

An Evaluation of the Central Coast Rangeland Coalition: Trust and other Factors
Important for Collaborative Conservation

A thesis
presented to
the Faculty of California Polytechnic State University,
San Luis Obispo

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Environmental Sciences and Management

by
Dustin Tran
August 2021

© [2021]

[Dustin Cao Tran]

ALL RIGHTS RESERVED
COMMITTEE MEMBERSHIP

TITLE: An Evaluation of the Central Coast Rangeland
Coalition: Trust and other Factors Important
for Collaborative Conservation

AUTHOR: Dustin Cao Tran

DATE SUBMITTED: August 2021

COMMITTEE CHAIR: Nicholas Babin, Ph.D.
Advising Professor
Natural Resources Management and
Environmental Sciences

COMMITTEE MEMBER: Christopher Surfleet, Ph.D.
Professor
Natural Resources Management and
Environmental Sciences

ABSTRACT

An Evaluation of the Central Coast Rangeland Coalition: Trust and other Factors
Important for Collaborative Conservation

The proliferation of collaborative partnerships across the western United States and the lack of tools and protocols to evaluate them have been well documented. As the number and types (conservation-based, policy actions, information sharing) of collaboratives rises, there is a need for research that aims to evaluate these partnerships' performance and collaborative process considering their importance and potential to solve complex ecological, economic, and social problems. This study aims to contribute to this pool of research by interviewing the Steering Committee (SC) members of the Central Coast Rangeland Coalition (CCRC), a volunteer-based and information-sharing rangeland collaborative coalition. We evaluate and assess the organization-based SC perceptions on traditional and less traditional factors and barriers to success/criteria, including 1) Setting concrete and measurable goals 2) Implementing projects and programs 3) Conducting monitoring of outcomes 4) Power structure and decision making 5) Diversity and wide Inclusion and the less traditional criteria of 6) Trust. We comment on whether the organization is succeeding or could improve on specific criteria aspects by comparing perceptions of success to their mission statement or what their organization has promised to do. In addition to the coalition's assessment, we hope to focus on the concept of trust, which is noted in collaborative conservation literature as vital to organization functioning but is rarely looked at and explored. Overall, this research hopes to 1) Add to the needed research that attempts to evaluate collaborative resource partnerships, 2) Evaluate the CCRC based on factors identified in the literature and the fulfillment of their mission goal, and 3) provide some insight on the importance and value of trust within collaboratives.

Keywords: [Collaborative Conservation, Collaborative Partnerships, Collaborative Natural Resource Management, Trust, Rangelands]

Dustin Cao Tran

ACKNOWLEDGMENTS

Special thanks to my advisor Dr. Nicholas Babin for his significant role as a mentor, editor, and collaborator on this thesis. Special thanks to Dr. Nicholas Williams and Dr. Seeta Sistla for countless hours of reading, editing, and feedback on this thesis and those of the Cal Poly Master's class of 2020-2021. Special thanks to Dr. Chris Surfleet for his consistent dedication and response to the Cal Poly Master's class of 2020-2021. Special thanks to Dr. Chip Appel and for supporting me throughout my college career.

TABLE OF CONTENTS

Contents	Page
TABLE OF CONTENTS	v
LIST OF TABLES.....	vi
Table.....	vi
LIST OF FIGURES	vi
Figure.....	vi
Chapter 1.....	1
Introduction	1
Background.....	3
Rangelands.....	3
Extent and Ownership.....	3
Ecological Value.....	4
Rangelands, a cultural resource	5
Threats to Rangelands.....	6
Climate Change	6
Overuse and lack of protection.....	6
Land Conversion.....	7
Collaborative Conservation Groups	10
History and extent of CCGs.....	11
Factors that contribute to successful CCGs	12
Trust in CCGs	14
Barriers to CCG success	17
Evaluating performance and Trust in a CCG	18
Background on CCRC	19
Methods	20
Data Analysis.....	22
Results	23
Overview of Results	23
Mission Statement	24
Factors of Success.....	25
Barriers to Success.....	28
Setting Reasonable and Measurable goals.....	31
Projects, Programs, and policy	32

Monitoring	33
Trust.....	35
Diversity and Wide Inclusion	42
Power Imbalances.....	45
Discussion.....	55
Appendix	66
A1) Interview Guide	66
A2) Table of SC member career, education, and year born	71
REFERENCES/WORKS CITED/BIBLIOGRAPHY	73

LIST OF TABLES

Table	Page
1. [Coding Framework]	1
2. [Table of SC member career, education, and year born].....	[Appendix] 61

LIST OF FIGURES

Figure	Page
1. Figure 1. CCRC Theoretical Framework vs. In Practice	1
2. Figure 2. CCRC Framework in Practice: Impact of Funding.....	2

Chapter 1

Introduction

Rangelands are essential because of their ecological, economic, and social importance to people locally, nationally, and globally (Buxton et al., 2020; Godde et al., 2020; Lund, 2007). “Rangeland” is a land type commonly found in arid and semi-arid regions and managed as a natural ecosystem supporting indigenous vegetation, predominately grasses, grass-like plants, forbs, or shrubs, and may be a critical tool for environmental conservation (Huntsinger & Oviedo, 2014; Lund, 2007; Zhaoli et al., n.d.). One of the planet's major ice-free land cover types, and approximately 1/3 of the total land area in the United States, rangelands are extensive (Godde et al., 2020; Nickerson et al., 2011). Public and private rangelands benefit millions of people worldwide by supporting livestock grazing, recreation and provide services necessary to sustain human and wildlife populations (Box, 1978; Homewood, 2004; Kowal et al. In addition to provisioning food, fiber, and recreational opportunities, rangelands ecosystem services, include habitat provisioning for wildlife, pollinators, and endangered and endemic species (Cameron et al., 2014; Howell, 2012; Porter et al., 2011). Rangelands also contribute to climate stabilization by sequestering approximately 30% of the world's soil carbon, becoming a more critical resource as anthropogenic climate change worsens (Elavarthi S, 2014; Schuman et al., 2002). Furthermore, this land type is recognized for containing high amounts of biodiversity and endemic species, playing a role in nutrient cycling, and increasing water supplies (Brunson & Huntsinger, 2008; Byrd et al., 2014; Huntsinger & Oviedo, 2014).

Despite their critical importance, most rangelands have already experienced severe degradation and are threatened by compounding factors at varying scales (Bedunah & Angerer, 2012; Sandhage-Hofmann, 2016). Globally, rangelands are threatened by and especially vulnerable to climate change (Lund, 2007). Climate change models project temperature increases and precipitation reductions and irregularities in precipitation events, creating conditions that degrade rangelands by increasing water stress, frequency, and intensity of drought events, and adversely affect forage biomass and species distribution (Aoyama & Huntsinger, 2019; Castillo et al., 2021; Godde et al., 2020; Kowal et al., 2021). At national and regional scales, rangeland coverage, health, and quality of services are destroyed or threatened by extensive land conversion to residential, urban, industrial, and commercial land uses, overuse of rangelands, and the lack or failure of formal rangeland protection (Barry & Ford, 2020; Butynski & Jong, 2014; Mazloum et al., 2020). Fragmentation of rangelands often degrades the quality and number of services rangelands can typically provide when intact (Huntsinger & Oviedo, 2014). At the individual or localized level, ranchers face financial threats due to the low-profit margins and rising land costs, and intergenerational threats such as their aging demographic and difficulty finding an heir; these individual factors contribute to land conversion as it becomes more challenging for ranchers to turn a profit, pass down their legacy, and easier to sell land for financially beneficial but ecologically adverse development (Balachowski, 2018; Brunson & Huntsinger, 2008; Howell, 2012; Porter et al., 2011). As rangeland natural resources, ecological services, and stewards become

increasingly threatened, research into rangeland conservation and different ways to protect these lands becomes relevant and needed.

Collaborative conservation is an appropriate tool to protect these lands and uplift their stewards. The collaborative process allows groups to produce outcomes that are generally not possible without collaboration (Reid et al., 2010). This type of conservation is appropriate when human-environment systems transcend large geographical areas and involve numerous diverse stakeholders (Huayhuaca & Reid, 2014; Reid et al., 2010). Collaborative conservation safeguards natural resources, biodiversity, and ecosystems while encouraging sustainable, coupled human-natural communities (Aoyama & Huntsinger, 2019). Collaborative conservation commonly results in developing collaborative conservation groups (CCG) or coalitions or collaboratives, the functional unit at which all stakeholders are organized (Cestero, n.d.). Collaborative conservation is effective at achieving ecological preservation by unifying these stakeholders under a common interest, funneling the resources they possess, and directing these interests and resources toward protecting and strengthening the natural lands they benefit from and hold dear (Brick, 2000; Huayhuaca & Reid, 2014; Reid et al., 2010). Therefore, collaborative conservation's focused and inclusive nature coupled with appropriate application demonstrates that this tool can be powerful in achieving ecological preservation at large magnitudes and scales. Rangelands tend to cover large swaths of land, cross ownership boundaries, include diverse habitats and natural resources, and involve many different stakeholders, including ranchers, livestock managers, land brokers, life science professionals, and the public; therefore, collaborative conservation may be applied to protect rangelands because they meet the conditions where the process can be successful. Moreover, many examples exist where collaborative conservation groups successfully recovered a declining species, implemented land restoration efforts, and protected natural resources in rangelands, demonstrating precedence of applicability and success (Huayhuaca & Reid, 2014; Sheridan, 2012).

Additional research which evaluates the impact of collaborative conservation and the efficacy of collaborative processes is warranted and can contribute to improved learning and practical action (Wilkins et al., 2021). Currently, commonly accepted criteria to measure the on-the-ground success of collaboratives' environmental, economic, and social outcomes is lacking (Conley & Moote, 2003). The most common form of evaluating collaborative efforts is assessing whether the organization meets its outcomes or accomplishes its goals. Still, evaluation based on individual components of a collaborative effort may miss the effects of the interactions among people, perspectives, and programs that reflect synergy and the actual value of collaboration (Cestero, n.d.; Conley & Moote, 2001; Coughlin et al., 1999; Lasker et al., 2001). Some argue that by institutionalizing local collaborative processes, local groups will lose their ability to advise agencies, find innovative solutions, and their adaptability (Brick, 2000; Reid et al., 2010). Others call for the tailoring of collaborative conservation evaluations to the local context or simply evaluating collaboratives based on whether they are still working on their group process or the direction and agreements the group promised to achieve (Coughlin et al., 1999; Lasker et al., 2001). The rising number of collaborative groups, various types of partnerships, and contention over evaluation techniques deems it necessary for research studying collaborative conservation groups and methods to evaluate them.

Therefore, this study attempts to evaluate the Central Coast Rangeland Coalition (CCRC) by looking into traditional factors and barriers to success such as goal attainment, their decision-making processes, diversity and broad inclusion, power structure, with a focus on less conventional factors like interpreting the trust and relationships within these collaboratives, to contribute to the critical but vague literature surrounding collaborative evaluation. Trust within collaboratives and between stakeholders is described as vital for success, yet rarely studied, so our study hopes to elaborate on trust and its role in collaboratives. CCGs are expected to have concrete and attainable conservation goals that are often ecological, economical, and social and clearly stated, measurable, and collectively agreed upon by stakeholders (Cestero, n.d.; Coughlin et al., 1999; Kretser et al., 2018). In addition, goals should be achieved by completing targeted actions, such as implementing programs, influencing policies, or establishing monitoring efforts. Completing these actions translates to more effective CCG performance (Conley & Moote, 2003; Huayhuaca & Reid, 2014). However, it is also essential to evaluate whether CCGs are committed to the collaborative process and their mission statement rather than focus on goals and goal setting, which does not apply to every coalition. Therefore, it is vital to assess the collaborative process of CCGs and tie evaluations back to their mission statement or their promise to stakeholders. Stakeholder attitudes, perceptions, opinions, and relationships can be assessed using semi-structured interviews with participants (Conley & Moote, 2003). Thus, success factors for collaborative coalitions such as goals setting and attainment, monitoring, bottom-up decision making, communication and dialogue, high levels of diversity and broad inclusion, power imbalances, and levels of trust within the membership will be analyzed through participant interviews.

Background

Rangelands

Extent and Ownership

Rangeland coverage and ownership should be studied to better understand the social, economic, and ecological relevance to natural and human communities. Rangelands are the most extensive land cover globally, and their ownership varies between private and publicly owned domains (Lund, 2007; Wilkins et al., 2021). Rangelands cover more than 163 million ha in the western United States (Farley et al., 2017). Therefore, it is no surprise that this region has experienced the highest increases in the number of CCGs both historically and currently (Brunson & Huntsinger, 2008; Farley et al., 2017; Wilkins et al., 2021). In California, the federal government owns 47% of rangelands, and 12% is held by agencies (Huntsinger & Bartolome, 2014). Rangelands are held privately as well.

Approximately 50% of rangelands in the United States are private lands (Sayre et al., 2013). Addressing rangeland extent and ownership is essential to acknowledge because conservation practices and information are generally applied to public lands, so approaching conservation on private lands may require a unique approach like

collaborative conservation (Muñoz-Erickson et al., 2007; Sulak & Huntsinger, 2007; Wolf et al., 2017). Furthermore, studying the ownership and extent of rangeland provides insight into stakeholders, such as ranchers, public agencies, environmental groups, the public, etc., and other groups involved in the collaborative process.

Ecological Value

Globally, rangelands contain high levels of biodiversity and provide significant economic and social benefits through intact rangeland ecosystems (Hayes & Holl, 2003). Rangelands provide habitat for numerous species, including many endangered and endemic species, and connectivity between protected areas (Farley et al., 2017). African rangelands are acknowledged for housing high levels of biodiversity and providing habitat and other resources for important species such as primates, lions, cheetahs, and African wild dogs (Ali et al., n.d.; Blackburn et al., 2016; Homewood, 2004). Despite rangelands in the Tibetan plateau existing in cold and dry climates, these alpine steppes support 400 vegetation species, many endemic flora and fauna species, and provide habitat for larger wildlife like wild yaks, Tibetan gazelles, Tibetan antelopes, and other wildlife (Zhaoli et al., n.d.). Among the species listed as threatened or endangered in the United States, 95% have at least some of their habitat on private lands, and 19% require a habitat type that exists exclusively on private land (Farley et al., 2017). In California, 75 threatened or endangered species are associated with California grasslands, including ten vertebrates, 14 invertebrates, and 51 plants (Porter et al., 2011).

Additionally, rangelands are ecologically valuable because they contribute to pollinator services, climate mitigation, and regulation of water resources. Rangelands provide essential habitat for pollinators, which are vital for pollinating California's crops. The value of wild pollinator services to California agriculture is estimated between \$937 million and \$2.4 billion per year (Porter et al., 2011). In the Great Plains, rangelands provide contiguous and often expansive habitats for pollinators, providing them with food and shelter (Buxton et al., 2020).

Other ecosystem services from rangelands are increasingly recognized, including open space, watershed protection, and climate change mitigation (Farley et al., 2017; Godde et al., 2020; Maestas et al., 2003). Grazing lands are estimated to contain 10–30% of the world's soil organic carbon (Schuman et al., 2002). Specifically, the plant communities that cover rangelands protect often fragmented soil profiles, allowing them to store carbon effectively. Proper grazing management on US rangelands is estimated to increase soil C storage from 0.1 to 0.3 Mg C ha⁻¹year⁻¹, and new grasslands can store as much as 0.6 Mg C ha⁻¹year⁻¹ (Schuman et al., 2002). Given the size of the C pool in grazing lands and the increasing concern of climate change, protecting the world's rangelands will be important in mitigating climate change (Schuman et al., 2002).

Rangelands provide purification of air and water, flood and drought mitigation, detoxification and decomposition of wastes, soil fertility, pest control, and nutrient cycling (Huntsinger & Bartolome, 2014). Research suggests that rangelands could not support high biodiversity, provide habitat and services, and support endemic species without grazing, a common land management tool (Biswell, 1956; Hayes & Holl, 2003; Pervolotsky & Seligman, 1998).

The ecologically beneficial impacts of livestock grazing on rangelands are observable on a global scale. Livestock grazing has become a valuable tool for conserving native species on rangelands by altering biogeochemical cycling, regulating water resources, controlling invasive species, reducing woody encroachment, and increasing habitat patchiness (Homewood, 2004; Huntsinger & Bartolome, 2014; Perevolotsky & Seligman, 1998). For example, the high biodiversity contained within African rangelands occurs mainly on private rangelands surrounding nearby protected areas and exists due to disturbances from grazing and other climatic forces (Blackburn et al., 2016; Homewood, 2004). These disturbances and variability allow for habitat heterogeneity, and consequently, the dispersal, colonization, and persistence of numerous grassland species on these differing habitat patches (Homewood, 2004).

Grazing has also proven to be an essential conservation tool in California. Stock ponds within the San Francisco Bay region are improved by grazing and provide half of the available habitat for the endangered California tiger salamander (*Ambystoma californiense*). The endangered bay checkerspot butterflies (*Euphydryas editha bayensis*), burrowing owls (*Athene cunicularia*), kit foxes (*Vulpes macrotis mutica*), kangaroo rats (*Dipodomys stephensi*), wildflowers, and a host of rare flora and fauna are examples of other vernal-pool associated species that benefit from grazing. By grazing, cows stopped the spread of invasive grasses on vernal pools and increased pool inundation by as much as 50 days by consuming nonnative grasses, consequently protecting flora and fauna dependent on these pools as sources of water and habitat (Porter et al., 2011). In some cases, grazing exclusion has caused the species being “protected” to leave or disappear, affirming its importance to conservation goals (Huntsinger & Bartolome, 2014).

