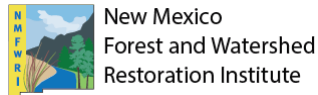# Collaborative Governance Assessment Report
FOR THE ZUNI MOUNTAINS CFLRP

AUTHORS: Nicolena vonHedemann, Tyler A. Beeton, Adam J. Snitker, Melanie M. Colavito, Tara L. Teel, Ch'aska Huayhuaca, and Antony S. Cheng

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SWERI SOUTHWEST ECOLOGICAL RESTORATION INSTITUTES

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COLORADO FOREST RESTORATION INSTITUTE
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NORTHERN ARIZONA UNIVERSITY
Ecological Restoration Institute

New Mexico Forest and Watershed Restoration Institute

Document Development: In FY21, the U.S. Department of Agriculture (USDA) Forest Service (Forest Service) led a collaborative process to develop a Collaborative Forest Landscape Restoration Program (CFLRP) Common Monitoring Strategy that will be required for all newly authorized and reauthorized projects under the CFRLP. The Forest Service Washington Office requested assistance from the Southwest Ecological Restoration Institutes (SWERI) in developing and deploying an assessment tool to track collaborative governance within and across CFLRP projects and through time. The collaboration assessment is intended to assess whether CFLRP is encouraging an effective and meaningful collaborative approach, and addresses question #12 of the CFLRP Common Monitoring Strategy. We developed an online, confidential survey that was administered to CFLRP project participants to address this question. With support from the Forest Service Forest Management, Range Management, and Vegetation Ecology program, SWERI conducted regional webinars to introduce the assessment and identify project-level points of contact, which was followed by in-depth engagement with key contacts to determine recruitment strategies, administration timing, and project-specific questions. In FY22 and FY23, SWERI will be collecting baseline information for all newly authorized and reauthorized projects. SWERI will continue to engage in assessing collaborative health and performance of CFLRP projects. The Ecological Restoration Institute at Northern Arizona University funded survey administration using state funding (Arizona Board of Regents through the Technology, Research and Innovation Fund), which was used as a match to annual federal appropriations to the SWERI.

Southwest Ecological Restoration Institutes (SWERI)
The Southwest Ecological Restoration Institutes include three university-based restoration institutes: the New Mexico Forest and Watershed Restoration Institute (NMFWRI), the Colorado Forest Restoration Institute (CFRI), and the Ecological Restoration Institute (ERI) in Arizona. These institutes were congressionally appointed in 2004 by the Southwest Forest Health and Wildfire Prevention Act (PL 108-317), and the institutes work together to develop a program of applied research and service to help create healthy forests, prevent uncharacteristic wildfires, sustain the resiliency of water supplies to wildfires, and create jobs. The SWERI receive funding from five primary sources: 1) federal appropriations; 2) additional federal funding (e.g., the Infrastructure Investment and Jobs Act); 3) state appropriations; 4) in-kind support from host universities; and 5) extramural funding such as grants and agreements. The SWERI receive federal appropriations under the Southwest Forest Health and Wildfire Prevention Act administered through the Forest Service. In accordance with federal law and USDA policy, these institutions are prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights Room 326-A, Whitten Building 1400 Independence Avenue, SW Washington, DC, 20250-9410 or call (202) 720-5964 (voice & TDD).

Ecological Restoration Institute (ERI), Northern Arizona University (NAU)
The Ecological Restoration Institute is nationally recognized for mobilizing the unique assets of a university to help solve the problem of unnaturally severe wildfire and degraded forest health throughout the American West. ERI serves diverse audiences with objective science and implementation strategies that support ecological restoration and climate adaptation on western forest landscapes.

Colorado Forest Restoration Institute (CFRI), Colorado State University (CSU)
The Colorado Forest Restoration Institute is a science-based outreach and engagement organization hosted by the Department of Forest and Rangeland Stewardship and the Warner College of Natural Resources at Colorado State University. Colorado State University (CSU) is a land-grant university with a mission to provide teaching, research, public service, and engagement that CFRI strives to uphold. CFRI was established by Congress as part of the Southwest Ecological Restoration Institutes to serve as a bridge between researchers, managers, and stakeholders working to restore and enhance the resilience of forest ecosystems to wildfires in Colorado, the Southern Rocky Mountains, and the Intermountain West. CFRI leads collaborations between researchers, managers, and stakeholders to generate and apply locally relevant, actionable knowledge to inform forest management strategies. CFRI's work informs forest conditions assessments, management goals and objectives, monitoring plans, and adaptive management processes.

NAU Land Acknowledgment: Northern Arizona University sits at the base of the San Francisco Peaks, on homelands sacred to Native Americans. We honor their past, present, and future generations, who have lived here for millennia and will forever call this place home.

CSU Land Acknowledgment: Colorado State University acknowledges, with respect, that the land we are on today is the traditional and ancestral homelands of the Arapaho, Cheyenne, and Ute Nations and peoples. This was also a site of trade, gathering, and healing for numerous other Native tribes. We recognize the Indigenous peoples as original stewards of this land and all the relatives within it. As these words of acknowledgment are spoken and heard, the ties Nations have to their traditional homelands are renewed and reaffirmed. CSU is founded as a land-grant institution, and we accept that our mission must encompass access to education and inclusion. And, significantly, that our founding came at a dire cost to Native Nations and peoples whose land this University was built upon. This acknowledgment is the education and inclusion we must practice in recognizing our institutional history, responsibility, and commitment.

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Executive Summary

The Southwest Ecological Restoration Institutes (SWERI) developed a collaborative governance assessment as part of the Collaborative Forest Landscape Restoration Program (CFLRP) Common Monitoring Strategy. The collaborative governance assessment was designed to assess the following questions:

1. What are the structural and functional dynamics of the collaborative? Does the collaborative exhibit characteristics generally associated with healthy, well-functioning, and resilient collaboratives?
2. What do participants need or recommend to improve the process?
3. To what extent do participants feel the project is meeting process, socio-economic, and ecological goals?
4. What challenges or disruptions affect collaborative performance and durability?

The SWERI administered an online survey to members of the Zuni Mountains Collaborative (henceforth the Collaborative) in winter 2022–2023.

Overall, there was strong agreement for almost every indicator that the Collaborative members were working well together and accomplishing their goals. The response rate for the survey was lower than desired, however, and responses from some key partners were missed. A strong majority of respondents agreed that there was shared understanding of the purpose of and key problems addressed by the CFLRP project, and that expectations were largely met in collaborating with the U.S. Department of Agriculture Forest Service (Forest Service hereafter) through planning, implementation, and monitoring. Respondents also overwhelmingly agreed that the collaborative process has helped build trust, relationships, and mutual respect. A strong majority of respondents trusted the group to achieve desired outcomes and believed that they and other partners are committed to the collaborative process. A strong majority of respondents indicated that leaders worked well across organizations and entities, helped maintain a common vision, and motivated others to work together. Participants agreed that there are opportunities to co-generate knowledge and share information, work toward adaptive management, and be flexible when there are landscape or collaborative personnel changes. Respondents felt that the Collaborative had adequate technical expertise, facilitation skills, and funds and that collaborative participants are held accountable and protocols are fair, equitable, and used appropriately. Participants largely understood how to give input to the

Forest Service and thought the agency was responsive. A strong majority thought that the CFLRP project was moving toward achieving desired collaborative, ecological, and socio-economic goals because of good key actors, open communication, and strong coordination between the Forest Service and wood products industry. There was strong support for a variety of forest management strategies, including reintroducing and maintaining fire on the landscape, despite the recent devastating fires in New Mexico.

Respondents indicated a few areas where there is room for improvement and made pertinent recommendations. The Collaborative has had to deal with several disruptions, such as frequent turnover, large-scale fires, limited agency and wood products industry capacity, forest closures due to the Mexican spotted owl injunction and fire restrictions, inadequate workforce capacity, and variable weather conditions. Four key recommendations emerged: 1) increase stakeholder participation, engagement, and outreach; 2) enhance understanding of forest restoration work, including through increasing transparency in Forest Service decision making and hosting more field trips; 3) increase collaborative personnel capacity through enhancing their time commitments and developing leadership skills; and 4) continue to support flexible approaches that have been used to deal with recent disruptions. The Collaborative has already reached out to former and new potential collaborators to broaden participation, and respondents noted the success of shifting to forest restoration on private lands during forest operations closures on federal lands.

The SWERI will continue to engage in assessing collaborative health and performance of CFLRP projects, with the goal of gauging capacities and identifying areas for improvement.
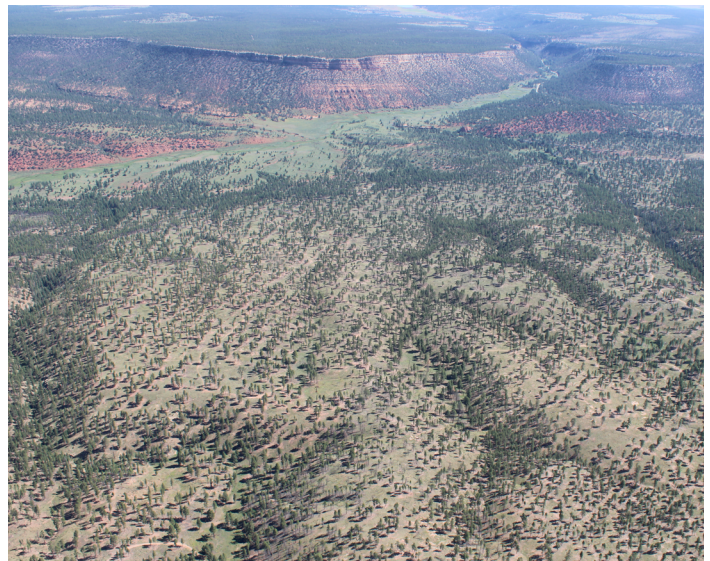
Zuni Mountains landscape (Source: John Formby, USFS Forest Heath Protection.).

Introduction

The Forest Landscape Restoration Act (FLRA) was passed in 2009 and established the Collaborative Forest Landscape Restoration Program (CFLRP). The purpose of the CFLRP was to "encourage the collaborative, science-based ecosystem restoration of priority forest landscapes"[1] through a competitive funding program administered by the U.S. Department of Agriculture Forest Service (Forest Service hereafter). In 2021, CFLRP coordinators, Forest Service personnel, and partners led a collaborative process to develop a CFLRP Common Monitoring Strategy consisting of ecological and socio-economic monitoring questions and indicators that will supplement local project multi-party monitoring plans and will be required for all newly authorized and reauthorized projects.[2]

One core component of the CFLRP Common Monitoring Strategy relates to monitoring collaborative governance.[3] While the CFLRP requires projects to collaborate throughout planning, implementation, and monitoring, 'collaboration' was not defined in the FLRA or CFLRP requirements, nor did the CFLRP provide specific guidelines by which collaborative groups convened and engaged in collaborative restoration throughout the life of the CFLRP project. This has resulted in a multitude of collaborative structures, processes, and practices implemented in diverse social and ecological contexts across the country. Also, collaborative groups are nested within and impacted by changes that occur within their group, external changes in social and ecological conditions, and a fluid institutional environment, all of which require groups to adjust and evolve their structures, practices, and processes (Beeton et al., 2022; Ulibarri et al., 2020). Yet, a systematic approach to monitoring and evaluating attributes of collaborative governance and resilience is lacking. Systemic evaluation could lead to better understanding of what factors promote or challenge collaboration across different contexts, help target what kinds of investments are needed, and where to maintain and enhance collaborative capacity.

To address this need, the Forest Service Washington Office requested assistance from the Southwest Ecological Restoration Institutes (SWERI) in developing and deploying an assessment tool to track collaborative governance.   During the development of the CFLRP Common Monitoring Strategy, CFLRP coordinators from the Washington Office elicited feedback from CFLRP practitioners, CFLRP coordinators, and subject matter experts to identify monitoring questions, indicators,

and available data sources. With respect to collaborative governance, partners wanted to address the question: how well is the CFLRP encouraging an effective and meaningful collaborative approach? CFLRP practitioners and coordinators expressed interest in documenting collaborative health, function, and resilience, as well as performance (perceived outcomes). CFLRP practitioners and coordinators also emphasized the need for a tool that is straightforward, not time-consuming, easy to administer, and longitudinal.

We incorporated stakeholder feedback and questions of interest developed during the drafting of the CFLRP Common Monitoring Strategy to directly inform the components of the collaboration assessment. Our objectives are as follows:

1. Develop a rigorous, systematic, and longitudinal assessment of collaborative governance that is grounded in the science and practice of landscape-scale collaborative forest restoration.
2. Support program-wide evaluation of collaborative progress and performance, and report on findings to Forest Service staff and Congress.
3. Facilitate project-level engagement, reporting, and peer-learning to inform local collaborative work and adaptive management.
4. Contribute to the theory and practice of collaborative governance through the synthesis of findings and lessons learned.

The SWERI administered the collaborative governance assessment—an online survey—to the Zuni Mountains CFLRP and members of the Zuni Mountains Collaborative (henceforth the Collaborative) in the winter of 2022–2023, after the project received a CFLRP funding extension in 2022 (originally funded in 2012) for work within the Cibola National Forest and surrounding landscape. The report herein summarizes findings from the collaborative governance assessment. We have also integrated, where appropriate, feedback during our final presentation of the survey results and open discussion with the Collaborative, as well as information gathered during the group interview on the Collaborative context. See Appendix 1 for a report brief summarizing our findings, and Appendix 2 for a presentation we led with the Collaborative in April 2023. We briefly highlight the approach, followed by a baseline assessment of findings and document recommendations from respondents to improve the collaborative process.

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[1] PL 111-11 CFLRP Authorizing legislation - https://www.congress.gov/congressional-report/110th-congress/senate-report/370/1
[2] CFLRP National Core Monitoring Strategy - https://www.fs.usda.gov/restoration/documents/cflrp/CMS-Fact-Sheet-final-20221013.pdf
[3] Here, we define governance as "the system of institutions, including rules, laws, regulations, policies, and social norms, and organizations involved in governing environmental resource use and/or protection" (Chaffin et al. 2014).

Approach

We developed an online survey to assess:

1. What are the structural and functional dynamics of the collaborative? Does the collaborative exhibit characteristics generally associated with healthy, well-functioning, and resilient collaboratives?
2. To what extent do participants feel the project is meeting process, socio-economic, and ecological goals?
3. What challenges or disruptions affect collaborative performance and durability?
4. What do participants need or recommend to improve the process?

Framework

The survey was structured using concepts from an integrative collaborative governance framework (Emerson et al., 2012), resilience and adaptability literature (Emerson and Gerlak, 2014; Folke et al., 2005; Gupta et al., 2010), and empirical findings from the first 10 years of the CFLRP (Beeton et al., 2022; Butler and Schultz, 2019; McIntyre and Schultz, 2020; Schultz et al., 2018).

Collaboration dynamics – To assess collaboration dynamics, we operationalized the Integrative Framework for Collaborative Governance (Emerson et al., 2012). The framework incorporates multiple components of collaborative governance that are grounded in collaborative practice, link collaboration dynamics to socio-economic and ecological outcomes, and promote assessment of collaboratives across settings and time. The components include principled engagement, shared motivation, and capacity for joint action (Emerson et al., 2012).

