THESIS

SCALING UP COLLABORATIVE GOVERNANCE FOR BETTER FIT AND FLEXIBILITY: A CASE STUDY OF THE TWO-RIVERS THREE-WATERSHEDS TWO-STATES (2-3-2) PARTNERSHIP

Submitted by

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ABSTRACT

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Over the past ten years, multiple place-based collaborative groups have partnered across jurisdictional divides to form a unique structure of nested collaborative groups, but little is known about what drives the formation of these umbrella collaborative groups or how they function. Due to the changing climate and a legacy of fire suppression, the United States Forest Services (USFS) and academic scholars have promoted the planning and implementation of forest restoration activities at larger geographic scales than has been typical in forest management. To achieve landscape-level restoration, efforts must be coordinated across jurisdictional boundaries. Collaborative governance arose as an alternative to the centralized and adversarial approaches that had dominated environmental policy since the passage of core environmental statutes in the 1970s. Collaborative groups seek to overcome conflict by facilitating cooperative decision-making between government and non-government actors to achieve ecological and community benefits, reducing the risk of uncharacteristic wildfires, and addressing watershed function. Collaborative groups that are focused on forest restoration operate at larger scales than ever before, filling gaps resulting from limited government capacity and addressing complex and multi-jurisdictional environmental challenges. In the last fifteen years, federal and state policies emerged to support landscape-level collaboration, including the 2009 Collaborative Forest Landscape Restoration Program (CFLRP). An important question is how collaborative groups operate in response to such drivers that require scaling up when they typically have existed at smaller spatial extents of individual national forests or communities.

In this thesis, I explore the formation of an umbrella collaborative group and the opportunities and challenges associated with collaborating at the multiple-watershed level. I use qualitative analysis of a series of interviews with partners of the Two Watershed-Three Rivers-Two States Cohesive Strategy Partnership (2-3-2), an umbrella collaborative, to understand opportunities for adaptation and adapting to a variety of scale-fit needs that arise for collaborative governance regimes. In forest policy, scale mismatch is the lack of fit between the temporal or spatial scales of policy mechanisms, collective action, and ecosystem processes. Scale mismatch is prevalent in natural resource management; perhaps a better way to conceive of this issue is the need to have flexibility to adapt to drivers or concerns that operate and vary across scales. Collaborative governance may improve scale fit, especially for ecological processes and federal-level policies that require restoration work across huge acreages, but we also know from research that the trust- and relationship-building required by collaborative processes work best at smaller scales.

This thesis consists of four interrelated but independent chapters. Chapter 1 introduces my research and provides foundational concepts to understand collaborative and adaptive governance. Chapter 2 summarizes interview results and is intended as a practitioner paper for partners and leaders of the 2-3-2. I describe interviewee perspectives on the current priorities of the 2-3-2, the advantages and challenges of collaboration at the multi-watershed scale, and recommendations for further strengthening the efficacy of the 2-3-2. Chapter 3, intended for a peer-reviewed journal, discusses these results in the context of collaborative and adaptive governance theory to understand factors that drive the formation of umbrella collaborative groups, as well as how umbrella collaboratives allow for greater adaptiveness to different scale dynamics. Finally, in Chapter 4, I summarize and draw overarching conclusions from my separate analyses of the interview data and address the limitations of this research with a view to future research.

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CHAPTER ONE: INTRODUCTION

To address landscape-level challenges, land managers must collaborate across jurisdictional boundaries to leverage resources to restore and maintain resilient forests, watersheds, and communities (Bixler & Kittler, 2015; Butler et al., 2015; Schultz & Moseley, 2019). Collaboration emphasizes trust-building, problem-solving, and achieving on-the-ground actions in response to the failure of traditional forest governance systems to support ecological, economic, and social sustainability (Cheng & Daniels, 2003; Fernandez-Gimenez et al., 2008). Collaborative groups seek to overcome conflict by facilitating cooperative decision-making between government and non-government actors (J. Abrams et al., 2015; Ansell & Gash, 2008; Cheng et al., 2016). Research has suggested that collaboration can facilitate the achievement of ecological and community benefits, reduce the risk of uncharacteristic wildfire, and address watershed function (Bixler & Kittler, 2015; Cheng et al., 2011). Collaboration arose as an alternative to the centralized and adversarial approaches that had dominated environmental policy since the passage of the "green state," or canon of core environmental laws passed in the 1970s (Brunner & Steelman, 2005; Sousa & Klyza, 2007). Collaborative forest governance allows for greater public involvement and the meaningful incorporation of local knowledge into forest planning and management (Butler, 2013; Lemos & Agrawal, 2006). Contemporary collaborative groups, especially in the western United States, leverage stakeholder resources to address ecological challenges that have become larger and more complex than any actor could address on its own (Cheng & Daniels, 2003; Emerson et al., 2012; Kettl, 2000).

Scholars have defined "landscapes" as social-ecological systems in which "interdependent bio-geophysical components" interact with each other and associated social actors (Fischer, 2018). Despite possibly being the ideal spatial level at which to conduct restoration, landscape-level restoration comes with significant challenges. First, landscapes are ecosystems that exist beyond ownership boundaries (M.

DuPraw, 2018). Genuine landscape-level restoration must often be implemented across federally held lands and lands owned by states, Tribes, and private landowners (Cyphers & Schultz, 2019). Knowledge, planning, and implementation efforts must be coordinated across these jurisdictions and ownership types (Ansell & Gash, 2018). Second, nearly half of the land in the West is managed by federal agencies that often do not have adequate funding and labor resources to perform the planning, implementation, and monitoring required for successful landscape-level restoration (Bothwell, 2019). Finally, research has suggested that collaboration might be more effective on the local level, where stakeholder knowledge, interest, and participation in decision-making are elevated (Cheng & Daniels, 2003; E. J. Davis et al., 2020).

The emergence of landscape-level collaborative governance on public lands in the western United States is part of a global movement toward management approaches that focus on ecosystems and communities (Ansell & Gash, 2008; Butler & Schultz, 2019). In the last fifteen years, we have seen the adoption of federal and state policies designed to support collaboration, including the 2009 Collaborative Forest Landscape Restoration Program (CFLRP), which provides funding over ten years to collaboratively planned projects that are at least 50,000 acres and occur primarily on land in the national forest system (Bixler & Kittler, 2015). Research has found that focused funding, a history of strong collaboration, leadership, and adequate capacity are primary factors that facilitate success under the program (Schultz et al., 2018).

Collaborative groups that focus on forest restoration are operating at larger scales than ever before, filling governance gaps resulting from limited government capacity and the need to address complex and multi-jurisdictional environmental challenges (Schultz et al., 2019). Over the past ten years, multiple place-based collaborative groups have partnered across jurisdictional divides to form an umbrella collaborative group. However, little is known about what drives the formation of these umbrella collaborative groups or how they function. The Two Watershed-Three Rivers-Two States Cohesive Strategy Partnership (2-3-2) is one of these umbrella collaborative groups, a partnership of multiple local-

level collaborative groups across multiple National Forests, states, and USFS regions. The 2-3-2 covers over 5 million acres in southern Colorado and northern New Mexico, nearly 50% of which is managed by two regions of the USFS in the San Juan, Rio Grande, Carson, and Santa Fe National Forests. The remaining 50% of the project area is managed by Jicarilla Apache and Southern Ute Tribal Nations, Pueblos of Santa Clara, Tesuque, and Ohkay Owingeh, as well as the States of Colorado and New Mexico, the Bureau of Land Management, and private landowners. Non-governmental (NGO) members of the 2-3-2 include non-profit collaborative organizations such as the San Juan Headwaters Forest Health Partnership, San Juan-Chama Watershed Partnership, Wildfire Adapted Partnership, Chama Peak Land Alliance, and national NGOs such as the Forest Stewards Guild, Trout Unlimited and the Nature Conservancy. The unique geographical scale of the effort, the complexity of the system context, and the diversity of collaborative groups networked on the landscape qualify the 2-3-2 as an umbrella collaborative.

While umbrella collaborative groups have the potential to facilitate large landscape-level forest restoration, it is unclear what drives the formation of these groups. Whether their formation is strategic or opportunistic, umbrella collaboratives might offer advantages to address challenging scale dynamics. This research set out to examine the formation and function of umbrella collaborative groups through the theoretical lenses of two bodies of literature: collaborative governance and network governance. I used these theoretical frameworks to understand my findings within a broader context. Collaborative governance refers to the processes of decision-making and management that engage actors across organizational boundaries to carry out a common purpose that could not otherwise be accomplished (Emerson et al., 2012). Many scholars have pointed to collaborative governance as a potential solution to challenges presented by attempting landscape-level land management (Bixler & Kittler, 2015; Bothwell, 2019; Butler & Schultz, 2019; Kettl, 2006). While collaborative groups have been studied to build an understanding of collaborative governance, this research sought to understand: 1) What factors drive the

formation of umbrella collaboratives? 2) How do umbrella collaboratives allow for greater adaptiveness to scale dynamics?

This research will contribute to the understanding of the nature of umbrella collaborative governance in the context of landscape-level restoration by examining the factors that drive the expansion of collaborative groups into umbrella collaboratives. To undertake this study, I drew upon two areas of theory, which are covered in more detail in the following sections.

Literature Review

Initially, I intended to use collaborative governance theory to examine the drivers of the formation of umbrella collaboratives and network governance theory to understand their larger role in the governance system around them. As I started to analyze my data, I determined that some of my findings were better exemplified by concepts found in adaptive governance literature. I then reviewed theories of adaptive governance, focusing on scale mismatch and scale-fit literature. In this section, I provide an overview of the history of collaborative, network, and adaptive governance theories and present how I used these theories to answer my research questions.

In the context of natural resource management, collaboration arose as an alternative to the centralized and adversarial approaches that had dominated environmental policy since the passage of a canon of core environmental laws in the 1970s (Brunner & Steelman, 2005; Sousa & Klyza, 2007). The 1990s found the USFS locked in an adversarial relationship with both environmentalists and the timber industry (Schultz & Butler, 2019). Decades of overharvesting, in conjunction with global economic factors, had led to the collapse of the timber market and increased concern for ecosystem integrity (Butler and Schultz, 2019). Simultaneously, ecological challenges had become larger and more complex than any agency could face on its own (Cheng & Daniels, 2003; Kamensky, 2018; Kettl, 2000).

Collaborative partnerships were initially formed in communities facing natural resource management challenges within a geographic place, like a watershed or the forest lands surrounding a

community (Cheng et al., 2003). These communities of place sought to overcome conflict by facilitating cooperative decision-making between government and non-government actors (J. Abrams et al., 2015; Ansell & Gash, 2008; Cheng et al., 2016). This approach also allowed for greater public involvement and meaningful incorporation of local knowledge into forest planning and management (Butler et al., 2015; Lemos & Agrawal, 2006). Contemporary place-based collaborative groups, especially in the western US, leverage stakeholder resources to achieve ecological and community benefits, reduce the risk of uncharacteristic wildfire, and address watershed function (Bixler, 2015; Cheng et al., 2011). The collaborative process emphasizes trust-building, problem-solving, and achieving on-the-ground actions in response to the failure of traditional forest governance systems to support ecological, economic, and social sustainability (Cheng & Daniels, 2003; Fernandez-Gimenez et al., 2008).

A large body of literature explores the nature, meaning, and development of collaborative governance efforts. Theories of collaborative governance are rooted in public administration and environmental governance literature (Emerson et al., 2012; Kamensky, 2018). Emerson et al. (2012) offer the following definition of collaborative governance:

> *The processes and structures of public policy decision-making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished.*

Emerson et al. (2012) offer a framework to understand context, drivers, and internal dynamics of collaborative groups. This framework can be applied to umbrella collaborative groups to help us understand how aspects of collaboration change as groups combine and work at larger scales. Several elements may layer to form the system context, including the conditions of natural resources, political dynamics within and across communities and levels of government, and history of conflict or collaboration (Ansell & Gash, 2008; Emerson et al., 2012; Ostrom, 1990). By examining system context, we can better understand the conditions that lead to the formation of a collaborative group, or in the case of this research, an umbrella collaborative group. Drivers of collaboration emerge from the system context and

set the initial course for the collaborative governance regime (CGR). Emerson et al. (2012) define leadership, consequential incentives, interdependence, and uncertainty as drivers of collaboration. Drivers could also shift the local-level collaborative process to the landscape level, challenging managers and collaborators to deliver tangible results at larger scales that may involve new actors and novel challenges (M. E. DuPraw, 2014).

As the scale of collaboration grows, so does its time-intensive nature (Kettl, 2006). Members of collaborative groups must connect across different levels of governance to leverage diverse resources; likewise, collaborative members must balance higher-level stability with local-level flexibility (Schultz et al., 2019). This multi-level lens may be challenging to maintain within umbrella collaboratives. For example, members of an umbrella collaborative might focus their partnership on a particular scale or level, at the detriment of dynamics on another level. Thus, it is essential to understand how members of an umbrella collaborative group operate across scales.

Emerson et al.'s (2012) Integrative Framework for Collaborative Governance has been used to examine the inner workings of collaborative groups (Cheng et al., 2015; Huayhuaca et al., 2019); however, a gap exists in the literature using this framework to analyze larger umbrella collaborative groups attempting to restore landscapes across state lines, USFS regions, and the Continental Divide. This research intends to address these gaps, which are important in light of the growing presence of disturbances that will force groups to organize across larger scales than ever before (Millar & Stephenson, 2015).

I considered using network governance as a theoretical lens through which to examine my findings on the role of umbrella collaboratives in the broader governance system. Network governance theory examines the vertical and horizontal linkages between legally autonomous entities to create networks of government and non-government actors (Kettl, 2000; Provan & Kenis, 2008). Through formal or informal agreements, the authority and capacity to make and implement decisions are dispersed

amongst heterogeneous, interdependent actors (J. B. Abrams et al., 2017; Keast, 2016). These actors work together to promote collective learning and coordinate across scales to plan and implement actions that no member could conduct independently (Kettl, 2006; Maier & Abrams, 2018). These actions, in turn, impact the group, the ecosystem, and the political landscape they inhabit, such as decreasing severity of disturbances or improving water quality (J. B. Abrams et al., 2017). Each network member contributes resources that enable the network to collaboratively tackle increasingly complex multi-scalar managerial challenges (J. B. Abrams et al., 2017; Goldstein & Butler, 2009; Schultz et al., 2018). In a multi-level network, higher-level actors set objectives and provide problem-solving and infrastructure for enhanced communication and knowledge-sharing for lower-level actors, who tailor implementation to the local context (Schultz et al., 2018).

Scholars have argued that network governance is critical for addressing today's global environmental management challenges for two primary reasons: 1) the complexity of these challenges has increased such that single actors can no longer address problems on their own, and 2) US federal government capacity is declining globally in an era of increased neo-liberalization (Emerson et al., 2012; Kettl, 2006; Maier & Abrams, 2018). Network governance approaches support innovation in large-scale planning, implementation, and monitoring by leveraging nonfederal capacity and building agreements in environmental management–an arena historically categorized by conflict (Schultz & Moseley, 2019). As environmental challenges have become more complex, the solutions have become less dependent on technocratic solutions and more on social values and community priorities (Brunner & Steelman, 2005; Kettl, 2006). These complex challenges are exacerbated by reduced agency capacity resulting from neoliberal reforms–an ideology that has favored devolution of government power and the use of markets and private actors in governance–forcing agencies to create complex, multi-level governance networks of state and non-state actors. Both market-based models and traditional hierarchical, bureaucratic governance models are inadequate to address the growing scope and complexity of environmental

management challenges (Kamensky & Burlin, 2004; Kettl, 2006). As such, the US federal government increasingly depends on networks of government, non-profit, and industry actors to leverage limited resources, share expertise, increase social legitimacy, and allow for creative problem-solving in areas where no individual agency has the resources or authority to be effective (J. Abrams, 2019; Maier & Abrams, 2018).