Rangelands stewards also contribute to the health and preservation of rangelands as actors who directly impact and manage rangeland natural resources via grazing controls (Buxton et al., 2020; Sulak, 2017; Zhaoli et al., n.d.). Ranches may better protect native biotic communities than even nature preserves, partly because they tend to be on watered sites with better soils and have fewer outdoor recreation visitors (because of their private ownership and rancher investment) that can disturb wildlife during critical periods or serve as vectors for invasive non-native plants (Brunson & Huntsinger, 2008; Maestas et al., 2001, 2003). Ranchers can more effectively protect biotic communities because they tend to have a personal connection and financial investment with the health of the land for the long run.

It is evident that rangelands are ecologically important and provide vital ecosystems services that humanity depends on for survival. Thus, the study and protection of these valuable lands and those who preserve them are paramount. Besides the ecological services humanity depends on, rangelands also provide other recreational and cultural resources that we value and enjoy.

Rangelands, a cultural resource

Rangelands serve as a cultural resource for many diverse stakeholders. The public is becoming increasingly interested in the tangible goods and services that rangelands provide but are also gaining an appreciation for the scenic value of rangelands (Wedin & Fales, 2009). Research on social-cultural preferences would agree with this shift in public

perception, arguing that people care more about rangeland regulating and cultural services than their provisioning services (Box, 1978; Martín et al., 2012). Additionally, the public appreciates the recreation and ecotourism opportunities available on rangelands (Kyriazopoulos et al., 2013). In one survey gauging perceptions on ecosystem services, beneficiaries listed nature-based tourism and the intrinsic value of biodiversity as the most valuable services (Martín et al., 2012). In the United States, national trends from the Department of the Interior, Bureau of Land Management, and the U.S. Department of Agriculture's National Survey on Recreation and the Environment support this shift in public perception, demonstrating that demand for public lands has increased as the number of recreational visitors utilizing these landscapes continues to rise (Yahdjian et al., 2015). An additional cultural value that rangelands impart on the public is the aesthetic beauty of wide-open spaces and the opportunity to appreciate it in solitude (Box, 1978; Huntsinger & Bartolome, 2014). As cities and urban development continue to expand, humans increasingly seek out attractive landscapes and solitude in nature (Box, 1978). In addition to the ecological benefits they provide, rangelands are culturally and socially beneficial to humans, and their protection has become more worthy of research.

Threats to Rangelands

Climate change and rangeland overuse, lack of formal protection, and land conversion threaten and degrade rangelands globally. Land conversion has national, regional, and individual drivers that lead to the destruction or degradation of rangelands.

Climate Change

Climate change threatens rangelands around the world (Lund, 2007). Climate change, often associated with higher temperatures and reduced precipitation, stresses rangelands by changing water availability and species distribution, increasing the likelihood of drought, and reducing priority wildlife (Aoyama & Huntsinger, 2019; Balachowski, 2018; Byrd et al., 2014). Rangeland vegetation dynamics and livestock production are sensitive to mean climate trends and climate variability (Godde et al., 2020). Mongolian rangelands, considered one of the most extensive intact grasslands globally, are currently experiencing adverse effects on forage biomass and productivity due to steadily increasing temperatures and changing rainfall patterns associated with climate change (Kowal et al., 2021). Patagonia is also considered one of the world's most extensive rangelands and supports a productive sheep industry. However, climate models predict that Patagonia grasslands will experience reductions in precipitation and increases in temperature, reducing rangeland productivity, health, and ecosystem functioning (Castillo et al., 2021). In some areas like Australia, drought reduced soil moisture, and heavy, irregular precipitation increases soil erosion on rangelands, which degrades rangeland health and quality as soils are damaged or removed (Castillo et al., 2021; Godde et al., 2020).

Overuse and lack of protection

Additional threats to rangeland include the dual effects of these land types lacking protection and the likelihood of overuse (Barry & Ford, 2020; Lund, 2007). Rangelands in many parts of the world generally have weak protective statuses, especially if

charismatic umbrella species are absent (Mazloun et al., 2020). Moreover, private and communally owned rangelands occupied by people and their crops and/or livestock lack formal protection (Butynski & Jong, 2014).

In Iran, legislative acts protecting rangelands are weakened by other land acts, and rangeland crimes and punishments are either not updated or have lost their deterrent features (Mazloun et al., 2020). Similarly, the rangelands in the Tibetan plateau comprise 70% of the region's land area, supports 2-3 million pastoralists and agropastoralists, and have formal protection but are degraded by nearby mining operations that deteriorate landscape resources like water and soil (Zhaoli et al., n.d.). Therefore, even rangelands with formal protection may still be at the complete mercy of deleterious anthropogenic operations nearby. In California, bee pastures, prairies, and rangelands are often unnoticed and do not benefit from protection compared to other land types (Porter et al., 2011). In addition, some California rangelands have theoretically acquired formal protection, similar to the rangelands in Mongolia; still, in practice, government agencies responsible for the care of the land lack the proper resources or employ poor management practices (Conley & Moote, 2001). Rangelands are also threatened by land conversion.

Land Conversion

Land conversion is one of the most significant threats to rangelands globally (Lund, 2007). For example, between 1982 and 2007, the United States converted 23 million acres of crop-land, pasture, and rangeland to developed uses, representing 56% of the 40 million acres developed during that period (Nickerson et al., 2011). This dramatic consumption of rangeland is most likely underrepresented considering an additional 41% of land previously developed was originally in forest uses, and approximately 20% of forested lands are grazed (Nickerson et al., 2011).

In Iran, rangelands cover more than 50% of the total land area. However, the large-scale conversion of rangeland to cropland, in conjunction with the impacts of overgrazing, has led to the loss of rangeland coverage, critical soil degradation, and habitat loss (Raiesi, 2017). Between 1975 and 1996, African rangelands were privatized, converted to commercial monocultures, and caused subsequent declines in land cover, wildlife, and conservation and buffer areas (Homewood, 2004). Rangeland conversion to alternative land uses continues today throughout the world. For example, the conversion of rangelands to large-scale agricultural and environmental engineering projects in China, mining operations in Mongolia, cropland expansion in Russia, Kazakhstan, and Uzbekistan, residential urban development in the United States, and residential development in Tanzania can be observed today (Mazloun et al., 2020; Nickerson et al., 2011; Wolff, 2001).

Intense pressure to convert rangeland to croplands, or from rangeland or cropland to urban uses, is associated with increases in land values adjacent to urban areas, closer proximity to infrastructure that facilitates development or resource exportation — irrigation water for croplands, powerlines for energy development, roads— or changes in technology, policies, and market prices (York et al. 2011). Therefore, urban development creates conditions favoring additional development surrounding the developed parcel as urban development must be met with other supporting infrastructure, creating a positive

feedback of land consumption. In the United States, and California especially, rangelands are threatened by conversion to alternate land uses, such as cropland and urban uses, because high land prices reflect strong market desires for real estate, urban development, and land types responsible for food production (Evelyn & Barbara, 2018; Farley et al., 2017; Huntsinger & Bartolome, 2014). Consequently, rangelands near urban areas or rangelands expecting urban development are especially at risk due to the sprawling effect of urban development. Population increase is a driver of land conversion and, therefore, a threat to rangeland cover and health.

Population Increase

Population increase is inextricably linked to rangeland conversion, development, and degradation, both historically and currently. From North America to Australia, suburban and exurban development, population growth, and agricultural expansion are responsible for the conversion and loss of rangelands (Cameron et al., 2014; Henderson et al. 2014; Huayhuaca & Reid, 2014). Climate and vegetation projections predict that half of the people living in rangeland systems (376 million people) will experience mean losses in rangeland vegetation biomass, and 75% of these impacted areas are expected to experience increases in human population density by the year 2050 (Godde et al., 2020). In other words, the output and productivity of rangelands will decrease as population increases, driving conditions to favor additional rangeland conversion to meet housing, industrial, commercial, and food requirements of a growing population. Human and animal population growth and the increasing demand for animal products reduce the carrying capacities of communal rangelands and degrade rangeland health, increasing the likelihood of desertification occurring (Sandhage-Hofmann, 2016). As the nation's population continues to increase, western rangelands are threatened by strong desire to develop these landscapes and convert agricultural and forest land to residential, commercial, and industrial uses (Howell, 2012; Nickerson et al., 2011).

In California, research predicts the state's population will swell to more than 46 million by the year 2030, and new residents will consume 200,000 to 550,000 acres of undeveloped and underdeveloped land, half of which will be on rangelands. The study also predicts that rangelands bordering the edges of the Central Valley will be converted to nonagricultural uses at a rate of 47,000 acres per year; moreover, future development threatens annual grasslands, coastal scrub, montane hardwood, and blue oak woodlands the most (Howell, 2012). In one California study, researchers analyzed rangeland conservation between 1984-2008 using a time series. They found that despite the ecological importance of intact rangeland ecosystems— containing high biodiversity, providing habitat connectivity, and serving as the foundation for several ecosystem services— over 195,000 total hectares of rangeland habitat were developed during this time. Researchers also found that 50 % of their study area was converted to residential and associated commercial and development (Cameron et al., 2014).

Residential development is not the only land conversion pressure in California. The proximity of much of the state's rangelands to lucrative agricultural growing land in the Central Valley presents a different hazard, conversion of grasslands to crop production (e.g., vineyards). From 1984 to 2008, half of the rangeland losses described in the study above were due to conversion toward developed uses. Strikingly, an additional 40% of losses were due to the conversion towards agricultural crop production, with 240,000

acres per year were lost to intensive agriculture during the late 1990s (Howell, 2012). Rangelands are threatened not only by commercial and residential development but also by agricultural conversion. The conversion of unaltered rangelands to other land uses is one of the most imminent threats to intact rangelands and the benefits they provide.

Threats to Ranchers

A suite of factors threatens rangeland stewards or ranchers, which in turn threaten the long-term viability of intact rangelands. At the ranch level, the aging demographic of ranchers, lack of an heir, and low-profit margins of the trade already push ranchers to sell their lands for development (Howell, 2012). However, increased management and opportunity costs, coupled with the previous factors, make choosing between retaining land that is losing money or cashing out of an economically and physically challenging industry easier (Brunson & Huntsinger, 2008; Huntsinger & Oviedo, 2014).

The older demographic of ranchers and their difficulty finding an heir concerns rangeland protection because the likelihood of intergenerational ranching and land transfer decreases as the chances of the ranch becoming developed increases (Brunson & Huntsinger, 2008). In California, the average rancher is 60 years old, with a quarter being 70 or older, and is readily approaching retirement (Balachowski, 2018). In studies in California and Colorado, the lack of a suitable heir to take over operations is the primary reason ranchers felt they might need to sell the property (Sulak, 2017). Furthermore, California has identified social and economic barriers for young ranchers to join or remain in the industry (Balachowski, 2018). Specifically, even when heirs succeed in taking over operations, estate taxes leave them with significant debt, few options to pay them, favors heirs to either sell or fragment rangelands for profit (Bennett et al., 2020; Brunson & Huntsinger, 2008; Porter et al., 2011). Although ranchers have a personal connection to the land and would like to see it stay undeveloped, the primary obstacle to continuing operations was not having any relatives interested in adopting the ranching lifestyle. Ranchers also stated that they were approaching an age where drastic decisions may have to be made.

Furthermore, if ranchers cannot turn a profit, they cannot continue to manage rangelands properly and are more likely to cash out and sell their lands. The meager profit margins of ranching and the low annual income derived from grazing land are usually low compared to the value of using that land for urban development or intensive agriculture (approximately \$5,000,000 per acre per year for walnut and almond orchards respectively, versus \$500 for ranching) (Balachowski, 2018; Brunson & Huntsinger, 2008; Cheatum et al., 2011). This economic disparity makes the rancher's decision to sell or keep land challenging to make. Ranchers simply are not turning a profit with current operations and know that switching to a cash crop, or developing land into a residential or commercial area, could dramatically change their financial situation (Balachowski, 2018; Cameron et al., 2014). The onslaught of rangeland conversion to developed areas has been cataloged, and the results are concerning because ecologically valuable rangelands and their services are being destroyed (Brick, 2000; Howell, 2012). For example, since 1990, California has lost more than 350,000 acres of agricultural land to urban development. Roughly half of this was once highly productive irrigated cropland, and the other half was other cropland and grazing land (Howell, 2012). Moreover, even if entire

tracts of land are not sold completely, rangeland fragmentation often reduces the functioning and health of the land.

Ranchers are not making enough money to remain engaged in ranching. California ranchers are fortunate compared to other states because public leases under the Williamson Act barely allow ranchers to turn a profit or break even. Additionally, conservation easements provide them with extra income to continue operations. However, there is no guarantee how long this temporary subsidy will last, and payments are not a long-term solution to ranchers' economic plight. For example, in one study, public ranchers in two case studies estimated that, on average, nearly half of their income came from having access to public leases. One-third to one-half stated they would have to sell their ranches if they lost their public lands allotments because the operation would no longer be viable (Brunson & Huntsinger, 2008). Even if a ranch is restricted from development by a conservation easement, the sale price often remains higher than can be justified by production alone, making it difficult for prospective new ranchers to enter the business (Brunson & Huntsinger, 2008; Howell, 2012). Essentially, with the mass conversion of rangeland land resources, approximately 47,000 acres each year, land as a resource for ranchers is becoming limited (Wolf et al., 2017).

Collaborative Conservation Groups

Collaborative conservation may be a viable solution to protect rangelands from the numerous threats that aim to destroy and degrade them and the many benefits they provide for humanity. Collaborative conservation is a process that unites diverse stakeholders to collectively manage natural resources (e.g., ecosystems, species, and sites of conservation concern) to enable people and places to thrive now and in the future (Conley & Moote, 2001, 2003; Coughlin et al., 1999; Reid et al., 2010). Furthermore, when diverse public and private stakeholders collaborate on environmental issues, the emerging solutions can be more effective, innovative, and longer-lasting (Harmon, 2004). It is difficult to isolate the single causal factor that sparked this social movement, but there are several complementary lines of reasoning.

These collaboratives can form due to the failures of traditional decision-making processes and regulatory government agencies like NEPA (Muñoz-Erickson et al., 2007; Yaffee & Wondolleck, 2003). CCGs developed as a novel way to approach environmental problems more collaboratively and citizen-centric (Dernbach, 1997). These collaboratives form in response to corrupt national and state governments or when dutiful governmental organizations are ineffective or lack the proper resources to manage natural lands (Conley & Moote, 2001). CCGs aim to remedy environmental problems. However, contrary to environmental agencies and the traditional decision-making processes they use, CCGs aim to solve ecological issues while simultaneously addressing social and economic conditions (Coughlin et al., 1999; Hillis et al., 2020; Muñoz-Erickson et al., 2007).

Some collaborative developed in response to policy and environmental catalysts (Huayhuaca & Reid, 2014). The Collaborative Forest Landscape Restoration Program (CFLRP, created by Congress in 2009) is an example of a policy that catalyzed the development of collaborative groups. The CFLRP provided a source of funding for collaborative, science-based efforts to restore forest health, reduce wildfire risks, and

increase local communities' economic wellbeing, spurring the creation of two new long-term collaboratives. Environmental catalysts like fires, floods, and landslides focus attention on preventing and solving environmental problems that impact many different stakeholders, favoring the development of collaboratives (Huayhuaca & Reid, 2014).

Primarily, CCGs and other collaboratives form to manage communally held property and natural resources in a way where citizens, stakeholders, and government agencies all share responsibilities and have input (Conley & Moote, 2001). The core of CCGs, regardless of the varying theories, ultimately rests in protecting and preserving natural lands and resources in a way that includes and benefits the most.

History and extent of CCGs

CCGs have proliferated throughout the United States (Huayhuaca & Reid, 2014), but within the last ten years, the western United States has experienced notable increases in the number of and types of collaborative partnerships (Coughlin et al., 1999; Wilkins et al., 2021). One meta-analysis described 296 CCGs throughout all 50 states but noted that most were concentrated in the western United States (Wilkins et al., 2021). Over the last 40 years, more than 180 collaboratives have formed in Colorado, with at least 157 still active today (Huayhuaca & Reid, 2014). Oregon alone has 88 watershed councils recognized by the governor's watershed enhancement board (Coughlin et al., 1999). Even extensive literature reviews on CCGs and the collaborative process only include case studies and examples from the western United States, alluding to the mass expansion of collaborative conservation in an area characterized by abundant natural resources (Cestero, n.d.).

The number of CCGs is expanding in the United States, with the West experiencing the most dramatic effects. Still, collaborative conservation and the groups it forms are documented at an international scale. The collaborative conservation movement gripping the western United States is based on the overseas concepts of participatory development and community-based conservation (Conley & Moote, 2001; Hillis et al., 2020). These two principles are often used in international developmental discourse and have fundamentally shaped the collaborative movement we see in the United States today (Conley & Moote, 2001; Muñoz-Erickson et al., 2007). In 2014, over 40 scientists, conservationists, and stakeholders from mainland China gathered at a workshop to share knowledge and develop a collaborative action plan to protect horseshoe crabs (Lin et al., 2014). More popular examples of collaborative conservation across seas include the local recovery of African elephants and Kenyan lion populations due to community-based conservation methods (Blackburn et al., 2016; Getz et al., 1999).

CCGs exist to protect natural resources, unify stakeholders, address social and economic conditions, and have proven to be effective at accomplishing these feats. The existence and documentation of CCGs have been studied, but the evaluation and assessment of these collaboratives are less studied (Conley & Moote, 2001, 2003; Muñoz-Erickson et al., 2007). However, the explosion in numbers and types of CCGs in the western United States underpins the need for studies that evaluate and assess collaboratives and all the diversity within them (Hillis et al., 2020; Wilkins et al., 2021). For example, CCGs are predominately evaluated based on setting goals and assessing if

their outcomes meet established goals (Conley & Moote, 2001, 2003). Other research shows that CCGs can be evaluated using criteria, with each category weighted differently; for example, goals and outcomes usually have the highest point scales, and facilitation by third-party organizations have less value less vital to success (Wilkins et al., 2021; Wolff, 2001). Other research suggests that some collaboratives possess less structure, and are more focused on trust, relationships, information-sharing, and collaboration rather than on-the-ground conservation efforts; these coalitions should be evaluated more based on whether actions fulfill their mission statement and how well the organization is committed to the collaborative process (Conley & Moote, 2003; Huayhuaca & Reid, 2014; Wilkins et al., 2021; Wolff, 2001). Therefore, further research into the evaluation and assessment of collaborative coalition groups and the factors and barriers becomes a topic of interest and relevancy.

