represent large areas where collaborative members generally agree about plantation thinning practices. Zone designation helps prevent the group from revisiting issues on which it has already achieved general consensus, in turn helping MARD stay focused on its high-priority projects.

2. Build relationships and work with communities, collaboratives, and landowners.

At the local level, stewardship economy activities are grounded in community partnerships, collaborative efforts, and strong relationships between individuals and organizations. Within this context, the role of agencies in advancing SE activities cannot be overstated, especially in communities where a high percentage of the land is managed by state and/or federal agencies. In many communities, agencies, CBOs and collaboratives have worked hard to build strong working relationships with one another in order to 1) reduce conflict over and increase capacity for SE activities on public lands, and 2) coordinate activities across ownership boundaries.

Certain actions by agencies can contribute significantly to the development of strong working relationships with community partners. To sustain the individual relationships that form the foundation for partnerships and collaborative work, agencies can work to reduce staff turnover as possible. Long-term relationships foster the trust and commitment that supports the most innovative SE activities and the most meaningful accomplishments. This can also be accomplished by hiring and retaining employees who already possess local connections and/or are embedded within the community.

Agency leadership at both the local and regional level can also work to ensure that agency personnel have sufficient flexibility to understand and respond to local priorities. As agency staff are often well-aware, land management and community relationship-building are not well-suited to a one-size-fits-all approach. In the absence of larger-scale changes coming from the top-down, creativity, flexibility, and responsiveness tend to reduce conflict and yield the best results.

An example of responsiveness and long-term relationships between agencies and communities comes from the Malpai Borderlands. In its early days, Malpai Borderlands Group (MBG) members did not want to partner with agency personnel. The group eventually changed its position, and the USDA Soil

Conservation Service and the Coronado National Forest welcomed the engagement, each appointing designated coordinators for work with MBG; these positions eventually became full-time. Together, Malpai Borderlands Group and the agencies developed the first landscape-scale programmatic fire plan, which encompassed 130,000 acres of federal, state and private lands. A recent MBG newsletter notes that since the fire plan, “the Forest Service has adopted the large-landscape, community collaboration approach to fire planning as standard practice in their Firescape Program.”²²⁴ Conflict between ranchers and federal land management agencies no longer beleaguers the region, and the Coronado National Forest’s MBG coordinator, now retired, sits on the board of the organization.

3. Recognize and respond to the scale and capacity of local contractors in offering contracts.

Agencies can support community-based SE activities by offering smaller sized contracts that are more accessible to local, rural contractors. When agencies offer larger contracts, local contractors struggle to compete with out-of-town operations that typically possess greater economies of scale and often recruit their workers from across a wide geographic area. However, when contracts are awarded to out-of-town contractors, the economic benefits of SE activities often leave the local community. The end result is that local entrepreneurs and workers have fewer business and employment opportunities, and the whole community fails to realize as many benefits from the project.

In contrast, contracts accessible to the smaller, local contractors that are based in public lands communities help ensure that the economic benefits of public lands projects stay local. In addition to strengthening the community, accessible contracts can also generate significant good-will from the community and build a foundation for new partnerships and collaboration.

For Policymakers

The policy landscape poses challenges to developing SE activities at the grassroots level. At the federal level, some of those policy barriers include insufficient funding for public lands and public lands communities; land management agencies’ objectives, procedures, and authorities; laws that limit flexibility for communities with good intentions; and federal contracting procedures. At the state level, wildfire liability laws were a commonly-mentioned barrier. Many of these challenges have been explored at length elsewhere and can and should be addressed. More immediately, we recommend policy changes that may require less political will and are focused on supporting programs and organizations advancing SE activities.

Recommendations for Policymakers

1. Develop agency-level programs focused specifically on workforce development and prioritizing the local benefits of stewardship economy activities.
2. Develop state-wide funding programs to support stewardship economy activities.
3. Improve the accessibility of programs supporting CBOs and landowners by simplifying and increasing the flexibility of program requirements.

1. Develop agency-level programs focused specifically on workforce development and prioritizing the local benefits of stewardship economy activities.

Policies that explicitly recognize and promote SE activities as a central objective would fundamentally and beneficially alter the landscape of SE activities. The ability of communities, CBOs, and agencies to undertake these activities is fundamentally driven and enabled by the existence of supportive state and federal programs (as detailed in Chapter 4).