Research has suggested that networks can be nimbler and more adaptive by leveraging diverse capacities, supporting actors to match restoration activities to the scale of ecological processes, and allowing for flexibility to increase responsiveness to and preparation for natural disasters and other multi-level disturbances (Popp et al., 2015; Provan & Kenis, 2008; Schultz et al., 2018). Network governance approaches can also support collective learning to identify and resolve social conflicts and achieve positive outcomes that individual actors could not achieve independently, such as increased efficiency, strengthened capacity, regional economic development, and improved provision of critical public services to vulnerable populations (Alexander et al., 2016; Provan & Kenis, 2008; Schultz & Moseley, 2019). Networks and partnerships between science providers and collaborative stakeholder groups can help develop monitoring approaches, support deliberation about restoration goals, and serve as a bridge between federal agencies and between agencies and private landowners (Kamensky, 2018; Kettl, 2006). In this way, networks can benefit from community-based governance as well as coordination and capacity from higher-level actors (Chaffin et al., 2014; Lemos & Agrawal, 2006). Conversely, the "thickening" of collaboration may elongate timelines and increase paperwork. Thus, network governance theory could complement collaborative governance theory by increasing potential insights into collaborative groups' roles within broader networks.

The limited prior research on the role of networked or nested collaboratives provides an opportunity to examine the adaptiveness of these groups in various contexts. The existing body of network governance literature does not address the unique role that umbrella collaborative groups play

in the broader network, what capacity gaps they fill, and the comparative advantage of operating at such a large scale (Popp et al., 2015; Provan & Kenis, 2008; Schultz et al., 2018). Using networked and collaborative governance, I sought to understand the unique capacity of umbrella collaborative groups and whether federal forest governance supports or impedes umbrella collaboratives in filling these potential gaps.

As I started to analyze my data, however, I found the network governance literature did not reflect my findings as well as the collaborative governance literature. I then reviewed literature from the adaptive governance theory, focusing on scale mismatch and scale-fit literature. I decided to use the collaborative governance framework to understand the formation of the 2-3-2 and focus on adaptive governance to examine the concept of scale-fit. This literature is discussed in more depth in chapter 3. However, as a brief primer: adaptive governance is an area of scholarship that explores how to effectively coordinate the management of social-ecological systems in the face of complex and uncertain environmental challenges (Chaffin et al., 2014; Dietz et al., 2003; Folke et al., 2005). Adaptiveness can be conveyed through collective action, flexible problem-solving, and scale flexibility (D. Cash et al., 2006; Crona & Parker, 2012; Schultz et al., 2019). Collaborative governance and place-based collaboration are crucial aspects of adaptive governance for two primary reasons: to achieve greater adaptiveness, governance must be tailored to local conditions, concerns, and capacities; and collaboration is necessary to accomplish work across jurisdictional boundaries (DeCaro et al., 2017; Folke et al., 2005). In adaptive governance literature scale mismatch is posited as a fundamental challenge in environmental management, and collaborative groups may help to address this challenge. Scale refers to the spatial, temporal, and functional dimensions used to measure context and events, while fit can be described as the integration of human and ecosystem dimensions within social-ecological systems (D. Cash et al., 2006; Folke et al., 2005; Schultz et al., 2019).

Methods

I used a qualitative case study methodology to answer my research questions. Case studies effectively explore complex social phenomena, such as the evolution of multi-level collaborative governance (Yin, 2003). Although this methodology has been criticized when used to make generalizable conclusions, that is not my intent (Diefenbach, 2008). Instead, I investigated a novel phenomenon and looked to answer "how and why" questions that are best addressed through qualitative research. This research used collaborative and adaptive governance theory to generate insight into the history of the 2-3-2, its structure, and the adaptive structure and process that have arisen within and because of the partnership.

Case Study Selection

The 2-3-2 facilitates coordinated landscape restoration across 5 million acres by leveraging public and private partnerships to support and provide restoration services that no partner could accomplish (E. Davis et al., 2021). The scale of the 2-3-2 required collaboration across multiple forests, state lines, and USFS regions. The 2-3-2 is a cross-jurisdictional collaborative land management network with the shared goal of protecting and preserving the ecosystem integrity, water quality, wildlife habitat, and community resilience within the San Juan, Chama, and Rio Grande watersheds. Additionally, the Public Lands Policy Group (PLPG) and Dr. Tony Cheng at the Colorado Forest Restoration Institute (CFRI) at Colorado State University had an ongoing relationship with key members of the 2-3-2, which helped facilitate access to and trust with participants. The scale of the effort, the diversity of collaborative groups partnering on the landscape, and its uniqueness as an umbrella collaborative made the 2-3-2 an ideal case study.

Data Collection

Data were collected through semi-structured interviews with partners of the 2-3-2 and stakeholders on the 2-3-2 project area and adjacent lands. Semi-structured interviews also allow interviewees to broach unexpected topics, increasing the researcher's likelihood of gaining an in-depth understanding of the mechanics explored in the research questions (Glesne, 2016). This method also

allows for a depth in data that qualitative surveys cannot capture and is ideal for examining complex human perceptions and has been used in the research of cross-boundary forest management (Bergemann, 2017; Cyphers & Schultz, 2019; Glesne, 2016). A semi-structured interview guide ensured all participants answered key questions but allowed them to share unique perspectives specific to their knowledge. Many of my questions were intended to draw out concepts from the collaborative and network governance literature, like system context, drivers, and vertical and horizontal linkages between partners. This guide was tested through pilot interviews and refined to ensure it drew answers to research objectives. This interview guide is provided in Appendix A. Semi-structured interviews were conducted virtually and in person. Per my IRB protocol, interviews were recorded with participant permission, transcribed on REV software, and sensitive or identifying information was removed from the transcription.

Sampling Protocol

Initial participants were selected using a purposive sampling approach (Bernard, 2017). The PI has worked with the coordinator of the 2-3-2 on prior research and arranged the initial pilot interview. This interview produced two more names, leading us to conduct three initial pilot interviews to understand how to adapt our research questions to benefit the 2-3-2. This snowball sampling approach (individuals recommended by participants) was used to select the following 20 participants (Bernard, 2017). Key informants included members of the 2-3-2 Executive Committee and US Forest Service staff members; those who have a broad perspective on the 2-3-2 and have been involved in the evolution of the project were prioritized, as well as key decision-makers on the landscape and those for whom the umbrella collaborative has become a service provider. During this initial interview, each participant was asked for further referrals within their organization or in other groups involved in the 2-3-2, as well as for known non-participants, to ensure that I contacted all stakeholder and rightsholder groups affected by the 2-3-2 project, including those who are not actively involved in the project.

After conducting about 20 interviews, I used a saturation matrix to check for data adequacy and assess the demographic and expertise of my participants (Fusch & Ness, 2015; Vasileiou et al., 2018). I found that I had more data from NGOs and USFS participants than private, state, or Tribal participants. I also lacked perspectives from industry and water-focused partners. This understanding informed a second round of purposive interviews, where I sought out participants with expertise or perspectives that I was missing. Participants were selected after analyzing partnership documents and soliciting referrals from NGO and agency contacts. This combination of network and purposive sampling methods allowed for the collection of diverse perspectives that helped thoroughly answer the research questions. Data saturation was reached at 29 interviews when further interviews no longer provided new themes or valuable insight into my research objectives (Charmaz, 2006).

Data Analysis

Interviews were analyzed through a systematic coding process using the software Dedoose. Coding involves organizing the interview transcripts into segments categorized based on themes that emerge from the data (Charmaz, 2006; Creswell & Creswell, 2017). To preserve an emergent coding process, we did not assign theoretical concepts to our data unless; instead, we analyzed data based on our research questions and then connected our findings back to theoretical concepts from the literature. After reviewing five interviews for emergent themes, these themes were organized into a codebook detailing each code's inclusion and exclusion criteria, as seen in Appendix B (Saldaña, 2013). Codes were tested and refined through interceder reliability with the help of the PLPG, which will help support higher-quality analysis (Bazeley, 2017). With sufficient agreement, my codebook was finalized, and I coded the entirety of my data, including recoding the interviews used to develop the codebook.

Reflective and analytical memos were produced throughout the coding process to summarize learning and develop subthemes that might emerge from the data (Braun & Clarke, 2012; Charmaz, 2006; Saldaña, 2013). These memos were then organized around themes from the public policy and

environmental governance literatures. We found concepts from the adaptive governance literature to better explain the themes we identified during our coding and memoing processes. We then returned to our data to reassess them in relation to concepts from the adaptive and collaborative governance literature. To analyze why umbrella collaborative groups are forming and how they allow for greater adaptiveness to scale dynamics, I looked mainly at two areas of literature that speak to my research objectives. Examining concepts from the collaborative governance literature informed the answer to my first research objective, while examining concepts from the adaptive governance literature helped me meet my second research objective. I wrote a further set of memos regarding the relationships between our data and the themes from collaborative and adaptive governance.

Summary

This thesis consists of four interrelated but standalone chapters. Chapter 2 frames the results of this research in collaborative and adaptive governance theory to understand factors that drive the formation of umbrella collaborative groups, as well as the role of umbrella collaborative groups in adapting to challenges of scale-fit. Chapter 3 summarizes interview results in the form of a practitioner paper for partners and leaders of the 2-3-2. In Chapter 3, I describe interviewee perspectives on the current priorities of the 2-3-2, the advantages and challenges of collaboration at the multi-watershed scale, and recommendations for further strengthening the efficacy of the 2-3-2. Finally, in Chapter 4, I briefly summarize and draw overarching conclusions from my separate analyses of the interview data, with a view toward future research needs.

CHAPTER TWO: SCALING UP COLLABORATIVE GOVERNANCE FOR BETTER FIT AND FLEXIBILITY: A CASE STUDY OF THE TWO-RIVERS THREE-WATERSHEDS TWO-STATES (2-3-2) PARTNERSHIP

Introduction

Due to the changing climate and a legacy of fire suppression, the United States Forest Service (USFS) and many scholars have promoted the planning and implementation of forest restoration activities at larger geographic extents than has been typical in forest management (McIntyre & Schultz, 2020; Schultz et al., 2019). To plan and implement work at the landscape level, often referred to as "landscape-scale" restoration, it has become imperative for the USFS to collaborate with community-based groups in forest restoration efforts (Moseley & Charnley, 2014; Schultz et al., 2018). Community-based groups, or collaborative groups, can leverage resources like capacity, expertise, and public approval the USFS needs to implement restoration at an increased pace and scale (J. Abrams et al., 2017; Maier & Abrams, 2018; Schultz et al., 2012).

Following Cash et al. (2006) we define "scale" as the spatial, temporal, or functional dimensions used to measure and study events and their context, and "levels" as the units of analysis that are located at different places along the scale. In federal forest management, collaborative groups initially organized at the forest or community level, but collaborative efforts that operate across several forests or communities have become more common over time (Schultz et al., 2012). Today, collaborative forest restoration groups typically form to build agreement around landscape-level restoration, which brings together multiple stakeholder groups to address ecological challenges, particularly fire hazard, that no partner could address independently (Arts et al., 2017). These challenges of matching collaborative efforts to various social and ecological management objectives introduces potential scale mismatches, which often arise in natural resource management, but also might allow for some adaptiveness to addressing objectives that need attention at different spatial extents or timeframes (Schultz et al., 2019). For

collaborative groups, organizing at different levels brings both opportunities and challenges. Despite the recognized need to conduct restoration work at larger spatial extents than previously attempted, research has suggested that collaboration might be more effective at the community level, as stakeholder knowledge, interest, and participation in decision-making is elevated at smaller scales (Cheng & Daniels, 2003; E. J. Davis et al., 2020). Additionally, landscape-level planning can be challenging due to complicated boundaries within the area and the difficulty associated with understanding and monitoring changing conditions (Ostrom, 1990; Schultz et al., 2018).

Nonetheless, collaborative governance regimes (CGRs) must be adaptive to work at a meaningful extent to address ecological disturbances and to adapt to incentives or requirements built into federal policies and programs while also maintaining social cohesion (Emerson & Gerlak, 2014). Increasingly, collaborative groups might want to partner with nearby collaborative groups with overlapping areas of focus as part of a broader CGR. This form of collaboration among community-based collaborative groups to form an umbrella collaborative is a newer trend in US forest governance. While collaborative restoration groups have received increasing attention from scholars over the last two decades, there is a gap in the literature regarding what drives the formation of umbrella collaboratives and how they function. To investigate this, we explored the Two-Rivers Three-Watersheds Two-States Cohesive Strategy Partnership (2-3-2), how it formed and how it now functions, and the benefits and challenges presented by operating at the five-million-acre scale. We drew up the adaptive governance literature, with a particular eye to scale-fit challenges, to understand why collaborative groups form at larger scales than they have in the past. Our research questions were: 1) What factors drive the formation of umbrella collaboratives? 2) How does the 2-3-2 allows for greater adaptiveness to different spatial and temporal scale dynamics? And 3) Where does the 2-3-2 still face challenges, especially related to scale?

Literature Review

Over the last few decades, wildfires have become increasingly large and destructive in the western United States and around the world due to changes in climate and a legacy of fire suppression that has left an accumulation of wildland fuels on landscapes that have historically been adapted for frequent, low severity fires (Kreider et al., 2024). In response to the increasing wildfire crisis and in light of the limitation of litigation for solving complex problems balancing across diverse community-based objectives, collaborative governance of natural resources arose in the United States in the 1980s. Collaborative groups emerged primarily to balance objectives and build agreements around managing wildlife habitat and watersheds (Ansell & Gash, 2018; Arts et al., 2017; Davis et al., 2018; Emerson et al., 2012). Collaboration has also been used to involve interested parties in the early stages of forest planning to avoid future litigation (Cheng et al., 2016; McIntyre & Schultz, 2020). Since the 2000s, federal forest policy has focused on collaborative governance as a key tool to expand the pace and scale of forest restoration work. The United States Forest Service (USFS), along with the US Congress, enacted several policies to achieve this goal, including establishing the Collaborative Forest Landscape Restoration Program (CFLRP) and the Joint Chiefs Landscape Restoration Partnership (Joint Chiefs); the National Wildland Fire Cohesive Strategy also encourages fire-adapted communities and landscapes, and safe and effective wildfire response (Schultz et al., 2018; Steelman & Nowell, 2019).

The CFLRP is an innovative policy emphasizing competitive selection, prioritization, collaboration, and monitoring; committed, flexible funding for ten years; a landscape-level strategy and collaborative involvement throughout the project's life (Bixler & Kittler, 2015). The US Congress established the CFLRP when they passed the Omnibus Public Lands Act of 2009 to provide federal funding for restoration projects on national forests where the projects are collaboratively designed, implemented, and monitored (PL 11-11 §40003(b)(2)). The CFLRP set up a competitive program to fund landscape-level restoration projects proposed jointly by USFS and community partners, at scales that can meaningfully influence fire behavior. Projects must be at least 50,000 acres, but the average size of the first ten projects was well

over 900,000 acres (Schultz et al., 2012). Research has suggested that the CFLRP has resulted in more restoration work and building capacity within community-based organizations (CBOs) and governance networks (Bixler & Kittler, 2015; McIntyre & Schultz, 2020). This, in turn, can lead to the emergence of informal "communities of practice" that increase flexibility, innovation, and learning to make a management system more resilient (Fischer, 2018).

In a similar vein, the Joint Chiefs program was established in 2014 as a multi-year internal partnership between the USDA Forest Service and the Natural Resource Conservation Service (NRCS) to encourage interagency and community collaboration (Cyphers & Schultz, 2019). The Joint Chiefs program provides up to three years of competitive funding for projects that are collaboratively designed and implemented (Cyphers & Schultz, 2019). Likewise, the United States National Cohesive Wildfire Management Strategy (Cohesive Strategy) aims to achieve greater social and ecological resilience to wildfire by focusing on 1) the creation of fire-adapted communities, 2) safe and effective wildfire response, and 3) the restoration and maintenance of landscapes (E. Davis et al., 2021; Steelman & Nowell, 2019). Research has suggested that CFLRP, the Joint Chiefs program, and the Cohesive Strategy are policy tools for overcoming scale-fit challenges (Schultz et al., 2019; Steelman & Nowell, 2019).

These programs are particularly salient in the western United States, where many of the forests are federally managed and governed by policies and decisions made at the national level (Davis 2020). Thus, collaborative groups, especially in the western United States, might form or rearrange themselves to be eligible for federal funding that requires evidence of work at a larger scale, such as through the CFLRP, Joint Chiefs program, or Cohesive Strategy (Schultz et al., 2012, 2019; Steelman & Nowell, 2019). To meet the eligibility requirements for these federal programs, the USFS must collaborate with adjacent landowners (such as states, Native American Tribes, and private landowners) and a community of interested parties on the planning and implementation of forest restoration work (McIntyre & Schultz, 2020). These federal programs incentivize forest planners and managers to address larger landscapes

across ownerships; at the same time, they might work in some tension if other factors drive the formation of collaborative groups.