Factors that contribute to successful CCGs

It is crucial and expected for CCGs and other collaboratives to set clear and common organizational goals and objectives to meet these goals (Kretser et al., 2018). The goals and objectives of community coalitions must be concrete, attainable, and ultimately measurable (Wolff, 2001). In the context of collaborative coalitions, most set a breadth of environmental, economic, and social goals they aim to achieve (Conley & Moote, 2003). Members of a collaborative coalition are often delineated tasks or objectives to be complete to accomplish a larger goal (Cestero, n.d.). While some studies that delve into CCG evaluation and the analysis of coalition frameworks explicitly state that goal setting is vital to coalition success and failure to do so results in coalition failure, other research supports the notion that goal setting is implied for coalitions and critical for success (Belton & Jackson-Smith, 2010; Wilkins et al., 2021; Wolff, 2001). Research on CCGs identifies that collaboratives set goals and work to achieve them, how rare it is for CCGs to fulfill all their goals, or explain how external variables threaten the goals or goal achievement of a CCG (Huayhuaca & Reid, 2014; Reid et al., 2010; Wardrop, 2014).

Therefore, the concept of setting goals is not framed as a strict requirement of success or barrier towards conservation coalition success but setting concrete and measurable goals are essential for collaborative coalitions and any interest-based organization for two reasons. The first reason being that setting concrete goals equates to measurable success or progress. In other words, goals determine the extent or whether a coalition completes what they set out to do. The second reason goal setting in collaborative conservation is crucial is that it guides coalitions towards a focal point. For collaboration to work, participants must define a common end goal. In doing so, the direction of the partnership and what they set out to achieve is definitive, and issues that arise are not susceptible to unanimous agreement (Cestero, n.d.; Coughlin et al., 1999).

Relationship building and dialogue are also crucial for collaborative success (Coughlin et al., 1999; Lauber et al., 2011). Solid relationships and effective discussion in CCGs generally led to an agreement about conservation objectives and strategies (Coughlin et al., 1999). Practitioners might not apply research results presented by CCGs if agreement on conservation needs do not exist. Meaningful relationships and science-based collaboration are critical because people often are not willing to use the information unless they are confident about the credibility of its source (Lauber et al.,

2011). Scientific research is essential for collaborative conservation to work efficiently, but the dialogue between researchers and practitioners/stakeholders is even more essential (LAUBER et al., 2011; Wolff, 2001). The most successful CCGs are the ones that spend much time talking to one another and building their relationships (Reid et al., 2010).

Getting projects implemented on the ground that hold potential for tangible conservation benefits is a success factor for CCGs. Even small-scale, symbolic efforts, such as the Beaverhead County community forum's weed pull, help build the foundation for more tremendous efforts. Collaboratives are often evaluated based on the project or program outcomes with desired or expected outcomes, whether social, economic, or environmental. These projects should include improved conservation as an integral goal and desired outcome (Cestero, n.d.).

To evaluate the long term ecological impact of projects as well as the group's progress toward sustainable community development, all party or third party monitoring must ensure credibility by avoiding having those with a substantial investment in success carry out the monitoring (Cestero, n.d.; Coughlin et al., 1999). Successful collaboratives monitor the success and progression of their projects because there must be long term, sustained program success to warrant organizational accomplishment; implementing a project with short-lived success would prove that the program and organization have failed to achieve their outcomes (Muñoz-Erickson et al., 2007; Reid et al., 2010). Monitoring thus becomes an important tool to ensure the CCG is accomplishing what they set out to accomplish, and these results persist. Therefore, successful CCGs need to implement projects and measure projects' progression and outcomes with monitoring. CCGs are also expected to bring together diverse stakeholders, perspectives and be inclusive.

Successful CCGs possess high diversity and foster inclusive participation and are often evaluated based on their unification of diverse stakeholders and inclusivity. Unsurprisingly, most collaborative conservation studies underpin the idea that bringing in various stakeholders is not a factor of success but something characteristic and necessary of collaborative partnerships (Cestero, n.d.; Hillis et al., 2020; Reid et al., 2010). These coalitions incorporate multiple interests, persistently engaging the critics and opposition (Randolph & Bauer, 1999). CCGs should actively seek to include people of many different interest groups to promote the long-term health of particular landscapes (Cestero, n.d.). The successful ones serve as nodes that bring producers, environmentalists, scientists, and agency personnel together.

In one study, researchers found that CCGs that contained a diverse group of constituents were more likely to succeed (Cestero, n.d.). Influential conservation groups engage the group's diversity, and the potential conflict inherent in that diversity, by focusing on points of agreement while acknowledging areas where disagreement remains (Coughlin et al., 1999). A constructive collaboration avoids degenerating into a controversy that pits local, regional, or national interests against each other. When such conflict happens, the partnership looks no different from the polarized debates that preceded the initiative from top-down governmental agencies (Cestero, n.d.). In addition, collaborative groups may not need to incorporate the full range of perspectives, only the key players needed to address an environmental issue (Dukes et al., 2011). However,

without these diverse perspectives, solving surface problems and determining how groups define success may be misguided and hinder collaborative groups' long-term viability (Firehock, 2011).

Nevertheless, it is a significant challenge for CCGs to keep all interests at the table and make sure they feel comfortable there (Coughlin et al., 1999). In addition, successful CCGs continually evolve, integrating new participants, new information, and new ideas (Cestero, n.d.). In other words, they bring in a variety of different stakeholders and deliberately engage this diversity.

CCGs must also engage with their local community for support and potential funding; gaining the community's support has proven to be one of the most critical factors contributing to CCGs' success (Coughlin et al., 1999). Furthermore, CCGs are unlikely to succeed if they cannot demonstrate that the environmental preservation they seek will not conflict with jobs or economic success in these communities (Coughlin et al., 1999; Hillis et al., 2020). The goals of CCGs must be reflective of the needs of the CCG and the needs of their respective community if they are to succeed. Clashes between community needs and CCG needs will spell out destruction for collaborative conservation groups.

Trust in CCGs

Trust is a vital ingredient in successful collaboration. It is a concept mentioned frequently and described as necessary for coalition success. Also, building trust between stakeholders is often a recurring social outcome of collaboratives. Most collaborative conservation literature acknowledges the trust between coalition stakeholders, membership, and decision-making bodies as indirectly or directly impacting the success of the organization (Cestero, n.d.; Coughlin et al., 1999; Hillis et al., 2020; Varley, 2009; Wolf et al., 2017; Wyborn & Bixler, 2013). Trust is a crucial forerunner to principled engagement among diverse actors that supports additional collaborative efforts in the face of future conflicts or crises (Emerson and Nabatchi 2015). The concept of trust has been highlighted frequently as a prerequisite for successful collaborative relationships (Goodman et al. 1998; Himmelman 1996; Kreuter, Young, and Lezin 1998; Taylor-Powell, Rossing, and Geran 1998; Waddock 1988). To work closely together, the people and organizations involved in a partnership need to be confident that other partners will follow through on their responsibilities and obligations and will not take advantage of them (Lasker et al., 2001). The foundations of good governance and collaboration are well established: trust, integrity, inclusivity, transparency, accountability, reciprocity, and communication (Wardrop, 2014). When leadership emerges, it recognizes the value of novel perspectives. It encourages people to step outside their traditional boundaries by building trust, connecting people, pursuing alternate ways of management, or ensuring broad-based engagement. Unlikely alliances are more likely to occur if trust exists between stakeholders who share more differences than similarities (Olsson et al. 2006, Bohlen et al. 2009, Walker 2018).

Whether place-based or policy-based, greater trust and reduced polarization among collaborators in public land use issues are positive outcomes of this process, and their importance should not be underestimated (Cestero, n.d.). In many cases, establishing a civil dialogue, building trust, and improving working relationships are essential steps

for any collaborative effort to further conservation. For example, for the Thunder Basin Grasslands Prairie Ecosystem Association in eastern Wyoming, an increase in trust among the unlikely allies has resulted from sustained engagement and the multi-decadal development of networks of relationships among the actors that served as the foundation for the eventual agreement on actual decision making (Hillis et al., 2020). By slowly building trust and relationships among agency representatives and local elected officials that barely knew one another, the Utah Canyon Country Partnership began to work together to develop a regional recreation strategy, served as a catalyst for vital conservation projects, and could work together as new issues continually arise (Cestero, n.d.). Trust took a substantial time to build for this collaborative but became the foundation of additional joint activities.

The Yellowstone to Yukon (YTY) Conservative initiative is an example where a lack of trust between a CCG and its stakeholders and locals reduced effectiveness in a CCG. Their focus on protecting nature's bottom line (the organization primarily focused on ecologic and biologic conservation rather than economic and social) caused backlash from resource-dependent communities; locals were lumped into either those who cared about the environment or those engaged in its extraction, which fed longstanding suspicion of outsiders and harnessed fears about property rights and access to land (Wyborn & Bixler, 2013). The labeling and separation between stakeholders left a residual lack of trust in the initiative and the goals of large-scale conservation among resource-dependent communities, preventing on-the-ground action towards larger-scale conservation efforts. The mission of the YTY initiative is to combine science and stewardship and enable people to work together to maintain the natural heritage of the Yellowstone to Yukon area. Therefore, locals and stakeholders did not trust or want to be involved with the YTY collaborative and even felt threatened by the group, the YTY failed to follow through with its mission statement due to the apparent lack of trust. Once again, evaluation of a CCG is based on their outcomes, goals, and interpersonal dynamics, leading to the fulfillment of their mission statement. However, it is crucial to assess the role of trust.

In contrast, the Blackfoot Challenge (the Challenge), a Montana-based CCG focusing on connecting landholders with other landholders, cultivated high levels of trust between locals and their organization by focusing on place-based efforts, on-the-ground projects, and emphasized collaboration with many stakeholders. At this local scale, close neighborly relations are central to building community capacity, social capital, and trust vital to the work of the Challenge. Trust is often produced by stakeholder interaction, time, dialogue, and CCG needs to have activities that possess and strengthen these trust predictors.

Trust is shaped by previous expectations and perceptions of the behavior of the different actors, and these perceptions can be challenging to overcome (Wardrop, 2014). Building these relationships and trust takes a long time and repeated face-to-face interaction (Lauber et al., 2011; Wyborn & Bixler, 2013). Trust is dynamic and mutable, relating to actors' willingness to defer to others to manage risk and opportunities on their behalf (Focht and Trachtenberg, 2005; Hupcey, 2002). Significant predictors of trust include small and stable groups, generalized social trust, clear decision rules, political stalemate, congruence on policy-related beliefs, and absence of devil-shift (the view that

one's opponents wield more power than one's allies) (Leach et al., 2015). Suppose appropriate strategies and actions are pursued, trust increases, while inappropriate plans and activities can erode trust. Developing and maintaining trust is multi-dimensional and multi-layered: trust must be maintained between the network of partners (social trust) and between landowners and organizations working in their interests (Focht and Trachtenberg, 2005). While there is no recipe for building trust, trust is central to multi-level governance and collaboration (Armitage et al., 2009).

One of the most significant challenges of a CCG is achieving trust, especially among a group with diverse interests, which we would expect from nearly all collaboratives, considering high diversity and perspectives is a defining characteristic of them (Hillis et al., 2020; Lauber et al., 2011). In the context of developing trust within a CCG, the higher number of diverse stakeholders and interests means the likelihood of conflicting or even countering interests existing is also more likely. For example, when assessing collaborative resource management partnerships within the United States, researchers demonstrated this relationship, finding that distrust can exist between environmentalists and local people, local people and governments, resource managers and agency personnel, to name a few (Coughlin et al., 1999). However, trust between these stakeholders is essential because without it, the framework and ability of pooling resources, developing and sharing information, and making decisions based on diverse perspectives is not engaged, and natural resources and involved communities suffer in response (Reid et al., 2010; Wardrop, 2014). Considering the importance of trust in CCG success, it is essential to address factors that build trust.

A commonly cited factor that builds trust between stakeholders within collaborative conservation groups and partnerships is time. Building trust and collaborative capacity takes a long time and requires resources and energy (Wardrop, 2014). More specifically, successful collaborative processes and trust are built by stakeholders spending a lot of time talking, building meaningful relationships, and learning from one another (Lauber et al., 2011; Reid et al., 2010). Therefore, trust is operationalized by building relationships through effective dialogue and learning from one another, which social functions may help facilitate or expedite; this process takes a long time considering the diverse stakeholder perspectives, interests, and potential biases and prejudices associated with managing natural resources.

Social functions such as meetings, workshops, and other member-interactive events build trust in the context of this operationalized definition by providing stakeholders with a chance to demonstrate consistency in attendance, network with one another, engage in civil dialogue, and talk or learn about important issues to find common ground on; therefore, building the meaningful relationships with high levels of interpersonal trust is a function of effective communication (Coughlin et al., 1999; Huayhuaca & Reid, 2014; Varley, 2009; Weber et al., 1984; Wyborn & Bixler, 2013). Time is also a function of trust because stakeholders can trust each other if they have worked with them in other organizations in the past—their previous or ongoing history of cooperation (long time scale, face to face interaction, and dialogue) builds trust between them in a new organizational setting (Lasker et al., 2001; Wolf et al., 2017).

For example, the alliance in Thunder Basin required nearly 20 years to come to formal fruition. In this time, actors successfully developed close and trusting

relationships that served as the foundation for the eventual formal agreement (Hillis et al., 2020). For Thunder Basin, an increase in trust among the unlikely allies has resulted from sustained engagement and the multidecadal development of network relationships among the actors, demonstrating the importance of trust in collaboration and how long building trust can take (Hillis et al., 2020).

The capacity for collaboration depends on the ability of those involved in the partnership to rely on one another; that reliance is supported through adequate trust and honesty among actors, and being able to rely on ‘true’ information sharing (rather than misleading information), as well as institutional commitments to pre-existing goals (Kretser et al., 2018). Respect and understanding necessary for trust can be facilitated by getting to know one another and fostering team-building through social functions (Randolph & Bauer, 1999). Compromise, and the 80/20 rule may be effective at building trust. By working on the ‘80%’, the group can address more contentious issues through a platform of trust (Wardrop, 2014). Successful CCGs are those that direct efforts towards the 80% of the group that will be receptive. The other 20% of the group may not be key players of the CCG, or the energy invested in this minority may not result in the proportional change.

In the context of collaborative conservation groups, trust and strong relationships are essential prerequisites and vital for success, and building or maintaining stakeholder trust, engagement, and or support is often a social outcome of CCGs (Conley & Moote, 2003; Wilkins et al., 2021). Furthermore, trust and relationships are essential when practitioners did not have complete control over the resource of interest, such as conservation initiatives on private lands. In these cases, relationships influenced private landowners’ willingness to receive scientific information and adopt new conservation practices informed by science (Kretser et al., 2018; LAUBER et al., 2011). Without trust, a private landowner or rancher may have difficulty trusting biologists who suggest science-based conservation practices that might be perceived as unfavorable for the land, like prescribed burning, or contradict more anecdotal or holistic practices (Lauber et al., 2011; Wardrop, 2014). Conservation literature also hints at the difficulties of collaborating with ranchers because of actual and perceived mistrusts between them and other CCG stakeholders (Porter et al., 2011). Therefore, it is crucial to study trust in contexts and among stakeholders where it is proven to be especially relevant, as a critical player in CCGs, and evaluate coalitions based on trust levels within the organization.

Barriers to CCG success

Barriers relating to attitudes and perceptions involve mistrust between participants, imbalances of power, group attitudes toward each other (e.g., timber companies vs. environmentalists), organizational norms and culture, and general lack of support for collaboration (Waddock and Bannister 1991); the process of collaboration can create challenges if participants are unfamiliar with the effective procedures, lack proper management and interpersonal skills, or cannot manage the partnership within the outside political or social context (Kretser et al., 2018). Even if goals are set, new partners joining the group may want to modify the goals and objectives as the collaboration progresses (Hillis et al., 2020; Kretser et al., 2018).

Power Imbalance and Decision Making

Power imbalances within CCGs have been documented as one of the primary reasons why CCGs ultimately fail in their ability to achieve their goals and succeed in collaboration. From their conception, CCGs are inherently bottom-up decision-making organizations, as they generally form due to the failure or inefficiency of top-down organizations like government agencies (Wolff, 2001). Collaboratives founded on participatory and community-based collaboration of stakeholders to collectively and synergistically manage natural resources; if CCGs are engaged in top-down decision making where membership or community needs are solely decided for them, the organization does not fulfill the collaborative aspect of conservation and is viewed as failing (Conley & Moote, 2001; Hillis et al., 2020). CCGs are likely to fail if power imbalances exist and lack clearly defined organizational goals (Belton & Jackson-Smith, 2010). Successful organizations engage in bottom-up and consensus-based decision-making and should be evaluated based on this criterion (Conley & Moote, 2003).

