From Conflict to Collaboration: Exploring Influences on Community Well-Being

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Decades after the Timber Wars, land management agencies continue to redefine approaches to forest restoration and management, with impacts for Western forest dependent communities. To better understand this evolving dynamic, we examined the recent history of a rural forest community in the northern Sierra Nevada against the backdrop of changing perspectives on and relationships to resource use, industry, and forest management. Guided by community priorities distilled from interview data, we examine the transition from the Timber Wars to collaborative forest management through the rise of area collaboratives. The success of this work and its potential to genuinely improve community well-being remains to be seen but a notable shift has begun. With this paper we aim to advance understanding of the transition from the Timber Wars to community-based collaborative efforts, and what this means for rural forest communities.

Keywords: Rural communities, community stability, social well-being, economic development, collaborative forest management

Settlement of the American West by Anglo-American emigrants is a familiar story. The same year the California territory was wrested from Mexico, migrants from the East and Midwest of the United States and abroad traveled to the soon-to-be state in droves, drawn by the promise of abundant resources. Though gold was a primary lure, timber and fertile agricultural soil facilitated establishment of settlements. In this new West, loggers, mill operators, and ranchers made a living trading the region's natural resources.

More than 150 years later, in the rural towns owing their existence to natural resource-based economies, changes in government and policy, markets, industrial mechanization, and the resource base itself have challenged these economies and the people dependent on them. The Timber Wars are often cited as the catalyst for these shifts – clear-cut forests and spotted owls their symbols. While this telling is an oversimplification, the truth is that the opening of the West's old-growth forests built a powerful economic engine that failed many when it collapsed.

Though the Timber Wars (for the most part) have ended, any attempt to examine a discrete 'after' also overlooks the nuances and difficulty of rural community development. Navigating economic collapse,

and the attendant impacts on social structure and communities, is a difficult and inexact process. The American West is transitioning as historically timber-dependent communities and public agencies managing vast swaths of land interact through emerging collaborative forest management approaches. Whether these new opportunities will genuinely address community priorities is an essential question that affects the socioeconomic well-being of hundreds of communities across the West.

Background

Timber-Dependent Communities

The relationship of rural communities to natural resources, particularly timber found on neighboring National Forest System (NFS) lands, has been central to the U.S. Forest Service's (USFS) purpose since the beginning. Though private landowner practices also impact rural community well-being, this paper focuses on the USFS, in part due to the agency's original intent to serve surrounding human communities. As Gifford Pinchot, the first chief of the USFS, wrote, "the National Forests exist not for the sake of revenue to the government, but for the sake of the welfare of the public…" (Davis et al. 2018:128). The commitment to rural forest communities, however, was more nearly a justification for policy rather than a commitment to on-the-ground practice (Fortmann, Kusel and Fairfax 1989). Adoption of new technology within the forest products industry in the 1970s and 1980s led to a reduction in labor needs (Charnley 2014), marking the beginning of a decline of the timber industry as a mainstay of local economies across the American West.

As timber harvesting dramatically declined on federal lands in the late 1980s and 1990s, woods jobs decreased and mill closures followed. This loss of timber supply from federal lands severely impacted rural communities most dependent on timber (Charnley 2014). A study of forest dependent counties and communities in California found that the economic and social turmoil associated with shocks such as the decline of federal timber harvesting are devastating events with long-lasting impacts on community capacity (Kusel and Fortmann 1991). Many rural communities across the West, which were heavily dependent on timber from NFS lands, have followed a production – shock – decline trajectory (Morzillo et al. 2015). As a result of their proximity to the resource base and geographic isolation from other industrial activities, the economies in these communities continue to rely upon forest products, even if their abundance is dramatically reduced.

Collaborative Forest Management

Western forests face a growing litany of threats, including insect outbreaks, invasive species, high severity wildfire, and drought. These factors have exacerbated the changes in forest structure and composition wrought by management, most notably fire suppression and intensive harvesting. Taken as a sum, these trends and practices threaten the overall resilience of forested ecosystems. A renewed focus on forest and watershed restoration has arisen in response.