Principled engagement refers to ensuring the right people are involved, i.e., a representative cross-section of people and entities who have a stake in the issue. Principled engagement also emphasizes the principles of open and inclusive communication and negotiation, where individuals with diverse perspectives and knowledge work together to identify shared problems, agree on strategies to solve those problems, and agree on the purpose or scope of the collaborative.

Shared motivation refers to the interpersonal and relational elements of collaborative dynamics. Shared motivation includes the sub-components mutual trust, understanding, and commitment. It is often referred to as social capital, or the "glue" that holds groups together through networks, norms, rules, and trust that promote collective action (Pelling and High, 2005). This glue is crucial for effective collaboration; social capital is built

through investments in social relationships and can be expressed through mutual commitment of individuals and groups to common collaborative goals.

Capacity for joint action comprises four sub-components: leadership, knowledge and learning, resources, and institutional arrangements (Emerson and Gerlak, 2014). Leadership is essential for managing collaboratives, and leaders can fill many roles including convener, sponsor, public advocate, facilitator, and others. They are important for: building trust, sensemaking, bringing people together, initiating partnerships, motivating people to work together, compiling, generating, and disseminating knowledge, developing visions of and support for change, and managing conflict (Folke et al., 2005).

In a collaborative setting, participants should work together to co-create and co-develop shared understanding and knowledge through social learning; knowledge and information should be equally accessible to all members of the collaborative; and learning and knowledge should be used to inform flexible, adaptive management (Emerson and Gerlak, 2014). Social learning occurs through repeated interactions and joint problem-solving among participants. It emphasizes testing, monitoring, and reevaluating participants' assumptions and understanding of ecosystem responses and feedbacks to learn and adapt management actions (Folke et al., 2005; Lebel et al., 2010; Sharma-Wallace et al., 2018). Collaboratives often pool and share resources to accomplish tasks and get work done. These can include funding, personnel, science and technical expertise, facilitation, and coordination.

Institutional arrangements are the processes, protocols, and structures needed to manage collaboration over time, i.e., the rules of the game. Collaborative structures, processes, and protocols should be clearly understood, transparent, perceived as fair and equitable, and include mechanisms of accountability (Emerson et al., 2012; Gupta et al., 2010; Stern and Coleman, 2015). Capacity needs change through time, and the relative amount of these four capacity types is contingent upon the local context — e.g., history of conflict, people involved, purpose and objectives of the group, among others (Imperial et al., 2016).

Perceived outcomes – Our assessment focuses both on perceived "process" outcomes (e.g., did the collaborative process reduce conflict, or increase the ability to plan at a landscape scale?) and socio-economic and environmental outcomes. The outcome metrics chosen for evaluation were derived from several sources: the intent of the

FLRA of 2009 and the CFLRP, project proposals, and conversations with local, regional, and national CFLRP coordinators while developing the Common Monitoring Strategy.

Challenges or disruptions that affect collaborative performance and durability – Disruptions—i.e., personnel turnover, legal or policy changes, and biophysical disturbances like wildfires or insect outbreaks—can happen at any time. These disruptions may impact collaborative progress and performance, and/or force groups to adapt. We developed a list of common challenges that CFLRP projects and other landscape-scale forest collaboratives reported in: 1) breakout group discussions and focus group sessions at the 2020 SWERI Cross-boundary landscape restoration workshop (SWERI, 2020) and the 2020 Idaho forest collaborative shared stewardship workshops; 2) the 2020 CFLRP Collaboration Indicator Survey administered by the National Forest Foundation; and 3) a survey administered to Forest Service staff engaged in 2010 and 2012 CFLRP projects (Schultz et al., 2018). Identifying current challenges or disruptions that CFLRP projects are grappling with can support strategic investment toward solutions to maintain collaborative performance and durability.

Needs or recommendations to improve the process – We captured respondents' perspectives on needs and recommendations to improve the collaborative process by including open-ended survey questions.

Data Collection and Analysis

We developed a standardized survey in the online survey tool Qualtrics that consisted of 21, mostly closed-ended statements using a Likert scale. SWERI piloted the assessment with and elicited feedback from the Northern Blues All-Lands Restoration Partnership and Northern Blues CFLRP project participants (n=37), as well as participants of the Colorado Front Range CFLRP (n=3) in FY21 (Beeton et al., 2022).

In FY22, SWERI and the Forest Service held regionally focused webinars to introduce the assessment and identify key points of contact for each newly authorized and reauthorized project to help with recruiting participants, scheduling the assessment, and identifying project-specific questions of interest that were appended to the standardized survey, which is outlined in our standard operating procedures document.[4] Drawing on experience from Northern Blues and conversations with the next round of CFLRP projects rolling out the survey, SWERI developed a menu of 15 possible appended questions that the projects could add to the end of the standard survey to

capture additional information of interest to the project. These questions addressed collaborative structure, participation and engagement, general expectations, successes, and challenges, and acceptance of wildfire mitigation and management techniques. The points of contact also identified key informants to complete a group interview or worksheet to answer questions about collaborative function that provided context for the interpretation of results. These questions included information on collaborative governance structure, rules for participation, dispute resolution processes, defining partnership vision, methods of collaboration with the Forest Service on planning, implementation, and monitoring, and a brief history of the collaborative. The initial survey results were presented to each CFLRP project to give survey respondents the opportunity to participate in an open discussion and provide feedback for this final report.

The Forest Stewards Guild (FSG) Southwest Region provided support in selecting appended questions (see Appendix 3 for responses to appended questions for the Zuni CFLRP), recruiting participants, and administering the survey through the Zuni Mountains Collaborative listserv in November 2022. The survey was open for 8 weeks to accommodate winter holidays and closed in January 2023. We received 15 usable responses, representing 17.4% of the emailed recipients. We used the statistical software program Statistical Software for Social Sciences (SPSS) to summarize survey responses. Open-ended questions were analyzed using a thematic analysis (Ryan and Bernard, 2003). Small sample sizes prohibited further statistical analyses, though this will be possible when more data has been collected.

Findings

Our results are organized as follows. The first section includes responses related to respondents' affiliations, motivations for being involved in the CFLRP project, level of engagement, and the degree to which respondents felt the project was collaborative. We then provide a description of findings related to collaboration dynamics (i.e., **principled engagement**, **shared motivation**, and **capacity for joint action**). We provide a short description of each collaboration dynamic construct in italics to orient the reader. We follow with findings on perceived outcomes, disruptions that are challenging collaborative progress and performance, and recommendations to improve the process. Finally, we present results from the appended question set that was developed in coordination with key points of contact affiliated with the Zuni Mountains CFLRP. For scale items

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[4] https://cfri.box.com/s/hfu5cdk599j5gp5ixphm2qj7gdp4h1ef

(e.g., strongly disagree to strongly agree, progress scales), figures depict the percentage of survey participants that somewhat agree to strongly agree. This was done for consistency in visualization and ease of interpretation. For clarity, we describe majority or strong majority results as greater than or equal to 60% agreement and slight majority as greater than 50% agreement.

Introductory questions

The majority of participants represented non-governmental organizations (NGOs, 20%) and the Forest Service (27%) (Figure 1). Participants that classified themselves as "other" included a forestry contractor, private land manager, and nonprofit member. Notably, no respondents were affiliated with tribes or university/research entities, despite regular tribal participation, including Pueblo of Zuni. The most frequently reported motivations for being involved in the CFLRP project were to restore forest resiliency (67% of respondents), protect or restore fish and wildlife habitat (40%), and reduce community wildfire risk (33%) (Figure 2). The level of engagement in the CFLRP project varied among participants — 60% reported that they were moderately to highly engaged, and 40% reported low engagement (Figure 3). Those respondents who reported still being engaged in the CFLRP project recorded an average of 6 years of engagement.
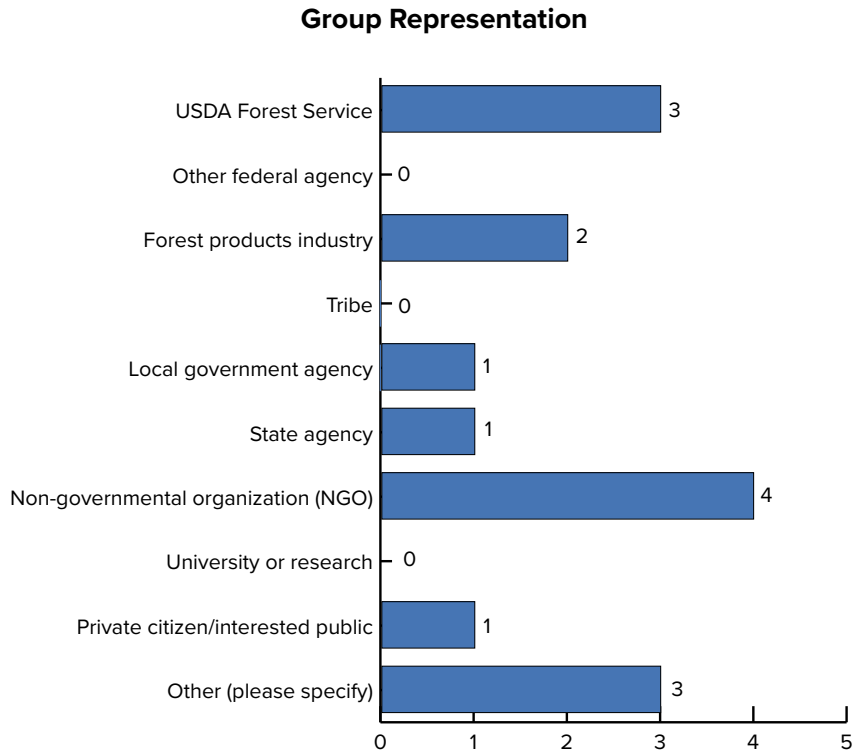
Group Representation

Figure 1: Respondents' self-identified representation with associated organizations.
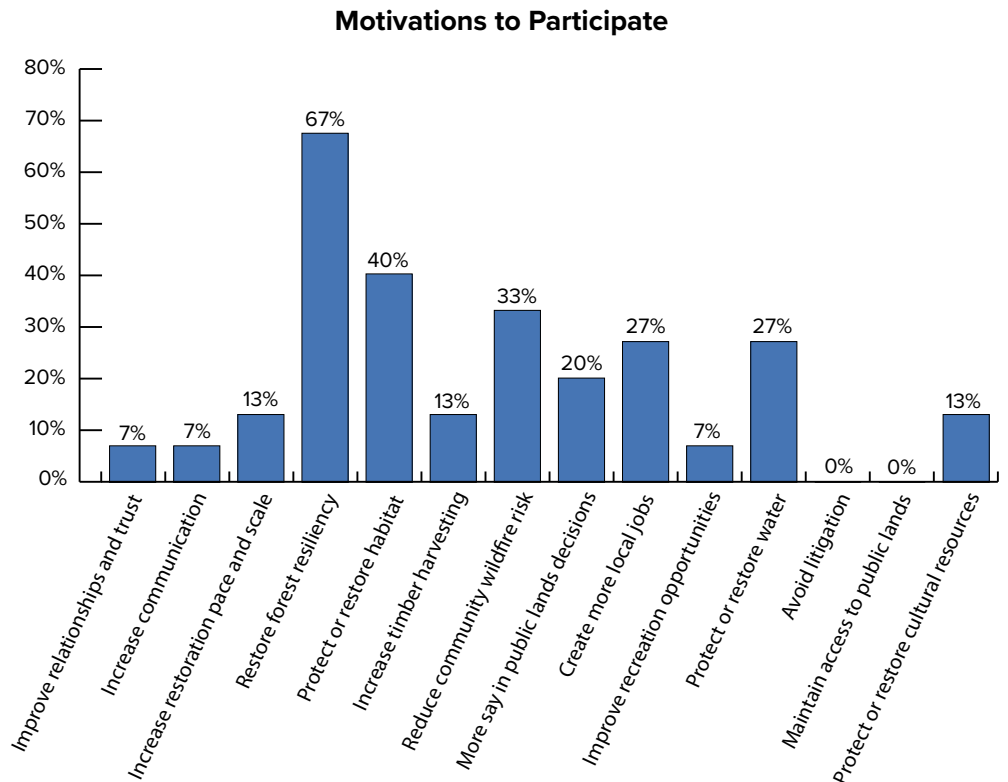
Motivations to Participate

Figure 2: Percentage of respondents who identified the associated motive as reason for their participation in the collaborative. Note – respondents were able to select multiple motives.

We asked respondents to reflect on the degree to which they thought the CFLRP project was collaborative (on a scale from not collaborative at all to very collaborative), which we defined in the survey as:

Collaboration occurs when multiple parties come together to address problems that could not be achieved by acting alone. Effective collaboration should typically include: inclusive and diverse stakeholder interaction throughout the process; venues for open communication and negotiation about values, interests, and appropriate management actions; and opportunities for social learning.

All respondents (100%) indicated the CFLRP project has been collaborative to very collaborative (Figure 4).
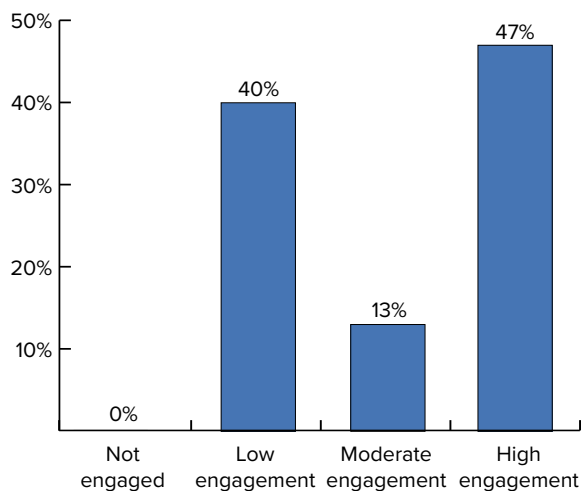
Level of Engagement

Figure 3: Percent of respondents who rated their involvement in this project as "Not engaged," "Low engagement," "Moderate engagement" or "High engagement."

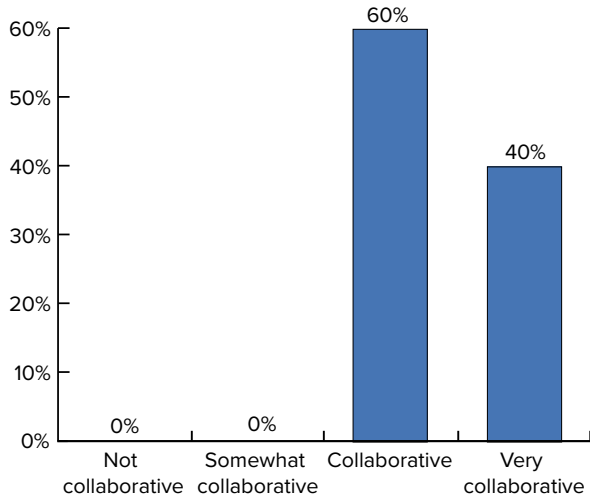**Degree of Collaboration**

Figure 4: Percentage of respondents who reported this project to be "Not collaborative," "Somewhat collaborative," "Collaborative" or "Very collaborative."