Policymakers can promote and support SE activities through the development of programs that prioritize 1) local, community-based natural resource stewardship, and 2) hiring local community members to do that work. Nick Goulette, Executive Director of the Watershed Research and Training Center in Hayfork, California, advocates for the programs that explicitly align agency work in natural resource stewardship with benefits for local communities who live next to public lands. Policymakers can develop special initiatives that focus on the development of a local workforce and funding for locally-led SE activities—for example, a program like CFLRP, but with a central focus on SE activities and creating opportunities for local workers to carry out those activities.

Additionally, other programs could be modified to support communities seeking to engage in SE activities. First, SE activities could be emphasized and supported within a wide range of rural development programs. Second, economic and social benefits for rural communities could be incorporated into existing natural resource stewardship grant programs as required, competitive criteria. This could include incorporating local benefit requirements into CFLRP grant requirements or developing a rural conservation corps to employ local people to conduct stewardship. These opportunities would need to be complemented with others to ensure year-round employment.

2. Develop state-wide funding programs to support stewardship economy activities.

State-level conservation funding has been a vital source of financial support for SE activities. Examples include grants administered by Washington’s Salmon Recovery Funding Board, Oregon’s Watershed Enhancement Board, and California’s Parks and Water Bonds Act and California Climate Investments program. For a complete overview of state-level funding programs, see Chapter 4 (Tables 7.1-7.8)

Policymakers seeking to support SE activities should continue and expand these programs, as well as develop new sources of funding. State and federal governments can fund wildlife conservation, fisheries and stream restoration, watershed and forest restoration, fire resilience, and renewable energy development, on both public and private lands, with a focus on channeling funds to CBOs, local communities, and community members seeking to undertake SE activities. For example, Oregon funds several watershed improvement programs, including the Oregon Water Resources Department Loan, which supports water projects that produce economic, social, and environmental benefits.²²⁵ In Wallowa County, an irrigator received a loan from this fund to pay for an irrigation efficiency project. Additionally, the Oregon Watershed Enhancement Board provides funding and support for regional watershed councils; the Lake County Umbrella Watershed Council has relied on this support to sustain many of its watershed improvement activities.²²⁶

Policymakers can also fund programs that support rural economic and community development. For example, in the North Fork Valley of Colorado, Delta County paid for its expansion of broadband internet, in part, with money from the Colorado Telecom Fund and the Colorado Department of Local Affairs. This broadband expansion directly contributes to the North Fork Valley’s SE activities (as discussed in Chapter 4, pg. 96).

3. Improve the accessibility of programs supporting CBOs and landowners by simplifying and increasing the flexibility of program requirements.

State and federal funding programs directed at community-based organizations and landowners provide a key source of support for SE activities, bringing invaluable funding and technical assistance to rural communities. However, the match and reporting requirements attached to grants can be burdensome for small community-based organizations and private landowners, both of which often operate at the limits of their capacity. Policymakers can support these parties operating at the frontlines of SE activities by simplifying the process of obtaining government funding.

Easing match requirements for state and federal funding programs, such as the NRCS's Environmental Quality Incentives Program (EQIP), would increase the accessibility of those programs. Easing could include either reducing the total amount of a match, changing the timeframe in which the match needs to be paid, or making it easier for landowners and organizations to meet a match through in-kind contributions, such as labor. For example, in the Salmon River region, one landowner granted Idaho Fish and Game a right-of-way through his land, and the agency was able to value the right-of-way and count it as the landowner's match for a watershed restoration project. This creative approach helped ensure a win-win outcome for both parties while also furthering watershed restoration.

To support landowners who often have highly seasonal revenue or illiquid assets, policymakers can seek to change the timeline for grant payments. Landowners in several communities described how *post facto* grant payments can lead to headaches and considerable financial stress. In an illustrative example, one farmer in Wallowa County described how he had to borrow money to complete an irrigation efficiency project, because the Columbia Basin Water Transfer Program did not pay in advance. There was a six-month delay from the time the grant was awarded to the time the contract was drafted, and even following the completion of the project, it took numerous phone calls to the agency for the reimbursement to come through.

Incorporating more flexibility into funding programs would also increase their accessibility. Both CBOs and landowners often want to try something that has never been done before. However, the agencies administering these programs often have limited flexibility in what activities they are able to support or what type of outcomes are required. Increasing the flexibility of these programs—or developing funding programs intended to support innovative ideas and new practices—would help CBOs and landowners continue to push the envelope of SE activities.