In part to meet this challenge, the USFS is shifting away from a traditional top-down approach toward more inclusive, collaborative methods (Schultz, Jedd and Beam 2012). Collaborative approaches have been adopted in an attempt to engage diverse stakeholders to accomplish mutually beneficial objectives, with the hope that building a broad consensus of support will reduce the risk of litigation. Despite this multiple benefit mandate, it is unclear how well collaboratives are addressing socioeconomic well-being –

largely because monitoring of these outcomes is severely limited (Swezy, Reeves Jolley and Kusel 2016). Additionally, socioeconomic objectives are frequently not clearly defined, further hampering the ability of these collaboratives to address issues of community well-being (Urgenson et al. 2017).

Research Objectives

Across the American West, collaborative groups have been established as an approach to promote healthy ecosystems and community well-being while addressing wicked problems. In this paper, we examine community perspectives on the state of rural forest communities through the lens of Indian Valley, located in California's northern Sierra Nevada. From semi-structured interviews, we distill local priorities for progress. We then examine these local priorities in the context of the emerging management model of collaboration. We highlight local efforts which display promise in their ability to leverage the collaborative process to respond to community priorities.

Indian Valley as Case Study

Located near the northern terminus of the Sierra Nevada Mountains in northeastern California, Indian Valley in Plumas County is a flat mountain valley with several small communities, listed with their population totals in Table 1.

Indian Valley is composed of roughly 12,000 acres, approximately 80 percent of which is irrigated pasture, and lies at 3,500 feet above sea level, with surrounding forested mountains rising to 8,000 feet. More than 85 percent of Plumas County's land base is classified as "important timber." The USFS manages the majority of this land including much of the area surrounding Indian Valley (Plumas County 2012).

History of Indian Valley

Beginning with the Gold Rush and continuing through ranching and the timber boom, the communities of Indian Valley have been inextricably linked to natural resource utilization. During and after WWII, Indian Valley, like many other rural communities, benefitted from a substantial increase in logging industry operations (Lawson and Elliott 2008; Rutkow 2013). Many Indian Valley residents worked in the woods or in mills. As part of a network of regional mills, Indian Valley operations grew to accommodate increased logging activity on the Plumas and Lassen National Forests (NF), reflecting a trend occurring on USFS land nationwide (U.S. Forest Service Forest Management N.d.)

Through the first half of the 20th century, at least nine mills operated in and around Indian Valley, bringing prosperity and population increases (Lawson and Elliott 2008; Young 2003). In the span of one decade (1970-1980), population grew by 49 percent (Baldridge et al. 1982; Dent, Failor and Hagan 1973). Employment also increased during this time, both in absolute terms and as a percent of the county's labor force (Baldridge et al. 1982; Dent et al. 1973). One significant employer was the USFS itself. At the time, a Plumas NF Ranger District was located in the town of Greenville (Elliott 2017).

A hospital in the town of Greenville provided medical services to the Valley. The Plumas County Unified School District operated five schools in Indian Valley and, according to interviewees, was among the wealthiest districts in the state (California Department of Education N.d.), due largely to 1908 legislation providing a share of USFS timber receipts to local schools (Domenici and Craig 2005).

Table 1. Population of communities within Indian Valley and Plumas County (2010 Census)

Location	Population	Location	Population
Greenville	1,129	*Indian Falls*	54
Crescent Mills	196	*Genesee*	Data unavailable
Taylorsville	140	*Plumas County*	20,0007

Mills with older technology were less competitive; new mills required fewer employees per unit of output. Reduced timber production on NFS lands also contributed to mill closures in the 1990s (Lippke and Mason 2005). Beyond shifts in the milling industry, volume reductions in the forest were the result of environmental regulations and lawsuits.

Within the USFS, a shift toward ecosystem management was occurring, the result of a variety of legislation passed in the decades preceding the 1980s, as well as legal challenges to USFS forest management. In the Sierra Nevada, a debate raged over California spotted owl habitat. Protections were instituted by the USFS in 1993, eliminating clear-cuts, even-aged forest management, and the harvest of trees greater than 30 inches in diameter (Marston 1997). The Sierra Nevada Framework, a 3,100-page USFS planning amendment instituted in 2001, set aside 40 percent of remaining old-growth on NFS land and protected trees greater than 20 inches in diameter (Criley 2001; Smith 2001). In the California spotted owl area, mill closures and job loss followed (Bailey 2001; Smith 2001).