Adaptive governance is an area of scholarship that explores how to effectively coordinate the management of social-ecological systems in the face of complex and uncertain environmental challenges (Chaffin et al., 2014; Dietz et al., 2003; Folke et al., 2005). Adaptiveness can be conveyed through collective action, flexible problem-solving, and scale flexibility (Crona & Parker, 2012; Schultz et al., 2019). Collaborative governance and place-based collaboration are essential aspects of adaptive governance for two primary reasons: to achieve greater adaptiveness, governance must be tailored to local conditions, concerns, and capacities; and collaboration is necessary to accomplish work across jurisdictional boundaries (DeCaro et al., 2017; Folke et al., 2005). Scholars have also noted that collaborative governance can allow for addressing temporal mismatches whereby short-term incentives compete with the long-term goals of ecosystem and community resilience (Schultz et al., 2019)(Schultz et al. 2019). Collaborative groups can be thought of as boundary organizations that bring together diverse actors across space and time and epistemic communities (Cash et al. 2006).

To provide more background on collaborative governance, we relied on Emerson et al. (2012), who define collaborative governance as:

> *The processes and structures of public policy decision-making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private, and civic spheres in order to carry out a public purpose that could not otherwise be accomplished.*

Emerson et al. refer to specific instances of collaborative governance as collaborative governance regimes (CGRs). CGRs have intentional norms and processes that allow repeated participant interactions over time (Emerson & Gerlak, 2014). Research has suggested that CGRs create space for productive discussions among holders of opposing beliefs and more "sophisticated forms of collective learning" (Ansell & Gash, 2008) This increases levels of trust among state and non-state actors and improves relationships among collaborators, allowing them to develop agreements that are more robust and responsive to change and

uncertainty (E. J. Davis et al., 2020; Emerson & Gerlak, 2014). These social benefits can create ecologically significant impacts, such as accomplishing more restoration work more quickly and across larger geographic areas and "the diffusion of practice beyond project boundaries" (McIntyre & Schultz, 2020). Collaborative governance can lead to the development of more robust environmental analysis documents that represent zones of agreement between groups that might disagree on objectives and priorities (Cheng et al., 2015; Daniels & Walker, 2001). Collaborative groups also have bridged several gaps left by neoliberal policies that have reduced the role of the federal government and increased reliance on non-state actors to implement monitoring, secure partner endorsements for agency-led projects, enforce compliance with collectively generated guidelines, attract non-federal funding, or provide planning or implementation capacity (Abrams, 2019; Davis et al., 2020; Emerson et al., 2012). In summary, collaborative groups can support the implementation of new management practices by facilitating large-scale forest planning, introducing monitoring practices, and leveraging non-federal workforce capacity, and can have value at multiple levels, from the local, to the state and federal levels (Schultz & Moseley, 2019).

In this study, we were interested in why collaborative groups were joining forces, and we suspected it was related to a need to overcome challenges stemming from scale mismatch. In the adaptive governance literature, scale mismatch is a fundamental challenge in environmental management, and collaborative groups may help to address this challenge by leveraging their ability to work across different scales and levels. In forest policy, scale mismatches can take various forms that have been identified as potentially problematic, including the lack of fit between the temporal or spatial scales of policy mechanisms, collective action, and ecosystem processes. Temporal scale refers to processes that repeat or occur over different lengths of time, e.g., ecological disturbance and recovery processes, funding, planning, and implementation timelines and the slow-moving nature of relationship building, as well as the challenge of overcoming short-term risks to achieve long-term objectives (Cheng & Daniels, 2003;

Meadowcroft, 2002). There can also be a mismatch between the geographic or spatial scale of an environmental challenge and the scale of a governance institution or the jurisdiction of an agency. Scholars describe the alignment of these dimensions are better aligned, as scale fit, or the integration of human and ecosystem dimensions within social-ecological systems (D. Cash et al., 2006; Folke et al., 2005; Schultz et al., 2019).

For the last two decades, scholars, policymakers, and community-based collaborative groups have emphasized the importance of planning at larger geographical scales than has been typical to address the increased scale and severity of wildfires in the western United States (E. J. Davis et al., 2020; Schultz et al., 2019). Collaborative groups could help with this challenge by connecting actors across jurisdictions and facilitating coordinated action that can meaningfully impact ecological processes (D. Cash et al., 2006; Folke et al., 2007). Collaborative groups also can have greater longevity than a single USFS project, helping to maintain a longer-term vision despite turnover in federal personnel or their annual review cycles (Beeton et al., 2022). Historically, collaborative groups have organized at various spatial extents with an eye toward building agreement about management needs across a landscape (Arts et al., 2017). Collaborative groups typically center on a "community of place" or people concerned with a particular landscape (Cheng & Daniels, 2003; E. J. Davis et al., 2020; Emerson & Gerlak, 2014). Research suggests that "scaling up" presents unique collaborative governance challenges, including diluted objectives, reduced social interaction among partners, and increased administrative requirements (Bothwell, 2019; Cheng & Daniels, 2003). The drive towards landscape planning at the million or multi-million acre level

might be at the expense of collaborative processes that work best at small scales to facilitate trust- and relationship-building (Cheng & Daniels, 2003; E. J. Davis et al., 2018). Research into community-based ecological monitoring also has suggested that collaboration built around a community of place might be more effective, as stakeholder knowledge and interest are often hyper-local (Cheng & Daniels, 2003; E. J. Davis et al., 2020).

Nonetheless, high-level collective action could increase responsiveness to federal-level policies that require restoration work across large acreages. Various policies, most noticeably the CFLRP, require collaboration, planning, and implementation at minimum spatial extents (Bixler & Kittler, 2015). Thus, a collaborative group could find themselves planning simultaneously for priorities that exist or operate at different spatial or temporal levels (D. Cash et al., 2006; Folke et al., 2007). Managing a forest or watershed for resilience to wildland fire require different spatial coordination of actions, necessitating some scale flexibility and multilevel institutions; in addition, organizations operating at different levels may have comparative advantages with various tasks (D. W. Cash & Moser, 2000). CGRs that can be scale-flexible and still incorporate local knowledge ideally could support the maintenance of relationships through changes in leadership and other conditions (Adger et al., 2005; Folke et al., 2007). Through this lens, we explored the factors that drove the formation of the 2-3-2, suspecting they would be related to these issues of scale fit, and how the 2-3-2 allows for greater adaptiveness to different spatial and temporal scale dynamics, and where it still faces challenges. We recognize that a CGR that could expand to meet federal-level agendas and then contract to facilitate meaningful collaboration and restoration at the community level might be more robust than a CGR that operates at a fixed scale.

Methods

We used a qualitative case study methodology, which is suited to exploring complex social phenomena, particularly those that have not been researched extensively, to understand the evolution of multi-level collaborative governance (Abrams et al., 2015; Adger et al., 2005; Folke et al., 2007). For this case study, we analyzed the Two Watersheds-Three Rivers-Two States Cohesive Strategy Partnership (2-3-2), a cross-jurisdictional collaborative land management network that coordinates the restoration of ecosystem integrity and community resilience across five million acres of northern New Mexico and southern Colorado. The 2-3-2 leverages public and private partnerships within the San Juan and Chama watersheds, which are uniquely connected by the San Juan-Chama Diversion Project (see Box 1 for more

information). A unique aspect of the 2-3-2 is the group formed when two pre-existing local-level collaborative restoration groups, the San Juan Headwaters Forest Health Partnership (Headwaters) and the San Juan-Chama Watershed Partnership (San Juan-Chama Partnership), agreed to partner to address a larger landscape than either group could alone. Headwaters and San Juan-Chama Partnership maintained their separate collaborative structures and internal processes within the 2-3-2. That original partnership has expanded to include several local-level collaborative groups, as well as national and regional NGOs (Table 1), partners from many levels within the USFS and land and water management agencies from both the state and the federal level. The multi-million acres scale of the 2-3-2 requires collaboration across multiple forests, state lines, and USFS regions. In 2019, the 2-3-2 applied for CFLRP funding and expanded the southern border of the project to include the Santa Clara Pueblo and the associated Tribal Forest Protection Act Lands. The Rio Chama CFLRP was funded in 2022. This willingness to expand and adapt to be more competitive for federal funding is not inherent to collaborative governance. There is a gap in the collaborative governance literature around the possible drivers of collaboration at different scales. The scale of the effort, the diversity of collaborative groups partnering on the landscape, and its uniqueness as an umbrella collaborative made the 2-3-2 an ideal case study.

To design our sample and refine our research, we conducted pilot interviews over the phone with key members of the 2-3-2 to understand how we could make our final product valuable to them. We then used network sampling (individuals recommended by interviewees) and purposive sample (pre-selected individuals) approaches (Bernard, 2017). The combination of network and purposive sampling allowed us to collect diverse perspectives that helped us thoroughly answer our research questions. We purposely identified interviewees after analyzing partnership documents and soliciting referrals from NGO and agency contacts. Key informants included the 2-3-2 Executive Committee and US Forest Service staff members. We prioritized interviewing those who had a broad perspective on the 2-3-2 and have been involved in the evolution of the project from local-level collaborative groups to a larger umbrella

collaborative operating at the landscape level, as well as key decision-makers in the area and those for whom the umbrella collaborative has become a service provider. During initial interviews, each interviewee was asked for further referrals within their organization or in other groups involved in the 2-3-2. We also asked interviewees about people who are not involved with the 2-3-2 to ensure that we contacted all stakeholder and rightsholder groups affected by the 2-3-2 project, including those not actively involved.

Box 1. The 2-3-2 Cohesive Strategy Partnership

The Treaty of Guadalupe Hidalgo, which ended the war between the United States and Mexico, was supposed to recognize the existing property rights of the Hispanic population when the land was transferred to the United States. However, during the land grant adjudication processes after the US conquest of what is now known as the state of New Mexico in 1848, community land from these grants was declared public domain, eventually becoming part of the San Juan, Rio Grande, Carson, and Santa Fe National Forests (USFS, 2020). The descendants of the original rightsholders still live in the surrounding area and claim unique usufructuary rights to the land that once belonged to their ancestors. Additionally, 2-3-2 partnership boundaries overlap with the Jicarilla Apache Nation and Southern Ute Reservations, and the Santa Clara and Ohkay Owingeh Pueblos, as well as the unceded ancestral lands of these and many other tribes. The long history of the federal government's violence and discrimination toward Indigenous peoples cannot be overlooked when examining the context within which this umbrella collaborative group has formed.

Nearly half of the landscape is managed by the USFS across four forests in two regions--the San Juan, Rio Grande, Carson, and Santa Fe National Forests. In this way, the 2-3-2 requires interagency collaboration across USFS regions. The rest of the project area consists of land managed by Jicarilla Apache and Southern Ute Tribal Nations, Pueblos of Santa Clara, Tesuque, and Ohkay Owingeh, as well as the States of Colorado and New Mexico, the Bureau of Land Management, and private landowners. Members of the 2-3-2 include non-profit collaborative organizations such as the San Juan Headwaters Forest Health Partnership, Wildfire Adapted Partnership, Chama Peak Land Alliance, San Juan-Chama Watershed Partnership, as well as national NGOs such as Forest Stewards Guild, Trout Unlimited, and the Nature Conservancy.

Home to the Rio Grande's headwaters, water moves naturally and synthetically across the 2-3-2 landscape, intimately connecting the diverse communities that live on and benefit from the five-million-acre partnership area, home to the Rio Grande's headwaters. The essential role of water undergirds the 2-3-2's formation. The San Juan-Chama Diversion Project, constructed by the Bureau of Reclamation (BOR) in the 1960s, was intended to offset Albuquerque's drain on its shrinking underground aquifer by transferring water from three headwater streams in the San Juan watershed through the continental divide to the Rio Chama. Since the 1960s, 110,000 acre-feet has been diverted annually across the Continental Divide from the San Juan River to the Rio Chama (Glaser, 1998).

After conducting 20 interviews through networked sampling, we used a saturation matrix to check for data adequacy and assess the demographic and expertise of our participants (Fusch & Ness, 2015; Vasileiou et al., 2018). We found the data from NGOs and USFS participants to outweigh those from private, state, or Tribal participants. We also lacked perspectives from industry and water-focused partners. This understanding informed a second round of interviews, where we purposefully sought interviewees with expertise or perspectives we were missing. Interviews lasted 45-90 minutes and began in the fall of 2022. We reached data saturation when further interviews no longer provided new themes or valuable insight into our research objectives (Charmaz, 2006). We completed 28 interviews, including six with USFS officials, six NGO partners, three representatives from Tribal communities, three state forestry officials, three representatives from agencies other than the USFS, two representatives of private landowner groups, and two timber industry professionals.

Table 1. List of partners of the 2-3-2, adapted from 232partnership.org

Agencies	NGOs
Bureau of Indian Affairs	San Juan Headwaters Forest Health Partnership
Colorado State Forestry Service	San Juan-Chama Watershed Partnership
New Mexico State Forestry Division	Forest Stewards Guild Southwest
Bureau of Reclamation	Trout Unlimited
US Forest Service	Chama Peak Land Alliance
–Carson National Forest	Wildfire Adapted Partnership
–Santa Fe National Forest	Colorado Forest Restoration Institute
–Rio Grande National Forest	Mountain Studies Institute
–San Juan National Forest	The Nature Conservancy, NM Chapter
Natural Resources Conservation Service	The Nature Conservancy, CO Chapter
Santa Clara Tribal Forestry Department	New Mexico Forest and Watershed Restoration Institute
Colorado Department of Fire Prevention & Control	Rio Grande Watershed Emergency Action Coordination Team
New Mexico Soil & Water Conservation Districts	Rio Grande Water Fund
Colorado Parks and Wildlife	National Wildlife Federation
Colorado Soil and Water Conservation Districts	

For confidentiality, each interviewee is referred to by a unique signifier that denotes the level of governance at which they operate: federal (F), state (S), tribal (T), as well as non-governmental individuals (NG) and industry partners (I). Many of our interviewees had intersectional identities, such as being a tribal member but working for an agency. Our signifiers denote the employer of an interviewee at the time of data collection.

Data collection involved conducting semi-structured interviews, an appropriate approach for eliciting interviewees' opinions and perspectives (Creswell & Creswell, 2017). Semi-structured interviews also allow interviewees to broach unexpected topics, increasing the researcher's likelihood of gaining an in-depth understanding of the mechanics explored in the research questions (Glesne, 2016). Interview questions focused on several major areas, including the formation and structure of the 2-3-2 and the costs and benefits of operating at the five-million-acre scale. According to our university's-approved human subjects research protocol, we recorded the interviews with permission from the interviewee and transcribed them using Rev software. We then cleaned transcriptions and removed other personal or sensitive information.

Table 2. List of interviewees by affiliation

Level	# Of Interviewees
Local, including Tribal, project, District, and Forest level	11
State	6
Regional	8
National	3
Total	28

We thematically analyzed the interview data using the coding software Dedoose. Coding involves organizing the interview transcripts into segments categorized based on themes that emerge from the data (Charmaz, 2006; Creswell & Creswell, 2017). Codes were developed through emergent themes and were not assigned theoretical constructs (Saldaña, 2013). To ensure consistent application of codes we

undertook an interrater reliability process with members of the Public Lands Policy Group (Campbell et al., 2013). The lead author conducted coding and wrote reflective and analytical memos throughout the coding process to summarize our learning and develop subcodes (Charmaz, 2006; Saldaña, 2013). Themes were later broken into subthemes to capture nuance in the data (Braun & Clarke, 2012).

Results

The results are organized to address each of our research questions and present a subset of our data for illustrative purposes. We have organized our findings in the subsections for our primary research questions, presenting themes generally from most to least common.

What factors drive the formation of umbrella collaboratives?