If power is asymmetrical and other players cannot shift into a power position, the collaborative process cannot be improved (Gray, 1985; Kretser et al., 2018). Therefore, successful coalitions have decision-making bodies that are open to the general membership to join. Furthermore, power asymmetry and top-down decision-making are often intertwined and negatively impact the collaborative process by limiting the choices and decisions membership can be involved in or influence (Hillis et al., 2020; Kretser et al., 2018). It is recognized that every member in the organization will not have the same power to make decisions, and typical for a core group of members on a board or committee to makes most of the decisions, but bottom-up decision-making entails providing membership the opportunity to be involved in decision making and guiding the organization (Randolph & Bauer, 1999; Reid et al., 2010). The power within CCGs needs to be shared, which entails parties in authoritative positions relinquishing control to other participants (Randolph & Bauer, 1999). Furthermore, successful CCGs are those that strive to address issues of power and inequality, turning turn 'I' and 'they' into 'we' and 'us' (Kretser et al., 2018; Reid et al., 2010).

Evaluating performance and Trust in a CCG

CCGs have proven that through the collaborative process and collective efforts focusing on a single location or set of goals, they effectively protect ecosystems and uplift communities. Therefore, CCGs may be critical to saving rangelands from the threats they face, such as land-use conversion, low-profit margins, and threats to ranchers at well. Furthermore, collaborative conservation may be more effective at producing conservation on private rather than public lands due to its more personal approach. Many rangeland collaboratives have formed as a result. Still, few studies exist that aim to evaluate their performance, and almost none specifically assess trust within the organization. The Central Coast Cattle Coalition (CCRC) is a rangeland collaborative coalition whose mission is to preserve rangelands, protect ranchers, and ensure that operations are economically viable and ecologically sustainable. The CCRC is a volunteer-based, information-sharing coalition that provides an opportunity to 1) Add to the CCG evaluation literature, 2) Assess the level and extent of trust within the CCRC, and 3) Provide recommendations to the CCRC. The volunteer and information-sharing

aspects of the CCRC prove that CCGs are diverse in their structure and purpose, which makes evaluation more difficult.

Furthermore, trust within the CCRC is vital to assess because their coalition is based more on collaboration and relationships than tangible conservation outcomes. Also, rangeland CCG literature describes ranchers as a stakeholder group with difficulties trusting. Therefore, assessing and evaluating the CCRC provides insight into volunteer-based and information-sharing CCGs, and ranchers as a group that has difficulty trusting. The CCRC will be assessed based on whether they are fulfilling their mission statement and the level of trust within their organization, using criteria characteristic of successful CCGs.

Background on CCRC

The Central Coast Rangeland Coalition (CCRC) is a collaborative conservation group consisting of individuals and organizations that envision vibrant, productive, diverse and sustainable rangelands and communities on California's Central Coast.

The CCRC defines the Central Coast using three main project areas in East San Francisco Bay, Monterey Bay, and Morro Bay, the most southern project area. CCRC members consist of rangeland owners, ranchers, scientists, and conservation organizations such as The Nature Conservancy and the California Department of Fish and Game, public landowners including East Bay Regional Park District and Midpeninsula Regional Open Space District, as well as research and educational organizations such as the University of California Cooperative Extension and Elkhorn Slough's Coastal Training Program.

The CCRC was founded in 2003, and its management and operations were run through the Elkhorn Slough Foundation. The CCRC would continue to operate through the Elkhorn Slough Foundation until 2017 when leadership experienced a temporary shift. Consequently, the University of California Cooperative Extension Program (UC extension) took over CCRC management and operations from the Elkhorn Slough Foundation and continues to facilitate the organization. Accompanying the shift in the CCRC's parent organization, the current director of the Elkhorn Slough Coastal Training Program has taken on a leadership role in the coalition.

There are two levels of membership or participation within the CCRC— an individual is either a general member or a steering committee member. A general member of the CCRC attends biannual meetings or workshops on the third Thursday of October and April at private and public venues. At these meetings, members listen to guest speakers present on various topics, go out in the field to see the topics discussed in action, and break into smaller breakout groups of 8-10 members three times throughout the workshop to discuss what they have learned. Conversely, steering committee members are much more involved in the organization because they plan and organize the biannual workshops. Steering committee members meet over the phone every month to discuss the details and content of the biannual meetings. These individuals are responsible for finding speakers, potential venues, and caterers, conducting outreach, and making the final decisions for other meeting requirements. Steering committee members come from a variety of different professional and educational backgrounds. These backgrounds include natural resource and livestock management, botanists, rangeland

conservationists, ecologists, land managers, researchers, and consultants (Appendix, Table 1). Subcommittees are formed within the steering committee to organize the workshops and facilitate the CCRC's graduate forum scholar program.

Their graduate forum scholar program has been running for ten years. This program aims to recruit and fund graduate students to conduct research projects related to the purposes of the CCRC based on the needs- assessment they send to the membership every five years. As graduate forum scholar, the student works alongside their advisor to conduct a thorough literature review on the topic selected through the needs assessment and presents the results at the Spring workshop. Scholars are required to write a scientific article summarizing and framing their work, and the CCRC publishes these papers to their website as an online resource. Steering committee members are responsible for finding interested students, finding funding, and providing topics the membership has deemed of interest. The graduate forum scholar program is the only program directly operated through the CCRC.

The CCRC is a collaborative coalition group that provides an opportunity to explore gaps in collaborative conservation literature involving the evaluation of collaboratives and focuses on trust between stakeholders. The number and types of collaboratives have significantly increased, while studies evaluating and assessing them are lacking. In addition, there is a need to cater CCG evaluations to the organization's specific characteristics rather than developing a standardized set of criteria. Furthermore, trust is a vital component of collaboratives, but CCG literature does not explicitly assess trust and hints at a lack of trust between ranchers and CCG stakeholders. Therefore, evaluating a rangeland coalition such as the CCRC is an opportunity to (1) expand on literature that aims to evaluate collaborative coalitions, (2) evaluate a CCG using criteria that is fit to the collaborative it is, and (3) specifically focus on the role and level of trust within an organization and between stakeholders where trust is difficult to build.

Methods

To expand on the literature aiming to evaluate collaborative coalition groups, we created a contextualized set of criteria and focused on the role and level of trust within an organization where it could be lacking. We conducted interviews with 12 members of the Central Coast Rangeland Coalition's (CCRC) steering committee (SC) to acquire insight on organization functioning to evaluate the organization and focus on trust.

A list of all CCRC steering committee members (22) was compiled using the CCRC website and outreach to two SC members. A Cal Poly Institutional Review Board (IRB) human subject research form was completed one week before interviews began to allow for form processing. Recruitment of interviewees started on March 7th, 2021, and 12 participants agreed to the interviews. Members were interviewed between March 7th and July 23rd, 2021. Interviews were conducted over Zoom due to COVID-19 restrictions and digitally recorded using Zoom. Interviews lasted between 1-2 hours as permitted by the interviewee. Interviews assessed factors and barriers of success to collaborative conservation groups derived from the literature but via the perceptions of the SC

members. For example, a factor of success in collaborative conservation groups is trust. Therefore, questions were created to gauge the level of trust between board members, constituents, and each other (Wardrop, 2014). Interviews were conducted for as long as steering committee members responded and agreed to interview requests.

With the help of Dr. Nicholas Babin, I developed an interview guide to gauge perceptions of the SC on different aspects of coalition functioning, dynamics, and stakeholder relationships; their responses provided information that allowed me to evaluate the organization and assess trust via perceptions of the 12 SC members (Appendix 1). Specifically, we asked SC members to describe the organization's mission statement, about factors and barriers to organizational success, and questions that centered around (1) Setting reasonable and measurable goals, (2) Projects and programs implemented, (3) Monitoring, (4) Trust, (5) Power structure, and (6) Diversity and wide inclusion (Appendix 1).

Ideally, SC members will collectively agree on the organization's mission statement, define concrete and measurable goals, and follow up with clear objectives to meet goals to fulfill their broader mission statement. Objectives are synonymous with environmental, economic, or social projects or programs implemented, demonstrating the CCRC is actively progressing towards goal attainment and producing deliverables that are beneficial to stakeholders and conservation alike. Ideally, the CCRC should monitor projects or program progress and outcomes to ensure that beneficial effects are long-term and sustained. We expect the CCRC to describe both past and current projects and monitoring efforts, considering how long their organization has existed. Trust is crucial for collaborative success but is mentioned ambiguously throughout the literature. From my literature review, I operationalize trust taking a long time to build, a function of effective dialogue between stakeholders, and best built-in small groups and face-to-face interactions. Therefore, CCGs should have activities that foster these operationalized aspects of trust and trust-building. In addition, trust levels between fellow SC members and the level of trust SC members perceive between them and the general membership were determined using trust level descriptions and ratings. Members were asked to rate trust between 1 and 10, with 1 being little-to-no trust and 10 very high trust. We expect trust levels and ratings to be high considering its importance to collaboration and the tendency for trust between stakeholders listed as a common social outcome of collaboration.

The power within the organization should be equally distributed, and decisions should be made from the bottom up. Meaning, general members should have input, be involved in decision-making, and have access to higher leadership roles. The CCRC should have high levels of diversity or have all the essential perspectives and stakeholders at the table and continuously attempt to increase the number of new faces. Similarly, their partnership should include all diverse stakeholders and perspectives into decision-making processes, strive to be as inclusive as possible, and use diverse expertise.

The interview guide assisted the interview in gauging SC member perceptions and was brought to every interview. The interviewer deviated from the interview guide when appropriate, especially when following up on an interviewee's answer for clarity (Prokopy 2011). A test interview was scheduled and planned with a steering committee member and my master's advisor, Dr. Nicholas Babin. However, due to scheduling conflicts and unforeseen circumstances, the test interview was never conducted. Research interviews began and were modified for errors and confusing or irrelevant questions throughout the interviewing process.

Digital recordings were transcribed into written documents by me and the transcription service "TranscribeMe." I transcribed 5 out of the 12 interview recordings by uploading interview videos onto my personal YouTube account and copied and pasted the YouTube auto-generated transcripts into the qualitative software package NVIVO (Version 12). Then, I listened to all digital recordings and edited the YouTube autogenerated transcript to match the interview audio. The interview videos are not available to the public.

Data Analysis

Analysis of interviews and completion of final reports was completed on July 27th. Interview transcripts and files were uploaded to NVivo for organization and analysis. A codebook was developed based on emergent themes after reading through transcripts and rewatching interview videos. Each interview was coded appropriately, and the majority of codes were responses to interview questions. For example, when asked the question "Describe the level of trust you have for your fellow SC members," responses were coded into the child code "Level of trust between SC members" under the Parent code "Trust" (Table 1). Data were analyzed by identifying major and recurring patterns, comparing and contrasting interview responses, and interpreting interview data in conjunction with my literature review, explicitly focusing on trust within this organization to evaluate the CCRC and add to research gaps on coalition evaluation.

SC member names, gender, and other revealing characteristics were left out or changed ("he and "she" became "they" and SC member names became [name of SC member]). Numerical answers to questions were calculated using simple averages (Average trust rating, average age of SC members interviewed), and minimum and maximum values were reported. Patterns and agreement were determined by counting the number of files that referenced the code, reading through text files to ensure the essence of the code was captured. The file counts were reported out of the total (8/12 members stated that...). Interview responses from one or two individuals were disclosed and included in the results and analysis if their point was of particular interest and called attention to an issue relevant to criteria and relevant to the organization. In addition, some themes that developed were not responses to specific questions but recurring ideas that arose from the established line of inquiry. For example, when SC members were asked about goals, barriers, and missing individuals from the CCRC, they often responded with ranchers, made comments about the characteristics of ranchers, the disconnect between ranchers and agency individuals, or how ranchers may not trust science and prefer

holistic management/anecdotal evidence. These concepts became their codes due to their prevalence.

Interview data was organized into themes based on the interview guide created (Appendix, Table 1). Interview questions were designed to understand the participant's thoughts, perceptions, and understanding of coalition function, practices, and inter-member interactions to evaluate the coalition based on specific metrics and focused on trust within the organization. Specifically, members of the Central Coast Rangeland Coalition steering committee were asked to describe the organization's mission statement and factors and barriers to organizational success and about (1) Setting reasonable and measurable goals, (2) Projects and programs implemented, (3) Monitoring, (4) Trust, (5) Power structure, and (6) Diversity and wide inclusion (Appendix, Table 1).

TABLE 1. Coding framework

Trust	Power Structure / Decision-making process	Factors of Success
Definitions of trust	Hierarchy structure	Bringing diverse groups of stakeholders
Activities aimed at building trust	Decision-making processes	Collective interest/here for the same reasons
Level of trust between fellow SCs	- Top-down - Bottom-up	Breakout groups/effectively communicate
Level of trust between SC&general members	Representing larger interest groups	Partnerships
Trust rating between SC	Examples of decision-making processes	Facilitator
Trust rating between SC& general members	Inner circle	Steering Committee/core group
Factors that influence the ability to trust	A time when your voice was not heard	Networking Opportunities
Personal loss of trust		Relevant topics
Heard of loss of trust		

Results

Overview of Results

The CCRC's factors of success include bringing in diverse groups with a common interest in rangelands, effective communication between stakeholders via breakout

groups, the SC/ the smaller core group within the SC that guides the organization, and slight consensus that effective partnerships with organizations were a factor of success. Barriers to success include lack of ranchers and rancher engagement in the CCRC, a disconnect between ranchers and agency/agency personnel, and difficulty recruiting and retaining committed members for the SC — hinting at an issue of sustainability. SC members strongly agreed that the mission of the CCRC revolves around 1) bringing together diverse rangeland stakeholders with shared interests and 2) acting as an information-sharing organization.

In terms of setting reasonable and measurable goals, SC members were unaware of concrete goals set by the CCRC or personally did not know what the goals were if the organization had any. SC members strongly agreed that the graduate forum scholar is a concrete project of the coalition, with less agreement that holding the meetings and producing new rangeland literature were also concrete projects. The organizations the CCRC partners with conduct ecological monitoring, but the CCRC does not. The coalition may even be avoiding monitoring due to a previous interaction where the membership did not respond well to monitoring results.

SC members all defined trust similarly and described high trust levels, and provided high trust ratings between fellow SC members and between SC and non-SC members. Their ability to trust others is developed by listening, face-to-face interaction, and time, all of which are produced by breakout groups. SC members agreed that the breakout group structure, composition, facilitators, and the questions asked by facilitators built trust between meeting attendees. Nearly all SC members had never experienced an event or action that caused a loss of trust for SC members or the organization.

SC members strongly agreed that functional diversity (professionals, background, perspectives, experts) was high. They also strongly agreed that traditional binary gender makeup within the general membership was high and that ethnic diversity was low; all members of the SC agreed that the membership is mainly white-dominated. There was strong agreement that certain stakeholder groups are absent from the CCRC but would be welcomed and never excluded. Regarding power dynamics and decision-making within the CCRC, the SC is the organization's primary decision-making body. The SC utilizes a mix of top-down and bottom-up approaches but predominately engages in bottom-up processes. Questions probing this area of interest revealed that bottom-up decision-making favors agency personnel and that the highly organized structure of the CCRC may impact their ability to stay relevant to ranchers and discourage SC members from speaking their opinions. Considering that the CCRC is a volunteer-based organization, it is difficult to determine if a power imbalance can exist or if the power dynamics result from individuals who care the most about the organization's success.

Mission Statement

SC members overwhelmingly agreed on specific aspects of the mission of the CCRC. Their perceptions revealed two elements of the CCRC's mission: 1) bringing together diverse stakeholders interested in protecting and supporting central coast

rangelands and 2) educating, informing, and providing resources for these stakeholders. Most (7/12) SC members mentioned the word “bring” or “bringing together,” “diverse” and “different” “groups,” “folks,” or “people” together. Although a few SC members did not specifically use the terms “diverse” or “different,” they alluded to this idea by identifying that the CCRC brings together “public agency personnel and employees,” “land managers,” “ranchers,” “researchers,” “academics,” “consultants,” and “the public.”

The CCRC brings together these diverse stakeholders that share common “interest” or are “interested” in economic and socially productive rangelands, as well as their stewardship, those who play a direct role in their management and ownership. Nearly all SC members agree that information “updating” and “sharing” is a part of the CCRC’s mission by either explicitly mentioning the two terms or stating that the CCRC “educates” and “informs” their stakeholders with “relevant,” “transferrable knowledge” via studies and research. In other words, members agree that the CCRC adopts a “science transfer model” because it develops programs and shares the best available science with rangeland practitioners. However, only a third of SC members mention or allude to the “application” of this knowledge towards “finding common-sense solutions” or to “inform” or “validate” best management practices regarding rangeland issues. The question of whether the CCRC should act as an information-sharing coalition or a project, policy, lobbying organization repeats itself throughout interview responses and is noteworthy. Considering the CCRC’s bi-annual meeting structure entails discussion of topics and research through multiple breakout groups, speakers, panels, and the organization’s emphasis on bringing together “diverse” stakeholders, it was surprising that only two out of 12 SC members determined that a primary aspect of the CCRC mission statement is to “give people that chance to interact” or “have a robust discussion” about the information presented at meetings.

Factors of Success

According to the SC members, the CCRC’s main factors of success is its ability to 1) Bring together diverse groups of people who share a collective interest, 2) Create an environment where these individuals can effectively communicate with one another, and 3) Partner with other successful government and non-government organizations.

Bringing in Diverse Groups of people

The majority of SC members (10/12) identified that the CCRC’s ability to bring in diverse groups of people together is the primary reason for their success as a collaborative coalition group. SC members agree that the CCRC brings together various members of grazing, conservation, and human communities, which include ranchers, government agencies like state parks, the open space parks districts, UC cooperative extension, NRCS, non-governmental organizations (NGO) like the Nature Conservancy, consultants, land managers, academics, and educators at their meetings. One SC member went so far as to say they “don't think there's any group in the central coast area” that brings these diverse groups “together to talk about range issues and range challenges.” This specific member notes that the CCRC’s ability to serve as a forum to bring all these groups together is “the number one value that we bring.” Other members stated it was what they “like best” about the organization or that doing so is a “huge benefit and part of their success.” Board members also mentioned that breakout groups at CCRC meetings

are specifically designed to contain as many perspectives as possible, supporting the claim that the CCRC successfully congregates diverse stakeholders:

“They're going to put you together in a small group, and they're going to give you a series of questions that everyone in the group is supposed to answer. And they purposely designed the group so that there's going to be a public land manager and a rancher and maybe a consultant and maybe a regulator and maybe some other group so that everyone hears each other's perspective. And so then the rancher could be like, "Oh, for God's sakes. I had no idea what you guys did that for." And the public land manager could be like, "Oh, my God. I had no idea how much trouble that was if we asked you guys to do that." I mean, it's really eye-opening for folks to be able to hear the differing perspectives. And that's, probably, the biggest thing right there.”