Though environmental regulations played a role in the decline of the logging and milling industry, the focus on ecosystem restoration was a response to a measurable shift in forest structure and composition. Reconstruction of early 20th century Sierra Nevada forest conditions indicate significant stand level changes associated with logging, with large diameter trees making up a much smaller proportion of total basal area by the end of the century (Verner et al. 1992). Owners of mills built to process large diameter trees faced a decision to invest in re-tooling the mill to handle smaller trees or close their doors – and frequently chose the latter.

In Indian Valley, like many rural forest-dependent communities, the effects of decreased harvest activity on federal lands were population declines and economic impacts to the community. The last of Indian Valley's mills closed in 1983. Between 1990 and 2000, Greenville's USFS Ranger District, hospital, middle school, and various locally owned businesses closed. Between 1980 and 2000, Indian Valley's population declined by more than seven percent (Baldridge et al. 1982; Evans et al. 2002; Young 2003).

Methods

We began with a review of the literature on forest community resource dependence and collaborative forest management to create context and structure for questions asked of community residents. We utilized semi-structured interviews to define community priorities in relation to transition after the Timber Wars. An initial list of potential interviewees was developed by researchers and long-time residents through a purposive sampling approach: prioritizing interviewees based on their ability to speak to a range of community issues (natural resources, economy and social dynamics), as well as their capacity to reflect on changes in the community over time. This list was appended with interviewee suggestions using snowball sampling. A total of 17 community members were contacted, and

eleven interviewed. Three declined to be interviewed, and three did not respond after three attempts to contact them. The ability to extrapolate from our sample is limited due to its size. As such, interview data are utilized to illustrate local sentiment and perspectives, providing a rich description of one community's transition after the Timber Wars.

Interviews were conducted in September, 2017 and took place either at a local non-profit office or at the interviewees' place of work or residence, typically lasting 60 to 90 minutes. Interviewers took handwritten notes, foregoing the use of tape recorders to increase interviewee comfort. Interviews were confidential and semi-structured. A list of ten questions guided the course of these conversations, focusing on: (1) the evolution of community character; (2) community connection to industry (mining, agriculture, forestry); and (3) future natural resource management potential within Indian Valley and its surroundings. Two researchers reviewed interview notes to reduce bias during the coding of key community priorities. A multi-pass coding process was used, wherein researchers first identified common community perceptions, and then coded these perceptions into community priorities. Though interviewees provided diverse examples, saturation was achieved for community priorities.

Our discussion of community interview data is blended with nascent local collaborative development, providing a richer and deeper case study that not only reflects the nuances of life in a rural community (Yin 2018), but enables the development of a more robust understanding of the trajectory and transition underway in Indian Valley and surrounding region after the Timber Wars.

Results

Community Priorities for Transitioning After the Timber Wars

Interviews with Indian Valley residents identified three distinct community priorities held by residents. Figure 1 displays how interview data and themes illustrated community perceptions and priorities. Though the sample size was limited, a cross-section of interviewee backgrounds and participant engagement in the community leads us to conclude that these priorities are broadly representative of those held by Indian Valley residents.

Priority 1: Actively Managing Forests for Multiple Benefits

Interviewees perceived ecological, economic and social changes occurring in Indian Valley as a result of shifts in forest management, and indicated a desire for management to address multiple values and achieve multiple benefits. Though interviewee preference differed with regard to type and intensity of USFS management, there was a general recognition that active NFS land management has the potential to affect the ecology, economy, and society in and around Indian Valley.

The major ecological concern shared by interviewees is declining forest health, manifesting as unnatural stocking densities and increased fire risk. Some attributed increased fire risk exclusively to USFS fire suppression efforts. One member of the Mountain Maidu Tribe asserted that by increasing density the USFS' fire suppression practices have "created these wildfires." This remains a widely-held opinion among interviewees, despite concomitant drivers, such as drought and climate change.