Principled engagement

Principled engagement refers to having the right people involved in iterative and inclusive dialogue to determine shared problems, identify shared strategies to solve problems, and agree to the shared purpose of the project.

All respondents (100%) agreed that a representative cross-section of individuals who have a stake in the issues and outcomes of the project were involved (Figure 5). During the presentation of initial results, however, participants noted that the survey response rate was low and some groups did not answer the survey, yet are active in the collaborative (i.e., tribes). A few participants commented that they thought the Collaborative should increase outreach to augment participation (see "Recommendations to Improve the Collaborative Process" section below). All respondents (100%) agreed to strongly agreed that participants worked together to identify shared interests and concerns, and a strong majority (93%) felt the collaborative process created a neutral space for CFLRP participants to openly discuss controversial issues (Figure 5).

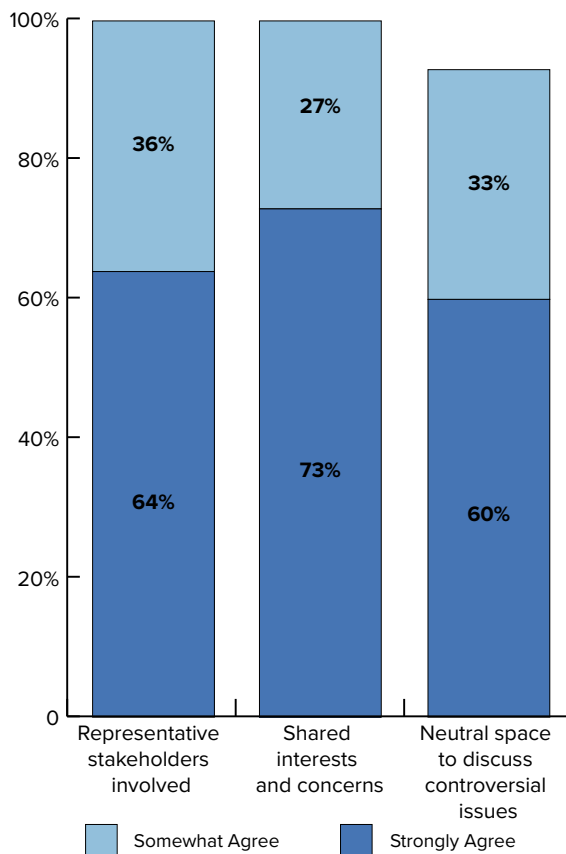**Principled Engagement:
Collaborative Environment**

Figure 5: Percentage of respondents who either "Somewhat Agree" or "Strongly Agree" that representative stakeholders are involved, stakeholders have shared interests and concerns, and the collaborative is a neutral space to discuss controversial issues.

A strong majority of respondents indicated that participants had a shared understanding of the problems that impact their landscape (85%), the strategies to solve those problems (86%), and the purpose of the CFLRP project (100%) (Figure 6).

A strong majority of respondents felt that the level of collaboration between the Collaborative and the Forest Service met their expectations during planning (e.g., environmental analysis, NEPA; 76%), implementation (e.g., post-NEPA, operations; 85%), and monitoring (86%) (Figure 7).

Shared Motivation

Shared motivation refers to trust, mutual understanding, relationship-building, and commitment to the collaborative process.

All participants (100%) agreed the collaborative process helped build trust in each other, personal and/or working relationships, and mutual respect of others' interests (Figure 8). A strong majority of participants (86%) trusted the group's ability to achieve desired actions and outcomes

(Figure 8). All respondents (100%) indicated that they were committed to the collaborative process (Figure 9). Slightly fewer but still a strong majority of respondents agreed that the Forest Service staff (82%) and other stakeholders (93%) were committed to the collaborative process (Figure 9).

Capacity for Joint Action

Capacity for joint action includes four components: collaborative leadership, knowledge and learning, resources, and institutional arrangements that support fair governance.

Leadership

Leadership is a critical component for collaborative governance. Leaders are needed to convene partners, communicate a shared vision, and motivate people to work together.

A strong majority of respondents agreed that the Collaborative had leaders who worked well with other people and organizations (87%), maintained and communicated a common vision and direction (80%), and motivated others to work together (86%) (Figure 10).
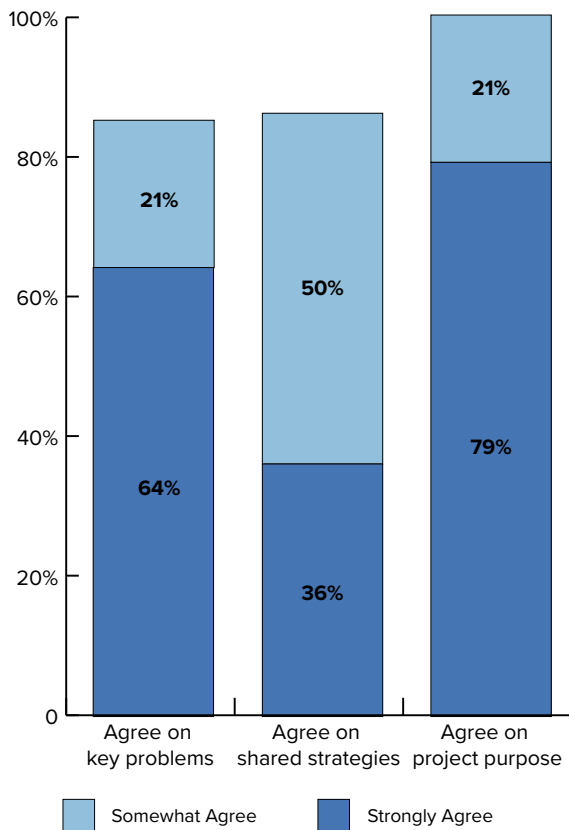

Figure 6: Percentage of respondents who either "Somewhat Agree" or "Strongly Agree" on the key problems that impact the landscape, strategies to solve problems, and purpose of the collaborative.
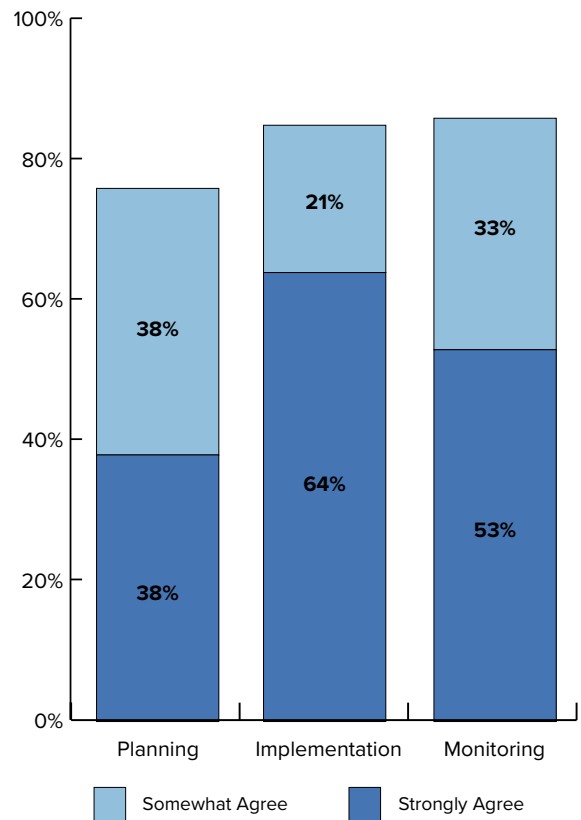
Figure 7: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that the USFS collaborates during planning, implementation, and monitoring stages.

Knowledge and Learning

Collaboratives should engage in a knowledge generation and social learning process for joint action. Knowledge should be co-produced, equally available to all partners, and be used to implement adaptive management.

A strong majority of respondents agreed that the CFLRP process provided opportunities to co-generate knowledge to learn and solve problems together (87%), and that knowledge and information were shared equally among participants (86%). A strong majority also agreed that project participants were committed to informing adjustments to management practices (e.g., adaptive management; 85%) and had flexibility to alter course when landscape conditions change (e.g., wildfire; 78%) or when the Collaborative changes (e.g., new faces, new priorities; 79%) (Figure 11). .

Resources

To accomplish tasks and get work done, collaboratives often pool and share resources, including funding, personnel time, technical expertise, and facilitation, which, in turn, can support buy-in.

A strong majority of participants agreed that the project had adequate technical expertise to carry out tasks and accomplish work (87%) and skills to facilitate collaborative engagement activities (94%). Slightly fewer but still a strong majority (74%) of respondents thought there were adequate funds to accomplish tasks. Respondents perceived the most limiting resource to be adequate time, although a majority (60%) still agreed that there was adequate time to dedicate to the CFLRP project (Figure 12).

Institutional Arrangements

Institutional arrangements are the rules of the game. They include processes, protocols, and structures needed to manage collaboration over time. They should be clearly understood, perceived as fair and equitable, and include accountability mechanisms within and between entities.
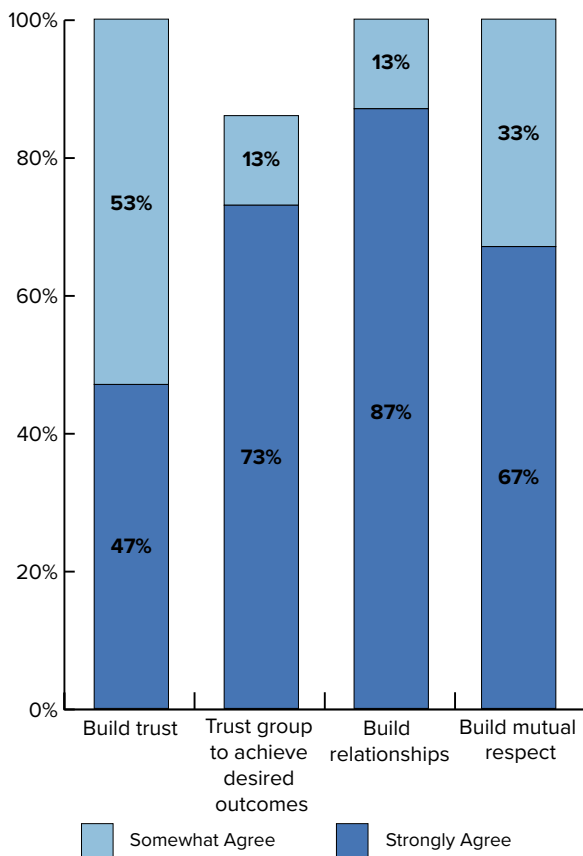
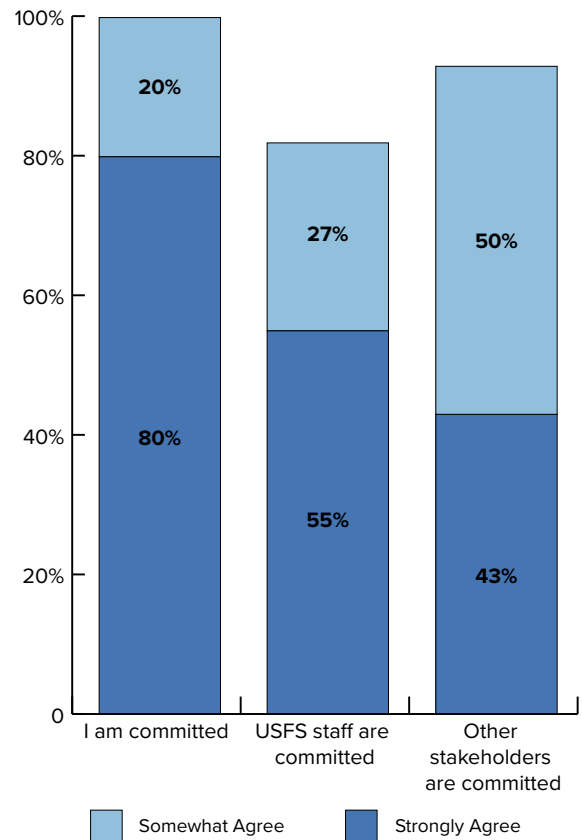Figure 8: Percentage of respondents who either "Somewhat Agree" or "Strongly Agree" that the collaborative process has helped build trust, relationships, and mutual respect, as well as the extent to which participants trust the group to achieve desired outcomes.

Figure 9: Percentage of respondents who either "Somewhat Agree" or "Strongly Agree" that they, the USFS, and other stakeholders are committed to the process.

A strong majority of survey respondents agreed there were protocols (e.g., decision rules, charters, memoranda of understanding) in place that promoted accountability among CFLRP participants (78%) and between the Forest Service and CFLRP project participants (84%) (Figure 13). Similarly, a strong majority agreed those protocols were fair and equitable (75%) and used appropriately (88%) (Figure 13). A smaller majority agreed that these protocols were clearly understood (63%) (Figure 13). One commenter noted,

We're kind of a loosely structured Collaborative, but it seems to work for us. When people have been upset, they've been able to approach us, and we've been able to work through it and manage adaptively. … I think we would benefit from being a little more rigid on certain things, but I think the fact that we haven't had a whole lot of complaints and we continue to be successful in getting acres treated – – 'if it ain't broke, don't fix it' sort of a strategy.

They also noted that when issues arose, the Collaborative put in effort to "striking while the iron's hot" and engaged with key players to fix issues before they increased, such as developing large tree retention strategies and marking guidelines.

A strong majority of respondents felt that project participants understood when and what collaborative input was useful to inform Forest Service decisions (75%) and that the Forest Service was responsive to collaborative input (80%). A slight majority (54%) agreed that the agency was clear with CFLRP project participants about the decisions they made and why they made them (Figure 14).

Outcomes

We assessed perceived progress on process, socio-economic, and ecological outcomes for the Collaborative. The Zuni Mountains CFLRP originally received funding in 2012 and was approved for an extension in 2022, so there have been 10 years of funding to influence significant outcomes.

A majority of respondents agreed to strongly agreed that the collaborative process enhanced communication (93%),

Capacity for Joint Action: Leadership
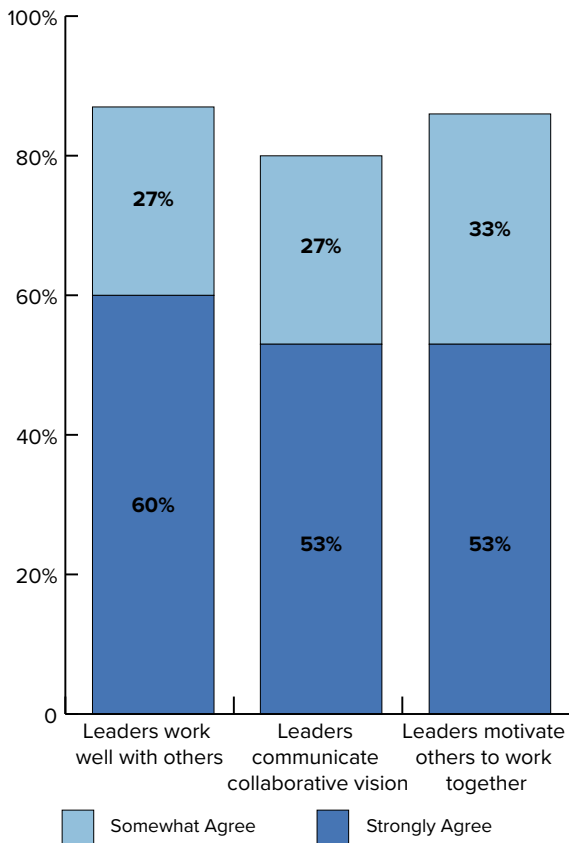
Figure 10: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that the leaders work well with others, communicate a common vision and direction, and motivate others to work together.