Considering that most SC members identified bringing together diverse stakeholders as an integral part of their organization's mission statement and agree that their organization is successful by and from their unification of various stakeholders, the CCRC appears to satisfy this portion of their mission statement. However, in terms of success, what is equally, if not more, important than the CCRC bringing together diverse stakeholders is their ability to create an environment where these individuals can communicate effectively and respectfully.

Collaborative coalitions should bring together diverse stakeholders, and doing so results in various, differing, and conflicting opinions and perspectives confronting one another, which can be catastrophic (Huayhuaca & Reid, 2014; Wolff, 2001). However, successful partnerships facilitate discussion and conversation among this diversity, engaging the opposition (Cestero, n.d.; Coughlin et al., 1999; Randolph & Bauer, 1999). Via the perceptions of the SC committee, the CCRC has successfully achieved this feat primarily because of the breakout groups and the discussion leaders, or “facilitators,” that guide each group to conversational success:

“And so, everyone who's at the meeting, well, they wouldn't have an opportunity to speak in the larger group. When we break up into these smaller groups, every single person at the CCRC meeting has an opportunity to speak and be heard. And people who usually wouldn't speak in public or a large group, I've had multiple people tell me that, "Oh, I really like these small breakout groups. I spoke in my small breakout group, but normally, I don't usually speak out at these kinds of meetings. So, you really created the space for me to feel comfortable doing that." And I think people really appreciate that. I think that's part of the success because not only does it allow people to share their perspectives and views, but also, it creates these opportunities for networking and meeting new people.”

In addition to uniting diverse stakeholder groups, the CCRC's targeted breakout group composition contributes to the organization's success by bringing together diverse stakeholders the individual level. However, the facilitators and discussion leaders of each group help these different groups communicate effectively by creating an environment where all opinions and perspectives are welcomed, encouraged, and heard:

“Everybody asks questions respectfully. And everybody has an opportunity to be heard and an opportunity to pass.”

Even within the SC meetings themselves, the facilitator role creates a welcoming and conducive environment where SC members can communicate effectively by ensuring that every member has a chance to speak their mind or bring their perspective when planning the bi-annual CCRC meetings:

We [the steering committee] need to be mindful of, and similarly, dealing with people who don't come to every meeting. How do we make sure that they feel comfortable and heard? So, I've watched [SC Member] as a facilitator deal with that. They keep a list going [...], but they keep track of who has spoken and who has not [...], but they'll say, "Okay now, you, you know do you have anything to say? Do you want to contribute to this?" And so often they'll get to somebody who hasn't been speaking at all, and they'll just unleash, you know, a whole lot of great ideas and concerns and reaction, and so I think that's it's a big part of it you know. But certainly, we want to make everybody feel welcome and feel like they can participate, but making that work is dependent on having a good facilitator."

A factor of success that yields beneficial outcomes when bringing together diverse rangelands stakeholders for productive conversation is that the stakeholders share common interests and the "same reasons for being here [the CCRC]." While this connection may appear obvious, interview responses demonstrated that shared interest among stakeholders in rangelands was a factor of success in more ways than one. Some SC committee members explicitly mentioned that the CCRC is successful because they "focus on common interests" or "get people with common interests." In contrast, others expressed that the CCRC's success results from the coalition engaging "with what the interest is." Other SC members noted that there is an understanding between all CCRC members that "We're all here for the right reasons" and there is an "underlying value that makes it all work [...] we all share this core set of values that relates to our mission."

Based on these responses, common stakeholder interest in rangelands is a factor of success for the CCRC because they help the organization focus on more specific topics, draw more like-minded individuals towards the group, and helps to unify the diverse stakeholders by acting as a thread that ties them all together.

5/12 members identified that the CCRC is successful because a core group of people within the steering committee works hard to keep the coalition functioning effectively. Approximately 5-7 individuals within the SC committee are disproportionately invested in the group's success. These individuals are very active and contribute to the organization's success by consistently attending the monthly telephone meetings, fulfilling responsibilities related to the planning and details of the biannual CCRC meetings, and acting as an informal administrative body that processes membership feedback, finds relevant topics suggested or implied by the membership, and is the lifeline of the organization.

A third of SC members (4/12) noted that the CCRC is successful because it has partnered or collaborated with other organizations.

"Well, I mean, there's a recognition that-- they are bringing on people that are successful. So, they're bringing in public agencies that are successful."

“Yeah, well um also the factors of success have been that some big agencies like East Bay Parks and the Nature Conservancy and others have been interested in the group and supporting the group, especially because the group has the expertise and can oversee projects. So, you know, there's always been a funding stream from these people to help fund projects like for the last many years.”

These partnerships help the CCRC succeed by providing funding for their graduate forum scholar program (the CCRC's only program) and helps them establish recognition or a sense of legitimacy. Partnering with organizations contributes to success as a source of knowledge, expertise, funding and boosts the ethos of the coalition.

Barriers to Success

SC members strongly agreed on what barriers to success the organization faces. These barriers include 1) Finding SC replacements and individuals committed to the SC, 2) The lack of ranchers and rancher engagement in the CCRC and relevance of the CCRC to ranchers, 3) A disconnect between agency and ranchers, and 4) Missing stakeholder groups besides ranchers from the discussion of central coast rangelands.

Lack of rancher engagement within SC meetings

The most significant barrier that the CCRC faces, and one they were aware of, is the lack of rancher engagement. According to the SC members, the ranchers' perspective is severely lacking within SC planning meetings and CCRC general meetings. When asked about significant barriers, 10 out of 12 CCRC members mentioned the lack of rancher engagement as a primary barrier to success. When responding to barriers to success, the remaining two members did not note the lack of ranchers as an explicit barrier. However, when asked about SC meetings, individuals missing from the discussion, and other lines of questioning, they allude to the apparent absence of ranchers in terms of their engagement, numbers at both meeting types, and the perspective they are supposed to bring to the table. For example, when asked about whether the SC committee brings up rancher economics enough, one member responded that:

“You know, a lot of times on the committee, we don't have consistent ranchers that are there all the time [...] so we're not getting the rancher perspective. So, we don't, you know, hear that [push for rancher economics], you know? We don't hear it continuously or as much as we should.”

The quote above demonstrates that rancher underrepresentation and absence in the SC results in rancher needs not being talked about or acknowledged as often as they could be. Moreover, when asked about what personal or expertise were missing from the CCRC, the second member answered:

“Oh, that's interesting. So, I mean, I would love to see even more ranchers than we have, for one.”

Therefore, all 12 members of the CCRC steering committee have pointed out the lack of rancher engagement. Strong patterns emerged within the group of SC members that mentioned the lack of ranchers as a barrier. Ranchers are a group of “practitioners” whose involvement was “difficult to maintain,” and the CCRC “always had trouble getting enough” of them to “have communication with the group.” Unfortunately,

ranchers “have so much demand on their time,” “face a lot of hurdles making money,” and “don’t get paid to be at the meetings.” Thus, it is challenging to expect a rancher to give 1-2 hours of their time every month for planning meetings and anywhere from 6-10 hours during the biannual meetings if time driving to various locations ranging from San Luis Obispo to Sonoma County is factored in. Interview responses revealed more specificity on the disparity between ranchers and other stakeholders at both types of meetings:

“Whether it be the annual grad student like yourself or people from an agency that don't see, uh, the needs of the rancher, and vice versa us seeing the needs of the public agency person. The conundrum is that it's always been 90-80 percent agency people at these meetings[biannual] and maybe 10, max 20 percent of the ranching community.”

While this rancher provides insight on a more precise estimate of ranchers and other stakeholders at bi-annual meetings, interviews with two non-ranching SC members confirm a similar assessment of rancher makeup at meetings:

“We have never looked at anything about who comes to the meetings other than how many ranchers there are. We were always trying to get more ranchers, and so we've usually gotten about 20 percent.”

Within the core group of individuals responsible for the coalition's success, there are: “no ranchers, sometimes there's as many as I would say... two ranchers out of say maybe seven or eight people or something like that.”

Nearly all members mention that ranchers are almost non-existent in the monthly meetings, with 1-2 ranchers being present if they were fortunate. The CCRC has attempted to remedy the absence of ranchers by providing accommodating solutions:

“For instance, ranchers don't come to the steering committee enough and not enough of them. So, we recently decided to hold rancher's specific steering committee member meetings twice a year at a better time of day and later in the evening when they'd come in from work. And then take out certain people, you know, say this is rancher specific, so ranchers don't worry about somebody being there that may be competing on their land for a lease hearing what they're bringing up. Right, because it's just ranchers and us right, so may you know a key person in the room, you know we do that for ranchers.”

Therefore, the CCRC has attempted to accommodate meeting times and create new meeting times to include rancher opinions and remove specific individuals from the discussion to make ranchers feel comfortable. Unfortunately, two common themes arose from discussion regarding the lack of ranchers. The first was that ranchers are not attending CCRC meetings because meetings are not “relevant” to them (5/12), or they are not “getting something out of going to meetings.” SC members stated that meetings must be of “value to them or they won’t show up,” and a barrier of the CCRC is the concern of whether meetings “have relevance to actual land managers to ranchers.” Note that the words “relevancy” and “relevant” reoccur in many interviews, especially considering the CCRC’s mission to unite diverse stakeholders, support rangeland communities, and help manage rangeland natural resources. Moreover, the questioning of meeting relevancy to

ranchers is concerning because ranchers are critical stakeholders. The CCRC prioritizes ranchers the most, actively seeks to include them, yet continues to lose their commitment.

The second theme was a disconnect between ranchers and agency personnel in terms of decision-making on rangelands. Almost all members (10/12) alluded to, made direct comments on, or addressed the disconnect between ranchers and those who make or influence decisions as a barrier for ranchers.

“So, depending on the agency and who you work for, you're coming from two different worlds and two different perspectives. So, some people that I even work with, not in my agency but-- okay. For example, there is an intercity office in one of our local counties, and their staff changes every two years, new people come in and out, right? So, there's no personal relationship, right? So, I feel like-- and then some people don't have the skill set. They may have a degree in natural resources management, but they might not know anything about rangelands, right? So that's it, right there[...] I think that maybe that's where ranchers butt heads with some people in particular agencies. Some agencies, especially regulatory agencies, are very focused on a population, or a species, right, or creek, and they institute regulations and laws. We need their blessings to get stuff done, so that is difficult. And then I guess for others, maybe they do not understand what ranchers do, right? So, there's like a disconnect there as well.”

The only ranching SC member I interviewed, who usually attends meetings relatively often compared to other ranchers, affirmed this notion that ranchers are disconnected from individuals and agencies that directly impact rangelands:

“We're on the ground. I'd say as much or more than some of the biologists, you know, that go out for so many studies at a time. So, sometimes I feel we could be more of an asset to them, but we're not invited to the table when it comes to those other conversations.”

He continues after a probing question, revealing rancher exclusion not out of malice towards them but rather the lack of awareness of higher-up agency individuals:

“They never thought to include me on a zoom call” or “invite us[ranchers] or whatever, and it's a lack of awareness or thought.”

Based on interview data 1) The CCRC lacks rancher engagement at both meeting types, 2) The SC members question the organization's relevancy to ranchers, and 3) A disconnect exists between ranchers and agency personnel in the industry. In addition, results demonstrate that the CCRC's mission is to unite diverse stakeholders and provide them with information; they also revealed the high value of ranchers to the CCRC and their efforts to recruit them. Therefore, a complementary and adverse paradox exists between the CCRC, an organization that has identified its mission and main success factor to unite diverse stakeholders, rancher absences at CCRC functions, and a disconnect between two important rangeland stakeholders worsening.

In addition, (5/12) SC members identified that a barrier they face is finding committed individuals to be part of the planning committee, hinting at a threat to long-term sustainability. SC members stated that finding individuals “committed to the organization” was challenging and revealed high turnover rates outside the SC's core group. For example, during interviews, two SC members stated that shortly after the next

one or two meetings, they would severely limit their interaction with the group due to career changes or time issues. A separate member who was described as trustworthy, been a long-time member, and is viewed positively by the membership stated that:

“I have to admit. I haven't participated in any of the planning meetings for probably about nine months now. Some things I just haven't been involved in. I was in one, and then when the pandemic hit and everything got stopped, I kind of bowed out after that when they started their virtual ones.”

These results demonstrate the ease for SC members to filter in and out of the organization, which has negative implications for the issue of sustainability of this volunteer-based group. Adding onto the question of sustainability, 5 out of 12 members alluded to the struggle of finding replacements and noticed that keeping a larger group of consistently committed individuals is challenging. Lastly, in addition to the lack of ranchers, questioning of relevancy to ranchers, and difficulties retaining a larger group and finding replacements, the sustainability of the CCRC is additionally threatened by the older age demographic of the group. The average age of an SC member is 54, with a minimum of 37 and a maximum of 69. Of course, higher age does not precisely correlate with less involvement, and in some cases, it could result in higher participation (retired individuals may have more time). Still, it does not seem that individuals from the younger demographic are joining and remaining in the core group of SC members. The sustainability of an organization correlates with the constant recruitment of individuals of all demographics into both general membership and leadership positions, which is why moderate claims on sustainability are made. Furthermore, SC members have commented that no new faces are seen at the CCRC meetings, confirming sustainability and growth concerns. It is important to note that the entire steering committee was not interviewed, so demographic information may be skewed. However, most of the core group within the SC was interviewed, and their age demographic closely resembles the group average.

Setting Reasonable and Measurable goals

Setting reasonable and measurable goals is crucial for successful collaborative coalitions, increases coalition functioning, guides the organization to a focal point, and is a standard evaluation tool (Cestero, n.d.; Conley & Moote, 2001; Huayhuaca & Reid, 2014). Therefore, it was equally important to assess whether the CCRC leadership decision-making body, the SC committee, agreed on what goals their organization has set or has not set. It was also essential to see their environmental, social, and economic goals and progress towards goal attainment.

Results from interviews were varied and lacked overwhelming consensus on coalition goals. In fact, many SC members (9/12) responded with comments of uncertainty like “I don't know” or “I can't speak on that” or “that's a good question.” Meaning, members did not agree on concrete goals or the absence of goals, but rather the confusion of whether concrete goals existed and that they were potentially unaware of goals. One member named the bringing together of diverse stakeholders, which was collectively agreed on as part of the mission statement, as a goal that they have “always” identified.

A quarter of SC members (3/12) alluded or directly responded with broad, sweeping statements of “sustainability” or having “economic, environmental, and social” goals. A quarter of respondents (3/12) also determined that “holding the bi-annual meetings” was

a definite goal, and (4/12) SC members questioned whether the CCRC should have concrete goals and whether they would benefit from a transition to “policy,” “lobbying,” or “project-based” organization or not.

Based on this uncertainty, and considering that concrete goals do not exist, asking questions that pertain to goal attainment and measurement becomes difficult. However, from the perspective of the SC, the closest form of goal measurement or attainment members are post-meeting evaluations and tracking rancher turnout at meetings through surveys and questionnaires:

“I know that in our meet-- at the end of the workshop, we're trying to determine, "Did we meet whatever goals? Were people educated? Were they satisfied with the social activity, which is really the group activity?" Because that's the interactive stuff, so were they satisfied with that?”

The closest form of goal measurement would be the CCRC’s efforts to track the membership satisfaction of primarily the social aspects of the meetings. In addition, the SC tracks rancher participation, which comprises 10% to 20%(max) of the total members attending meetings. Regarding the lower range of rancher turnout, an exact number is never explicitly stated, but 20% is the highest number provided with the implication that this turnout is the best-case scenario and not consistent.

Projects, Programs, and policy

Implementing projects, programs, and policy efforts are essential for collaborative coalitions because they serve as proxies for evaluating success (Cestero, n.d.; Coughlin et al., 1999). Often projects and programs are created and implemented to accomplish organizational goals, thus serving as a metric for success (Conley & Moote, 2003; Huayhuaca & Reid, 2014; Muñoz-Erickson et al., 2007). The main project or program of the CCRC is the graduate scholar program, with less consensus that planning and holding the biannual meetings was a project/program. Most SC members (8/12) referred to the graduate forum scholar program as a concrete program the CCRC is responsible for facilitating. Most members also responded to the question by stating that the role of the CCRC is to serve as an information-sharing organization for the different Central Coast rangeland stakeholders:

“That’s not the role of the group” because “we're really more of an information-sharing group, rather than like a “let's go on somebody's land and put our hands in the dirt kind of group.” Um, what I think the closest thing that comes to my mind is our forum scholar program.”

“I think that's really a big part of it is like trying to keep projects or just research going. So just continue to inform the public about different studies every year. And so, I think that's important, is just being relevant and sharing knowledge. It's for the public, but I think ranchers and land managers.”

Results demonstrated that some members who noted the graduate forum scholar program as a project never identified the formal role of the CCRC as an information-sharing organization. The reason for this is that the forum scholar is responsible for conducting a

literature review of the topics the membership has deemed relevant. The results from the literature review are presented at the Spring meeting.