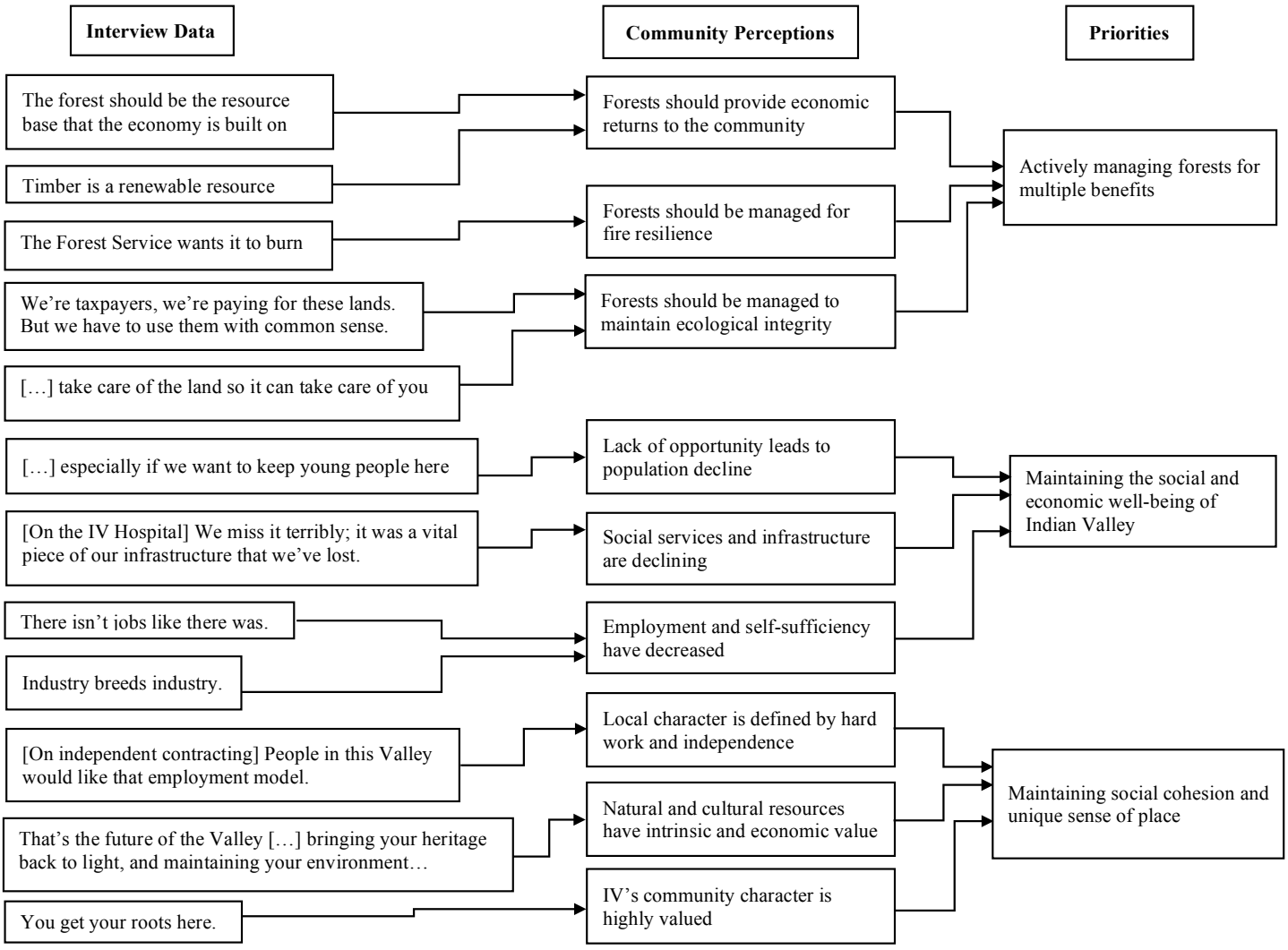

Figure 1. Diagrammatic process depicting the multi-pass coding technique by which interview data were organized into themes and community priorities. Some interview data is omitted from this figure