Most interviewees remembered how the 2-3-2 formed when two pre-existing local-level collaborative groups partnered to address restoration needs on a shared landscape. Many interviewees shared that Headwaters and the San Juan-Chama Partnership initially partnered to increase their capacity to address restoration needs on a landscape they could not impact independently. These local-level collaboratives were joined by local non-profit organizations such as Wildfire Adapted Partnership and Chama Peak Land Alliance and national NGOs such as the Forest Stewards Guild, Trout Unlimited, and the Nature Conservancy (see Table 1). Several interviewees emphasized that the local-level collaborative groups continued operating to achieve their goals. One interviewee remembered, "*Both [Headwaters and the San Juan-Chama Partnership] were interested in the three watersheds; both groups thought they should get together as a watershed partnership*" (S4). Thus, pre-existing collaborative efforts initially connected to conduct restoration activities at a level that would more effectively protect their communities and values on the landscape.

Many interviewees reflected that the 2-3-2 formed to become eligible for two funding opportunities at the federal level. First, interviewees recalled that partners learned of an opportunity to access funding made available by the USFS in 2016 to field units to implement projects in line with the

goals of the National Cohesive Wildland Fire Management Strategy. One interviewee remembered, "*In 2013, the partners held an initial tour to introduce the 2-3-2 Partnership to the Chief of USFS and Undersecretary of NRE. This tour was a success and helped secure the Cohesive Strategy dollars that initially launched the partnership*" (NG1). Then, in 2019, the partnership expanded its membership and geography to apply for funding through the Collaborative Forest and Landscape Restoration Program (CFLRP). That funding was awarded in 2022. One interviewee shared, "*The four forests knew that to be competitive for CFLRP, they needed to work across boundaries and collaborate with a stakeholder group. In this way, CFLRP inspired the USFS to join the 2-3-2, which already existed on the landscape"* (S3). Another interviewee reflected:

> "*The CFLRP has given the 2-3-2 a focus, so we're not just a bunch of partners meeting to be partners…We're not just meeting to have kumbaya circles. We prioritize efforts, leverage funding, discuss how we can move toward our objectives, and move things forward. Now and then, we can look back and say, yeah, we were able to make that happen*" (S1).

Federal-level funding opportunities through the Cohesive Strategy and CFLRP drove existing collaborative efforts to uplevel their partnership and form an umbrella collaborative.

Many interviewees pointed to a series of larger fires in the region that demonstrated to partners how historic fire suppression had created a landscape vulnerable to large fires. Most interviewees reflected that, at the time, the scale of management actions in the region would not impact the landscape-level fire regime. One interviewee remembered, "*We were way into recognizing that fire was doing something on the landscape that was outside the reach of natural variation, something serious that needed change" (S4).* Another interviewee reflected, *"We had to ask, 'How do we get ahead of this wildfire challenge? And it is, think bigger, think strategically. Bring the local communities along and stop doing your own shit in your own backyard"* (F9). Partners were driven by the need to impact fire behavior on the landscape.

Many interviewees recognized a need to coordinate complementary restoration activities across jurisdictions to address watershed conditions effectively. Several interviewees shared that direct implementation of restoration projects was not a key goal; rather, the 2-3-2 coordinated and supported its partners in implementing restoration activities. As one interviewee explained, *"It's not a watershed partnership. It's a team of watershed partnerships. And so, it doesn't try to do direct implementation like a watershed partnership does. It tries to support the partners in doing direct implementation by providing that coordination role"* (NG6) Partners of the 2-3-2 were motivated to scale up their collaborative groups to improve watershed conditions.

Table 3. Additional data on drivers of formation

Theme	Example Quotes
Pre-existing local-level collaboratives	*"Several groups existed on the landscape, some explicit collaboratives, others just groups of people working in a coordinated way towards watershed or forest health"* (S4).
	"Collaborative meets collaborative and forms super collaborative" (S3).
	*"If you were to draw a Venn Diagram of where different groups were working and what their interests were, we suddenly had a center around this Navajo/Blanca area." (*NG1)
	"The 2-3-2 reflects the community values present in the [local-level collaborative groups] but zooms out to affect the larger watershed and downstream water users" (NG2) .
	"The formation of the 2-3-2 was driven by concerns for conditions on the ground rather than to sidestep litigation or conflict. We all want to see conditions improve across the landscape and for it to become more resilient over time" (NG3).
Series of large fires in the region	"*The Cerro Grande Fire burned up a good portion of our watershed, forcing us to think outside the box and past our boundaries. Insects and fire don't see boundaries; they're just ripping across the landscape"* (T1)

Several interviewees described how the 2-3-2 landscape is uniquely connected by the San Juan-Chama Project, a BOR diversion tunnel that moves 110,000-acre feet of water over the Continental Divide from the Colorado Basin to the Rio Grande Basin. See Box 1 for more info. As one interviewee shared,

> *The San Juan-Chama [Diversion Project] is a massive water delivery project that provides crucial water supply to municipalities downriver. If a fire were to burn through those watersheds and the project were offline for ten years or more, it would have huge implications for how [Santa Fe and Albuquerque] operate.* (F7)

Though the Continental Divide separates the San Juan and Rio Chama watersheds, the diversion has prompted an interdependent relationship between collaborative groups on either side of the Divide.

How does the 2-3-2 allow for greater adaptiveness to different scale dynamics?

Many interviewees discussed how the 2-3-2 allowed partners to identify focal areas across boundaries collaboratively. One interviewee explained, "*We've created focal areas across the landscape based on these different values. We're trying to create a big map of the whole area for partners to use*" (NG2). One interviewee discussed how partners of the 2-3-2 identified focal areas, saying:

> *You create a quilt, and you create the geographic information on that quilt so that you can simultaneously be working in multiple areas, with your different partners who may have different values…you just kind of let people follow their interests, but you guide them to what's the priority within the landscape where they're interested in* (S4).

Collaboratively identified focal areas, they explained, allowed partners of the 2-3-2 to coordinate activities and address the highest priority acres on the landscape.

Many interviewees mentioned that partners of the 2-3-2 have diverse strengths and resources that the group leverages across the landscape. Several interviewees shared experiences about lending workforce capacity and other resources to partners to conduct restoration within collaboratively identified focal areas. One interviewee said, "*We can create more capacity by leveraging strengths rather than reinventing the wheel*" (F4). Another interviewee noted, "*The 2-3-2 welds those [local-level collaboratives] together to increase leverage and effectiveness across the landscape*" (NG3). In short, interviewees saw resource-sharing as a benefit of operating at the five-million-acre level.

Several interviewees shared how partners of the 2-3-2 maintained local-level relationships while organizing to attract federal funding. One interviewee noted, "*The [local-level collaboratives] have been around for a long time and have many key voices as a part of them; they really hold that local knowledge*

and allow us to connect to a broader audience and to share the local knowledge up through the 2-3-2" (F2). Simultaneously, members the 2-3-2 were looking for funding opportunities to support their cross-boundary work. As one interviewee remembered, *"[2-3-2 partners] recognized the state line between Colorado and New Mexico as artificial when it came to managing the watershed. They also saw an opportunity to leverage the Cohesive Strategy to secure funding"* (S3). Thus, partners of the 2-3-2 operated at different levels simultaneously, creating flexibility to organize at the level that best served the partnership at that moment.

Several interviewees mentioned that through the CFLRP, partners collected baseline monitoring data across multiple forests. The CFLRP requires a multi-party monitoring plan, which drove partners to develop monitoring protocols that could be carried out on all four forests. As one interviewee explained, "*If we have a bunch of partners and they're all gonna be doing monitoring on their land, we set up a system so that they all are collecting the same data so that it's comparable across the whole landscape*" (NG8). Monitoring across multiple forests to gather baseline data, interviewees explained, will help partners of the 2-3-2 respond to large-scale ecological dynamics of which they might not otherwise be aware.

Several interviewees discussed how partners of the 2-3-2 collaboratively planned fuels treatments. These interviewees bemoaned the ineffectiveness of past treatment plans. As one interviewee exclaimed,

> *I mean, how were we doing with the wildfire challenge back in 2015? Not very well. Did we have any solutions? No. We didn't know what we were doing. We were running around doing fuels treatments here and there. And then we were spending all our money on suppression. So we had no money for anything else as a result* (F9).

Several interviewees measured the success of the 2-3-2 by "*its ability to implement a cohesive plan across both Forest Service and private land that prioritizes the highest priority areas for treatment*" (F6). Through treating more meaningful acres, partners of the 2-3-2 intended to impact future fire behavior on the broader landscape.

Most interviewees reflected that they shared long-term goals for the landscape with other partners of the 2-3-2. For example, one partner said their main goal was to "*protect our waterways and headwaters, protect our forests, thereby protecting our communities*" (T2). Another partner wanted to "*put more power behind the effort to increase the resiliency of the landscape and return to a natural fire regime*" (S1). Another partner was focused on "*promoting resilient landscapes, protecting and improving water resources, and supporting economic and cultural resilience*" (NG11). Interviewees used slightly different language to describe these goals, but they all agreed that the partners were dedicated to restoring and protecting fire-adapted communities and resilient landscapes.

Many interviewees reflected that long-term goals give continuity of vision despite turnover in leadership. One interviewee explained, "*The group is resilient in spite of turnover in NGO leadership. It's more than a response to conflict or to a particular disturbance…Everyone is focused on the same goals, moving in the same direction*" (F5). Interviewees perceived shared long-term goals as balancing short-term disruptions, like changes in leadership.

Many interviewees mentioned CFLRP funding, which incentivizes longer-term planning and monitoring. Several interviewees noted that the 2-3-2 discussed monitoring before applying for the CFLRP but that it is a time- and resource-intensive undertaking. One interviewee said:

> *Our goal was–and I think we achieved the goal—to get this all-lands, multi-party monitoring plan in place for the 2-3-2. The Forest Service has been great, recognizing that half of [the CFLR] is non-federal, and so monitoring should be all lands. We haven't done a ton of monitoring, but we're building a plan so that we can do a ton of monitoring* (NG2).

Thus, committed, multi-year funding from the CFLRP allowed partners of the 2-3-2 to conduct the longer-term planning and monitoring that partners felt was necessary.

Several interviewees discussed balancing the short-term risks of prescribed fire and the long-term risks of large fires on an unmanaged landscape. One interview reflected, "*The conversation is really about proactive forest management… We did educational events, both as individual organizations and as the 2-*

3-2 and as the sub-collaboratives, around the importance of fire and trying to grow social tolerance for prescribed burns" (NG11).

Table 4. Additional data on adaptive characteristics of the 2-3-2 related to spatial scale

Themes	Example quotes
Maintaining local-level relationships…	*"The real success of the 2-3-2 is the local place-based collaboratives that are in a position to engage with stakeholders, bring forward the values for those communities"* (NG4).
	"The 2-3-2 was more of a relationship-building and networking space for years before we were like, 'Okay, we're going to be an entity that receives money together and does things with the money together"(NG3).
	"When my local place-based collaborative says, 'Hey, we're looking to address issues around Pagosa Springs…' well, Pagosa Springs is a small rural community, and that impact may not resonate with larger efforts. But when you say, 'Look, we have this work in Pagosa Springs, and it's in this key watershed, and it's working with these other partners to really address this watershed that serves over a million people in Albuquerque and Santa Fe.' You know, suddenly it gains relevance, and that attracts attention; it attracts funding" (I1)
…while organizing to attract federal funding…	*"Being awarded the CFLR funds really demonstrates how important this work is"* (NG7).
	"It's neat to see that level of high-profile program coming to the region" (F8).
	"I've never been able to draw that sort of large amount of funding or attention to this small corner of Colorado" (F6)
	"NGO partners want to make a bigger impact, and spending dollars on a landscape that already has funding from the CFLRP makes that possible" (NG5)
…and collecting baseline monitoring data across multiple forests.	"*The 2-3-2 has added capacity for us, especially with monitoring and prescribed fire efforts*" (F5).
	"Collaboration and monitoring are baked into the CFLRP" (NG2).
	"*If you can marshal the energy for a landscape that you've identified as high priority and have the rationale for why you want to be able to treat it at a scale that fits the ecological issue you are trying to address, the CFLR can help you do that. And the 2-3-2 was crucial to the CFLRP proposal."*

Another interview shared, "*This area doesn't have any huge burn scars; nothing is breaking it up, so there's a really scary potential for 15-mile runs if there were to be a fire*" (NG9). Partners of the 2-3-2

thus are attempting to balance the short-term risk from prescribed fire and the long-term risk of large fires; however, this is an ongoing conversation, and not all agree on the importance of prescribed fire versus thinning.

Table 5. Additional data on adaptive characteristics of the 2-3-2 related to temporal scale

Themes	Example quotes
Shared long-term goals	*"We try to line up our objectives and make sure everything we do is in line with those goals. Trying to organize the 2-3-2 forced people to articulate their interests, how much time or energy they were willing to dedicate, how much control they wanted"* (T2).
	"2-3-2 is an avenue for critical conversations about intentions, relationships, and values across the landscape. It has helped shift the focus beyond forests to watersheds" (NG10).
	"Part of what contributes to the success of the 2-3-2 is their willingness to put their best foot forward and move as a team. All the members are providing input [on priorities] which is important to the success of treating the landscape across the board" (S1).
Funding for long-term monitoring	"*The CFLR comes with a monitoring requirement, but the 2-3-2 talked about monitoring before the CFLR, so it was kind of already an interest there. But for the Forest Service, the best thing is monitoring. They're getting to say, 'We're doing it.'"* (NG9)
	"The CFLRP provides meaningful funding over a long period of time rather than forcing us to respond to the whims of changing administrations" (NG3).

Other Findings

Partners of the 2-3-2 face challenges bridging the gap between the knowledge held by Tribal and traditional communities on the landscape and 2-3-2 decision-making. The most explicit expression of this is the differing perspectives on the nature of the material that might be removed from the landscape during restoration activities. Most interviewees shared concern for the fuels that need to be removed from the 2-3-2 landscape. Many interviewees at the local or state level hoped to accomplish this work by partnering with small businesses. Other interviewees reflected that the 2-3-2 could prioritize Tribal business for restoration contracts. Several interviewees thought this restoration work could be better accomplished through prescribed fire; therefore, the partners of the 2-3-2 should increase their focus on building social license around prescribed burning. A few interviewees questioned the nature of the

material that might need to be removed from the landscape and viewed "*low-value restoration byproduct*" as critical firewood for Tribal and traditional communities. While some interviewees referred to "*junk wood*" and "*unmerchantable timber,*" other interviewees reflected on the "*contentious history around grazing and firewood between the land grant-Mercedes and USFS"* (F4). They expressed the desire to center 2-3-2 decision-making around values held by Tribal and traditional communities.

Most interviewees felt that the 2-3-2 could engage more effectively with the public and potential partners, especially Pueblos, Tribes, and *Mercedes* within the 2-3-2 landscape. Interviewees who worked with these communities stressed the importance of not grouping communities but thinking about the needs and values of each community individually. As one interviewee shared, *"The 2-3-2 needs to help the USFS rebuild trust with Tribes and Pueblos. Don't just invite them to our meetings; go to theirs"* (NG7). The colonial legacy and history of land dispossession deeply affect Indigenous and traditional communities on the landscape, interviewees shared, as well as the current fire regime.

Table 6. Additional data on challenges discussed in results

Challenges	Example Quotes
Engaging with Tribal and Traditional Communities	*"There are different constituencies in different parts of the landscape. We need to continue to be aware of who needs to be a part of decision-making as we move across the landscape"* (F9).
	"*232 is missing local voices. [Smaller collaboratives] are a better avenue for connection with local stakeholders. It's hard to connect with locals at the 2-3-2 level*" (NG4).
	"We need to think about how we work with Tribes in a trauma-informed way" (NG3).
	"We should support tribal enterprises, such as the timber industry and greenhouse and grow-out operations for reforestation" (F6).
	Rural Hispanic and tribal communities that are part of the 2-3-2 should feel that the organization has delivered important work in their priorities so that people are employed and feel ownership of the work" (T2).

Discussion

We investigated the factors that drove the formation of the 2-3-2 and how the partnership's organizational structure allowed for great adaptiveness to temporal and spatial scale mismatches. Our interviewees shared how the 2-3-2 was formed to address spatial scale mismatches between local-level collective action, landscape-level fire regimes, and federal-level funding. Interviewees reflected that preexisting local collaborative groups partnered to attempt to address landscape-level challenges, including fire risk and vulnerable water resources. This partnership was then formalized to attract funding available at the federal level. Interviewees viewed the 2-3-2 as responding to challenges of scale by collaboratively identifying focal areas, leveraging partner strengths, maintaining local relationships while pursuing federal funding, monitoring across four forests, and collaboratively planning fuels treatments. To address common temporal challenges, interviewees thought shared long-term goals allowed for continuity of vision, while committed long-term funding through the CFLRP allowed the 2-3-2 to conduct planning and monitoring with a longer timeline in mind. Finally, interviewees reflected on the challenge of balancing the short-term risk of prescribed fire with the long-term risk of large fires, and bridging epistemic communities to weave Indigenous and traditional knowledge holders into the 2-3-2 decision-making process.