Capacity for Joint Action: Knowledge

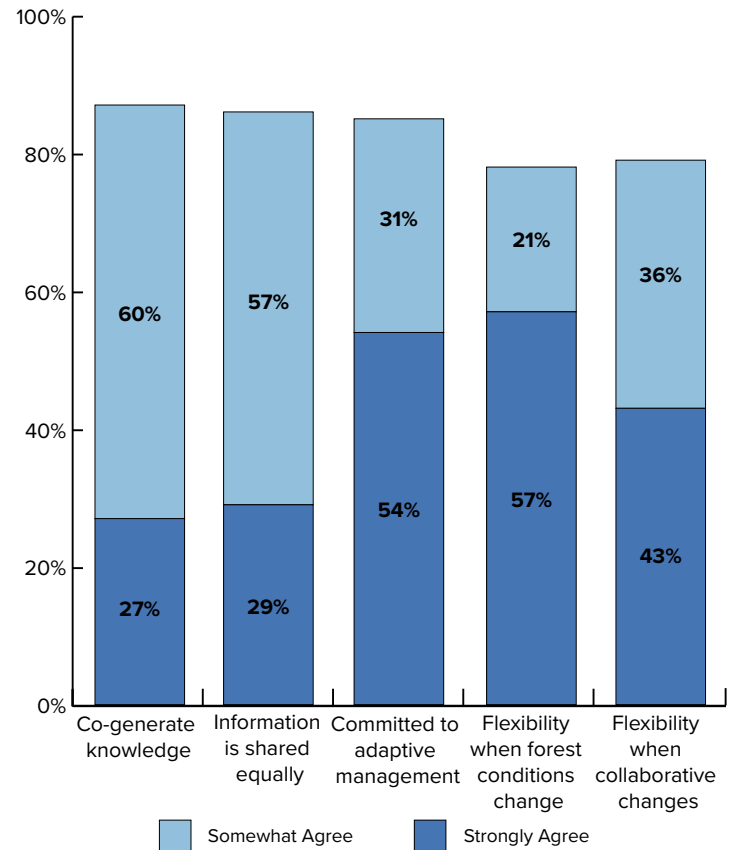Figure 11: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that knowledge and information is co-generated by participants, shared equally, and used by participants to adjust management practices.

minimized conflict (86%), enhanced decision-making (76%), included diverse perspectives (93%), minimized litigation (85%), enabled landscape-scale planning (85%), and enabled cross-boundary planning (74%) (Figure 15).

Key points of contact for the survey administration opted to also ask what factors contributed to the success of the CFLRP collaborative process. The most common response (4 respondents) was that good people were involved in the partnership and communicated openly — specific entities mentioned included the FSG, the Forest Service, nonprofits, and public citizens involved in the Collaborative and monitoring. A couple of respondents expressed appreciation for the role the FSG has played:

Partnering with the Forest Stewards Guild early in the process, prior to the initial CFLRP proposal in 2011–12, has proved invaluable in garnering and maintaining support of the collaborative, as well entering into a monitoring agreement that involves multiple parties and provides credible feedback on progress effectiveness.

Others emphasized that the CFLRP project has been successful because of a shared goal and desire to see the project succeed among partners (2 respondents), and effective coordination among the Forest Service, logging companies, and local mills (2 respondents). Other individual respondents noted the importance of steady staffing and funding, a monitoring agreement with multiple partners, and regular meetings and activities that maintain stakeholder interest (i.e., biannual meetings, annual field trip, volunteer monitoring opportunities). Several respondents were very positive on the outcomes of the CFLRP process:

The acres that are being treated and the restoration that is taking place is fantastic.

Our local timber business would not be functioning if the CFLRP were not thriving.

Capacity for Joint Action: Resources
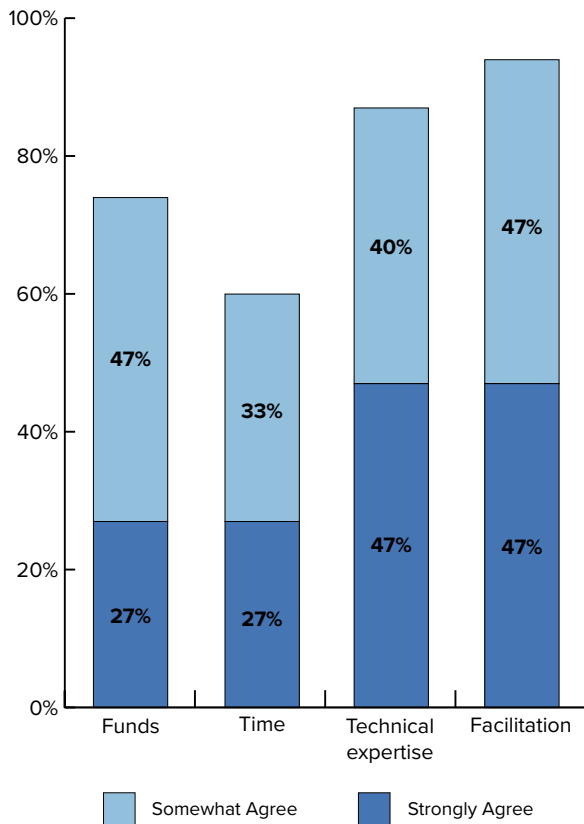
Figure 12: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that the collaborative has adequate: funds, time, technical expertise, and facilitation skills to accomplish work.

Capacity for Joint Action: Process and Accountability
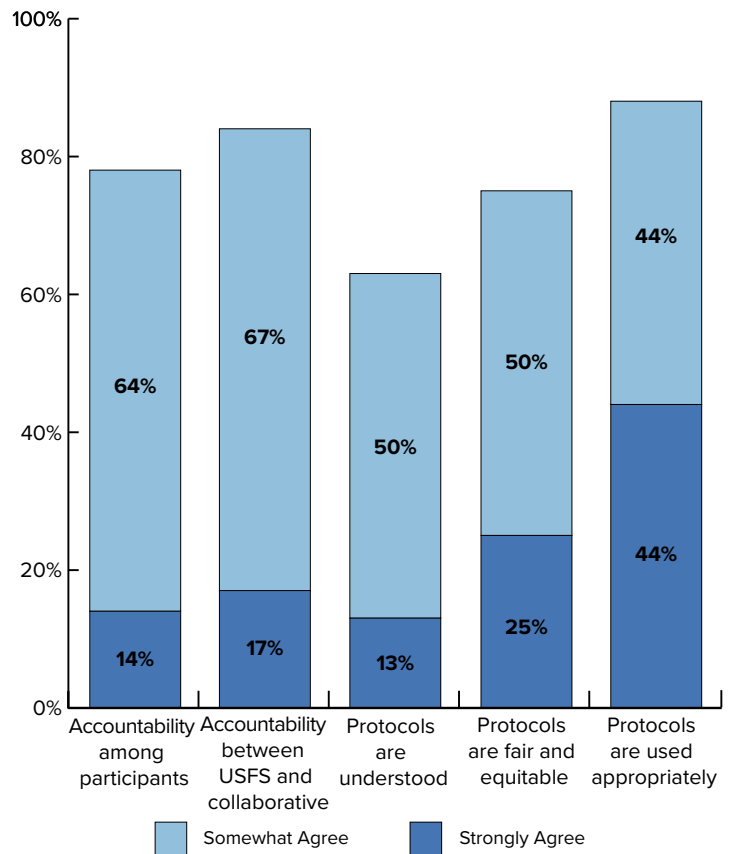
Figure 13: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that protocols promote accountability among participants, between USFS and the collaborative, and that protocols are understood, fair and equitable, and are used appropriately.

With regards to ecological goals, all respondents (100%) agreed that the CFLRP project has made moderate to substantial progress on improving or maintaining the pace and scale of restoration, reducing fuel hazard through treatments (e.g., thinning, fuel breaks), and improving or maintaining watershed function (e.g., aquatic habitat, water quality, soil productivity) (Figure 16). Strong majorities reported progress in meeting the ecological goals of restoring old growth stands (92%), improving the use of planned or unplanned wildfire (e.g., prescribed or managed; 77%), and improving habitat for focal species or species of conservation concern (93%) (Figure 16). Fewer but still a strong majority of respondents (67%) agreed that the project has made progress on treatment or control of invasive aquatic or terrestrial species (Figure 16).

Respondents felt that the CFLRP project was similarly achieving a high level of success on socio-economic goals. All respondents (100%) agreed that the CFLRP project has made moderate to substantial progress on reducing community wildfire risk (Figure 17). A strong majority of respondents said that there has been moderate to substantial progress made in offsetting treatment costs with restoration byproducts (e.g., woody biomass; 92%), supporting local employment or training opportunities (e.g., forest products industry, youth/citizen science; 93%), and accomplishing more work on adjacent lands under non-federal jurisdiction (90%).

Disruptions

We developed a list of common challenges that CFLRP projects and other landscape-scale forest collaboratives reported in: 1) breakout group discussions and focus group sessions at the 2020 SWERI Cross-boundary landscape restoration workshop (SWERI, 2020) and the 2020 Idaho forest collaborative shared stewardship workshops; 2) the 2020 CFLRP Collaboration Indicator Survey administered by the National Forest Foundation[5]; and 3) a survey administered to Forest Service staff engaged in 2010 and 2012 CFLRP projects (Schultz et al., 2018). Based on that list, for the Zuni Mountains Collaborative, frequent turnover (62% of respondents reported this was a moderate to significant challenge) and biophysical disruptions (69%) were the most substantial challenges faced at the time of this survey (Figure 18). Half of respondents (50%) thought limited agency and wood products industry capacity were also moderate to significant challenges (Figure 18).

We also asked respondents what additional disruptions have impacted the collaborative performance and durability. The two most common responses were the Mexican spotted owl (MSO) injunction that limited certain timber management activities on southwestern national forests from 2019 to 2020 (4 responses) and seasonal forest closures to certain forest restoration activities due to fire restrictions (4 responses). Commenters noted that these disruptions both delayed treatment and affected restoration-related businesses and long-term workforce availability. One respondent described the impact of the MSO decision:

> *The MSO injunction was a huge setback for mechanical and prescribed fire treatments. It was also huge challenge to the restoration businesses (cutting, trucking, wood processing), which has trickle effects to the workforce sustainability.*

Some respondents noted when large fires took place in other parts of the state (e.g., the Hermit's Peak/Calf Canyon Fire), local forest operations in the Zuni Mountains

Capacity for Joint Action:
USFS Process and Accountability

Figure 14: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that they understand how to inform USFS decisions, the USFS is responsive to feedback, and the USFS is clear about their decisions.

5 CFLRP Collaboration survey administered by the National Forest Foundation — www.nationalforests.org/assets/pdfs/Collaboration-Indicator-Survey-Results-2020-publish.pdf
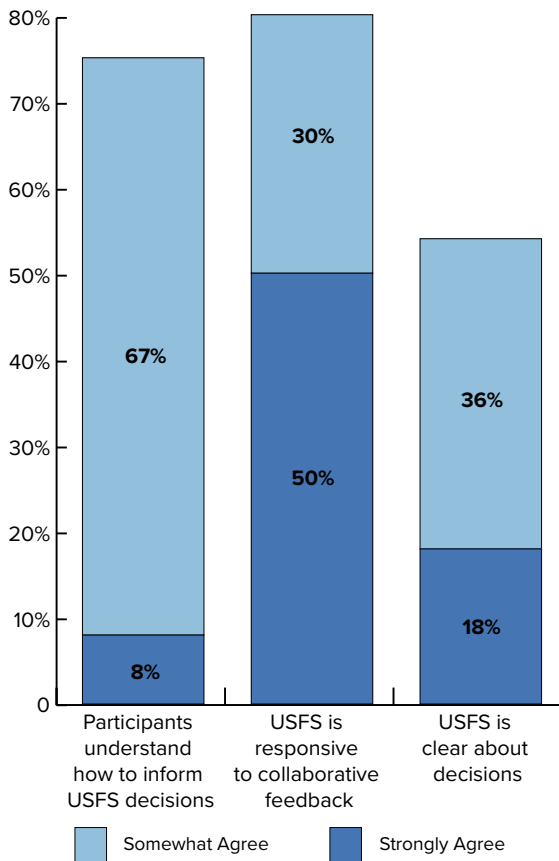
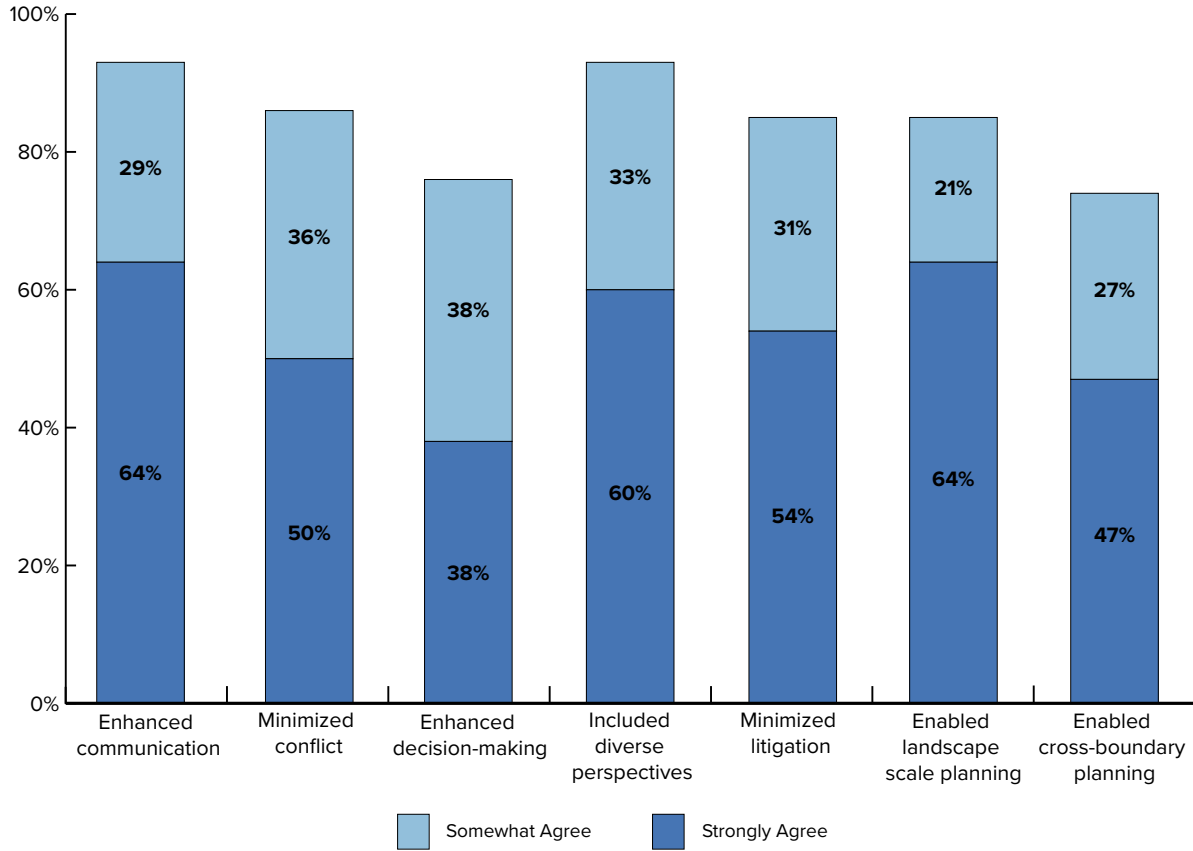## Perceived Outcomes: Collaborative Process

Figure 15: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that the collaborative process has impacted the function and capacity of the collaborative.