There was general agreement among interviewees that the USFS' approach to forest management is now less production oriented, considering a broader suite of environmental factors in decision making. Some perceive this as a positive shift, leading to a more 'enlightened' view of resource management. Others perceive the outcome to be an unnatural increase in stocking densities, contributing to fire risk and promoting "waste," in the words of a local logger. As one small business owner quipped: "If they [USFS] were my gardener, I would fire them." One interviewee, noting that our current forests are no longer "natural," and that the fires we see today are highly divergent from those of recent history, highlighted the potential for emerging industries such as small diameter wood utilization in achieving both ecological and economic benefits.

Interviewees, even those who viewed past and present USFS management practices

unfavorably, acknowledged the benefits to the local economy of high activity levels on NFS lands. Of the 'boom' years, the Mountain Maidu tribal member remarked: "It was a busy time in the woods" and "sawmills opened everywhere." In fact, participants universally described woods work – both logging and mills – as the leading industry and source of employment in Indian Valley into the 1980s. Active management produced significant economic benefits for the community in the view of all interviewees. According to one small business owner: woods work turned Indian Valley's natural resources into a paycheck for the whole community, supporting small businesses. The robust local economy increased the community's self-sufficiency. According to a former schoolteacher, everything you needed "was indeed right there."

None of the interviewees advocated for a return to past USFS management practices involving widespread clearcutting. However, many saw the potential in managing area forests for economic gain with community benefit, whether that be through traditional timber and salvage harvesting, restoration thinning, or community-scale biomass production. Beyond local employment, interviewees noted that more active management would reduce area fire risk and improve recreational access. In the words of one former forestry professor, "[in Indian Valley] the forest should be the resource base that the economy is built on."

Priority 2: Maintaining the Social and Economic Well-being of Indian Valley

Interviewees communicated declines in the economic and social well-being of Indian Valley communities in various ways, but all recognized a shift in the past decades, reporting fewer businesses, smaller graduating high school classes, and increases in local poverty.

Since the decline of the logging industry, many have moved or traveled elsewhere for work. This migration forced some local businesses to shutter or decrease their work force. As one local business owner observed, changes in industrial activity are "why I'm standing here by myself." The outflow of residents has transformed Indian Valley into a collection of aging bedroom communities, described as "provincial" by one participant. Multiple interviewees perceived an outflow of young residents, with a greater proportion of today's community comprised of retirees. According to interviewees, while some young people would like to stay, they are unable to do so due to the lack of well-paying jobs.

Some interviewees perceive that, as the local economy declines, Indian Valley and especially Greenville, have become more attractive to lower-income individuals and families. Though unemployment has increased, it may be that population declines increase the visibility of less affluent residents and become conflated with true demographic shifts (Kusel, Goulette and Swezy 2017). Despite this nuance, many perceive that the character of the place is imperiled; the hard work ethic that once defined the community is being lost. One lifelong Greenville resident remarked that it's "not the same town I grew up in by any stretch of the imagination."

Priority 3: Maintaining Social Cohesion and Unique Sense of Place

Just as interviewees reported changes in social well-being, they also noted a decrease in social cohesion of the communities, manifesting as reductions in volunteerism and social engagement. Fraternal orders and other social groups, whose memberships are reportedly declining, assisted families in need and provided volunteers for events and services. Interviewees also noted that community events, the annual Taylorsville Rodeo

and Fourth of July dance at the Taylorsville Grange Hall, for example, appear to be less well-attended. One former USFS employee who grew up in Taylorsville asserted that rodeo attendance decreased fivefold. Informal means of socializing, whether helping out on a nearby ranch or babysitting a neighbor's child, were also reported to have decreased.

With fewer people to serve, interviewees reported that social services have also decreased in number. The 2005 closure of the Indian Valley Hospital in Greenville affected many and some fear that the continued lack of comprehensive medical services in Indian Valley may force the sick or elderly to move elsewhere. One Greenville resident conjectured that inaccessibility of medical care will continue to contribute to population loss in Indian Valley. School closures have also affected the community, especially the elementary school in Taylorsville in 2012, a social hub for the town and community parents.