How can we understand the 2-3-2 and the umbrella collaborative model through the lens of adaptive and collaborative governance theory? Adaptive governance is a framework that explores how to effectively coordinate the management of social-ecological systems in the face of complex and uncertain environmental challenges (Chaffin et al., 2014; Dietz et al., 2003; Folke et al., 2005). We examined normative concepts of adaptive governance like collective action, flexible problem-solving, and scale flexibility (Crona & Parker, 2012; Schultz et al., 2019). Collaborative governance and place-based collaboration can facilitate collective action and are critical aspects of adaptive governance for two primary reasons: to achieve greater adaptiveness, governance must be tailored to local conditions, concerns, and capacities; and collaboration is necessary to accomplish work across jurisdictional

boundaries (DeCaro et al., 2017; Folke et al., 2005). Nested, multi-level networks can support collaboration among organizations at local scales within the hierarchical structure of regional or national bureaucracies, allowing for some flexibility to respond to challenges that occur at different levels of s patial or temporal scale (Folke et al., 2007; Wyborn & Bixler, 2013). Policies that can be tailored to local concerns, conditions, and capacities set standards rather than rigid required processes and provide guidance and capacity at higher levels(DeCaro et al., 2017). For example, the CFLRP requires a multi-party monitoring plan but does not dictate specific markers or monitoring questions; it provides high-level funding and guidance but leaves specific plans to the project level (Schultz et al., 2014). This allows partners to be more flexible when problem-solving; they can draw from diverse knowledge holders and conduct implementation and monitoring to better fit their landscape and community needs. Boundary organizations are an important aspect of adaptive governance because they can facilitate collective action across boundaries by spanning different levels of governance and giving greater scale flexibility, and they can connect across epistemic communities (D. Cash et al., 2006; Crona & Parker, 2012; E. Davis et al., 2021).

The 2-3-2 is operating as a boundary organization, jointly led by NGOs and community members and supported by federal agencies at different levels and across state and regional boundaries. The umbrella collaborative model uses a multi-scalar approach to planning and management that operates across jurisdictions, governance levels, and through time. As a boundary organization, the 2-3-2 met federal-level policy requirements and attempted to address landscape-level ecological processes while maintaining local-level relationships and priorities. It also allowed the leveraging of knowledge, leadership, and capacity across time and space. These findings support previous scholarship demonstrating how boundary organizations can help partners negotiate diverse boundaries at the overlap of science, practice, and policy (Sternlieb et al., 2013). However, my findings contradict the evidence presented in the Rio Chama CFLRP Collaborative Assessment Report (2023). These authors report that

many participants in a survey of Rio Chama CLFRP members disagreed that ecological goals had experienced progress at that time. This may be more reflective of the Rio Chama CFLRP than of the 2-3-2 as a whole. Still, the discrepancy highlights the need for a closer examination of the ecological impacts of the 2-3-2 as an umbrella collaborative.

Literature also suggests that the 2-3-2 might act as a boundary *object*, rather than a boundary organization. A boundary object does not have to be a "thing," but could be a set of processes and agreements that obtain meaning from action–as in, how partners act towards and with the object (E. Davis et al., 2021). Our findings suggest that the umbrella collaborative model might blur the line between boundary organization and object, as it certainly engages actors across boundaries but is also a collection of agreements and standards for communicating across boundaries (Davis et al., 2021).

Factors that facilitated adaptive governance, again through collective action, scale flexibility, and tailoring solutions to the local context, include collaboratively identifying focal areas, leveraging partner strengths, maintaining local relationships while pursuing federal funding, monitoring across four forests, and collaboratively planning fuels treatments. Local-level collaborative groups exhibited effective collaboration within their seemingly independent watersheds but displayed scale flexibility by being able to partner to address a larger landscape. Partners of the 2-3-2 demonstrated effective collective action by collaboratively identifying focal areas and planning fuels treatments, and leveraging resources across the landscape, as demonstrated in the Rio Chama CFLRP Annual Report. The umbrella collaborative showed flexibility across spatial, temporal, and governance scales by monitoring across four forests and maintaining local relationships while pursuing federal funding, which required organizing at different spatial extent for different programs. As one example, the partners of the 2-3-2, after organizing to pursue Cohesive Strategy funding, then applied to the CFLRP, a federal-level policy that requires landscape-level coordination. Once awarded funding through the CFLRP, partners ensured that the policy-mandated processes were tailored to their local context by identifying focal areas across their landscape, collecting

monitoring data across all four forests, and maintaining high local-level relationships that built upon past work.

Factors that facilitated collaborative governance include developing shared goals for the landscape, leveraging capacity by sharing resources, and maintaining local-level collaborative dynamics. For instance, partners of the 2-3-2 collaboratively developed their multi-party monitoring plan that facilitated collective learning and large-scale forest planning. This aligns with others' findings that collaborative groups can support facilitating large-scale forest planning, introducing monitoring practices, and leveraging non-federal workforce capacity, and can have value at multiple levels, from the local, to the state and federal levels (Schultz & Moseley, 2019).

Theory suggests that major challenges to adaptive governance can be a lack of collective action, problems of scale fit, and a lack of solutions tailored to local context (DeCaro et al., 2017; Schultz et al., 2019). Other literature suggests that multi-level collective action might be more complex than a simple partnership between a homogeneous "state" and a unitary "community" (D. Cash et al., 2006). The 2-3-2 has laid a foundation for collective action and overcoming problems of scalar fit, but as with many collaborative efforts, progress remains slow and several issues still pose challenges and lead to setbacks. In our findings, the primary challenge to adaptive governance was the bridging of epistemic communities, especially those of marginalized and distinct Spanish land grant and Native communities, to better connect decisions to local values and priorities. A persistent challenge of collective action across scales is engaging diverse communities and building decision-making on diverse knowledges (Cash et al., 2006). Knowledge is held and perceived differently at different levels, which can result in a mismatch between local-level knowledge and decision-making at the leadership level within the 2-3-2. Despite being flexible along other scales, the 2-3-2 struggled to bridge the gap between epistemic communities and center tribal and other traditional values in their decision-making processes. Theory suggests that boundary organizations can act as intermediaries by translating, mediating, and supporting plurality, or the belief

that multiple systems of knowledges can be credible simultaneously (Cash et al., 20006). Interviewees felt that the 2-3-2 could be engaging in that role of cultural intermediary more effectively and helping the USFS rebuild trust with members of tribal and traditional communities; however, there was much work to be done in this arena. This is to be expected given that relationships between settler communities and tribes in New Mexico is part of a long and complex history fraught with violence, mistrust, and misunderstanding.

Adaptive governance explores the effective coordination of management actions in the face of uncertainty (Chaffin et al., 2004). In the case of the 2-3-2, the landscape will almost certainly see a wildfire in the coming decades, as the increasing frequency of larger fires in the region is undeniable. Therefore, in this case, adaptive governance has not been used as a tool for responding to uncertainty but rather for increasing resilience in the near-certain event of a fire on the landscape. By building an umbrella collaborative, partners of the 2-3-2 also stand ready to address future uncertainty on the landscape that might arise from post-fire regeneration, changing water flows, etc.

Collaborative governance has historically been used to build agreement around high-conflict areas of natural resource management (Ansell & Gash, 2008; Cheng et al., 2016). Literature suggests that collaborative governance has evolved beyond a tool to resolve conflict and instead is an essential strategy for managing natural resources across boundaries (DeCaro et al., 2017). Our findings suggest that collaborative governance is still being used to resolve conflict and avoid litigation; the scale of these potential conflicts is much larger than we have seen before. For example, the 2-3-2 is collaborating across two states that have been involved in a century of legal conflict concerning water rights (Flanigan & Haas, 2008). The Rio Grande Compact of 1938, the most recent agreement, requires Colorado to deliver a specific amount of water across the New Mexico state line based on runoff measured in the Rio Grande's headwaters. In turn, New Mexico is required to deliver water to Texas. The Rio Grande Compact costs the involved states millions of dollars in litigation costs each year (Flanigan & Haas, 2008). System context

makes it clear that the 2-3-2 is quietly and collaboratively restoring the headwaters of the Rio Grande and could be contributing to the quality and quantity of water flowing into New Mexico and on into Texas. Legal disputes over the allocation of river water are becoming increasingly common in the West. The umbrella collaborative model, which operates on multiple levels and across scales, could be operationalized in river basins across the West as an alternative or supplement to complex legal action.

The CFLRP is an innovative policy that is contributing to the effort to increase the pace and scale of forest restoration work and can incentivize the formation of umbrella collaboratives on appropriate landscapes (Bixler & Kittler, 2015; McIntyre & Schultz, 2020). However, there are many collaborative restoration efforts that are not eligible for CFLRP. Because the umbrella collaborative model can only be built upon pre-existing collaborative efforts, future restoration policy should look to support collaborative restoration efforts at every level of readiness (Huayhuaca et al., 2023). Partners of existing collaborative groups might consider the level they operate on and how that matches (or does not) the level of the challenges they intend to address. The unique confluence of contextual factors that drove the formation of the 2-3-2 leads us to believe that the umbrella collaborative model will not be the right fit for every landscape. However, partners could ask themselves a series of questions to gauge the effectiveness of the umbrella collaborative model in their context. First, are there existing collaborative groups nearby who share an interest in overlapping or adjacent geographies? Second, could these collaborative groups generate a shared vision that would allow each group to continue to pursue its own objectives while simultaneously motivating cross-collaborative planning and implementation? And third, are there funding opportunities available at a larger level that are not available at the level at which we are currently operating? Answering these questions with internal and external partners might shed light on the appropriateness of the umbrella collaborative model for the landscape in question. Further, we are noticing an influx of local-level collaborative organizations springing up to address wildfire challenges across the West, as well as guides or toolboxes intended to facilitate their formation (Huayhuaca et al.,

2023). As scholars and practitioners develop their guiding documents, they should incorporate these questions into their toolboxes.

Conclusion

This research examined why umbrella collaboratives form and how they can address issues of scale mismatch in forest and watershed management. Much of the adaptive governance literature related to scale focuses on a concern for scale mismatch. A different way to look at this is, rather than scale mismatch, that a need for scale flexibility is inherent to the management of complex social-ecological systems; it is simply the nature of society, ecology, and governance to move at different paces and act on different levels. Instead of teasing out and labeling the myriad different types of scale mismatch, perhaps the adaptive governance scholarship can move further towards acknowledging the diversity of scale-fit challenges and examining facilitating factors for flexible, nested institutions like umbrella collaboratives.

As a final note, we acknowledge that our research timeline prevented us from spending extended amounts of time on the landscape, which might have introduced us to more dissenting voices and perspectives from communities whose knowledge has been historically underrepresented in scholarship. Additionally, supplementing semi-structured interviews with document review and participant observation methodologies could have offered a deeper understanding of the context that surrounds the 2-3-2. In addition, our findings could be triangulated through further case studies to truly understand how umbrella collaboratives work and their role in adaptive governance. Future research might seek to understand the perspectives of actors on the landscape who consistently decline to participate in collaborative processes or to network with other collaborative groups. Another direction for future research could be into collaborative processes for managing restoration byproducts; while much research affirms that this is a problem for collaborative restoration groups across the western United States, our findings open some new questions about whether this is a problem of industry engagement or one of community engagement. Finally, at the time of our case selection, the authors were unaware of an

umbrella collaborative group operating at a similar scale of the 2-3-2. We are aware, however, of efforts that might be similar in some ways, including the Yellowstone to Yukon Conservation Initiative and Southwestern Crown of The Continent CFLRP. Future research might do a quantitative or network analysis of the 2-3-2 in comparison to another umbrella collaborative to determine if our findings are consistent across cases.

CHAPTER THREE: THE "CONGLABORATIVE APPROACH": PARTNER PERSPECTIVES ON THE TWO-RIVERS THREE-WATERSHEDS TWO-STATES (2-3-2) COHESIVE STRATEGY PARTNERSHIP

Executive Summary

This practitioner paper focuses on the Two Watersheds, Three Rivers, Two States Cohesive Strategy Partnership (the 2-3-2), a network of collaborative groups in the southwest United States. The 2-3-2 is unique in the scale of the landscape and the complexity of the network of groups involved. Our objectives were to: 1) understand what prompted the formation of the 2-3-2 and how it is structured, 2) identify perceived successes and impacts unique to the scale of the effort, 3) understand the challenges faced by the 2-3-2 and collect partner perspectives on strategies for overcoming these challenges. We conducted 29 interviews with partners of the 2-3-2 and other actors on the landscape who were affected by the efforts of the 2-3-2.

Key Findings

According to interviewees, the 2-3-2 was formed in 2016 to attract National Cohesive Wildland Fire Management Strategy funding. This initial impetus resulted in the partnership of two pre-existing collaborative forest and watershed restoration groups—the San Juan Headwaters Forest Health Partnership (SJHFHP) and the San Juan-Chama Watershed Partnership (SJCWP)—and the formation of the 2-3-2 Cohesive Strategy Partnership.

Most interviewees reflected that their original motivation in joining the 2-3-2 was their shared goal of improved ecological conditions and resiliency across the landscape. Many interviewees reflected that the 2-3-2 had spent significant time developing clear common goals and objectives and that this process facilitated the development of authentic relationships. The clarity of these shared priorities allowed partners to make meaningful decisions about the partnership's objectives.

Several interviewees stated that the 2-3-2 is "decentralized by design" and focused on relationships among people rather than relationships among organizations. Several interviewees reflected that this decentralized approach created a more resilient and adaptive partnership. While all interviewees reflected that the 2-3-2 benefits from strong leaders across non-governmental (NGO) and agency partners, a few interviewees also spoke with appreciation about the responsibility shouldered by some individuals in less formal leadership positions.

Many interviewees agreed that although the size and complex structure of the 2-3-2 make coordination a challenge, the 2-3-2 partnership is resulting in a positive impact on the larger region. Most interviewees found that the primary impact of the 2-3-2 was the creation of a complex, layered web of relationships. Several interviewees reflected this has made the 2-3-2 more resilient to changes (e.g., departure of individuals in key leadership roles and the changes that came with the receipt of Collaborative Forest and Landscape Restoration Program (CFLRP) funding).

All US Forest Service (USFS) interviewees reflected that the 2-3-2 adds significant value for the Forest Service through the added capacity and organization that the partnership provides in navigating planning under the National Environmental Policy Act (NEPA) and National Forest Management Act (NFMA). Many interviewees referred to the 2-3-2 as "a container" for forming relationships, especially among partners who would not usually communicate. USFS interviewees reflected that the 2-3-2 facilitated connections across forests and agencies.

Challenges and Recommendations

Interviewees reflected that the 2-3-2 faces several key challenges, including: 1) meeting their goals of including diverse priorities and knowledges in decision-making; 2) finding ways to achieve compelling storytelling and public engagement; and 3) identifying pathways for the utilization of woody restoration byproducts.

Most interviewees felt that the 2-3-2 could engage more effectively with the public and potential partners, especially Pueblos, Tribes, and land grant communities, or *Mercedes*, within the 2-3-2 landscape. Interviewees offered several specific strategies for improving these relationships, including: 1) intentional, consistent relationship-building between leaders within the 2-3-2 and leaders in Tribal communities; 2) funding a Tribal Liaison position or passing funding on to a Tribal partner to fill such a position; and 3) contracting Tribal crews to conduct fuels treatments and other restoration work.

Several interviewees acknowledged that there is also a need for more connection with *Mercedes*. One suggested strategy was to strengthen relationships with Soil and Water Conservation Districts and Natural Resources Conservation Service (NRCS) extension offices. Interviewees thought these organizations could help the 2-3-2 understand the needs and values of these communities, especially surrounding water quality and quantity.

Many interviewees said they have struggled to demonstrate the value of the 2-3-2 to the public and potential partners. Many interviewees stressed the need for a comprehensive communication strategy, including public outreach and education. Several interviewees brought up the idea of targeted or "precision storytelling," in which the message and delivery method of communication are matched with the priorities of the intended recipient. Several interviewees reflected that a critical aspect of communication is asking questions and listening.