For Philanthropic Organizations

Philanthropic organizations play a unique and valued role in advancing SE activities. They enable innovation, thereby investing in societal changes that have ripple effects. Their funding provides room for the experimentation and adaptability that government funding lacks. It is worth noting the critical role played by philanthropic organizations in several of the communities where SE activities are now well-established. The ball got rolling in many of these communities 20 years ago when the Ford Foundation created its community forestry program. That program seeded innovation that took root in some communities that have since demonstrated the potential of SE activity. It is worth asking now, what might Version 2.0 of that Ford Foundation program look like? The innovations have taken root; how might they now be diffused? Diffusion of innovation is uniquely the realm of the philanthropic world.

Across the communities studied in this report, community leaders engaged in the SE activities pointed to the need for consistent, sustained, and flexible funding. In the immediate term, philanthropic organizations can enable organizations leading SE activities to be as effective as possible, by providing funding that meets their core needs and responds to on-the-ground realities.

Recommendations for Philanthropic Organizations

1. Develop and prioritize grant programming focused on advancing stewardship economy activities at the grassroots level.
2. Support organizational development and operations for community-based organizations.
3. Fund project development, including relationship development.
4. Fund communications projects.
5. Shift grant cycles to increase the duration and flexibility of funding.

1. Develop and prioritize grant programming focused on advancing stewardship economy activities at the grassroots level.

A significant portion of SE activities take place at the grassroots level, with individuals, businesses, and community initiatives engaging in these activities because they believe it is a promising way to advance the local economy while supporting the community's culture and land and resource values. Foundations and other donors can support these efforts by providing financial support for programs that enable grassroots SE activities. These programs, often coordinated and led by community-based organizations (CBOs), include apprenticeships and training programs to develop skills and increase capacity, micro-grants and micro-business loans to support SE innovation and entrepreneurship, and fellowships and internships to foster the next generation of SE leaders.

Many communities are already engaged in this type of work. For example, Wallowa Resources trains people to write stewardship plans for private landowners; these plans are required for landowners to receive funds from the NRCS Environmental Quality Incentives Program. Through this training program, Wallowa Resources hopes to create employment opportunities for both the plan developers and the local contractors. Similarly, the Ajo Center for Sustainable Agriculture offers a paid apprenticeship program to train new farmers and provide financial support while they learn new skills, as well as micro-grants for agricultural entrepreneurs. In continuing to support this type of work, philanthropic organizations can invest in the current and future grassroots efforts that lie at the heart of SE activities.

2. Support organizational development and operations for community-based organizations.

Community-based organizations expressed a need for more financial support for key organizational functions, especially operations, strategic planning, and organizational development. Younger organizations, smaller organizations, and organizations actively seeking to expand their work into new areas may have a particular need for this type of support. Foundations and other donors can meet these needs by introducing grant opportunities that fund these components of CBOs work either directly or indirectly.

Bolstering the capacity of key network organizations—which are in a position to provide trainings and support for communities from a more centralized position—is needed. Organizational and administrative support strategies delivered by network organizations through convenings and/or site-based support would take advantage of these organizations’ inherent economies of scale. This study has documented the myriad state and federal resources and programs that communities can tap in order to advance SE activity; what is lacking, in many places, is the capacity to do that tapping. While the role of foundations is not to build capacity community-by-community, the cadre of regional and national network organizations that has emerged throughout the American West is well-positioned to build community capacity if they have the resources to do so. Invest in those organizations.

The impact of investing in these components of CBOs’ work would be significant. Many CBOs tend to operate at the limits of their capacity, attempting to accomplish as much as they can on limited budgets and with limited staff. Supporting operations and organizational development would help sustain 1) organizations, through planning for fiscal health and long-term strategic engagement; and 2) their staff, by avoiding burnout of employees with vital knowledge and relationships. Even a relatively small amount of funding that helps organizations function more efficiently could reallocate the time of key project managers and program officers away from administration and toward the on-the-ground work and relationships that actually advance SE activities.

3. Fund project development, including relationship development.

Philanthropic organizations can also support project development by community-based organizations, which is a critical step in advancing SE activities. Many activities involve coordination across numerous landowners, organizations, and political jurisdictions, which requires first establishing trust and building working relationships among the involved parties. These processes take time and are frequently premised on relationships between individuals. Interviewees in numerous communities described how developing watershed restoration or in-stream water conservation projects often require multiple first sitting down over coffee with a significant number of landowners or water-rights holders before these individuals feel comfortable participating in specific projects.