The loss of employment and social services has come on the heels of improved infrastructure, television, and internet connection in Indian Valley, leading to conflicting perceptions associated with community isolation. For some, increased connectivity in the digital age is a boon; for others, e-commerce threatens local businesses, economic self-sufficiency, and communal connections.

Collaboration and the Post-Timber War Era

Community priorities in Indian Valley reflect important shifts in local ecosystems, economy, and society manifesting during the Timber Wars era, in part the result of changing forest management (Burns 2001). Collaboration, a management model increasingly embraced by the USFS, has the potential to move forest management from a pre- to a post-Timber Wars state. The role of collaboration in this transition is to facilitate local involvement in the agency's project planning and prioritization process, helping the USFS respond to the interests of surrounding communities. In this section, we briefly highlight a number of local collaborative efforts, beginning with an early development, the Quincy Library Group.

Setting the Stage for Collaborative Forest Management

The Quincy Library Group (QLG), launched by warring stakeholders, was formed in 1992 in nearby Quincy, California against a backdrop of mill closures and declines in local employment. Among the group's signature achievements was the passage of the Herger-Feinstein Quincy Library Group Forest Recovery Act (HFQLG). The Act focused on the Lassen, Plumas, and portions of the Tahoe NF, and was presciently and primarily intended to address wildfire risk, along with community economic stability, wildlife habitat, and water quality.

Though the HFQLG pilot project did produce some successes, economic and even ecological outcomes were found to be less significant than anticipated. The HFQLG was unable to stave off continued employment loss and mill closures, failing to adequately respond to community priorities related to economic and social well-being. With regard to managing forests for multiple benefits, the HFQLG did protect wildlife habitat and improve stand structure in treated areas, though impacts on ecological health at a landscape scale were inconclusive. A number of interacting factors have been offered to explain this outcome, including insufficient stakeholder engagement during project design, leading eventually to project appeal and litigation (HFQLG Independent Science Panel 2013). Though an important precursor to future developments, the HFQLG largely engaged the USFS by congressional mandate,

and not a more traditional collaborative process (Braxton Little 2003).

The group's activity was significantly reduced with the expiration of the HFQLG legislation in 2012, but in the intervening years a number of collaborative efforts developed in its wake. Groups in the region are building on the legacy of the QLG by working to improve USFS relationships with stakeholders, and are now exploring innovative use of federal and state funds and authorities to implement projects and address community needs. The results of their efforts remain to be seen, though improved and proliferating partnerships, and their early outcomes, are promising.

Leveraging Federal Funding to Sustain and Expand Local Economies

The oldest of this second generation of area collaboratives, the Burney-Hat Creek Community Forest and Watershed Group (BHC), leverages Collaborative Forest Landscape Restoration Program (CFLRP) funding to carry out restoration activities and improve community viability on 400,000 acres in Shasta County. The CFLRP competitively funds collaborative groups for ten-year periods to enact science based ecosystem restoration in forested landscapes and requires multiparty monitoring of ecological, economic, and social outcomes. CFLRP funded collaboratives are official USFS projects.

The BHC aims to address community concerns similar to those identified in Indian Valley. At the time of their CFLRP funds application (2010), unemployment in the anchor community of Burney had risen to 22 percent, up from the single digits in 2006. Though the total population remained stable, the demographic changes that plague forest communities persisted: younger families left in search of better paying jobs, challenging the viability of local schools. Unlike Indian Valley, the timber industry and wood products infrastructure have persisted in Burney. BHC focuses its efforts on restoration activities that improve forest health and resilience while maintaining the supply of sawlogs and small diameter wood to two sawmills and three co-generation plants (U.S. Forest Service 2011).

Perhaps not surprisingly, especially given the length of time required to complete environmental documentation on projects, initial BHC projects were those first launched by QLG. Due to limited USFS capacity, the result of budget and staffing reductions, the group is exploring ways to hire staff that will work with the USFS to complete the environmental documentation needed to advance projects. Timely project implementation will result in improved forest management and attendant community benefits.