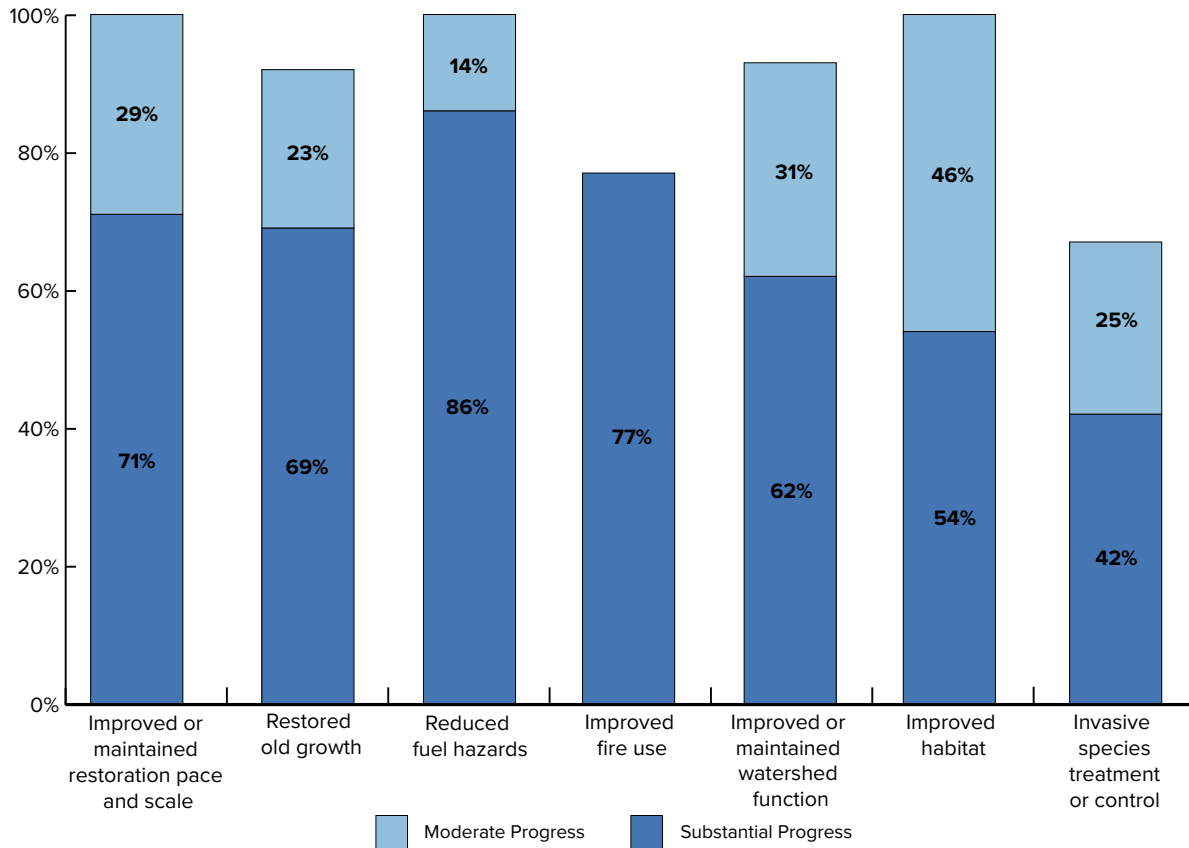## Perceived Outcomes: Ecological Goals

Figure 16: Percent of respondents who reported "Moderate progress" or "Substantial progress" towards ecological goals.

CFLRP footprint were shut down due to fire risk. A couple of respondents were critical that a Stewardship Agreement with the National Wild Turkey Federation did not use a fire restriction waiver to continue operations. Two respondents expressed frustration with what they perceived to be overly cautious restrictions on forest operations:

> *The Zuni project was shut down because of fires hundreds of miles away. We were dry, but the history of forest restoration crews starting fires is next to none. The decision to function needs to be on the local level. Not a blanket decision.*

> *Forest Service blanket shutdown of forest this spring stopped all operations on the CFLRP due to the Turkey Federation not allowing [a] contractor to work, even though the Forest Service was willing to provide an exemption due to the significant amount of moisture in the area. This cost the mill and contractor involved thousands of dollars along with employees getting laid off.*

Other common disruptions included a lack of sufficient workforce (i.e., truck drivers; 2 responses) and weather conditions causing inconsistent harvesting schedules (2 respondents). Other individuals mentioned the challenges of the COVID-19 pandemic, a rapidly changing climate, Forest Service funding distribution delays, and Forest Service personnel traveling during fire season.

In response to these challenges, several respondents said that the collaborative took action. Four respondents noted that the collaborative pivoted during the MSO injunction to support the wood products industry with materials from non-federal lands not limited by the injunction. For example, two noted:

> *The Spotted Owl Stop work order … could have ended the local wood products industry and had a huge impact on the CFLRP. Thank heavens the state and private landowners had logs during the court order.*

> *This collaborative did an excellent job of finding other restoration work to do on non-FS lands during the MSO settlement to keep the local mills and loggers employed.*

Other individual respondents thought that additional actions helped address these disruptions, including flexibility in agreements, hiring an inspector for the National Wild Turkey Federation, and changing Forest Service personnel for the better. One commenter believed that CFLRP leadership has been great and nothing more could be done, yet another said nothing had been done to address the issues. Others called out the need for a consistent wood supply for the industry to be able to plan (4 respondents) and that declining wildlife (i.e., native bees and pinyon jays) is still an issue. One respondent expressed a common concern for the sustainability of the local wood products industry:

> *The local lumber mill has a hard time making a profit on small-diameter trees cut during thinning. Only a small family operation deals with the thinning. They have a hard time making a profit. They and the lumber mill need the stability of having a long-term (at least 10 years) funding set up. They need to know the work is there so that they can invest ahead of time in equipment, etc.*

Recommendations to Improve the Collaborative Process

We asked participants to suggest recommendations to improve collaborative process, durability, and performance. Based on open-ended responses and the quantitative data reported herein, we identified four key themes for improvement. On average, just over half (53%) of respondents included answers for
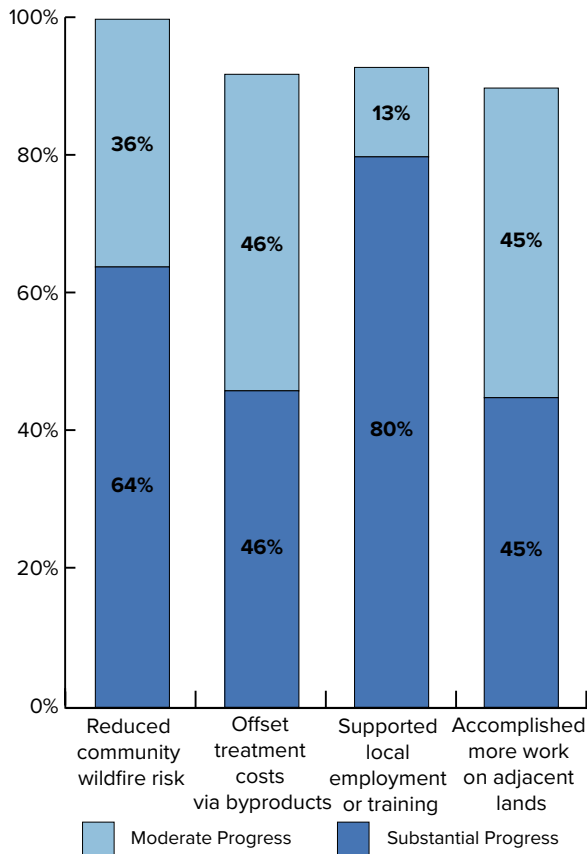

Perceived Outcomes: Socio-Economic Goals

Figure 17: Percent of respondents who reported "Moderate progress" or "Substantial progress" towards socio-economic goals.

open-ended questions. These recommendations included: 1) increasing stakeholder participation, engagement, and outreach; 2) enhancing understanding of restoration work; 3) increasing collaborative personnel capacity; and 4) continuing to support flexible approaches. We expand on these themes by also drawing on follow-up discussions with the Collaborative and its leaders in January and April 2023.

Increase stakeholder participation, engagement, and outreach

Two respondents to the survey recommended increasing participation and engagement from those not actively involved in the collaborative, particularly potential local partners because many active participants lived in nearby cities (i.e., Santa Fe), rather than adjacent to the CFRLP footprint. One recommended more outreach to local residents:

Reaching out more often to local residents of the Zuni Mountains would be useful, but I know that this has been done, with little result. Local residents, at least in the eastern Zuni Mountains, are difficult to motivate. Internet access for many is limited, and they tend to count on those from out of the area to advocate for their interests. This makes it hard for those of us who have to drive a long way to participate.

Another recommended that stakeholders could increase participation in volunteering and monitoring. As the Collaborative enters its second 10-year cycle of funding, it has already examined governance and participation closely. A FSG coordinator has reached out to former Collaborative members and asked why they no longer engage and if they have interest in returning to the Collaborative. At one of the in-person 2023 Collaborative meetings, time was set aside to explore how to make the Collaborative more inclusive through seeking more input from the Collaborative group and more participation from new partners. Participants in this meeting indicated that there were key groups who participated in the Collaborative (i.e., the Pueblo of Zuni) who did not answer the survey; thus, the low survey response rate may exclude some key voices or heterogeneity of responses.
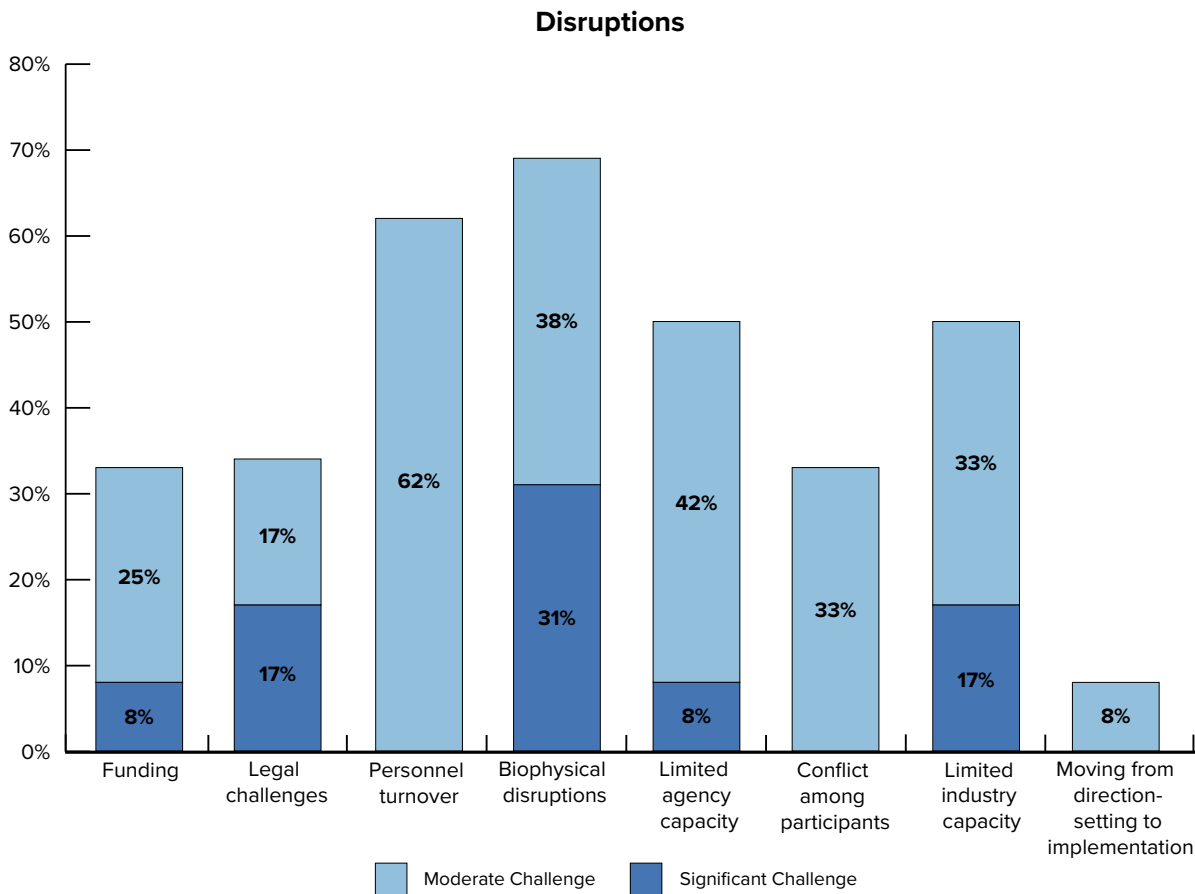

Disruptions

Figure 18: Percent of respondents who reported disruptions posed "Moderate challenges" or "Substantial challenges" to collaborative performance and durability.

Enhance understanding of restoration work

In offering recommendations, two respondents said there was a lack of clarity on: 1) converting Forest Service seasonal to permanent employees and how that affects fuels crew staffing; and 2) the details of the process of moving materials off the forest and into wood products. Additional survey answers indicated the need for more transparency. Only a slight majority (54%) agreed that the Forest Service was clear with project participants about the decisions they made and why (Figure 14), and 63% of respondents thought that collaborative protocols were understood — lower agreement than many responses in the survey results (Figure 13). There could be more transparency in decision-making processes and education on how components of the collaborative process and forest management activities function. In-person meetings, field trips, and monitoring opportunities can play an important role in this communication.

Increase collaborative personnel capacity

Respondents noted the challenges of lack of time (Figure 12), personnel turnover (Figure 18), and limited capacity within the agency and the local wood products industry (Figure 18). Respondents recommended that leadership skills could be further developed for young staff leading the project. Another respondent argued that there should be more staff botanists and biologists for monitoring with the Forest Service and FSG.