Finally, many interviewees acknowledged that the 2-3-2 requires the large-scale removal of low-value forest restoration byproducts to meet their goals. Interviewee perspectives differed on the major barriers to, and best strategies for, removing material from the landscape. Several interviewees noted a need for more partner involvement in the Biomass Subcommittee, which has seen turnover in leadership and a lack of engagement. Several interviewees felt that the 2-3-2 should step back from utilization and focus on increasing social license around prescribed burning.

Introduction

This research paper focuses on the 2-3-2 Cohesive Strategy Partnership (the 2-3-2), a network of collaborative groups in the southwest United States. The 2-3-2 is unique due to the diversity of partners involved, the geographic scale of the project, and the depth of connections among the individuals involved; as such, it may provide broader lessons about the scale of collaborative efforts in natural resource management.

Collaboration arose as a tool for natural resource management in the United States during the 1990s, mainly as a response to the legal stalemate between the US Forest Service (USFS) and groups focused on environmental protection. Since then, the purpose of collaboration has shifted from a tool for overcoming conflict to an opportunity to increase the pace and scale of critical forest restoration work. Prior research acknowledges that as forest managers and their collaborators continue to adapt to a changing climate, effective landscape restoration requires matching the scale of collective action with the scale of the ecosystem characteristics to be managed. In the case of fire-prone forests, this means working at larger spatial extents, often referred to as working at the "landscape-scale" rather than a stand scale. On one hand, collaboration may help address landscape-scale challenges; on the other hand, effectively collaborating across a large geographic region may present difficulties—the inefficiency of coordinating large groups, increased bureaucracy, or diluted goals. Given these dynamics, understanding the factors that motivate the formation and persistence of landscape-scale collaborative efforts is essential.

To deepen our understanding of collaborative efforts at the landscape scale, this research studied the 2-3-2, a network of collaboratives. As noted above, the 2-3-2 is unique in the scale of the landscape and complexity of the network of groups involved, requiring unique terminology. In this research, we refer to networks or conglomerates of collaborative groups as "conglaboratives." Our objectives in studying this conglaborative were three-fold:

1. Understand what prompted the formation of the 2-3-2 and the factors that have contributed to the group's persistence.
2. Identify perceived successes and challenges unique to the scale of the effort.
3. Collect partner perspectives on strategies for overcoming these challenges.

2-3-2 Background

The 2-3-2 is a cross-jurisdictional network of pre-existing collaborative groups, state and federal land and water management agencies, and local and national non-government organizations (NGOs). Partners of the 2-3-2 work together to preserve ecosystem integrity, water quality, wildlife habitat, and community resilience across approximately five million acres in southern Colorado and northern New Mexico. Nearly half of the landscape that the 2-3-2 seeks to restore is managed by the USFS across the San Juan, Rio Grande, Carson, and Santa Fe National Forests. Because these four forests span two separate management regions for the USFS, the 2-3-2 requires interagency collaboration between USFS regions. The remaining project area includes lands managed by the Jicarilla Apache Nation, Southern Ute Indian Tribe, Santa Clara Pueblo, Tesuque Pueblo, and Ohkay Owingeh Pueblo, as well as the States of Colorado and New Mexico, the Bureau of Land Management, and private landowners. NGO members of the 2-3-2 include non-profit collaborative organizations such as the San Juan Headwaters Forest Health Partnership, Wildfire Adapted Partnership, Chama Peak Land Alliance, San Juan-Chama Watershed Partnership, as well as national NGOs such as Trout Unlimited and the Nature Conservancy. For a more complete list of partners at the time of our data collection, see Table 6 below.

The name “2-3-2" refers to two watersheds, three rivers, and two states. The geography encompassed by the 2-3-2 is defined by water. Water transport in the 2-3-2 landscape includes natural watersheds and major trans-basin diversions. These water systems implicate and connect the diverse communities that live on and benefit from the watersheds across the 5-million-acre partnership area.

Table 7. List of partners of the 2-3-2, adapted from 232partnership.org

Agencies	NGOs
Bureau of Indian Affairs	San Juan Headwaters Forest Health Partnership
Colorado State Forestry Service	San Juan-Chama Watershed Partnership
New Mexico State Forestry Division	Forest Stewards Guild Southwest
Bureau of Reclamation	Trout Unlimited
US Forest Service	Chama Peak Land Alliance
–Carson National Forest	Wildfire Adapted Partnership
–Santa Fe National Forest	Colorado Forest Restoration Institute
–Rio Grande National Forest	Mountain Studies Institute
–San Juan National Forest	The Nature Conservancy, NM Chapter
Natural Resources Conservation Service	The Nature Conservancy, CO Chapter
Santa Clara Tribal Forestry	Rio Grande Water Fund
Colorado Parks and Wildlife	New Mexico Forest and Watershed Restoration Institute
Colorado Department of Fire Prevention & Control	Rio Grande Watershed Emergency Action Coordination Team
New Mexico Soil & Water Conservation Districts	National Wildlife Federation
Colorado Soil and Water Conservation Districts	

The San Juan-Chama Diversion Project, constructed by the Bureau of Reclamation (BOR) in the 1960s, was intended to offset Albuquerque's overuse of its underground aquifer by transferring an average of 110,000 acre-feet of water from three headwater streams in the San Juan watershed across and through the Continental Divide into the Rio Chama (Glaser, 1998). This water supplements the groundwater on which Santa Fe, Albuquerque, and the Jicarilla Apache Nation depend (Flanigan & Haas, 2008).

In addition to its geographical and ecological context, the 2-3-2 exists against a unique cultural background. The 2-3-2 landscape encompasses several Pueblos, Tribal reservations, and land grant communities or *Mercedes*, communities established by Spanish and Mexican land grants and often associated with communal water management systems known as acequias. In particular, the Pueblos of Santa Clara, Tesuque, Ohkay-Owingeh, Nambe, Pojoaque, and San Ildefonso, the Jicarilla Apache Nation and Southern Ute Reservations, as well as a number of *Mercedes* are found in the partnership area. Each of these communities possesses unique rights, traditions, and practices in managing natural resources.

Likewise, each of these communities has long histories of marginalization and discrimination by federal and state authorities—histories that must be acknowledged when examining the formation and function of the 2-3-2.

Approach

We chose to research the 2-3-2 because of the scale of the effort, the diversity of collaborative groups partnering on the landscape, and its uniqueness as a conglaborative. Our network of forestry researchers at Colorado State University provided initial connections to the facilitators of the 2-3-2.

We then conducted qualitative semi-structured interviews designed to facilitate a deeper understanding of interviewees' perceptions (Glesne, 2016). We conducted initial interviews with the co-facilitators of the 2-3-2 to develop a list of partners to interview and then transitioned to "snowball sampling" by asking interviewees for names of other potential participants to develop a list of key players in the 2-3-2 (Glesne, 2016). Interviewees included participants in the 2-3-2 and actors within the region who may not be actively engaged in the 2-3-2 but may be impacted by its activities. Our sample of participants included representatives from the Santa Clara Pueblo, USFS, Colorado State Forest Service (CSFS), New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), as well as local and national NGOs (see Table 7). We conducted 29 confidential interviews from September 2022 to July 2023.

Table 8. List of interviewees by affiliation

Governance Level	# Of Interviewees
Local, including Tribal, project, District, and Forest level	11
State	6
Regional	8
National	3

The primary information we sought from interviewees included their perspective on the motivating factors in the formation of the 2-3-2, the quality of relationships within the group, and the impact the 2-3-2 might be having on the region as a whole. Interviews were voluntary and confidential.

They were recorded, transcribed, and coded for analysis to identify key themes. The findings in this report were derived from our analysis of our interview data (i.e., the perceptions of our interview participants). We present our research findings in three sections:

- The formation and structure of the 2-3-2;
- The perceived successes and impacts of the 2-3-2; and
- The unique challenges faced by the 2-3-2 as a conglaborative group and recommendations for overcoming those challenges.

Key Findings

The 2-3-2 was formed in 2016 to attract National Cohesive Wildland Fire Management Strategy funding. Individuals from the USFS Washington Office, the Nature Conservancy, the New Mexico State Foresters office, and a local watershed health group near Pagosa Springs, Colorado, met at a conference in Denver and discussed the connection between the watersheds in Colorado that supply water to Santa Fe and Albuquerque. This initial connection resulted in the partnership of two pre-existing collaborative restoration groups—the San Juan Headwaters Forest Health Partnership (SJHFHP) and the San Juan-Chama Watershed Partnership (SJCWP)—and the formation of the 2-3-2 Cohesive Strategy Partnership. In 2019, the partnership expanded in membership and geography in order to apply for funding through the Collaborative Forest and Landscape Restoration Program (CFLRP). The Rio Chama CFLRP was funded in 2022 and covers 1.9 million acres and overlaps significantly with the 2-3-2 Partnership area.

Most interviewees reflected that their original motivation to join the 2-3-2 was their shared goal of improved ecological conditions and resiliency across the landscape. Many interviewees reflected that the 2-3-2 had spent significant time developing clear, common goals and objectives and that this process facilitated the development of authentic relationships, a strength explored more fully below. The clarity of these shared priorities allowed partners to make meaningful decisions about the partnership's objectives. Most interviewees discussed several key shared goals, including:

- Stewarding the landscape for the long-term benefit of diverse stakeholders;
- Practicing adaptive management of a holistic ecosystem: connecting forest health, watershed health, and public health; and
- Increasing workforce capacity on the landscape by coordinating efforts and leveraging partner strengths.

Several interviewees stated that the 2-3-2 is "decentralized by design" and focused on relationships among people, rather than relationships among organizations. Many interviewees described the 2-3-2 as a "team of teams," or a conglomerate of collaboratives or "conglaborative." However, to maintain the confidentiality of our interviewees and to simplify our description of the structure of the 2-3-2, we organized our understanding around the relationships among organizations. The 2-3-2 is comprised of partnerships among two local place-based collaboratives, several Pueblos, four National Forests, two USFS Regions, two state forestry divisions, and multiple non-profit organizations (NGOs). The place-based collaboratives are the San Juan Headwaters Forest Health Partnership, the San Juan-Chama Watershed Partnership, and the Chama Peak Land Alliance. Each of these groups had a pre-existing collaborative relationship with National Forests—the San Juan and Rio Grande National Forests in USFS Region Three and the Carson and Santa Fe National Forests in Region Two. The partnership among these place-based collaboratives is co-coordinated by paid staff from the Mountain Studies Institute (MSI) and the Forest Stewards Guild (FSG), as well as the Nature Conservancy (TNC), Trout Unlimited, and Wildfire Adapted Partnership. See Figure 1 for a diagram that represents a snapshot of partner connections at the time of our research. Interviewees emphasized that this structure is dynamic and flexible as the partnership adapts to changes in leadership or NGO involvement. Many interviewees referred to the 2-3-2 as a "container" that creates a culture of connection, a "constellation of people and organizations" that come and go. Interviewees also reflected that the container of the 2-3-2 is more porous than the container of the associated Rio Chama CFLRP, because of the more formal structure required by the CFLRP.

All interviewees reflected that the 2-3-2 benefits from strong leaders across NGO and agency partners. Leadership within the 2-3-2 takes two forms: co-facilitators and the Executive Committee. The NGO co-facilitators organize meetings, manage communications, and address the administrative tasks of running the partnership. All interviewees stressed the importance of the NGO facilitators of the 2-3-2 and their skills in navigating social and logistical challenges. The Executive Committee meets monthly and is responsible for setting the partnership's strategic vision and producing documents and other work products to further the goals of the 2-3-2. In addition to the Executive Committee, there are subcommittees focused on monitoring and utilization of forest restoration byproducts.

In addition to formal leadership, interviewees shared experiences of individual partners taking the initiative to advance projects that aligned with their personal goals and the goals of their home organization. As one interviewee reflected, “Different types of leadership exist. There's the CFLRP project lead, the board of forest supervisors, the executive committee. The roles can be kind of nebulous, but it works." Several interviewees reflected that the 2-3-2 benefitted from having power and responsibility distributed among NGO and agency partners, and that this decentralized approach creates a more resilient and proactive partnership. A few interviewees spoke about the responsibility or accountability required by some of the less formal leadership positions. These interviewees reflected that shared professional goals and a shared commitment to the landscape, rather than a formal system of accountability, motivate 2-3-2 partners. The decentralized nature of the 2-3-2 and the focus on forming and maintaining high quality relationships make it a more nimble and adaptive organization. Rather than being weighed down by bureaucracy, its size and complexity work to the conglaborative’s advantage.

Many interviewees agreed that although the size and complex structure of the 2-3-2 make coordination a challenge, the organization is having a positive impact on the larger region. Interviewees reflected that impacts are primarily happening on the ground at the local level because the 2-3-2 fosters relationships among groups that implement shared restoration goals. Rather than directing and

implementing restoration activities, the partnership improves connections and communication among partners to support the implementation of coordinated and joint projects.

Most interviewees found that the primary impact of the 2-3-2 was the creation of a complex, layered web of relationships. One interviewee from a local NGO said, "*It's not even just the work getting done. It's the relationships, the partnerships, the dialogue, the creativity, the issues that came forward, the things I never would have considered.*" Several interviewees reflected that this complex nature of overlapping relationships has made the 2-3-2 more resilient to changes, such as the departure of individuals in key leadership roles and the absorption of CFLRP funding. A few interviewees postulated that this complexity might also allow the group to be more adaptive in the face of a fire on the landscape.

When asked about the impacts of the 2-3-2 on the landscape, many interviewees pointed to the importance of the funding awarded through the CFLRP in 2022. Many interviewees felt that without a well-organized collaborative group ready to receive funding, the region would not have attracted such significant funding as they received through the CFLRP award. As one interviewee said, "*It's neat to see that level of high-profile program coming to the region.*" Interviewees reflected that being selected to receive CFLRP funding translated to a few paid positions for NGO partners, an increased level of monitoring and accountability, and strengthened connections with federal policymakers, including senators from Colorado and New Mexico.

All USFS interviewees reflected that the 2-3-2 adds significant value for the Forest Service. Many agency interviewees shared that a significant contribution made by the 2-3-2 is the organization and added capacity that the partnership provides in navigating the processes that the USFS must complete under the National Environmental Policy Act (NEPA) and National Forest Management Act (NFMA). Agency interviewees also noted that the members of the 2-3-2 have legitimate relationships with communities across the landscape and assist the USFS as the agency attempts to engage these

communities and demonstrate the value of proposed actions. One agency interviewee noted, "*Our NGO partners really drive action; they are nimbler than the USFS and they can do things we can't do."*

Most agency interviewees report that there is a unique network of collaborative relationships across forests and regions, as well as among levels of leadership within a particular forest. Many agency interviewees reflected that the 2-3-2 has provided a context where Forest Supervisors and their staff have developed unique, positive, and authentic relationships with staff on nearby forests. Several interviewees mentioned that the 2-3-2 encouraged more collaboration across the Forest Service by setting an example of impactful large-scale collaboration.

Many USFS interviewees reflected that the 2-3-2 facilitated connections across forests and agencies, especially among partners who would not usually communicate. For example, officials from the Bureau of Reclamation, which maintains infrastructure that runs through land managed by the USFS, formed relationships with USFS line officers. As one agency partner expressed, "*The power of relationships made as a part of meeting regularly is priceless. It allows us to advance conversations about how we manage the landscape. It brings forward opportunities to share resources constantly*."

Many interviewees reflected that the 2-3-2 is having a positive impact on the broader region. Partners reflected, though, that impact primarily takes the form of improvements to the social, not ecological, context. Most of the impacts that interviewees spoke of involved improved relationships and demonstrating that this level of collaboration is possible. One NGO interviewee said:

> *I see the 2-3-2 as a microcosm of the techniques we're using to get agencies talking to each other and to us. The 2-3-2 has contributed to this big-picture narrative that we need to learn how to work across all kinds of boundaries: landownership, state lines, regional lines*

A few interviewees mentioned that it would be difficult for the 2-3-2 to "*point to an acre of work that has been completed by the 2-3-2."* These interviewees stressed that the 2-3-2 does not conduct forest or watershed restoration work but rather connects, supports, and facilitates its partners conducting that work.