Today, the USFS works closely with BHC to design management actions that provide economic stability and expansion within the project area. Monitoring indicates that BHC activities have resulted in the direct and indirect creation and maintenance of full-time jobs and income (U.S. Forest Service 2016). This is an important first step in addressing community priorities related to economic well-being. Though the group is exploring the measurement of additional metrics for social well-being, these have yet to be included in monitoring efforts.

Exploring Cooperative Agreements and State Funding to Increase Local Capacity

The South Lassen Watersheds Group (SLWG) may well represent the third generation of local collaborative efforts. Formed in 2017, the group is comprised of a diversity of stakeholders engaged in collaboration in the absence of a consistent funding source or explicit institutional commitment, which typify CFLRP groups. The SLWG is focused on a 600,000-acre landscape contiguous and to the

south of the BHC landscape. The SLWG boundary lies approximately 15 miles north and west of the town of Greenville. A number of low-income communities are included within the project boundary (California Air Resources Board 2017). More than 90 percent of the project area is classified as a High Hazard Zone, indicating elevated risks of tree mortality and fire threat (CAL FIRE N.d.).

SLWG advances projects that aim to improve watersheds, reduce fire risk, and contribute to the ecological and economic well-being of the area. To address limited agency capacity, the group has identified state funding, such as greenhouse gas reduction funding from California's Cap and Trade Program and voter approved bond funding for watershed health, to bring external resources to USFS and Lassen Volcanic National Park projects. Current efforts also include development of a Master Stewardship Agreement (MSA) with the Lassen NF. In an era of dwindling USFS capacity, this type of partnership yields real benefits for the community as well as the NF.

MSAs are long-term, non-binding agreements entered into between the USFS and partners. Tiered agreements, called Supplemental Project Agreements (SPA), explicitly outline the involvement and responsibility of partners (Weissberg 2018). Like BHC, SLWG aims to utilize the MSA and SPA framework to bolster local workforce capacity by involving third-party experts in environmental analysis and project implementation. The MSA allows the USFS to retain timber-generated revenue within the defined stewardship area, potentially producing cyclical results; as continued management builds local capacity and economic outcomes, the augmented workforce provides increased opportunity for stewardship.

As with all collaboratives, time will be required to evaluate the ecological, social, and economic outcomes SLWG may produce. However, innovating in the application of existing funds, tools, and authorities, as well as deepening existing partnerships, may help groups like SLWG surpass economic outcomes and respond to a broader range of community priorities.

Conclusion

Transitioning from an unsustainable extractive forest economy has challenged the identity of many rural forest communities across the American West. After the Timber Wars, these communities are grappling with declines in forest health, rising unemployment, and the departure of young middle-class families. Economic and social redevelopment in these communities is a difficult, time-intensive process, requiring that agencies and policymakers be receptive and responsive to community voices.

The community priorities identified in the interviews for this project – active forest management for multiple benefits; maintaining social and economic health; and maintaining social cohesion and unique sense of place – are not unique to Indian Valley and the northern Sierra Nevada. As we shift from the Timber Wars to an era of collaboration, the USFS is increasingly receptive to these priorities. Collaborative efforts across California and the West seek to facilitate involvement in USFS management in order to increase responsiveness to community needs and produce multiple benefits (U.S. Forest Service 2015).

By investing in the collaborative movement, the USFS is renewing and redefining its commitment to rural communities. By inviting stakeholders and citizens into the processes of decision-making and effectiveness monitoring, the agency is also increasing its accountability, with early positive outcomes. However, room for improvement remains; community benefits related to social well-being, social cohesion, and sense of

place, are still often overlooked for more easily quantifiable ecological and economic outcomes.

To continue to improve upon collaboration and produce multiple benefit outcomes, communities have a responsibility to participate in partnership, offering their perspectives and priorities as guides. The USFS, in addition to continuing to engage communities, must also innovate in its management, including its use of funds and authorities, to produce results at a meaningful pace and scale. Ultimately, success involves traveling a path away from the Timber Wars. If early efforts are any indication, this is one of the best routes to achieving long-term landscape health and improved well-being of forests and communities.

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