In directing funds toward project development, and especially the relationship-building stage of project development, philanthropic organizations can invest in one of the key determining factors for SE activities: whether or not trusting relationships exist between the parties who have the will, capacity, and authority to engage in those activities. Building these relationships takes time and repeated interaction. By earmarking funds for informal events, networking forums, and staff time for outreach and relationship-building, philanthropic organizations can ensure that CBOs are able to spend the time needed to move SE activities forward.

4. Fund communications projects.

Community-based organizations in many communities noted their desire to improve their public communications to 1) better advocate for and build understanding of SE activities, and 2) report more on their work and accomplishments. For example, CBOs want to do a better job communicating about the importance of prescribed fire and forest restoration to reduce fire risk. They also want to make their community and donor bases more aware of their projects and impact. Each type of communication builds valuable support for SE activities among the broader public.

Philanthropic organizations can support these communication efforts by providing financial support for CBOs to improve their communications work. This funding might be used for website development,

building a social media presence, writing and sending newsletters, and improving organizational branding to make the CBO more recognizable within the community. Support for communications will help CBOs increase the number of people supporting SE work.

5. Shift grant cycles to increase the duration and flexibility of funding.

Stewardship economy activities take place within complex social-ecological systems. They typically entail ongoing coordination among multiple individuals, organizations, institutions, and jurisdictions; entrenched social and institutional norms; and large, complex ecosystems. As a result, the work done by CBOs to promote SE activities is inherently dynamic and takes years to decades to achieve positive results.

Philanthropic organizations can change the timeline of their funding cycles to respond to the scale and complexity of these social-ecological systems. In many cases, long-term projects are not well-suited to grant cycles that last only two to three years. CBO staff members in numerous communities remarked that longer grant cycles would reduce uncertainty for projects that often take several years to get up and running, and several additional years to achieve any observable or impactful changes. Without long-term funding, staff do not know whether or not their work today will continue far enough into the future to actually yield results. CBO staff also requested more flexibility within grants. Flexibility to change their plans and projects as needed would allow organizations to respond to unforeseeable circumstances, which are inevitable when working within complex social-ecological systems. The needs of CBOs may have been best captured by a CBO staffer leading watershed restoration projects in Trinity County: “Sustained investment that values local knowledge and has flexibility is incredibly important.”

Philanthropic organizations can respond to this need by extending the timeline of grants funding SE activities and by allowing grantees to more easily change their projects as circumstances on-the-ground change dynamically.

For Universities and Researchers

Many communities have partnered with universities and researchers in one, if not multiple, SE projects. These partnerships offer rural and isolated communities valuable expertise in the social, ecological, and economic components of SE activities, as well as skill in program and needs evaluation. In numerous instances, community leaders highlighted the insight and data gained through these partnerships as key factors in their efforts to advance SE activities. Through applied research and program development that is motivated and shaped by communities’ needs, researchers and universities can make significant contributions to the advancement of SE activity.

Recommendations for Universities and Researchers

1. Help communities evaluate the impact of their work, assess their needs, and explore new opportunities.
2. Build a stronger understanding of tribes' approach to and role in stewardship economy activities.
3. Support extension services and programs that enable stewardship economy activities.

1. Help communities evaluate the impact of their work, assess their needs, and explore new opportunities.

Assessing and reporting on the local impacts of SE activities has been a powerful tool for many communities, helping them measure the value of their work and leverage support from policymakers, foundations, and key stakeholders and supporters. Universities and researchers can continue and expand partnerships with communities and CBOs to help these parties evaluate the impacts of SE activities.