Continue to support flexible approaches

The most commonly mentioned disruptions to achieving collaborative goals were the MSO injunction and seasonal fire-related forest closures that halted work on Forest Service lands. Several commenters said that the Collaborative pivoted and supported the forest industry through work on non-federal lands. One respondent's recommendation was to keep decision-making local to avoid forest closures related to fire risk in other parts of the state. Another respondent noted:

> *The CFLRP has been a mainstay for our local sawmill during continuous operation. The interruptions of state (COVID) and federal (Mexican Spotted Owl injunction) could have shut down the industry. There needs to be a way for local business to predict potential material. There is no way to get loans from a bank or such with not reasonable way to predict product.*

The need to shift forest operation location coincided well with the 2019 passage of the Forest and Watershed Restoration Act in New Mexico, which enabled additional funding for watershed restoration on private lands in the CFLRP landscape. Survey respondents reiterated the importance of a steady and predictable supply of work for the local wood products industry to continue in the area, and the difficulty in long-term planning with annual congressional approval processes. Open-ended responses indicated that the Collaborative is well aware of these challenges of working on federal lands and has remained flexible to continue forest restoration efforts. These approaches should continue and expand.

Other Recommendations

Additional recommendations included moving activities beyond the current borders of the Collaborative footprint, although 74% of respondents agreed that the collaborative process has already enhanced cross-boundary planning (Figure 15).

Another commenter made sure to note that the CFLRPs should not be evaluated on profitability, which is challenging in this area, but rather that restoration and wildlife protection should be the priorities:

> *I don't think these CFLRPs should be judged on being profitable in terms of forest products; I think it is much more essential that the forests be returned to a viable state to deal with natural wildfire regimes. I also think protection of wildlife, both flora and fauna, is much more important. Long term forest health is not cheap, but so worth doing.*

Discussion and Conclusions

The Southwest Ecological Restoration Institutes (SWERI) deployed an online survey to the Zuni Mountains CFLRP and Zuni Mountains Collaborative in the winter of 2022–2023 to assess collaborative health, function, and resilience, as well as perceived outcomes of collaborative work. Specifically, we assessed: whether the CFLRP project exhibited characteristics generally associated with healthy, well-functioning, and resilient collaboratives; the extent to which the project has made progress on meeting process, socio-economic, and ecological outcomes; what challenges or disruptions affected collaborative performance and durability; and actionable recommendations to improve the collaborative process from respondents' perspectives. The assessment serves as the collaboration assessment for the CFLRP Common Monitoring Strategy (question #12).

Overall, a strong majority agreed on almost every indicator that the Collaborative members worked well together and accomplished their goals. In fact, 100% of respondents thought the CFLRP process was collaborative overall. The response rate for the survey was lower than desired, however, and responses from key partners such as tribes or academic/research communities were

missing. Although all survey respondents agreed that a representative cross-section of individuals who have a stake in the issues are involved in the collaborative, a few commenters recommended increasing outreach and broadening participating groups, and the Collaborative addressed this issue in its 2023 meetings. Including additional participants can help strengthen the Collaborative's adaptive capacity by encompassing a diversity of interests, perspectives, capacities, and proposed solutions from a variety of partners and creating redundancies, making collaborative functioning more resilient process (Beeton et al., 2022; Folke et al. 2005; Gupta et al. 2010).

Respondents strongly agreed that there was shared understanding of the purpose of the CFLRP project, key problems impacting the landscape, strategies to solve them, and that there was a neutral space to discuss difficult issues. Most respondents' expectations were met in collaborating with the Forest Service in planning, implementation, and monitoring. Respondents also overwhelmingly agreed that the collaborative process helped build trust, relationships, and mutual respect. A strong majority of respondents trusted the group to achieve desired outcomes and believed that they and other partners were committed to the collaborative process. Mutual commitment, especially among those with decision-making authority, is critical for collaborative durability. The Forest Service retains decision-making authority in treatment planning and implementation on Forest Service-managed land. The agency also gives substantial discretion in decision-making to local units; thus, it is often up to Forest Service unit-level line officers to make collaboration a priority by providing staff, resources, etc., or not (Beeton et al., 2022).

Survey respondents had high agreement that capacity for joint action was strong. The perception of leadership was very positive, with a strong majority of respondents indicating that leaders worked well across organizations and entities, helped maintain a common vision, and motivated others to work together. A strong majority of respondents also perceived knowledge co-production positively, agreeing that there were opportunities to co-generate knowledge and share information, work toward adaptive management, and be flexible when there were landscape or collaborative personnel changes. Respondents agreed there was flexibility in joint action when there were changes to the landscape. This was particularly meaningful because the Collaborative had recently dealt with the Mexican Spotted Owl (MSO) injunction and fire restrictions necessitating shifts in restoration treatments, and this flexibility corresponded with several positive qualitative comments on actions

taken to keep the mills running when forest operations on federal lands were shut down. Respondents felt that the Collaborative had adequate technical expertise, facilitation skills, and funds. There was also strong agreement that collaborative participants were held accountable and protocols were fair, equitable and used appropriately, even if protocols were somewhat informal in this Collaborative. Participants also largely understood how to give input to the Forest Service and thought the Forest Service was responsive.

A strong majority of respondents indicated that the CFLRP project was moving toward achieving desired collaborative, ecological, and socio-economic goals. Several factors were identified as facilitating this forward movement, such as having good key people involved in the Collaborative, open communication among organizations and entities, and strong coordination between the Forest Service and wood products industry.

Respondents indicated a few areas where there was room for improvement. While the majority still agreed that there was adequate time to complete needed tasks, there was less agreement than in many other survey indicators (60%). A smaller majority also agreed that collaborative protocols were clearly understood (63%). Only a slight majority (54%) found Forest Service decision making clear, and a couple commenters noted the difficulty in understanding the entire decision-making process or how recent Forest Service employment policy changes affect staffing.

The Collaborative has dealt with several disruptions, with most respondents indicating that frequent turnover, biophysical disruptions such as wildfire, limited agency capacity, and limited wood products industry capacity were the most significant challenges. Qualitative comments also indicated that forest closures due to the MSO injunction and fire restrictions, inadequate workforce, and variable weather conditions also posed challenges. Turnover in particular can undermine relationships and trust, slow progress, and lead to lost institutional knowledge (Beeton et al., 2022; Coleman et al., 2020). Collaborative engagement is often not part of primary job duties for agency staff; when combined with vacant positions and multiple, sometimes conflicting, mandates and priorities, agency staff may not have the capacity to engage to the extent that stakeholders expect or desire (Beeton et al., 2022). The impact of high turnover can be alleviated through redundancies and overlapping job duties to create continuity (Beeton et al., 2022). The Collaborative was already displaying strong adaptive capacity through the flexibility of arrangements and operations, namely utilizing new state-wide legislation

and Collaborative partnerships to pivot to forest restoration work on non-federal lands during forest closures.

Questions formulated specifically for the Zuni Mountains CFLRP also indicated a few important themes. There is strong support among participants for a variety of forest management strategies, including reintroducing and maintaining fire on the landscape, despite the recent Hermit's Peak/Calf Canyon Fire (see Appendix 3).

Respondents also noted that their preferred forms of engagement were quarterly in-person meetings and field trips. Field trips are a critical component of social learning because they provide opportunities for groups to let their guard down and come to common understandings. Field trips can help illustrate how restoration principles translate to operations on the ground (a challenge one respondent noted) and allow collaborative groups to provide feedback on restoration treatments. Joint fact-finding during field trips — where stakeholders work together to co-generate local knowledge and translate it into decision-making — provides opportunities to develop contextual understanding of local landscapes to support decisions. Documenting this learning and knowledge exchange is critical to maintaining transparency, equity, and institutional knowledge (Beeton et al., 2022; Cheng et al., 2015).

Four key recommendations emerged from the survey's open-ended comments, presentation of preliminary results to the Collaborative, and group interview with key players. First, the Collaborative was already investigating how to increase stakeholder participation, engagement, and outreach, especially with local residents. This was particularly important, as the low response rate to this survey and the lack of participation by some key players indicated room to grow in active collaboration. Secondly, participants indicated a need to enhance understanding of restoration work, including increasing transparency in Forest Service decision making and hosting informative field trips. Third, the Collaborative could use an increase in personnel capacity, as personnel turnover was a documented disruption, and action was limited by time constraints and agency and wood products industry capacity. Commenters recommended the development of young staffers' leadership skills and the addition of botanical expertise within the FSG and the Forest Service. Lastly, the Collaborative should continue to support flexible approaches. Several commenters noted the challenges of the MSO injunction and fire restrictions, but also acknowledged how the Collaborative was able to pivot to maintain mill supply.

This report provided a baseline assessment of collaborative health and performance among the Zuni Mountains Collaborative. Collaboratives are dynamic — they continue to adapt and evolve as needs or priorities change, and in response to internal and external disruptions (Imperial et al., 2016). Thus, it is important to continue to self-assess collaborative progress, durability, and resilience, so that groups can identify what is working well, what may need some work, and what support and/or guidance is needed to address challenges to maintain performance. The SWERI will continue to engage in assessing collaborative health and performance of CFLRP projects. There will be multiple opportunities locally, regionally, and nationally for peer-networking and learning events to share successes and challenges and learn together about how to encourage healthy, durable, and resilient collaboration.

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Appendix 1. CFLRP Brief

CFLRP collaborative governance assessment: Summary of findings for the Zuni Mountains Collaborative and CFLRP

CFLRP collaborative governance assessment: Summary of findings for the Zuni Mountains Collaborative and CFLRP

The Southwest Ecological Restoration Institutes (SWERI) developed a collaborative governance assessment as part of the U.S. Department of Agriculture Forest Service (Forest Service) Collaborative Forest Landscape Restoration Program (CFLRP) Common Monitoring Strategy.[1] The collaborative governance assessment was designed to evaluate collaborative health, function, resilience, and perceived outcomes of collaborative work. The SWERI administered an online questionnaire to members of the Zuni Mountains Collaborative, the official collaborative of the Zuni Mountains CFLRP, in the winter of 2022–2023. We received 15 usable responses (17% response rate). Figure 1 illustrates what groups were represented in the questionnaire. The purpose of this brief is to:

- Summarize high-level findings from the collaborative governance assessment; and
- Document participants' recommendations to improve collaborative performance and progress.

together and accomplished their goals. Most respondents thought their expectations were met in collaborating with the Forest Service and that the agency was responsive to input (Figure 2). Respondents also overwhelmingly agreed that the collaborative process helped build trust and relationships. A strong majority perceived of leadership positively and agreed that there were opportunities to co-generate knowledge, work toward adaptive management, and be flexible in the face of landscape or collaborative personnel changes. Respondents felt that the Collaborative had adequate technical expertise, facilitation skills, and funds, yet a smaller majority thought there was adequate time. There was also strong agreement that collaborative participants were held accountable and protocols were fair, equitable and used appropriately, even if they were relatively informal. Smaller majorities agreed that collaborative protocols were clearly understood and that Forest Service decision making was clear (Figure 2).
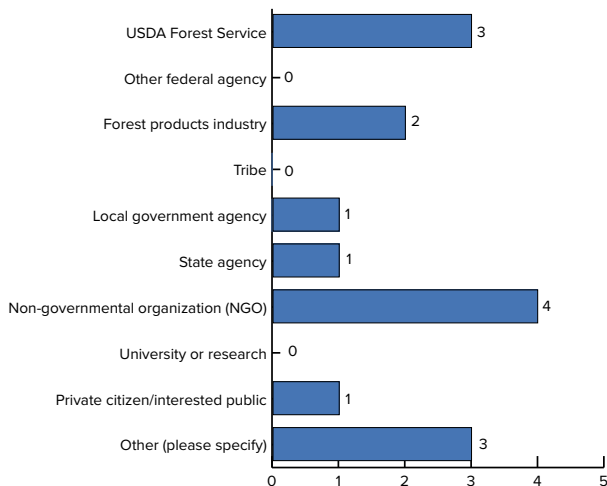
Group Representation

Figure 1: Respondents' self-identified representation with associated organizations (n=15).

Findings

What is working well for the Zuni Mountains CFLRP?

Overall, a strong majority of respondents agreed on almost every indicator that the Collaborative members worked well

**Capacity for Joint Action:
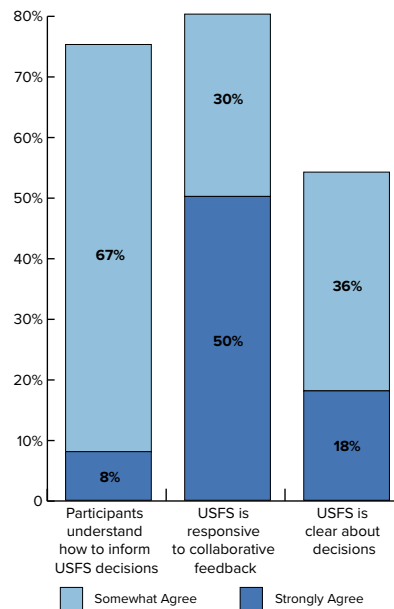USFS Process and Accountability**

Figure 2: Percentage of respondents who either "Somewhat Agree" or "Strongly Agree" that they understand how to inform Forest Service decisions, the Forest Service is responsive to feedback, and the Forest Service is clear about decisions.

## What disruptions and challenges have affected collaborative progress and performance?

The collaborative has dealt with several disruptions, with most respondents indicating that frequent turnover, biophysical disruptions such as wildfire, limited agency capacity, and limited wood products industry capacity were the most significant challenges. Qualitative comments also indicated that forest closures due to the Mexican spotted owl injunction and fire restrictions, inadequate workforce, and variable weather conditions also posed challenges. The Collaborative was already displaying strong adaptive capacity through the flexibility of arrangements and operations, namely utilizing new state-wide legislation and Collaborative partnerships to pivot to forest restoration work on non-federal lands during forest closures.

Progress toward desired process, socio-economic, and ecological outcomes

A strong majority of respondents indicated that the CFLRP project was moving toward achieving a variety of desired collaborative process (Figure 3), ecological, and socio-economic goals, including but not limited to:

- Enhancing communication and including diverse perspectives.
- Improving or maintaining watershed function and the pace and scale of restoration and reducing fuel hazard.
- Reducing community wildfire risk and supporting local employment or training opportunities.

Several factors were identified as facilitating this forward movement, such as the involvement of key people, open communication, and strong coordination between the Forest Service and wood products industry.
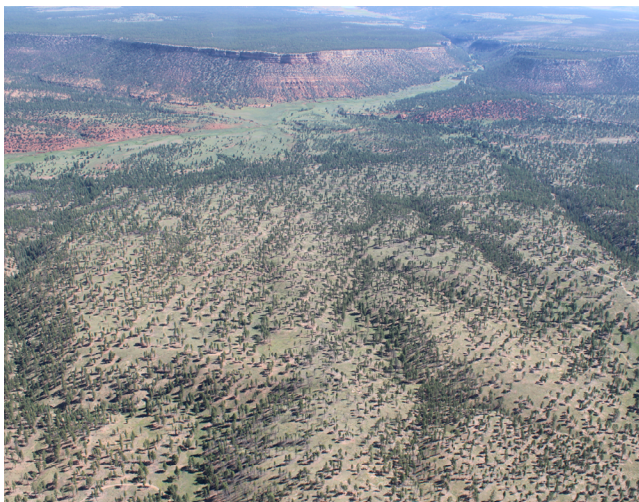
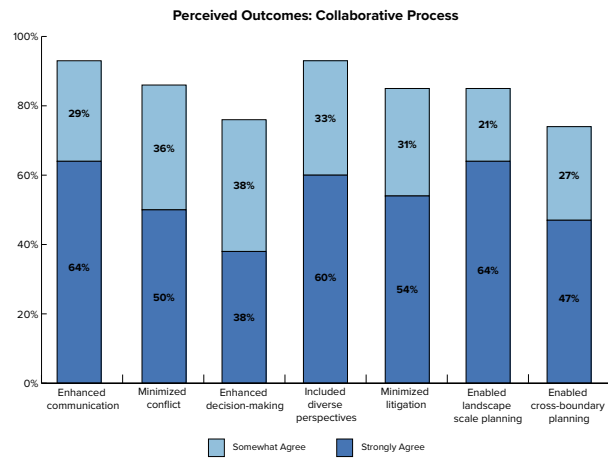Zuni Mountains landscape (Source: John Formby, USFS Forest Heath Protection.).