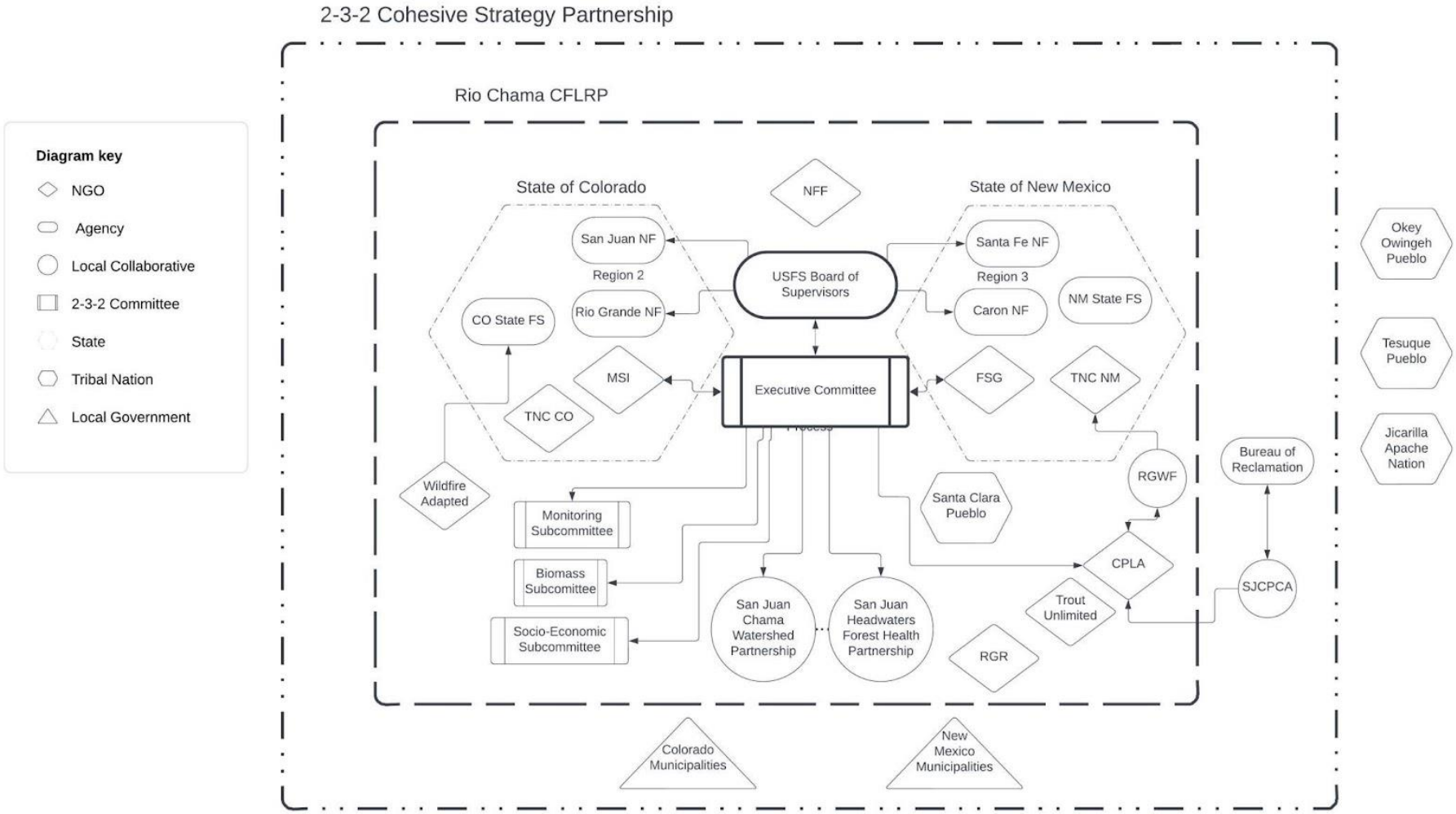

Figure 1. Diagram of partners of the 2-3-2 at time of data collection

Challenges & Recommendations

As they work towards achieving their goals, interviewees reflected that the 2-3-2 faces several key challenges that are commonly reported in the literature, including limited agency and partner capacity, disruption to collaborative relationships by agency turnover, and lack of industry investment. While these are relevant challenges, they are currently inherent to forest restoration across the United States. This report focuses on challenges that are unique to the scale of the 2-3-2. These challenges are presented below and followed by recommendations offered by interviewees for overcoming each challenge. The key challenges from most interviewees' perspectives include: diversity and inclusion across a large landscape; effective storytelling and public engagement; and the utilization of woody restoration byproducts.

Most interviewees felt that the 2-3-2 could engage more effectively with the public and potential partners, especially Pueblos, Tribes, and *Mercedes* within the 2-3-2 landscape. Many interviewees reflected that the 2-3-2 has a good reputation across the landscape despite the history of conflict and oppression between the federal government and many communities. Nonetheless, many interviewees reflected that there is a gap between traditional and Indigenous knowledges and 2-3-2 decision-making. As one NGO partner reflected, "*Local knowledge is supposed to be passed up to the 2-3-2 through the place-based collaboratives, but that isn't really happening."*

Interviewees offered several specific strategies for improving these relationships. See Table 8 for an overview of these recommendations. First, several interviewees reflected that there needs to be intentional, consistent relationship-building between leaders within the 2-3-2 and leaders in Tribal and land grant communities. The colonial legacy and history of land dispossession deeply affect Indigenous and traditional communities on the landscape. As one NGO interviewee reflected, "*We need to think about how we work with Tribes in a trauma-informed way*." Interviewees who worked with these communities stressed the importance of not grouping communities together but thinking about the needs

and values of each community individually. A few interviewees reflected on the difference between building reciprocal relationships and focusing on transactional outcomes, like Memorandums of Understanding (MOUs). These interviewees emphasized that those need to be distinct processes in which relationships are not "leveraged" for formal outcomes. As an agency interviewee said, "*The 2-3-2 needs to help the USFS rebuild trust with Tribes and Pueblos. Don't just invite them to our meetings; go to theirs.*"

Second, several interviewees suggested funding a Tribal Liaison position or passing funding on to a Tribal partner to fill that position. Interviewees suggested that the responsibilities of this position ideally would be determined by Tribal partners and their priorities. Interviewees recommended creating a comprehensive plan for elevating the perspectives of communities that have historically been excluded from decision-making in land management. This could include:

- Building consistent, long-term relationships with Tribal councils and governors;
- Demonstrating the value that the 2-3-2 could provide to Tribes;
- Sharing information in a more accessible format, maybe through Tribal newspapers or radio stations;
- In addition to inviting Tribal and land-grant communities to meetings, tracking and offsetting costs for community members to attend partnership meetings.

Third, a few interviewees suggested leveraging existing capacity and transferring power to Tribal partners by contracting Tribal crews to conduct fuels treatments and other restoration work. This could be done through facilitating youth conservation corps or the All-Hands All-Lands Burn Crews, which interviewees acknowledged would require ensuring consistency in red card certification across land ownership types. Interviewees reflected that these strategies might facilitate trust and partnership-building that would weave Traditional Ecological Knowledges (TEK) within 2-3-2 decision-making while maintaining a respectful and mutually beneficial relationship.

Several interviewees acknowledged that there is also a lack of connection with *Mercedes*, or land grant communities. These interviewees discussed a history of federal forest policy criminalizing traditional life ways. Several interviewees reflected that the 2-3-2 could be a boundary-spanning organization and help the USFS connect with land grant communities. One suggested strategy is to focus on strengthening relationships with Soil and Water Conservation Districts and NRCS extension offices, as these organizations often have relationships with land grant communities and could help the 2-3-2 understand the needs and values of these communities, especially surrounding water quality and quantity. One partner reflected that the scale of the 2-3-2 is too large to be impactful for acequias, but they suggested that there is still work that the 2-3-2 could do to demonstrate the impact of their work on the water available to these communities.

Many interviewees shared stories of the struggle to demonstrate the value of the 2-3-2 to the public and potential partners. They reflected that education and outreach are full-time jobs that go beyond marketing to connecting with local industry and stakeholders to demonstrate the value of the 2-3-2 and how it relates to stakeholders' interests. Many interviewees stressed the need for a comprehensive communication strategy, including public outreach and education. Most interviewees acknowledged that specific opportunities exist to connect more meaningfully with Indigenous communities, local municipalities, young residents, state game agencies, and water boards.

Several interviewees brought up the idea of targeted or "precision storytelling." In this style of public communication, the value that the 2-3-2 provides is matched with the intended recipient of the information, including the many different demographics that the 2-3-2 hopes to engage with— school kids, educators, majordomos, local and state-level politicians, and Tribal elders. The format through which the information is delivered should also be matched with the intended recipient. As one partner suggested:

> *Think about who the audience is and what they need to know. What story do they need to hear to inspire them to work with us? Don't tell everyone the same story about prescribed fire. The*

governor doesn't need to hear the same story as the person who lost their home in the fires last year.

Several interviewees reflected that a key aspect of communication is asking questions and listening. For example, interviewees suggested that partners of the 2-3-2 could host "listening sessions" in partnership with local government, homeowners' associations, or other community organizations. These sessions could offer an opportunity for community members to share their priorities and concerns and, in turn, offer partners of the 2-3-2 the opportunity to illuminate the connection between these priorities and the value that the 2-3-2 creates. Several interviewees suggested hosting field trips for school children and volunteer opportunities for high school students as strategies for engaging with community members.

Many interviewees acknowledged that to meet their goals, the 2-3-2 requires the large-scale removal of low-value forest restoration byproducts. While many forest restoration projects in the western United States face this issue, the 2-3-2 landscape has an added cultural component. The landscape is home to many communities that heat their homes solely with firewood harvested by community members. Local woodcutters, or *leñeros*, value the small diameter material that might be removed during forest restoration thinning and gather it for firewood and other uses.

Interviewee perspectives differed on the major barriers and best strategies for removing material from the landscape. Federal-level interviewees reflected that the major barrier to industry involvement is conducting large-scale NEPA analyses, while interviewees operating at the local level acknowledged that the 2-3-2 has struggled to effectively engage industry partners, especially smaller, local business owners. Interviewees suggested that partners of the 2-3-2 should connect with and support small local businesses innovating to use restoration byproducts. For example, several local industry interviewees expressed the need for USFS contractors to stack slash in a removable way so industry partners could "*come in and chip behind them*."

Table 9. Partner recommendations for improving practice.

Recommendation	Specific Actions
Strengthen relationships with Indigenous communities	Listening and Building Trust • Ask Tribes how they want to be involved in the prioritization process. • Build authentic relationships between leaders of the 2-3-2 with Tribal councils and/or governors. Sharing Benefits • Share 2-3-2 stories in Tribal newspapers or radio stations. Transferring Power • Fund a Tribal Liaison position or pass funding to a Tribal partner for this position. • Contract Tribal crews to implement 2-3-2 restoration work. • Build relationships with Soil and Water Conservation Boards. • Demonstrate the impact of the 2-3-2's work on water available to acequias.
Strengthen relationships with *Mercedes*	• Fit storytelling medium and content to the desired audience's values. • Partner with local organizations to host "listening sessions."
Develop a comprehensive communications plan	• Host field trips for school children and volunteer opportunities for high school students. • Support USFS in creating conditions-based NEPA documents. • Connect with and support local small businesses that are innovating to use restoration byproducts.
Increase focus on utilization of forest restoration byproducts	• Train USFS contractors to stack slash in a removable way, so local partners can "come in and chip behind them." • Discuss potential projects that the Biomass Subcommittee might take on. • Engage partners in making a tangible difference on the landscape. • Make this a sub-goal of the comprehensive communications plan.
Improve public opinion on prescribed burning	• Hold listening sessions to better understand community perspectives. • Focus on the benefit communities might see as a result of prescribed burns.

Several interviewees noted a lack of partner involvement in the Biomass Subcommittee. which has seen turnover in leadership and a lack of engagement. A few interviewees suggested that the Biomass

Subcommittee determine how to value the timber in the project area and choose a utilization path based on the value of the material present. Several interviewees wanted to see more local generation of biochar and bioenergy, preservation of bigger logs for dimensional lumber, and development of markets for smaller restoration byproducts.

Several interviewees felt that the 2-3-2 should step back from utilization and focus on increasing social license (i.e., public acceptance of active forest management by the USFS) around prescribed burning. Several interviewees reflected that there is not enough dimensional lumber coming off the landscape to make a difference in the economics of these rural communities. These interviewees felt that prescribed fire and cultural burning were the most effective strategies for increasing the resiliency of the landscape.

Partner Recommendations for Changes in Governance

Many interviewees suggested changes to existing policy to better support the work of the 2-3-2. These recommendations include:

- Federal funding for more leadership roles across the organization (members of the Executive Committee, chairs of subcommittees, Tribal Liaison, etc.);
- Federal funding for a Partner Coordinator or other boundary-spanning position within the USFS; and
- Formalizing a transition strategy to help transfer institutional knowledge and maintain relationships among organizations despite turnover in individual positions.

Several interviewees suggested that positions on the Executive Committee be funded (either with CFLRP dollars or NGO matching funds), as well as leadership positions in subcommittees. Members of the Executive Committee worry that their colleagues might not have enough time to "*do the job justice.*" Many interviewees reflected that their colleagues are expected to do unpaid work in addition to their full-time jobs. Additionally, a few agency interviewees expressed concern about "*pushing partners too much because they work very hard and are spread very thin.*" Funding and formalizing leadership positions on

the Executive Committee and Subcommittees would acknowledge the time partners spend making the 2-3-2 work. Several interviewees reflected that more funded leadership roles across the partnership would create clarity about expectations and pathways of communication within the 2-3-2. If there is a gap in skillset or interest, like with the Biomass Subcommittee, interviewees suggest that the 2-3-2 could invest in either training or recruiting to increase expertise.

Many interviewees suggested creating permanent positions to build a bulwark against inevitable agency turnover. First, interviewees suggested the creation of a permanent position for a liaison between the Executive Committee and the Board of Supervisors. They also suggested that there should be a partnership coordinator at each USFS unit level to connect with stakeholders and support District Rangers in translating regulations and stakeholder requests. Several agency interviewees acknowledged that they often find themselves juggling their responsibilities to the 2-3-2 with other requirements for their job and expressed appreciation for supervisors who emphasized the importance of collaboration by encouraging them to prioritize their 2-3-2-related responsibilities.

Several interviewees suggested creating a transition strategy to help transfer institutional knowledge and maintain relationships among organizations despite turnover in individual positions. One part of this strategy could be a formal agreement between the USFS and the 2-3-2, distinct from the funding MOU. The agreement would formalize existing relationships and document verbal or otherwise implicit agreements, such as when a line officer consults with the Executive Committee in the decision-making process. This document could outline how the incoming staff member should interact with the 2-3-2. Another aspect of the strategy could be ensuring there is an overlap in the tenure of incumbent and incoming staff and mandating the backfilling of positions in partnership roles.

Questions for Further Examination

Many interviewees shared ideas and recommendations that do not fit neatly into the above categories but still add value. They include:

- Revisit the 2-3-2 mission statement at the start of a new project to ensure it aligns with the goals of the partnership. Similarly, revisit the strategic plan regularly to assess the group's progress;
- Develop a worst-case scenario plan in the case of a large-scale, high-severity wildfire on the landscape;
- Commit to a central repository for information on partner projects and progress—the New Mexico Shared Stewardship Portal could be a good place;
- Encourage leaders of subcommittees to schedule in-person meetings adjacent to full partnership meetings and to give quarterly or annual reports to the Executive Committee; and
- Deepen connections across levels of USFS leadership and across forests—maybe a social hour for USFS staff so staff from different forests could get to know each other.

Conclusion

In summary, our research found that the 2-3-2 benefits from clear, collaboratively developed goals, a broadly distributed responsibility, and long-lasting, dynamic relationships among partners. The primary success of the 2-3-2 is the creation of a complex, layered web of relationships among individual members of the partner organizations. The 2-3-2 has also attracted federal funding to a landscape that might otherwise be overlooked and raised expectations about the level and depth of collaboration to address challenges presented by a changing climate. The 2-3-2 faces challenges unique to the scale of the landscape, including incentivizing local industry engagement and effectively connecting with the public, especially with communities that have been historically underrepresented.