For example, in 2014 Salmon Valley Stewardship (SVS) worked with Headwaters Economics to capture the economic impacts of landscape-scale restoration projects over a five-year period, culminating in a report called "Restoration Means Jobs in Central Idaho." According to an SVS employee, this report helped SVS and other organizations discuss the importance of restoration work both with state and national policymakers, as well as with local community members. Similarly, in West Central Colorado, Delta and Montrose Counties took part in an economic assessment led by Colorado State University - Extension Services, which found that from 2001 to 2002, Public Lands Partnership (PLP) spent \$118,027 in the local economy and generated an additional \$54,304 within the counties. In other words, for every dollar PLP spent in the local economy, an additional 46 cents were generated.²²⁷

Universities and researchers can also help communities and CBOs that are engaging in SE activities understand current social and ecological conditions, assess needs, and explore new opportunities. For example, in the Blackfoot Watershed, Blackfoot Challenge partnered with Headwaters Economics to determine how the watershed's seven communities felt about their environment, community and economy and their vision for the future. Similarly, CBOs in a number of communities partnered with universities to build a better understanding of baseline ecological conditions and possible restoration interventions, and to establish monitoring protocols. Additionally, some communities have expressed interest in working with researchers to assess their renewable energy resources and how to use resources efficiently and according to communities' needs.

2. Build a stronger understanding of tribes' approach to and role in stewardship economy activities.

As the original stewards of the lands and waters considered in this report, Indigenous people possess valuable knowledge, perspectives, and capabilities that can help advance to SE activities. However, leaders of several communities described difficulty in engaging tribes in SE activities. This difficulty bears further investigation and understanding, and we urge researchers to help fill the knowledge gap about tribes' unique and important role in SE activities. Partnerships between researchers, Indigenous

scholars, and tribal leaders could assess the current and potential future role of tribes and Indigenous people in advancing SE activities, both on and off tribally-owned land. They could also help communities seeking to advance SE understand better under tribes' needs and interests, laying a groundwork for possible future partnership.

3. Support extension services and programs that enable stewardship economy activities.

Many CBOs and communities are seeking to expand their capacity to undertake SE activities through training programs for workers and support for small businesses. For example, Wallowa Resources trains people to write stewardship plans for private landowners; these plans are required for landowners to receive funds from the NRCS Environmental Quality Incentives Program. Through this training program, Wallowa Resources hopes to create employment opportunities for both the plan developers and the local contractors. Similarly, the Ajo Center for Sustainable Agriculture offers a paid apprenticeship program to train new farmers and provide financial support while they learn new skills.

Universities can support this work by encouraging natural resource extension services to offer training and skill-development programs focused on SE activities. These programs could help community members acquire and practice basic entrepreneurial and business development skills. They could also offer instruction in skill sets more explicitly related to SE activities: for example, teaching people how to write stewardship plans for private landowners or how to market their locally-grown and organic products to specific markets and retail outlets.

²¹⁸ Wondolleck, J. M., & Yaffee, S. L. (2000). *Making collaboration work: lessons from innovation in natural resource management*. Washington, DC: Island Press.

²¹⁹ Join Us July 16th for Our Second Annual Draper Springs Pig Roast. (2019, May 23). Retrieved April 20, 2020, from <http://mtadamsstewards.org/join-us-july-16th-second-annual-draper-springs-pig-roast/>

²²⁰ Salo, C. (2017, November 6). *Saving Salmon's Salmon*. Hakai Magazine. Retrieved from <https://www.hakaimagazine.com/news/saving-salmons-salmon/>

²²¹ David Krosting Sustainability Award. (n.d.). Retrieved April 20, 2020, from <https://www.salmonvalley.org/harvest-celebration/david-krosting-sustainability-award/>

²²² Seidl, A., & Myrick, E. (2007). *The Economics of Community Forestry: A Partial Analysis of Public Lands Partnership*, Delta and Montrose Counties, Colorado. Fort Collins, CO: Colorado State University Economic Extension Report.

²²³ Wondolleck, J. M., & Yaffee, S. L. (2000). *Making collaboration work: lessons from innovation in natural resource management*. Washington, DC: Island Press.

²²⁴ (2019, November). Retrieved from

http://www.malpaiborderlandsgroup.org/files/resourcesmodule/51b2274fc3d6c/MBG_Newsletter_2019_Web_Version.pdf

²²⁵ Water Project Grants and Loans. (n.d.). Retrieved April 20, 2020, from

<https://www.oregon.gov/OWRD/programs/FundingOpportunities/WaterProjectGrantAndLoans/Pages/default.aspx>

²²⁶ About Watershed Councils. (n.d.). Retrieved April 20, 2020, from <https://www.oregonwatersheds.org/who-we-are/oregon-watershed-councils/>

²²⁷ Seidl, A., & Myrick, E. (2007). *The Economics of Community Forestry: A Partial Analysis of Public Lands Partnership*, Delta and Montrose Counties, Colorado. Fort Collins, CO: Colorado State University Economic Extension Report.