Figure 3: Percent of respondents who either "Somewhat Agree" or "Strongly Agree" that the collaborative process has impacted the function and capacity of the collaborative.

Recommendations to improve the collaborative process and performance

Respondents provided a number of recommendations to improve the collaborative process and performance, including:

- Increase stakeholder participation, engagement, and outreach, especially with local residents. The questionnaire had a low overall response rate, with a lack of participation by key players; the Collaborative is already expanding their efforts to include more participants.
- Enhance understanding of restoration work including increasing transparency in Forest Service decision making and hosting informative field trips.
- Increase collaborative personnel capacity as personnel turnover was a documented disruption, and action was limited by time constraints and agency and wood products industry capacity. Commenters recommended the development of young staffers' leadership skills and the addition of botanical expertise.
- Continue to support flexible approaches, building on successful collaborative pivoting to maintain mill supply during the Mexican spotted owl injunction and fire restrictions.

Next steps

Results from this questionnaire provided a baseline assessment of collaborative governance among the Zuni Mountains CFLRP. The SWERI will continue to engage in assessing collaborative health and performance of CFLRP projects, the goal of which is to identify where capacities lie and areas for improvement to target investments and activities that support resilient and durable collaboration.

Appendix 2. SWERI presentation to the Zuni Mountains Collaborative

The document can be found online at: https://cfri.box.com/s/gzoow6oumpjqa9vkdnb061u6vzsqre4h

SWERI Southwest Ecological Restoration Institutes

Northern Arizona University | Colorado State University | New Mexico Highlands University

CFLRP collaborative governance survey:
Summary of findings for the Zuni Mountains Collaborative

Niki vonHedemann[1], Tyler Beeton[2], Melanie Colavito[1], Tony Cheng[2], and Adam Snitker[2]

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April 11, 2023

Objectives for Today   SWERI

- Background on the survey development and rollout

- Show survey results on a few key themes:
  1. Motivations for involvement
  2. Aligning expectations
  3. Capacity for joint action
  4. Perceived outcomes of the collaborative process
  5. Challenges and disruptions
  6. Factors that contribute to collaborative success
  7. Acceptable forest management strategies

- Next steps and deliverables

- Discuss if/how results resonate with the collaborative and feedback on the survey

Background and Context
## CFLRP Common Monitoring Strategy

🌲 SWERI

- 2021 – USFS led a collaborative process to develop national common monitoring strategy

- Core set of social, ecological, and economic indicators

- Required of all newly authorized and extension projects

- Meant to:
  - Supplement but not replace local multi-party monitoring
  - Provide standardization across projects

- This survey addresses core monitoring indicator question 12: *How well is CFLRP encouraging an effective and meaningful collaborative approach?*

## CFLRP Collaboration Assessment - Approach

🌲 SWERI

- Survey: ~20 minutes to answer
- Distributed to all collaborative members November 2022-January 2023
- Confidential, longitudinal, and standardized
- Will re-administer every 2-3 years
- 15 responses, 17.4% response rate
- Results inform:
  - Program-wide evaluation
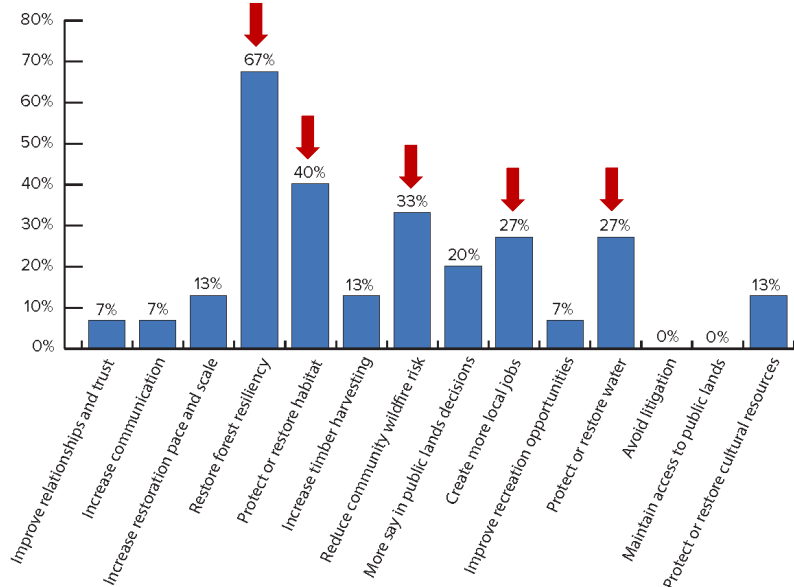 - Project-level progress and performance

Respondents

SWERI
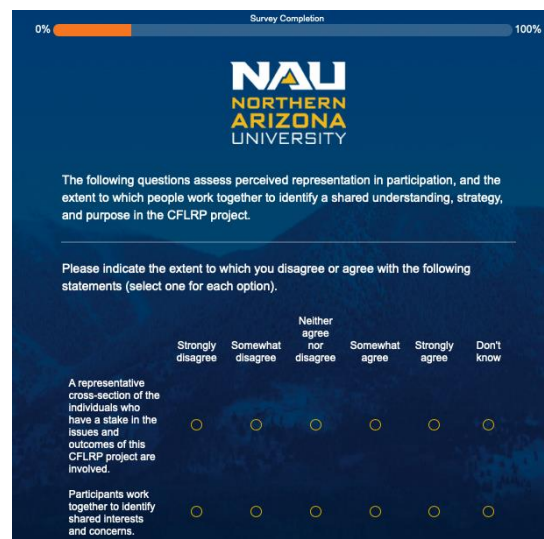
Group Representation
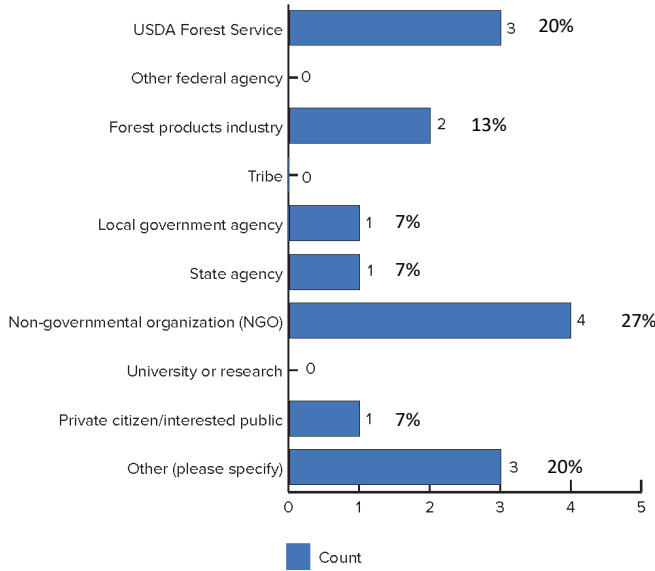
- Discussion:
  - Did most of the major players take the survey?
  - Increase engagement with those not represented?

USDA Forest Service — 3 — 20%
Other federal agency — 0
Forest products industry — 2 — 13%
Tribe — 0
Local government agency — 1 — 7%
State agency — 1 — 7%
Non-governmental organization (NGO) — 4 — 27%
University or research — 0
Private citizen/interested public — 1 — 7%
Other (please specify) — 3 — 20%

Count

1. Motivations for involvement

SWERI

- Primary motivation: to restore forest resiliency
- Other common motivations:
  - To protect/restore fish and wildlife habitat
  - To reduce community wildfire risk
 - To create more local jobs
  - To protect or restore water resources
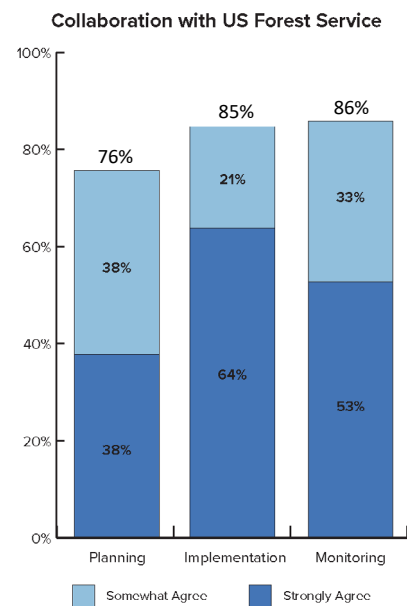
Motivations to Participate

Motivation	Value
Improve relationships and trust	7%
Increase communication	7%
Increase restoration pace and scale	13%
Restore forest resiliency	67%
Protect or restore habitat	40%
Increase timber harvesting	13%
Reduce community wildfire risk	33%
More say in public lands decisions	20%
Create more local jobs	27%
Improve recreation opportunities	7%
Protect or restore water	27%
Avoid litigation	0%
Maintain access to public lands	0%
Protect or restore cultural resources	13%

Overall, how collaborative?

🌲 SWERI

- 100% of respondents say this CFLRP is collaborative/very collaborative!

Degree of Collaboration
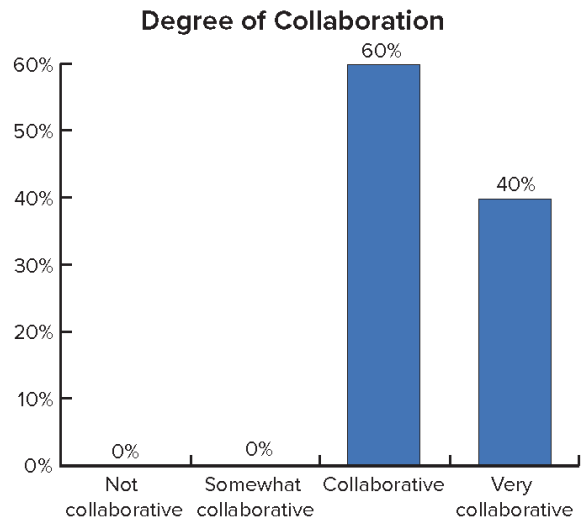
2. Aligning expectations: USFS collaboration

🌲 SWERI

- Collaboration between CLFRP participants and the USFS has met expectations during:
- Planning (e.g., environmental analysis, NEPA): 76% agreed
- Implementation (e.g., post-NEPA, operations): 85% agreed
- Monitoring: 86% agreed
- Collaboration is required in all of these, yet not defined in CFLRP/FLRA
  - Expectations may differ

Collaboration with US Forest Service

3. Capacity for Joint Action: Process and Accountability

SWERI

- There are protocols in place that promote accountability (e.g., decision rules, charters, MOUs)
  - *Among* CFLRP project participants: 78% agree
  - *Between* CFRLP project participants and the USFS: 84% agree
- Collaborative protocols
  - Are clearly understood: 63% agree
  - Are fair and equitable: 75% agree
  - Are used appropriately: 88% agree

Capacity for Joint Action: Process and Accountability

3. Capacity for Joint Action: Resources

SWERI
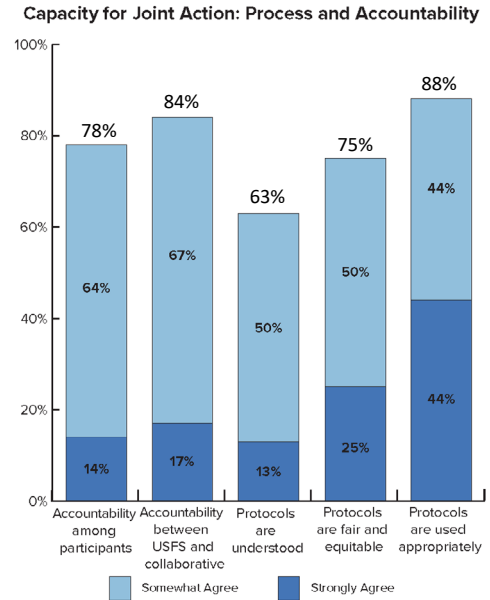
- The CFLRP project has adequate…
- Time to carry out tasks and accomplish work: 60% agree
  - Most limiting resource
- Funds: 74% agree
- Technical expertise: 87% agree
- Skills to facilitate collaborative engagement activities: 94% agree

Capacity for Joint Action: Resources
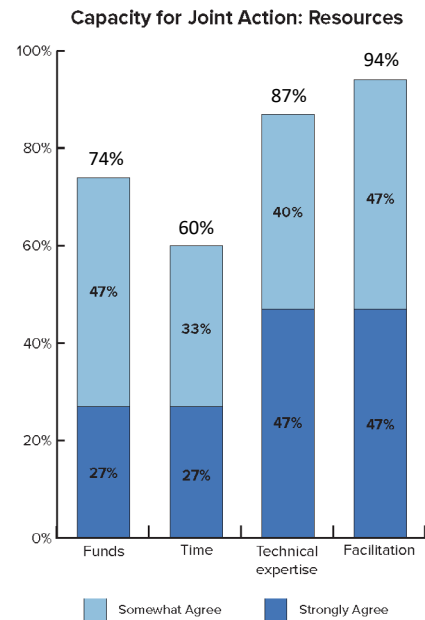
3. Capacity for Joint Action: USFS Process and Accountability ![SWERI]

- Project participants clearly understand when and what collaborative input is useful to inform USFS decisions: 75% agree
- The USFS is responsive to CFLRP project participant feedback: 80%
- The USFS is clear with project participants about the decisions they make and why: 54%
  - Lowest

Capacity for Joint Action: USFS Process and Accountability
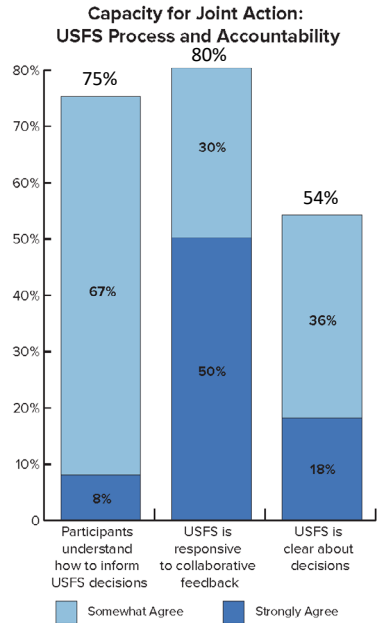
4. Perceived Outcomes: Collaborative Process ![SWERI]