Similarly, 4 out of 12 members stated that a concrete CCRC project is planning and holding the biannual workshops. However, by agreeing that the graduate forum scholar is a program of the CCRC, inherently linked to the scholar program is the role of the CCRC as an information-sharing organization and their responsibility to hold and organize at least one meeting a year as a requirement of the graduate scholar program. Therefore, interviews revealed that the CCRC is primarily an information-sharing organization that completes two projects: hosting the biannual workshops and funding, recruiting, and guiding the graduate forum scholar.

It is also important to note that besides the graduate forum scholar program, the CCRC does not or lacks the resources to conduct primary research themselves. A quarter of SC members (4/12) noted that rather than the CCRC spearheading the production and updating of rangeland literature directly out of the “umbrella” of the organization, they play a more peripheral role in identifying the topics that are of interest to stakeholders. By completing CCRC needs assessments, the rangeland community identifies the “radical center,” or the breadth of relevant topics and issues to focus research efforts. Then, SC members utilize their connections with funded organizations they work for or partner with to create and produce scientific literature. For example, the CCRC’s graduate forum scholar program is funded by outside organizations like the Nature Conservancy or the UC cooperative extension and thus categorized as a product produced outside of the organization.

Monitoring

Other collaborative conservation studies reveal that monitoring programs are characteristic of successful collaboratives because organizations can track the success of different environmental, social, or economic projects. In addition, ecological, economic, and social monitoring programs of any kind are essential for evaluation because it demonstrates that success or progress is prolonged and sustained rather than episodic or by chance (Ballard et al., 2002; Huayhuaca & Reid, 2014; Muñoz-Erickson et al., 2007). For example, collaborative coalitions may have restored a pond or implemented a policy. However, conservation efforts are fraught if achieved outcomes are temporary or revert without maintenance (i.e., if the pond returns to a degraded state or policy is overturned).

Nearly all SC members who responded to monitoring questions (7/9) determined that the CCRC does not conduct ecological monitoring programs directly through their organization. Like the graduate forum scholar program, monitoring efforts are conducted through sister organizations and agencies. The mission or role of the organization is more social and sharing information at in-person events or through articles. Therefore, it is not surprising that the CCRC does not conduct ecological monitoring through the organization. In essence, ecological monitoring “wouldn’t really fit,” “doesn’t really exist now,” and “gets back to a discussion of what’s our vision and mission.”

Yet, interview results demonstrate that the CCRC had conducted monitoring before, despite SC member opinion that it would not be appropriate for their information-sharing organization to do so. In addition, their website strongly suggests they engage in some form of ecological monitoring; In a presentation “Who is the CCRC?” under a slide titled

“What do we do,” it says “Standards of Rangeland Health,” which are derived from “Rangeland Health: New Methods to Classify, Inventory, and Monitor Rangelands.” The following slides list different indicators, giving off the impression that the CCRC monitors these indicators. Furthermore, specific information became of interest to me and the CCRC in the context of ecological monitoring, suggesting the CCRC used to conduct monitoring and may now be avoiding it.

Two CCRC members, whose fellow SC members identified as highly trusted within the organization, recounted a story describing monitoring previously conducted through the CCRC and led by a current SC member. The stories told by these two members are corroborative and describe the same event with slight differentiation in details. Around 2010, the CCRC acquired funding to conduct “a whole suit of different kinds of monitoring” on grazed versus ungrazed sites to prove that livestock grazing “could be done in a way that was beneficial for the environment” or at least “wasn't having a negative effect” on it. From a bystander view, this monitoring study is particularly relevant to a rangeland organization that envisions vibrant lands and uses grazing as a tool to achieve this desired state. “At least three years of monitoring” were conducted on “ranches throughout the Central Coast” owned by CCRC ranchers. Land plots on these ranches compared grazed versus ungrazed sites, assessing different parameters such as water quality and the presence of aquatic invertebrates in response to pollutant levels, plant species composition, soil testing, etc. A current SC member, who was not a member at the time, collected presented the data at a CCRC meeting; they received an especially poor reception:

I couldn't even get through the whole presentation. There were so many ranchers who were asking questions, "Well, how did you do this?" and "How did you do this?" and "Why did you do it this way?" and "Why did you do it that way?" and some of that I didn't know. I was just doing what I had been told, so I didn't know the background of why different monitoring methods were chosen; why we did things a certain way. So, I was giving the best answer that I could, and then I'd say to— [CCRC member in charge of monitoring] who was in the audience, and I was like [CCRC member in charge of monitoring] do you have anything to add to that?" [laughter] So there were a lot of questions and definitely some clear frustration.

This version of the story described by the SC member above slightly differed from the second member's account, who has been in the CCRC and long-term SC member up to this point. While the first member stated that the monitoring results “weren't showing any major differences between grazed and ungrazed sites,” the second member’s version mentioned the data suggested grazed sites were *worse* than non-grazed sites:

“We got a fair way along with that[monitoring], but then when we did these field tests for that, and we found, for instance, the soil in ungrazed areas was much healthier than in any grazed area. The ranchers were horrified, and they decided that there must be something wrong with our [CCRC] monitoring methodology because it didn't line up with what they thought was true. And so, they didn't really want to hear- or want the rangeland coalition to participate in that anymore, and they were very skeptical about it. So, um, that's when that program ended, and there was, yeah, nobody really wanted to continue funding it because it really pissed off most of the ranchers.”

The first SC member who presented the results mentioned that they questioned becoming more involved in the CCRC after this interaction because the organization, one that advocates supporting science-informed practices, did not seem to be “interested” or “value the work” that they had done. Both members described that efforts to conduct or fund monitoring efforts after this interaction seemed to “not be pursued” or that “it was the end of that.” Furthermore, the SC member in the audience who led the funding and monitoring is described by themselves and their fellow board members as someone who “values science,” “is a thinker.” In one story, they disagreed with an outside organization's perception of grazing, telling the external group that science should trump emotional arguments. Conversely, multiple SC members brought up one story where this SC member fought against a higher standard of research and advocated for a less scientifically rigorous choice. The theme of science versus anti-science or science versus anecdotal evidence gains more traction as interviews progress.

Trust

Trust is an essential factor of success for CCGs and is brought up frequently when talking about successful and failed collaboratives (Cestero, n.d.; Coughlin et al., 1999; Hillis et al., 2020; Varley, 2009; Wolf et al., 2017; Wyborn & Bixler, 2013). Trust is not well studied or precisely gauged in any particular context of collaborative partnerships. Therefore our results on trust are of specific interest to this research. To assess the trust SC members have for one another, and their perceptions on the level of trust general members have for the SC, I first asked each member to define trust. After a definition was established, I asked them to describe the level of trust they had for their fellow SC members and the perceived level of trust between SC and non-SC members. I then asked each member to give a trust rating for each group, with zero being very little or no trust and 10 being a very high trust rating. Members were then asked: to describe activities that build trust within the organization, factors that helped them trust in general, and if they experienced a personal loss of trust or heard of a time where someone else had lost trust for SC members or the organization. These questions were asked to add to the literature surrounding trust, an essential but vague concept in collaborative groups.

Definition of Trust

When asked to define trust, all SC members agreed on a basic definition or components of the definition, which was surprising. SC members agreed that trust is feeling safe and not afraid in the context of listening and responding to one another. Specifically, trust is the sense of feeling “comfortable” and “safe,” or conversely, not feeling “fearful,” “bad,” or scared” when you share your ideas. Trust is sharing your honest opinion with others and having an understanding that there will not be “negative repercussions of sharing [my] ideas.” However, SC member definitions of trust were equally bound by how the listening party responds. In other words, listening is equally as important as responding when defining feelings of trust. Trust is about sharing your opinion and having the other person “speak their peace” but do so “in a constructive manner.” From their perspective, trust is not simply agreeing with somebody because “sometimes you tell somebody something, and you need to hear something back from them that is hard to hear.” An integral part of trust is knowing that sometimes others “have to tell you things that you do not want to hear,” but you do it in a “non-confrontational” way that does not have a “gotcha element” to it because doing so shows “they have your best interests at heart.”

Therefore, trust is about listening and responding in ways that make others feel safe and comfortable. To have trust, what you say is equally important as how you say and determines whether someone trusts that you have their best interest in mind and that you are speaking from the heart, or you are more interested in tearing them down and taking over the conversation. Defining trust is essential when attempting to assess trust between members and what builds trust.

Level of Trust between SC members

SC members were asked to describe the level of trust they had for their fellow members and later asked to provide a rating between 1 and 10, with 1 being little-to-no trust and ten being a very high level of trust. Based on SC member responses, SC members have a very high level of trust for one another. All SC members stated that they trusted their fellow members or that there was “trust” for them. 7 out of the 12 members specifically responded that the level of trust they had was “very high,” “pretty high,” or that they “had a lot of trust for them.” The other five members did not describe the level of trust but mentioned that they trusted the other members; the difference between statements like “Wow, I trust them so much” and “very high” or statements such as “I trust them” or “there’s trust there.” However, the trust ratings given by SC members corroborate the high level of trust the seven members of the committee alluded to. 11 of 12 SC members provided a trust rating, and one member, who did not personally like the previous question to describe trust levels, was not asked for a trust rating. The average trust rating achieved from averaging responses, if a rating of “15 [laughter]” out of ten equates to ten, was 9.09 with a min of 8 and a max of ten. Ratings provided in a range like “either a nine or ten” were averaged between the two, and no other ranges were provided.

Level of trust between SC and Non-SC members

When asked to describe the level of trust between the SC and general membership, responses varied slightly more but were overall high. The same SC member who did not enjoy the question was left out. However, six of the remaining ten members described the SC perceived by the general membership as “highly” or “well” trusted. Two members stated that they could not speak on that or that it was difficult to gauge. Two members, one of them described as highly trusted in the CCRC, described the level of trust for the SC as being “variable,” or that it “varies across the board and depends on the individual.” For example, one SC member added clarity with a hypothetical, mentioning that if 100 people come to CCRC meetings:

“Of those 100 people, we know one of them might feel 100% trust with the steering committee, and another person might feel like zero trust with the steering committee and CCRC in general. They're just there to be like, "What is going on? And what is this all about?"

Therefore, the level of trust between SC and non-SC members could depend on their familiarity with the group. However, the other SC member who addressed the level of trust for board members as being variable provided details on the different individuals on the board. For example, they noted that certain SC members were very highly trusted, neutral, might not be recognized by some of the membership, and a few individuals “that a lot of people don’t like” or were not trusted by some stakeholders. According to this specific SC member:

“In general, the steering committee members that have the most trust are seen as being the most neutral and those who sort of get more skeptical looking is when they seem to be driven by some agenda of their own”

The member providing these individual assessments justifies their understanding of how the general membership perceives individual SC members because they spend time to seek out their opinion on these issues:

“I've asked around about these things because I'm curious about how to improve the rangeland coalition, and so I try and remain as neutral as I can with all of the members.”

Therefore, they explain why these few members are viewed as less trusted, and other members are perceived as more trusted by the membership. For example, one member is highly trusted because they have “done a lot for the ranching community,” or they produce high-quality research articles on rangeland issues. In contrast, one member is viewed as not trusting because they are perceived as a money grabber, and another member is viewed as similar because they attempt to outcompete stakeholders.

Although this is the recount of only a single member, this member is trusted by the other SC members and felt strongly enough to comment on the trust levels of specific individuals'. When asked to rate the trust between SC and general members, the average rating was lower, which was expected. Previously, ten members gave ratings for trust between SC members, whereas only 9 gave ratings for the level of trust between SC and general members. The average rating of trust was 7.89, with a minimum of 6 and a maximum of 10.

Overall, the described trust levels and trust ratings between SCs were very high. When responding to questions about trust, the SC's overall emotional response conveyed that they trust each other very well and think highly of one another. In addition to the descriptions of trust and trust ratings provided, the SC's emotional response and expression while answering these questions demonstrated that the trust between SC members is very high.

Factors that influence the ability to trust

SC members identified that listening, face-to-face interaction, and time influence their ability to trust another individual. In the CCRC, listening is a feeling that the individual speaker and overall membership feel internally and observe in the listening party. At the individual level, listening occurs when the speaker “feels validated” and “heard.” The listener can respond to and have a conversation with the initial speaker. Responding is essential to listening, and therefore trust, both in the content and the execution or the “reaction” of the response:

“If you're working with someone and you start to realize that they override everyone and they talk over everyone and they're kind of bullying, or their voice needs to be heard, and they don't seem to care about anybody else. Well, then that's going to be-- that's not going to necessarily be a person that you're going to feel very trusting with. But I don't see those kinds of personalities on the committee. At least not in my experience.”

Listening at the membership level is similar but internalized by CCRC members through both verbal and nonverbal mechanisms. Via the lens of the SC members, the membership trusts the board because they listen and respond to membership needs. Moreover, the SC members listen and respond to the membership by creating opportunities for the membership to provide feedback, make requests, and observe in real-time that the board is addressing those concerns:

“I think our flexibility to respond to and continue to attack people's feedback and change, give people like- I think at the [CCRC] meetings we say “Hey look, we heard you on this, this is what we're going to do. You know, we've been hearing this and if you've got other feedback, let us know,” and just sort of it's a two-way communication street I think from the steering committee to the members, and I think people recognize that and I think that helps [the membership trusts the SC].”

After CCRC meetings, members fill out an evaluation form that asks questions like “What questions came up that you did not feel were answered?” or provide feedback where the meetings could have been improved:

“I forget who sort of digested the evaluations and was reporting on it, but it sounded like at least a couple of other people had similar thoughts of like, “I thought we were going to get a little bit more into that [pasture map tool demonstration with the speaker].” And so that comes up, and it's like, “Oh, okay. So, there was a little bit of a disconnect between how we pitched it and what the content actually covered.” Right. Note that for next time, make sure that that the way you describe it is really what you intend to share, that those things align.”

Therefore, the SC members identify that listening and responding in interpersonal interactions within the SC via conversation and SC-membership interactions through evaluation tools influence the ability of board members to trust one another and the membership to trust the organization. Time and face-to-face interaction are interconnected factors mentioned by many of the SC members as factors that influenced their ability to trust others. In the context of assessing time and FTF interactions as a function of trust, SC members stated that the high level of trust they have for one another was built upon the ideas of knowing and working with each other for a long time both in the CCRC, the steering committee, and outside in other organizations and professional settings.

Activities that Build trust within the CCRC

An overwhelming majority of SC members (10/12) identified CCRC breakout groups as an activity that specifically builds trust between members. Moreover, breakout groups built trust in how they were composed regarding questions and members and the facilitator within each breakout group. As mentioned earlier, breakout groups are composed so the most diverse stakeholders can meet face-to-face and have facilitated conversations about topics from their varying perspectives. There are essentially three prongs of the breakout group's structure that builds trust by fostering productive dialogue and feelings of safety and inclusion. The first prong is the tone or environment created by facilitators. The second is the questions facilitators ask. The third is the face-to-face interaction that synergizes to create a meaningful and productive dialogue between

rangeland stakeholders. Equally important as the individuals who make up the small discussion groups are the group facilitators that create an environment that is conducive to trust and successful listening and responding:

“Those small breakout groups are really designed to build trust and have the, yeah, time and opportunity for that trust to be built among people with the rich backgrounds. And I think a couple of times when I have facilitated meetings or organized meetings, I’ve said in the beginning of the meeting that “one of the things I really like about the CCRC is that it provides a place where people can share their points of view and have respectful conversations, even if they disagree.”

When facilitators begin group discussion with these inclusive phrases, they establish “a precedent of like, “We’re all on the same level playing field and expectations. This is how we should behave”, and this is what I love about it.” Therefore, rather than imposing strict rules on members, facilitators instead cultivate a feeling of shared interest and understanding that internally motivates people to have respectful conversations out of compassion. In other words, some facilitators set ground rules “without saying these are the ground rules,” which subtly primes respect and thoughtful listening between members. Sometimes, group facilitators do set ground rules explicitly, achieving the same results:

““Hey, here are our rules for today. We want to hear from everybody. Speak up but listen as well. All ideas are good ideas,” things like that.”

In addition to setting the tone, facilitators also contribute towards trusting and effective dialogue by guiding the conversation topics and ensuring that all members either speak or at least have the opportunity to do so. Thus, the facilitation leaders and breakout-group model build trust, especially in terms of the SC’s definition of trust, which entails listening and responding respectfully and thoughtfully, especially if one disagrees or has differing points of view. Although the facilitator role is helpful, the facilitator’s predetermined questions also help build trust within breakout groups. The predetermined questions that facilitators ask breakout group members build trust by serving as an “ice breaker” and “brings everybody a little closer, right, and makes it inclusive.” For example, facilitators may ask questions like:

“What is your name, your relationship with the topic that we’re discussing today, and generally some questions like how you feel about being here, what have you learned, you know, what have you learned that you’ll use at home. You know, those kinds of things and the questions change throughout the day to help people network.”

Establishing ground rules and a precedent that everyone’s opinion is welcome and desired creates an environment that favors trust, based on the trust definition defined by their group, because it makes members feel “safe,” “comfortable,” and “welcomed” to share their opinions. In addition, some questions asked by facilitators incorporate “learning psychology,” subsequently building trust by priming members to be more receptive to learning and listening:

“If you kind of ask people to say what they hope to get out of the meeting, it kind of primes you to be a more active recipient and learner about that, you know? During a meeting, if you ask them to reflect on what they learned, you know, from the meeting, it

kind of helps set it into your brain more. So, those are just little tricks that are kind of cognitive psychology stuff that's kind of built into some of the things that get done at the meetings."