We focused on interviewee recommendations for addressing these challenges, which included an increased focus on the utilization of restoration byproducts, strengthening relationships with Pueblos, Tribes, and land grant communities, and developing a comprehensive communications strategy to increase the efficacy of public outreach efforts with storytelling campaigns tailored to the intended audience. We also offered recommendations for governance improvements, including increasing USFS

funding for leadership positions across the conglaborative and formalizing boundary-spanning positions within the USFS to address challenges inherent in agency turnover.

In sharing the history, structure, successes, and challenges of the 2-3-2, we hope to demonstrate the possibility of large-scale collaboration in geographical contexts that have previously seemed insurmountable. Our hope is that this paper inspires conversations within existing collaborative groups about the scale at which they collaborate and the costs and benefits of scaling up their partnerships.

The 2-3-2 did not form to overcome NEPA-related conflict, as many collaborative groups have in the past. Instead, the 2-3-2 is the product of the shared goals, adaptive leadership, and evolving relationships of place-based collaborative groups with their agency and NGO partners. The landscape the 2-3-2 addresses is home to diverse communities and while the 2-3-2 has many partners from these diverse groups, our research revealed that there is very little dissent among partners. Perhaps this is a signal of the group's efficacy, but, alternatively, it may indicate that potential opposing voices are not involved in these discussions. Mirroring the diversity of the landscape with the diversity within the partnership could lend more resilience to the project over the longer term.

Finally, the 2-3-2 is about more than forest restoration or watershed restoration. The partnership has the opportunity to rebalance a complex social-environmental system that has been disturbed by decades of natural fire suppression and oppression of traditional lifeways. These two disturbances are intrinsically linked. By expanding the scope of the work to include the restoration of healthy and diverse communities with rights to pursue traditional lifeways, the 2-3-2 has the opportunity to make a lasting impact on a landscape that is critical to so many people.

CHAPTER FOUR: CONCLUSION

In this thesis, I explored the formation of an umbrella collaborative group and the opportunities and challenges associated with collaborating at the multiple-watershed level. I found that, in general, both agency and non-federal partners perceived that the 2-3-2 was formed to facilitate greater adaptability to needs at different scales, that is, between local-level collective action and landscape-level fire regimes and federal-level funding. Interviewees reflected that pre-existing local collaborative groups partnered to address landscape-level challenges, including fire risk and vulnerable water resources. This partnership was then formalized to attract funding available at the federal level. Interviewees perceived the 2-3-2 as facilitating greater adaptiveness to spatial and temporal scale dynamics. Interviewees viewed the 2-3-2 as responding to challenges of scale by collaboratively identifying focal areas, leveraging partner strengths, maintaining local relationships while pursuing federal funding, monitoring across four forests, and collaboratively planning fuels treatments. To address common temporal challenges, interviewees thought that shared long-term goals allowed for continuity of vision, while committed long-term funding through the CFLRP allowed the 2-3-2 to conduct planning and monitoring with a longer timeline in mind. Finally, interviewees reflected on the challenge of balancing the short-term risk of prescribed fire with the long-term risk of large fires, and bridging epistemic communities to weave tribal and traditional knowledge holders into the 2-3-2 decision-making process.

The nested structure of the 2-3-2 has allowed the partnership to be "scale flexible" and to take advantage of opportunities available at different levels of geographic, social, and governance scales. Interviewees discussed the benefits of operating at multiple levels and, in general, found that these benefits outweighed the challenges of operating at such a large geographic scale. These findings help answer persistent questions about the "right" scale of collaboration. My findings indicate that there is no "right" scale, and instead, it is important to have flexibility to adapt to different needs within temporal and spatial scales. These findings have significant implications for increasing the pace and scale of work

by building capacity within community-based organizations and networking existing collaborative efforts to enhance scale flexibility and the opportunity to benefit from working at different scales.

In the preceding chapters, I discussed the nature of adaptation in local-level collaborative groups and the benefits of operating at the multi-watershed level. As governance institutions respond to climate change-driven fire and weather patterns, collaborative groups might be pressured to scale up to conduct more meaningful restoration and qualify for innovative funding streams. Nesting several local-level collaborative groups within a larger umbrella collaborative could increase scale flexibility, maintaining the comparative advantages of each level of collaboration. My research offers a new perspective on the nature of scale mismatch and a collaborative group's "ideal" size. It also contributes to the collaborative governance literature by further illuminating the concept of adaptation in Emerson et al.'s Integrative Framework of Collaborative Governance. My research will be helpful to future scholars of collaborative governance and land managers, practitioners, and coordinators operating in collaborative governance regimes. This research highlights when and why existing collaborative restoration groups might want to partner or network to form an umbrella collaborative. It also challenges the notion that collaboration driven by government drivers is less organic that community-driven collaborative efforts. Rather, it may be that responding to government drivers is a necessity and that there are ways to be both community-driven and responsive to a variety of contextual factors.

Future research might seek to understand the perspectives of actors on the landscape who consistently decline to participate in collaborative processes or to network with other collaborative groups. Another direction for future research could be into collaborative processes for managing restoration byproducts; while much research affirms that this is a problem for collaborative restoration groups across the western United States, our findings open some new questions about whether this is a problem of industry engagement or one of community engagement. While many of our findings suggest that relationships are a foundation for implementation, our research time frame did not allow us to test

this proposition. Future research could revisit the 2-3-2 over several years to study how restoration projects get implemented. Perhaps a broader empirical assessment could be conducted to assess the link between the collaborative processes of the 2-3-2 and restoration outcomes. Finally, at the time of our case selection, the authors were unaware of a networked collaborative group operating at a similar scale of the 2-3-2. We are aware, however, of efforts that might be similar, including the Yellowstone to Yukon Conservation Initiative and Southwestern Crown of The Continent CFLRP. Future research might do a quantitative or network analysis of the 2-3-2 in comparison to another umbrella collaborative to determine if our findings are consistent across cases.

Several factors limited my research. First, my timeline prevented me from spending extended amounts of time on the landscape, which might have introduced me to more dissenting voices, that is, actors who chose not to engage with the 2-3-2. My sample of interviewees was also limited to those who had the time and capacity to speak with me, which may have prevented me from collecting perspectives from communities whose knowledge has been historically underrepresented in scholarship. Second, any single research methodology has advantages and limitations, and it would have been enlightening to supplement semi-structured interviews with document review and participant observation methodologies. Finally, this is only one case study of one umbrella collaborative, and my findings should be triangulated through further case studies to truly understand how umbrella collaboratives work.

At the final meeting that I observed, a line officer said, *"I'll sign anything. You give me something to sign, and I'll sign it, because I know that I have a huge web of support behind me. I know that if I lose this job, I'll have another in a minute. And I'll do whatever it takes to feed my support back into that web."* That kind of action-oriented vulnerability is the behavior that is required to meet this federal goal of "increased pace and scale." Policies like the CFLRP that support collaborative capacity building can also be used to facilitate the creation of collaborative networks. However, without a shift in agency culture that rewards leaders like the line office mentioned above, there will still be "umbrella collaborations" or

networks of collaboratives that stand up just to collect funding without the foundation of collaboration that is ground-truthed in authentic relationships.

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APPENDIX A: INTERVIEW GUIDE

"*I want to talk to you about your understanding of the 232. I'm mostly interested in your perceptions, regardless of your knowledge of specific history. I'll ask you some questions about the history of the 232, how it's structured, and the benefits and challenges of collaborating across such a large landscape.*"

1. **Introduction**
    - 1.1. Could you briefly describe your role within your organization or agency, and your specific role regarding the 232?
        - 1.1.1. How long have you been in this role within your organization?
        - 1.1.2. How long has your organization been involved in the 232?
    - 1.2. What did you *originally* hope to get out of joining the 232? Has this changed?
    - 1.3. Currently, for your organization, what are the benefits and challenges of being part of the 232?
        - 1.3.1. What does the 232 provide to your organization that you do not get from other collaborative groups that you are a part of?
2. **Structure:** I want to talk to you about your perceptions of leadership within the 232.
    - 2.1. How has the structure of the 232 contributed to its success?
        - 2.1.1. How could the structure of the 232 be improved?
    - 2.2. Once the 232 has set goals or priorities, how does the group ensure that partners take action to move towards those goals?
        - 2.2.1. How does the 232 track their progress towards the goals they have set?
    - 2.3. What are the expectations that other partners have for you in your role with the 232?
    - 2.4. How do you juggle accountability to the 232 *and* to other collaborative groups you are part of?

2.5. Are there people within the 232 project footprint who aren't involved in the partnership?

2.6. How does the 232 incorporate local and Indigenous knowledge?

3. **Cost and benefits of operating at landscape scale.** I want to talk to you about your perceptions of the costs and benefits of operating that the landscape level scale.

3.1. How does the 232 add value for the Forest Service?

3.2. Has the 232 impacted the way the region handles forest, fire, or water governance? How so?

3.3. Have big agency initiatives or new legislation affected the way the 232 operates? Could you provide an example of this? I'm interested in bigger picture factors that caused 232 to form ir affect you know (give examples enviro, social/political legislation, partisanship)

3.4. What benefits does the 232 see from operating at a large scale?

3.4.1. What are some challenges the 232 has faced by operating at this scale?

3.4.2. Do the benefits outweigh the costs?

3.5. How would you measure the success of the 232 partnership?

3.5.1. Do you think the 232 is meeting that measure of success?

3.6. What would you recommend to someone trying to organize a similar partnership?

4. Closing

4.1. Is there anything that surprised you about participating in the 232?

4.2. Is there anything else you want to tell me about that I didn't ask?

4.3. Who else should I talk to about this?

APPENDIX B: CODEBOOK

This assessment addressed several primary questions to understand what motivates, facilitates and complicates the formation/persistence of conglaborative groups:

1. What are the system context and drivers that cause a conglaborative to form and facilitate or constrain its functions?
2. How are the essential elements of collaboration, including principled engagement, capacity for joint action, and shared motivation, maintained or degraded as the scale of collaboration grows?
3. What unique actions and impacts do conglaboratives generate?

Additionally, this assessment addresses the following questions to understand the role of a conglaborative group in a networked governance system.

4. Which governance needs and gaps can be addressed by a conglaborative group?
5. What capacities and functions does a conglaborative group aim to fulfill?
6. How does the higher-level federal forest governance system support or impede the functioning of a conglaborative group at the local level?

Codebook for 232 Qualitative Interview Analysis

1) Key Goals: What the 232 set out to achieve. This includes goals stated in their charter document. Results that partners hope to get out of joining the conglaborative group. (RQ5)
2) Impacts: Tangible results of the efforts of the 232 and partners. How the 232's planning work translates to restoration conducted on the landscape and within the larger context of regional forest/fire/water management. Specific to work that would not have been conducted if not the for the 232. (RQ3&4)
    a) Added Value for USFS: Benefits that the USFS receives from collaborating with the 232. (RQ4)
    b) Implementation: Examples of projects, treatments, or funding agreements conducted by the 232 or partners of the 232. (RQ3)
    c) Social Benefits: Examples of relational benefits created by the formation or function of the 232. (RQ2)
    d) Broader Effects: Impacts that the 232 has outside their project area on the way the larger region/nation does forest, fire, or water management. (RQ3)
3) Conglaborative Dynamics: How members of the 232 interact. How collaboration is carried out and collaborative decisions are made. Relationships between partners, how those relationships formed, and what they contribute to the conglaborative group. (Steps taken to implement the purpose of the 232) (RQ2&5)
    a) Leadership: Specific examples of individuals or partner organizations that drive action. Includes descriptions of leadership committees, supervisory roles, and funding structures. (RQ2)
4) Facilitating/Frustrating Factors: Social, ecological, or policy factors that prompted the formation of the 232, continue to support its functioning OR acted as barriers to the formation/function of the 232.. Includes perceived cultural values that prompt/inhibit cross-boundary collaboration. (RQ1)

a) Policy Context: Specific policies (CFLRP, Shared Stewardship, NEPA, etc) that have funded or incentivized the formation or function of the 232 and how is the operation of the 232 evolving to address the requirements of specific policies. (RQ6)
b) Social Context(RQ1) Personal relationships or community values that facilitate the function or formation of the 232.
c) Ecological Context (RQ1) Environmental disturbances or realities that led to the formation or function of the 232.

5) Measures of Success: How partners see the 232 succeeding, or not. Specific examples of what success would look like for the group. An individual's vision of future success rather than what the group set out to achieve. (RQ5)
6) Challenges: Challenges created by operating at a multi-watershed scale. Any barriers to the formation or function of the 232.
7) Recommendations: Specific changes in practice recommended by interviewees.
8) Good Quotes: Well-worded statements that capture research questions or themes.
9) Interviewee Background: Information on the interviewee; how long they've been working with the 232; their past/current experience with the 232. What forest they are working on. The role they have in the conglaborative process.

Table A1: Codebook with examples

Parent Code	Description	Child Codes (subcode)	Child Code Description	Example
Key Goals	What the 232 set out to achieve. This includes goals stated in their charter document. Results that partners hope to get out of joining the conglaborative group.	N/A		*"Our focus was really three-fold. First, knit together all of these community-based groups. Second, attract larger pots of funding. Third, make a meaningful impact on water quantity and quality in these watersheds."*
Impacts	Tangible results of the efforts of the 232 and partners. How the 232's planning work translates to restoration conducted on the landscape and within the larger context of regional forest/fire/water management. Specific to work that *would not have been conducted* if not the for the 232.	**Added Value for the USFS**	Benefits that the USFS receives from collaborating with the 232.	*"We've done a bunch of treatments on the Rio Grande NF that we wouldn't have had the social license to treat ten years ago."*
		Impleme-ntation	Examples of projects, treatments, or funding agreements conducted by the 232 or partners of the 232.	
		Social Impacts	Examples of relational benefits created by the formation or function of the 232.	*"It's not even just the work getting done. It's the relationships, the partnerships, the dialogue, the creativity, the issues that come forward; things I never would have considered."*

Parent Code	Description	Child Codes (subcode)	Child Code Description	Example
Conglab-orative Dynamics	How members of the 232 interact. How collaboration is carried out, and collaborative decisions are made. Relationships between partners, how those relationships formed, and what they contribute to the conglaborative group.	**Leadership**	Specific examples of individuals or partner organizations that drive action. Includes descriptions of leadership committees, supervisory roles, and funding structures.	*"We're really a team of teams. We're setting priorities across four forests, which requires collaboration at every level of leadership, as well as with a bunch of community groups."*
Facilitating/ Frustrating Factors	Social, ecological, or policy factors that prompted the formation of the 232 or continue to support its functioning OR act as barriers to the formation/function of the 232. Includes perceived cultural values that prompt cross-boundary collaboration. (RQ1)	**Policy Context**	Specific policies (CFLRP, Shared Stewardship, NEPA, etc) that have funded or incentivized the formation or function of the 232 and how is the operation of the 232 evolving to address the requirements of specific policies.	*"We really began to function as a group when we started writing the proposal for CFLR funds."*
		Social Context	Personal relationships or community values that facilitate the function or formation of the 232.	*"The [State Forester] left the Rio Grande Water Fund to become the State Forest of New Mexico. She had great people around her. Once the Fund had that connection at the state level, things really got going."*
		Ecological Context	Environmental disturbances or realities that led to the formation or function of the 232.	*"These forests are a tinderbox. We had 99% beetle kill."*

Parent Code	Description	Child Codes (subcode)	Child Code Description	Example
Measures of Success	How partners see the 232 succeeding or not. Specific examples of what success would look like. An individual's vision of future success rather than what the group set out to achieve.	N/A		*"Number one: acres treated, but also, you know, the USFS working in areas that are the right areas."*
Challenges	Challenges created by operating at a multi-watershed scale. Any barriers to the formation or function of the 232.	**Recommendations**	Specific changes in practice that interviewees recommend.	*"What the 232 is missing is local voices, real people who use the area, because that's where traditional and indigenous knowledge is."*
Good Quotes	Well-worded statements that capture research questions or themes. Also may include statements that will be helpful to refer back to for useful information.	N/A		*"Well, I think the big ones are an acknowledgment, we can't treat it all. I think two, is an acknowledgment that the scope of the problem needs to be met with similar scope of solution."*
Interviewee Background	Information on the interviewee; how long they've been working with the 232; their past/current experience with the 232. What forest they are working on. The role they have in the conglaborative process.	N/A		*"So I'm the executive director of [NGO]. We're an alliance of private landowners ad managers and community members in a specific geography."*