- The CLFRP collaborative process has…
- Mostly 80% agreement
- Two lowest:
  - Enhanced decision-making (i.e., a more transparent, equitable, and fair process): 76% agree
  - Enabled cross-boundary planning: 74% agree

Perceived Outcomes: Collaborative Process
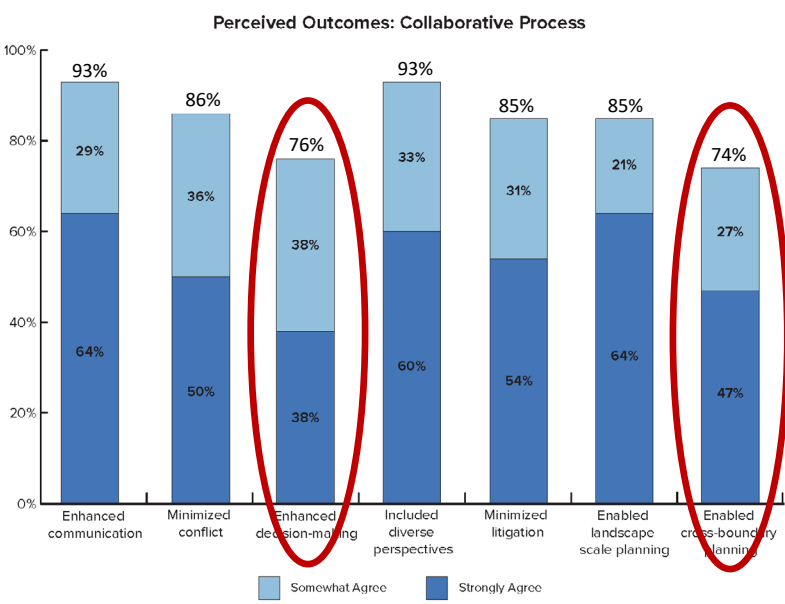
4. Perceived Outcomes: Recommendations to Improve or Maintain Collaborative Progress

SWERI

- Increase participation/engagement from others:
  - Reach out to local residents (recognizing there are challenges to motivation and internet access)
  - Increase participation from stakeholders on volunteering and monitoring
- Enhance understanding:
  - Lack of clarity on converting USFS seasonal to permanent employees and how that affects fuels crews
  - Lack of clarity of processes of moving materials off the forest
- Staffing: increase staff or develop staff skills
  - Young staff could develop more leadership skills
  - There should be more staff botanists and biologists for the USFS and/or FSG for monitoring
- Increase spatial scope: move beyond borders
- Keep decision-making local: shutting down forest restoration projects should be a local decision (criticism of 2022 shutdown because of distant fires)
- No recommendations (1 respondent)

5. Challenges and Disruptions

SWERI

- Did these disruptions pose challenges to the CFLRP's performance and durability?
- Additional disruptions in comments:
  - MSO injunction
  - Seasonal closures due to fire restrictions

Disruptions
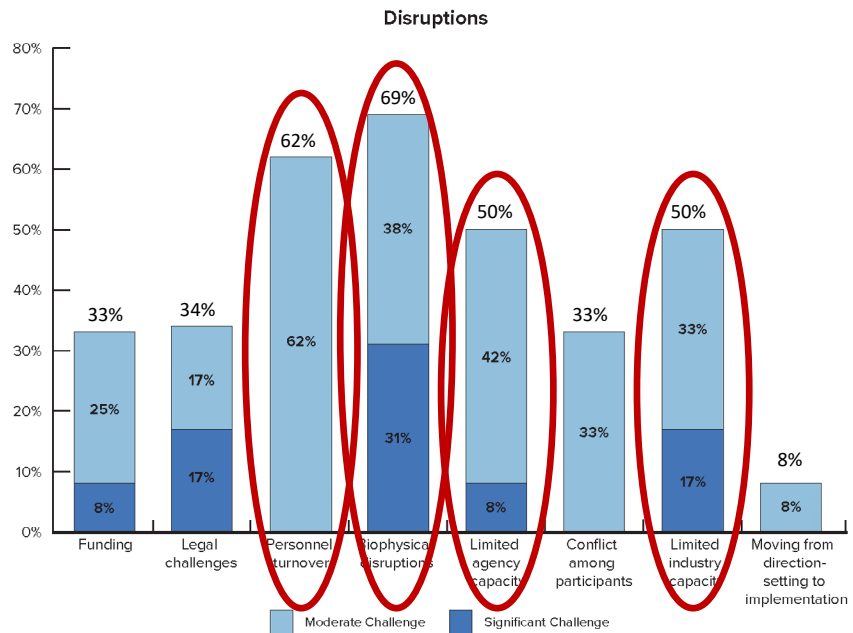
6. Appended Question: Factors that Contributed to Collaborative Success

SWERI

- Good people in the partnership (i.e., FSG, USFS staff, citizens, nonprofits) with open communication (4 respondents)
  - FSG has been invaluable to maintain support of the collaborative
- Common goal and desire for the project to succeed (2 respondents)
- Coordination between USFS, logging companies, and local mills (2 respondents)
- Steady staffing and funding
- Monitoring agreement involves multiple parties and gives credible feedback
- Biannual meetings and updates and at least one field trip per year have maintained stakeholder involvement and interest
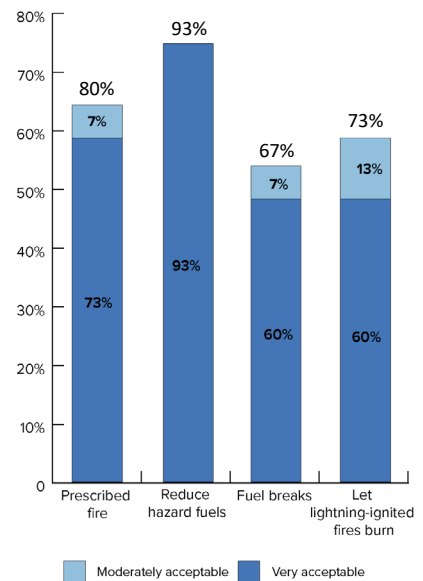
- *"the acres that are being treated and the restoration that is taking place is fantastic"*
- *"our local timber business would not be functioning if the CFLRP were not thriving"*

7. Appended Question: Acceptable Forest Management Strategies

SWERI

- Highest approval (93%) for strategic removal of trees to reduce hazardous fuels

- Followed by 80% approval for prescribed fire

- 73% approval for "managed fire"

- 67% approval for fuel breaks (removal of vegetation to halt fire spread)

Acceptable forest management strategies

Strategy	Total
Prescribed fire	80% (Moderately 7%, Very 73%)
Reduce hazard fuels	93% (Very 93%)
Fuel breaks	67% (Moderately 7%, Very 60%)
Let lightning-ignited fires burn	73% (Moderately 13%, Very 60%)

Legend: Moderately acceptable / Very acceptable

Conclusions

🌲 **SWERI**

- Our final report will include responses to other survey questions about:
  - Stakeholder engagement and agreement
  - Shared motivations: trust and commitment
  - Capacity for joint action: leadership and knowledge
  - Perceived outcomes: ecological and socio-economic goals
  - Appended questions: preferred forms of communication, work group structure
- Conclusions:
  - High level of agreement
  - Some challenges (time, capacity, turnover, clarify USFS decision-making process, biophysical disruptions) but not major roadblocks to collaborative health
  - Who isn't at the table? Could they add resources/capacity?
  - Strong baseline to build upon and continue to learn from

What to expect next

🌲 **SWERI**

- Short-term
  - Presentation slide deck
  - 2-page fact sheet of Zuni Mountains findings
  - Report on Zuni Mountains responses

- Longer-term
  - Larger report/publication on responses across CFLRPs
  - Peer-learning among CFLRP community of practice

- Happy to engage in follow-up conversations and/or provide support if/when needed!

Feedback on Survey

🌲 SWERI

- We will complete this assessment every 2-3 years
  - Needs, capacities change – iterative process

- What worked well?

- What could we improve?

- Is there anything we did not ask that we should have?

Discussion on major themes

🌲 SWERI

1. Motivations for involvement
2. Aligning expectations
3. Capacity for joint action
4. Perceived outcomes of the collaborative process
5. Challenges and disruptions
6. Factors that contribute to collaborative success
7. Acceptable forest management strategies

- Do these results resonate with you?
  What might we be missing?
- Do any recommendations mentioned seem feasible and desirable? What help is
  needed?

Appendix 3. Appended questions

The results to the following questions reported here were developed in coordination with local CFLRP project staff, coordinators, and partners affiliated with the Zuni Mountains CFLRP, particularly the FSG. These questions were not part of the CFLRP Common Monitoring Strategy.

The Collaborative was interested in a better understanding of whether members wanted to see changes in the mechanics of the Collaborative's structure and communication. When asked what forms of communication and engagement were the best use of participants' time, the most common responses were quarterly in-person meetings (31% of respondents) and field trips (28%) (Figure A1). Respondents were also asked about their preferred work group structure, with most (57%) indicating that work groups were sufficient and effective, but many others believing that work groups need additional participation, capacity, and resources (43%) (Figure A2). No respondents thought there was a need to add or modify work groups.

The Collaborative also sought to better understand how participants accepted forest management strategies (Figure A3). The most widely accepted strategy amongst respondents was strategic removal of trees to reduce hazardous fuel (93%), followed by prescribed fire (80%). Other strategies that were supported by a slightly lower but still strong majority included letting lightning-ignited fires burn (73%) and the creation of fuel breaks through the removal of vegetation to halt fire spread (67%). Support for utilizing fire for forest management remains high even after the 2022 fire season, where the Hermit's Peak/ Calf Canyon Fire burned over 341,000 acres in the central-eastern part of New Mexico after prescribed burns spread beyond their intended boundaries in windy conditions.

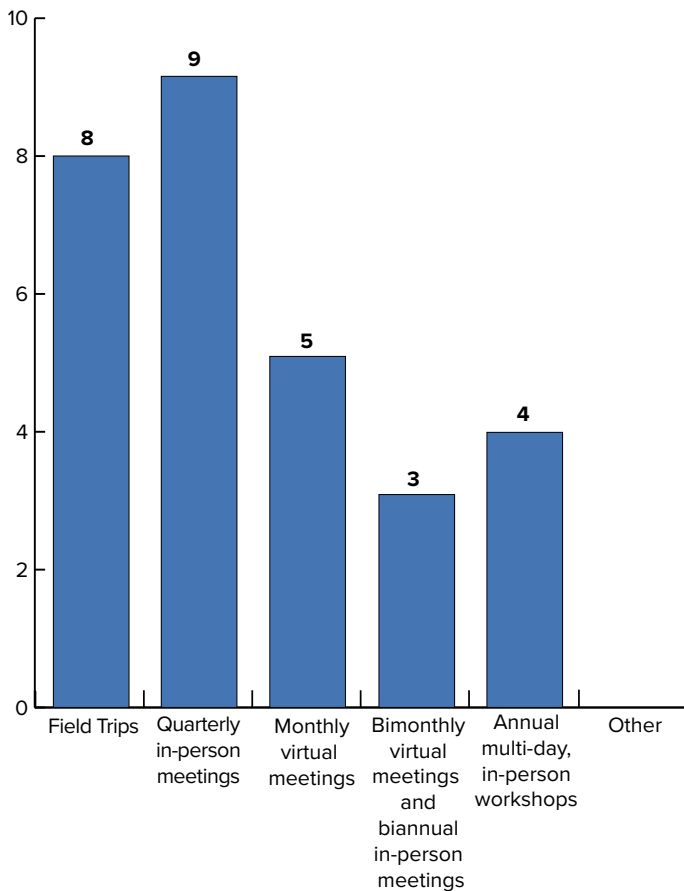Figure A1. The forms of communication and engagement that are the best use of participants' time.
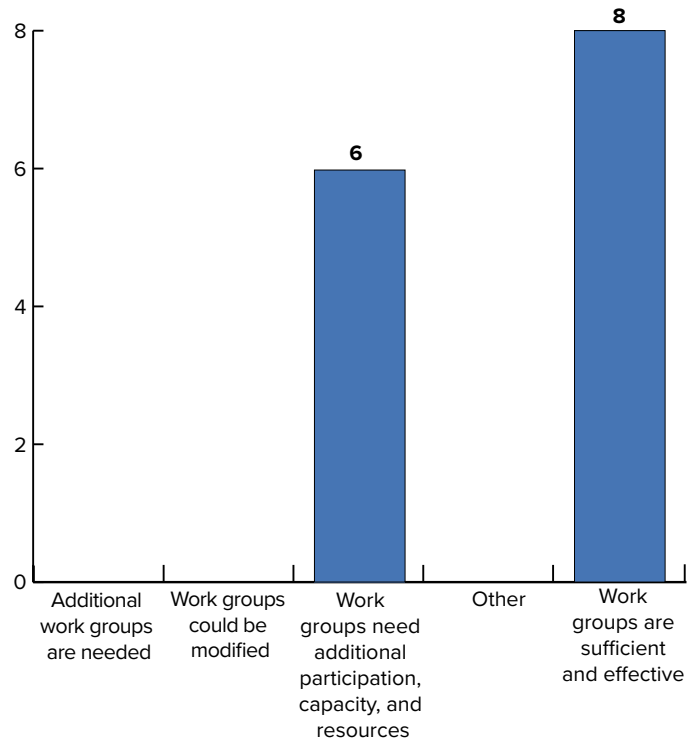

Figure A2. Work group structure preferences and needs.

Acceptable forest management strategies

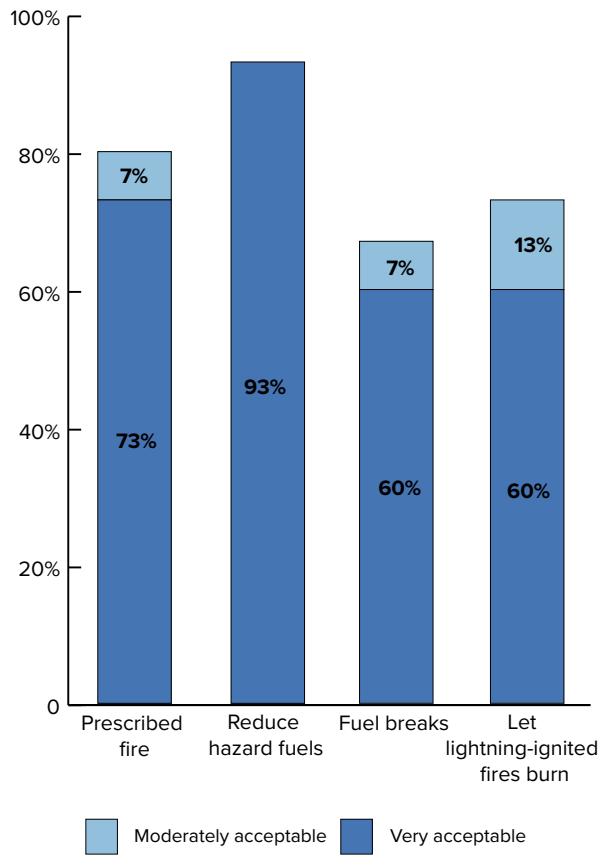Figure A3. Acceptance of forest management strategies.