The third prong that assists in building trust between general members with diverse backgrounds is the face-to-face interaction component of breakout groups. Face-to-face interactions demonstrate that members are consistently "showing up," "engaged," and "humanize" the meetings. By allowing people to talk to one another, network, and establish credibility, the CCRC intentionally and unintentionally builds between diverse members with different and often conflicting interests as they see each other committed to the organization:

I think ranchers are often not always on board with environmental groups or academics and that kind of thing. So, I think automatically there can be a lack of trust just between like, "I am a rancher. I don't trust the government agency just because of who they are-- just because of who they represent." But then once they get to know each other, they're like, "Oh, I can talk to you. Oh, you're a human. I can talk to you. You're not just that government agency. There's more to you than that." And so, I think that's kind of how the trusting relationships happen is people getting to know each other on a human level as opposed to I'm this, and you're that, us against them. It's like, yeah, learning about each other-- learning about each other and recognizing the humanity in other people.

Considering that the CCRC's definition of trust is characterized by listening and responding respectfully, the facilitator within each breakout group, the questions they ask, and the face-to-face interaction between members synergize to achieve this aspect of the definition. All these factors within the breakout groups seem to be especially effective for ranchers, who may already be predisposed to distrusting of others, especially agency personnel and scientists. SC members describe ranchers, the CCRC'S primary stakeholder group of interest, as individuals that tend to be more "comfortable in smaller group settings" and prefer phone calls and in-person meetings over emails and newsletters. Furthermore, ranchers may determine a stranger's credibility or legitimacy via impressions and intuition from FTF interactions. The one rancher I interviewed noted that:

"Another reason why I like smaller breakout sessions and getting one-to-one with people because you can kind of get a feel of when you're in-person who they are, what they are, if they're there because they got a day off from work to fund this thing, to get educational points, or they genuinely care."

The rancher also mentioned that "a handshake to me and your word is a hell a lot more important than a 30-page contract." Therefore, breakout groups are effective for this rancher, and perhaps other ranchers (if they follow the described generalization), to contribute their opinion and perspective on issues and create an environment that allows them to trust others more easily, aiding the satisfying of the CCRC's mission statement.

Loss of Trust

9/12 SC members stated that there have never been any actions or events during their time on the committee that has personally caused them to lose trust in the CCRC. Considering how vital trust is for organizational success, despite the lack of methods to

quantify its importance, the SC member's high level of trust for the organization and one another is a strong indicator of its current and future success. 2/3 of the remaining members were either not asked this question due to time constraints or did not directly answer the question. However, every SC member identified that they trusted their fellow SC members and hinted that they trusted the organization. The last remaining member who has been with the CCRC for a long time identified that they sometimes question whether they can trust the membership's ability to discern truth from misinformation. The theme that stakeholders are occasionally viewed as "science vs. anti-science or anecdotal" evidence iterated throughout the interviews and will be discussed in more detail further on:

"Oh right, well, I guess my greatest problem is that one of the things that group has to do, in a way, is feature all the different perspectives because there are a lot of different perspectives. And my biggest problem is some of those perspectives are representing things about rangelands that are total bullshit. Uh, let's just take the roots thing [The controversy between root systems of perennial vs. annual plants and which is better for rangeland/soil health], right? But I... you know um, and I don't always trust that the membership that's listening to these ideas can discern bullshit from the truth and so it frustrates me to, um, say that somebody who's bringing up a perspective that just isn't true you know that everybody can recognize you know truth from fiction."

Committee members were also asked if they had ever heard of other general members losing trust in the organization due to an action or event. A third of the SC members recalled one communication error made by a single SC member that could have potentially resulted in a loss of trust:

"Basically, there were a couple of emails that I sent out to a smaller list than the whole steering committee to let them know the time of this meeting where we're going to have ranchers come to the meeting. We're going to ask the ranchers a bunch of questions. And I had just used-- because we don't have a-- well, [Name of SC member] has a list of who all our steering committee members were, but they are the only person who has that list. And so, I just like looked at the last email I got from the CCRC, and I copied all the people from that email and then pasted it into my email to invite them to come to this ranch with me. Well, there were some key people who were not on that email, and they were not happy about not receiving that invitation."

Other SC members noted that this mistake might have happened two times in total, resulted in a low number of ranchers attending this rancher-specific meeting, and some personal confusion and questions on behalf of ranchers perceived to be left out. However, this accidental mistake from an organization whose members are entirely volunteer-based can be viewed as a minor mistake within an exceptional track record. All three members who recalled this experienced mentioned that an error such as this is an anomaly event. Furthermore, the member who provided the quote also noted that actions were taken to remedy the event. This is also an additional example of the SC building trust by responding promptly to the needs and feedback of the membership, demonstrating that they are listening to the membership.

Diversity and Wide Inclusion

Diversity and wide inclusion are described in collaborative conservation research as essential for the success and foundation of collaborative coalition groups. Collaboratives should attempt to include as many diverse stakeholders as possible, constantly adding new members and perspectives. However, CCGs do not necessarily need every stakeholder group to participate in the conversation to meet organization goals, but they do need to be the key players at the table. When asked about how they viewed the diversity of the CCRC, SC members agreed that the coalition has high functional diversity in terms of the number and variety of perspectives, backgrounds, expertise, and professionals from different fields. With this being said, SC members agreed that the gender makeup of CCRC members is relatively even regarding traditional binary gender identities of females and males. However, SC members also agreed that the CCRC membership and steering committee is predominately white or Anglo-Saxon and not only lacks ethnic diversity but does not know how to reach out to these ethnic groups.

In the “Factors of Success” section above, 10/12 members agreed that the CCRC’s main factor of success is their ability to bring in diverse stakeholders, perspectives, expertise, and backgrounds. Similarly, when asked about functional diversity, 7 out of 12 members stated that the CCRC is exceptional at achieving high functional diversity, often listing many of the professionals, NGO, agencies, and stakeholders involved in the organization:

“I’m really talking about diversity in terms of our—even the resources that we bring because we come from different institutions, we come from different job roles, experiences, so that’s what I mean by diversity. So, you know, we have sort of— what consistently shows is we have a pretty even mix of ranchers and in terms of participating not so much on the steering committee but overall ranchers, academics, consultants. So, seems like I’m missing a categ- and other NGOs.”

In addition, some SC members provided additional clarity, stating that the CCRC has a “very high diversity of topics” and speakers that present on these topics:

“We really try and have diversity within the presenters as well. We don’t want it to be a bunch of professors every time, right? We want agency folks and producers, you know? As much as we can, we want representation from different perspectives. We also tend to have a panel discussion in the afternoon so that people can really they can see the variety and perspectives in one place and share why this group might have this perspective and why another group might have another perspective and how we sort of blend those ideas together.”

In addition, a third of SC members agreed that gender composition in terms of heteronormative male and female gender roles are “equal,” “very good,” “50/50”, and a “good mix.” In terms of organizational accomplishments, acquiring high functional and gender diversity is impressive and commendable. So far, these results suggest that the CCRC satisfies its mission statement by bringing together diverse stakeholders and perspectives that are involved in rangeland stewardship. However, to what extent is the CCRC accomplishing its mission statement if other perspectives of racial and ethnic groups, or even ranchers, are missing from the meetings? To add onto the gender aspect of diversity, one member who commented on the “advent of this sort of gender-fluid movement” and how they are “old enough to not understand why people make are

making those choices,” also adding that “a lot of it is not choices” but they understand “that is how they represent themselves.” Furthermore, the same SC member also acknowledged that there are more LGBTQ people in general:

“There are more, um, LGBTQ people that are like the sons and daughters of my friends, and so I have known them since they were children, and then I’m watching them follow in the footsteps of their parents being interested in the environment.”

Although this member’s statements lack a certain candor, perhaps the most important part is their intentional effort to consider marginalized groups of society that are strangers to rangelands and say, “let’s have more of it you know.”

A similar pattern emerges with racial/ethnic diversity. Members fully acknowledge a lack of diversity but are extremely opening and inviting these groups to join the CCRC. Half of the SC members (6/12) explicitly commented on the whiteness of those that attend CCRC meetings:

“There are a lot of white faces [...] I would say it is a very white group.”

“It’s heavily—probably, you know, Anglo Saxon white.”

“Gender diversity is good, ethnic diversity not so much.”

“There are not a lot of non-white people in the CCRC.”

In addition, some comments were made on the lack of racial/ethnic diversity of ranchers and even racial/ethnic diversity within the SC committee. Specifically, two SC members that work for land management agencies noted that racial diversity exists within ranchers but is not being represented at the CCRC meetings:

“It doesn’t seem like there’s a lot of diversity in the ranching community sometimes, but I only see the people who I work with, and so that might say something about my organization’s approach to how we outreach and connect with ranchers. It’s pretty rare to see a rancher of color, for example, and they exist. We know they’re there.”

Furthermore, aside from ranchers, it seems that there is additional racial/ethnic diversity within other rangeland stakeholders:

“We have so many different ethnic communities where livestock grazing is a component of their culture. Right? And how do we incorporate that into some of the work we do? Or minority groups that should be represented, or tribal groups that should be represented? That’s definitely something that I think is lacking that I think definitely, when we did the evaluation, was kind of more on the bottom of that list, on the evaluation of the importance of topics of discussion.”

It is apparent that racial and ethnic diversity is lacking within the CCRC, and both SC and general membership are aware of this void. However, the CCRC is having difficulty reaching out to this ethnic diversity out of a lack of know-how and technical skill; however, they also struggle to justify this outreach to the general membership and rangeland stakeholders, who identified ethnic diversity as the lowest priority:

“Yeah, I did find the results [of the needs assessment], by the way actually. And actually that topic polled the lowest out of like, I don’t know if there were 25 topics or so. I mean, it was “the history of California ranching and the need to promote racial-

cultural diversity and inclusion within rangeland professions,” and that got like—the way we are awaiting scores that got like a 63 and the top-scoring topic was a hundred and three.”

The SC members believe that this response to the survey is not an intentional or exclusionary act to prevent racial/ethnic diversity within the CCRC or rangeland stakeholders. However, it is a representation of priorities the membership has identified. When discussing diversity, most SC members openly commented on how they “welcome all who are interested and involved in rangelands.”:

“Yeah, I would not exclude anybody. Once again, the group is really welcoming, and if you're interested in rangelands, we're interested in having you as part of the program. So, we don't sit there and say, you know, because you're this ethnicity, we're not interested in you.”

In fact, approximately half of the SC members mentioned that anyone interested and willing to join the CCRC is welcomed and will not be excluded. Therefore, the issue is not inclusion but rather a lack of targeted outreach. Unfortunately, due to diversity being demarcated as a low priority for membership, the uphill battle of increasing diversity in a white-dominated field, lack of expertise in targeted outreach, and many other responsibilities of this volunteered-based organization, racial/ethnic diversity will most likely remain relatively low.

In the context of diversity, members were also asked which expertise or professionals are missing from the organization and which individuals are missing from the conversation. Their responses would illuminate an expert, scientist, or professional that would formally benefit the organization and reveal stakeholders and groups missing from the discussion of rangelands. All SC members identified the need to include more ranchers, and most identified that doing so is a difficult task that has been consistently pushed. However, one member response reveals more context on rancher outreach, from their perspective:

“And I think that a goal, again, is to increase rancher involvement, but that discussion-- I think they did have something where they did do a Zoom meeting with ranchers, but that comes up again and again, and then it just doesn't ever articulate into a larger discussion. Because it's a challenging endeavor.”

The CCRC reaches out to ranchers by sending a mass email from their email list; ranchers are also “reached out” via “word of mouth” during person-to-person interactions at meetings and phone calls outside of meetings. In addition, there are rancher-specific conference calls followed up with surveys asking ranchers their “input on how things went, what they liked, and what they wish had been different.” Anywhere between 6-10 ranchers may be on this call. However, this number of ranchers on-call can be viewed either as a high number because ranchers have little to no time, or a low turnout considering the number of ranchers on the central coast and the mission of the CCRC to prioritize outreach to these stakeholders. Furthermore, no SC members commented on the average number of ranchers at these rancher-specific meetings, which may imply inconsistencies in turn out.

In addition, an earlier interview response revealed that rancher-specific calls only occur twice a year, demonstrating that the rancher's needs are present at these biannual calls but are not at the forefront of the organization. Furthermore, low rancher turnout at these meetings and the unanimous response addressed by all SC members that more ranchers, the primary stakeholder of interests targeted by outreach, could and should be attending both CCRC planning and general meetings is concerning.

A third of SC members identified that the CCRC tends to have ease finding technical individuals and other experts and professionals when they need to do so.

“When the group comes up with a question that, when we’ve approached all those domain experts, they’ve been more than willing to help and so we once had a long conversation about monitoring and remote sensing and can we do something meaningful with that. And suddenly, we had all the leaders in remote sensing helping the rangeland coalition in six months, so you know it’s never been a problem that way to get the experts to help.”

When responding to the individuals lacking from the discussions had at the CCRC, SC members agreed that ethnic and environmental groups are missing. The lack of ethnic diversity is discussed above and is quite apparent. However, less obvious is the potential to include environmental groups into the discord:

“We certainly don’t have any environmental organizations, what I would consider like Sierra Club or any of that kind that you know is on there. And I don’t know if historically they have been on there.”

“There are environmental groups who are very against cattle leasing on public lands think that those cattle are hurting more than they’re helping that the public is somehow subsidizing private interests, economic interests, etc. Those people aren’t coming to our meetings, you know, aren’t choosing to come to their meetings, you know, and learn um an alternative perspective, and it would be beneficial if they did.”

Therefore, environmental groups are lacking but would benefit the discussion by introducing supportive and resistance opinions that CCRC’s meeting may bridge. Furthermore, the CCRC should theoretically want these opposing perspectives here, considering environmental organizations have a shared interest in protecting rangeland ecosystems and the concept that successful CCGs should engage opposition and find common ground.

Power Imbalances

Power imbalances were noted in collaborative conservation literature as a barrier to success. In fact, successful collaboratives engage in bottom-up decision-making where the membership is involved in decision-making processes and can guide the organization toward goals (Kretser et al., 2018). Conversely, top-down decision-making is when the top of the hierarchy makes decisions and steers the organization based on their own discretion and without membership influence (Hillis et al., 2020; Reid et al., 2010). Top-down decision-making often exists in ineffective CCGs or causes collaboratives to fail because doing so results in poor representation of diverse stakeholder needs and actions that are not conducive to the organization's goals (Conley & Moote, 2003). In the context

of the CCRC, the steering committee is at the top of the power hierarchy, and the general membership would be at the bottom.

Overall, the SC committee utilizes a combination of bottom-up, top-down decision-making to steer the organization. More specifically, all decisions in the CCRC are ultimately decided upon by the SC, but the options they vote on come from a mix of those selected by the membership and those decided by individuals or smaller groups within the SC. In the context of power imbalances, it is difficult to determine whether one exists in the SC, considering that an inner circle within the SC is more involved in decision making, can sway decision making, or even make sudden decisions as a separate entity. The scenario described would appear to be a power imbalance within the traditional context of collaborative coalition groups— a CCG with funding, positions, and completes on the ground conservation projects. However, a power imbalance does not exist, considering any CCRC member can and is encouraged to join the steering committee, hinting at broad inclusion. Moreover, whether a power balance exists is also influenced by the facilitator role within the SC, which guides decision-making processes.

SC members all agree that the decisions they vote upon are partially inspired by the membership's needs but voted on by the SC. There are multiple ways this occurs. Specifically, membership needs are determined by the needs assessment sent out to the membership, through word-of-mouth interactions at meetings, or surveys/evaluations after bi-annual meetings. All of these would be examples of bottom-up processes that allow regular membership to include their opinion and guide the coalition:

"I think they're just listening to folks, each workshop person or each person on the committee. They have people that they know. And if everyone is coming in and saying, "Hey, everybody is talking about--" everybody's talking about eight-legged frogs right now. We need to have another thing on listed species. That's kind of how they come up. Or, again, as I said, at the end of a workshop, I think there was one. But at the end of it, they really did say, "You need it." There was a recognition that we needed to have one just on ranch economics."

Another SC member expanded on how transparent this process is and described a time where a peer who was not a member of CCRC or the SC committee had the opportunity to approach the committee with a need they felt would better the ranching community and successfully planned a CCRC meeting with no prior interaction with any SC members:

"We [SC member and non-CCRC member] were on a hike one day, and she was talking about-- it was on the economics topic again. And she was like, "I really want to have a meeting. I really feel like there should be a meeting." And she wasn't even talking about the CCRC, but she was just saying, "This question is really interesting to me. I want to know more about it, or I feel like workshops should be done about this." And I was like, "No. The CCRC is looking for someone to host the next meeting."

The SC member asked her colleague if she wanted to host the next meeting and her colleague ended up submitting a proposal, joined the monthly planning calls, and the meeting “worked out great.” Furthermore, their needs assessment which is sent out to the membership every five years, is an additional example of bottom-up processes, where the membership ranks topic priorities and finds the “radical center” described earlier:

“So, it's probably people within more of a range profession but beyond and asks them kind of what the public wants to hear from the organization, like, what do they want to learn more about? Is it the permitting process from restoration, carbon sequestration? Things like that, or practices, particular practices, or topics that they want to focus on. And then based on the response, which has been pretty good, actually, people do respond to the survey, both ranchers and non-ranchers. Then they decide kind of what are the priorities to focus on for at least two or three years for it, and then they do another assessment as things change.”

The results demonstrate that the CCRC has many bottom-up decision-making processes. However, identifying the organization's needs and adapting to short-term changes is also crucial for a coalition's success (Cestero, n.d.). Regarding the SC bottom-up decision-making, evidence shows that rancher economics are not talked about enough and may be the result of top-down decision-making. Furthermore, the lack of rancher economic discussion contributes to the lack of relevancy and interest to ranchers. It emphasizes the consequence of not having enough rancher representation on the SC committee. 8/12 SC members described the lack of discussion on rancher economics, how important the topic is to ranchers, and a theory for why it isn't discussed more:

“We need to have economics more a part of every meeting and every discussion. We can't just keep throwing ideas out there and telling the ranchers, “We think you ought to look at this” and “We think you ought to look at that” without really looking at what the economics associated with that. So, if I'm going to ask you to undertake a new practice, the first question out of a rancher's mouth is what's the return on investment, right you know, so what am I going to gain out of that.”

The idea that the first thing out of a rancher's mouth will be a comment about economic and costs continues to be supported by SC members. When discussing a healthy soils demonstration project within the SC:

“Right away, the feedback we got was, well, let's make sure we talk about what it cost. Is this realistic? What does it cost to do your demonstration project?”

Another SC member agrees that the issue of economics is a glaring and immediate priority of ranchers:

“So frequently the ranchers will, when they come into our steering committee meetings, they'll say or tell you know “Let's examine this economic situation.”

SC members overwhelmingly noted economics being of extreme relevance to ranchers, a need they have expressed frequently, and one that has succeeded in increasing rancher engagement, which is the primary barrier of the organization. For example, when asked if rancher economics are talked about enough in the CCRC, one SC member responded:

“Yeah, probably not. I think that we could definitely... I think there would be more interest if we talked about it more. Um, yeah, I think that some of that [membership need for economics discussion] did appear in the survey that I was mentioning and looking for. We did do a sort of a rancher economics-focused meeting. I don't know—two years ago or something. I think it was pretty popular.”

One member who conducted a study revolving around economics agreed:

“I did a custom return study for a cow-calf operation on the Central Coast. And I think that meeting was pretty well received. I think we could do a lot more.”

In terms of bottom-up decision-making and coalition evaluation, if ranchers express this need and the membership agrees, why are rancher economics not talked about enough? 5/8 members allude to one economic rancher meeting that went particularly well in the last 2-3 years, but no other mention of an economic-based meeting discusses. Interview data attributes the cause to agency personnel within the CCRC, and the underrepresentation of ranchers; agency personnel, consultants, and other non-rancher stakeholders outweigh ranchers, and therefore, their interests are unintentionally and non-maliciously prioritized over the ranchers:

“Those kinds of things I think would be really useful and valuable to a lot of ranchers, but those kinds of questions don't rise to the level of the highest priority when we do our needs assessments. And I think they don't rise to that level because we have all these agency folks who are they're just not interested in those questions, but I think ranchers would be.

Agency personnel also have more time and often receive compensation for coming to the meetings, contributing to their overrepresentation. Furthermore, the disproportionate amount of agency personnel compared to ranchers may make ranchers not feel welcome or comfortable speaking up, preventing rancher economic from being discussed. One rancher supported this idea of overrepresentation when asked if rancher economics are talked enough about in the CCRC:

“We, you know, have the same discussions, but the problem with that I feel that it's [rancher economics] out of sight out of mind. Uh, it doesn't affect your way of life. It doesn't affect the sixty eighty percent of people that are there [Agency personnel/non-ranchers]. And so, it's not as popular of an issue, but it's an important issue

Another member supported this claim:

“I don't think if you're sitting in a government position or like a public land management agency that the economics are the biggest thing, whereas from a rancher it really is.”

Based on SC member responses to decision-making and agenda-setting questions, the CCRC and their decision-making body are utilizing bottom-down approaches. However, the needs and wants of the membership coming from the bottom primarily reflect the interests of agency people and others, instead of ranchers, the primary interest group, due to its composition. Furthermore, SC members are fully aware of the lack of discussion regarding rancher economics, understand that it is a topic that ranchers request even with their underrepresentation, and have seen how covering this topic has increased rancher engagement in the past. Yet, there is no indication that the decision-making body is making concrete efforts to discuss rancher economics and meet this specific rancher need soon. I justify this statement, knowing that meetings for the CCRC are planned and organized for the next two years, and no economic meetings are scheduled.

The CCRC also incorporates top-down processes with bottom-up processes as well. Even when the needs assessment has already identified general membership needs, SC

members can decide that other topics should be included or discussed earlier than needs-based topics:

"A steering committee member might also go, "Oh yeah, there's all these things our membership has said they want to focus the activities on, but I really think that this is a big priority," and if that is a rancher, then that really steers the direction [...] if a rancher was to do that in the steering committee that would hold a lot of weight. If a rancher was to do that was just a member and send us an email, uh, not so much."

The quote above demonstrates that the SC members have discretion in the choice of topics and that underrepresentation ranchers in this body result in topics that are not being discussed or weighted as much when they could be. Although SC members have discretion, there are additional checks and balances from other SC members:

"I also think by being on the steering committee, we might have a leg up because we might be like, "Well, I think this topic is really interesting. I think we should add this to the list of possible leading topics." Do you know what I mean? And it may or may not stay on the list because we have other people on the steering committee review the list and kind of give feedback and stuff. So, something might get edited in or out or modified or whatever, but we do have-- I think if there's something that we find particularly important, we can potentially add that as an item on the needs assessment."

The SC members decide on topics or make decisions by a "consensus decision-making model" where discussions and agreement are used rather than casting votes. However, there is a slight disagreement on whether a vote occurs in the SC or not. In a similar format to the small breakout groups at general meetings, SC discussion and rationalization of choices over topics and speakers is facilitated by a facilitator.

"If there is a decision to be made, it's [The SC facilitator] literally asking every single person [...] what their opinion is."

Unlike the breakout groups, there is only one facilitator for the SC they are the only person who facilitates the SC meetings:

I mentioned [SC facilitator] as a good facilitator, so I think they are making an effort- they routinely make an effort to get round-robin input from everybody on the steering committee calls and then tries to sum up where the consensus seems to be, if there's an agreement or not. Usually, there's not a lot of disagreement generally. I mean they're um, we're not really talking about super controversial things, again because it's like an information-sharing organization at its core; it's not a - we don't have any authority over anything.

One member questions the extent to which round-robin discussion contributes to decision-making, describing when they felt that the discussion was well facilitated but did not result in the consensus one would expect. This member stated that it took four SC meetings, or four months, to change a meeting about pond restoration. Due to the COVID-19 pandemic, a pond meeting that some SC members at the time had "worked really hard on planning" was canceled, and these members were trying to postpone the meeting while the SC committee was prepared to cancel the meeting altogether:

"Like every month. Like the meetings, we'd talk about it, but then I had to say-- I think we had to say like, "We thought we were going to do that [Reschedule the pond

meeting]. We want to do this again in 2022. We want to do this again," and then I think by like the third or fourth meeting, which would have been three to four months. And, again, this is all virtual, right? We're through this whole transition period, so. It was finally like, yeah, we're going to have that pond meeting in 2022. But I think if we didn't push it, they would have been just fine with scrapping it."

Therefore, although a consensus was reached every meeting and each meeting was well facilitated, this member had to reiterate their peers' needs over and over again until a concrete decision was made. Decision-making is partially connected to the highly organized structure of the CCRC and the planning committee. However, the same member asserted that the highly organized nature could unintentionally discourage input:

"I don't feel like there's room for that discussion, or that somebody-- or that it would be encouraged-- not encouraged. I think maybe like you-- again, you can voice it and say, "Hey, I think that we should really do this." And I guess if you have enough support, right, then you get backed up. But I think it would almost be discouraged since there's already this agenda in place [...] and you don't want to throw something in the works that might push things back and make people reorganize."

This SC member draws a connection between the facilitator's role and the extent to which SC member input is weighted in the round-robin but also highlights that the organization's highly structured organization could discourage input and hinder decision-making processes. Furthermore, a connection is drawn between the perceived discouragement to speak up for rancher relevant issues that would force reorganization:

"So, it's like right now I'm going through this exceptional drought, right? And you think like, "Wow, wouldn't it be really important to talk about this exceptional drought we're going through and maybe some strategies on having to deal with the drought and how it's impacting people?" But I don't feel like there's room for that discussion, or that somebody-- or that it would be encouraged-- not encouraged."

Additionally, it is important to note that one member mentioned how "unheard" of that CCRC meetings have ever been planned two years ahead as it is now. However, the questioning SC member points out that California is currently in a severe drought and doubts that the CCRC could adapt to changing needs in real-time due to the organizational structure. Other members might be discouraged from bringing this issue up if it would force reorganization. In addition, perhaps some issues are brought up but like the pond example, must be reiterated over and over to yield change

Once again, the contention returns to the fact that the CCRC is a volunteer-based organization that operates on "labor of love," begging the question of how and if one can evaluate an organization such as this one. Generally, SC members have more opportunity and influence to sway decision-making, but the "inner circle" (IC) or core group within the SC—those who volunteer the most and consistently put in the "labor of love"—have the highest level of discretion and influence. When asked if "there's a person or small group of people that that are more involved in the decision making than others," one of the IC members answered:

"Yeah. I think that [3 IC members] and I have more um uh decision-making power."

Overall, SC members in general and the IC engage in top-down decision-making processes, using personal discretion to add, remove, or prioritize relevant topics. However, the SC is volunteer-based, highly trusted, and almost expected or permitted to carry out these duties. One of the IC members noted that:

“There's always this issue of the people who've been there around the longest and are willing to put in the most time. It almost seems like people are willing to defer to them”

Another IC member confirmed the members of the “inner circle” and agreed on their role and how they are perceived:

“I think that, well, the committee, for sure, is the decision-making body, I would say, compared to the general membership. Although, we base some of our decisions on what we hear from the membership, for sure. And then, within the steering committee, I feel like [The same 3 IC members from above] I are kind of the-- kind of hold it together, I guess,”

In addition, any CCRC member and non-member are allowed and welcomed to join the SC committee and be a part of the inner circle. Moreover, whether the highly organized structure of the planning committee unintentionally may discourage voicing opinions, the SC members intentionally want people to speak up and may be unaware of the impact that high organization has on this effort.

“That's how it sort of started out. And there's sort of an open door as far as people who want to just be more involved. So suddenly, I was. And I'd say it's the opposite. It's really sort of a deliberate effort in facilitation to get people to speak up and bring their ideas to the table as well. It's like, “Hey, you're here. Engage”

In conclusion, the SC engages in a mix of top-down and bottom-up decision-making processes but primarily focuses on the ladder. By engaging in bottom-up decision-making, the CCRC demonstrates positive qualities of CCGs because they listen to the needs of the membership and provides them with the opportunity to speak. However, due to the misrepresentation of stakeholders within the CCRC, precisely the composition of ranchers to agency personnel and other stakeholders in the SC and within the general meetings, the needs of non-ranchers may be consistently reinforced over the ranchers. This prioritization is not out of malice, and the SC has attempted to employ techniques to remedy this. However, it appears that the divide between the two stakeholder groups will continue to widen as ranchers leave the CCRC because topics are not relevant enough, creating a positive feedback that would exacerbate topics to favor agency personnel even more.

Framework Suggestion/Assessment

Based on interview responses, SC members identify that the mission of the CCRC is to share information and bring together these diverse stakeholders to talk about relevant topics and provide research on these topics. In other words, the CCRC is tasked with “finding the radical center,” or the node or area of interest and topics that would benefit or interest most stakeholders by being researched and discussed at meetings. Thus, these stakeholders like ranchers, agency people, scientists, the public schools, government, regulators like members of the state water board, etc., are supposed to have input on what that radical center is by attending the steering committee and general

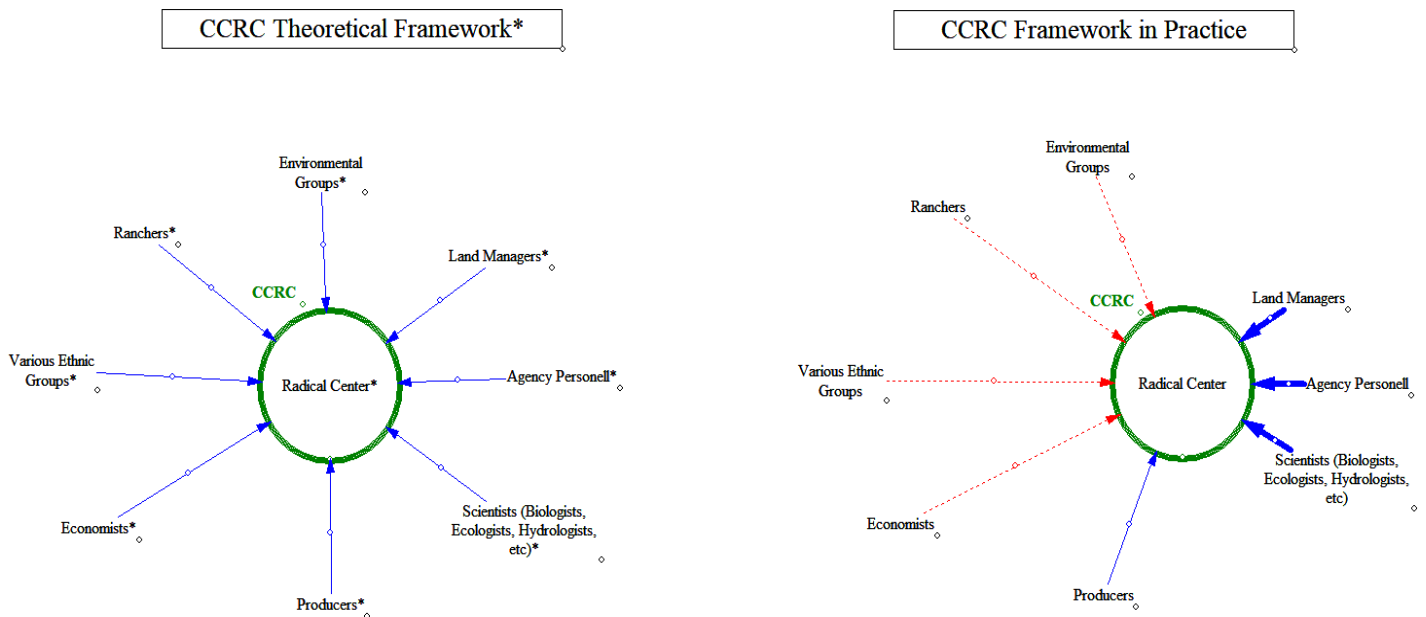


Figure 1. A visual representation of the theoretical framework of the CCRC(Left) compared to how the organization operates in practice(right). Theoretically, the CCRC identifies the radical center, or the area of topics that have been identified by the membership to be important. Each stakeholder’s interest and influence should be represented to discover where this center is. However, there are some stakeholder groups, ranchers, various ethnic groups, etc. that are lacking engagement or representation within the organization and other stakeholder groups like agency personnel that are overrepresented, causing the center to be pushed toward the overrepresented stakeholders.

meetings. However, based on the online mission statement, the CCRC has promised to engage in a wider breadth of “scientific, economic, educational, and political activities designed to develop and maintain research and management policies that assure the health of Central Coast rangelands.” Furthermore, a presentation titled “Who are we [The CCRC]?” on their website further implies that the organization is responsible or engages in the ecological monitoring of rangelands and indicators of their health and advocate for socio-economic sustainability. Therefore, there is a disconnect between what the SC members have agreed is the mission of the CCRC and what the organization has listed on their website, which makes it difficult for members to guide the organization and easy for members to question the value of the CCRC if they fall short in certain areas. However, if we primarily focus on the CCRC’s mission described by the SC SC members, we can see a visual representation of it on the diagram above (Figure 1).

The left diagram portrays the theoretical framework of what the CCRC is supposed to be. However, the diagram on the right is what we see in practice. The radical center is much closer to agencies, land managers, lower government organizations, and natural resource scientists because these individuals make up the majority of SC and general meetings and consistently show up and influence organizational direction. So, the radical center is much farther away from other stakeholders like ranchers and ethnic and environmental groups because they are either not showing up to the meetings, not engaging consistently, are a minority at the table, or simply not at the table of discussion at all. Ranchers fall into the category of a stakeholder group that is a minority relative to the rest of the stakeholders, not consistently engaged, or not engaged at all.

In contrast, minority and environmental groups are not present for discussion. In addition, college campuses and the general youth are missing from the discussion even though the CCRC is run through UC Cooperative Extension, a partnership of colleges and different educational agencies throughout California. For example, the CCRC has run their graduate forum scholar for the last ten years but has only ever had one student that was not a University of California Berkley student. Meaning, the CCRC has the chance to utilize the forum scholar to connect to university personnel and resources, spread interest for the CCRC, support research, and market to the youth but is currently not doing so. It isn't easy to gauge how important or necessary this younger stakeholder group is. However, they would contribute a modern and updated perspective regarding stewarding practices, additional diversity in terms of age, gender, and ethnicity, and could connect the CCRC to campuses with funding and large networks.

Regardless, the CCRC could be viewed as falling short in terms of its mission statement because critical stakeholders like ranchers are missing or lacking from the organization despite the organization's primary purpose to recruit ranchers and unite them with rangeland stakeholders. Furthermore, this framework is supported by interview data that calls attention to the disconnect between ranchers and those making decisions both within the CCRC and within the ranching industry, despite the CCRC having the potential to bridge this gap and identifies the unification of stakeholders as a goal and factor of success. I address the complementary and adverse paradox that is problematic for all stakeholders involved and furthers the divide between them as agencies continue to make decisions without informing or considering ranchers (until it is too late) due to the lack of communication and representation and organization between rangeland stakeholders. As the CCRC continues to hold meetings that appear to primarily represent agency interests, the divide between ranchers, agency personnel, and the CCRC may exhibit positive feedback as meeting topics continue to stray from rancher interests, leading to additional rancher disengagement from the organization, resulting in even more polarization toward agency interest. It is important to note that the CCRC is making continuous efforts to reach out to ranchers via phone calls, email lists, word of mouth and has gone out of the way to move SC meetings to times that better accommodate create calls specific to ranchers. However, it seems that these methods of communication are not effective, and there do not appear to be efforts made to explore new methods of outreach due to a lack of knowledge, time, or resources from this organization. In addition, there does not seem to be an effort within the next 2-3 years to shift the radical center back towards ranchers by focusing on ranching economics.

CCRC Framework in Practice

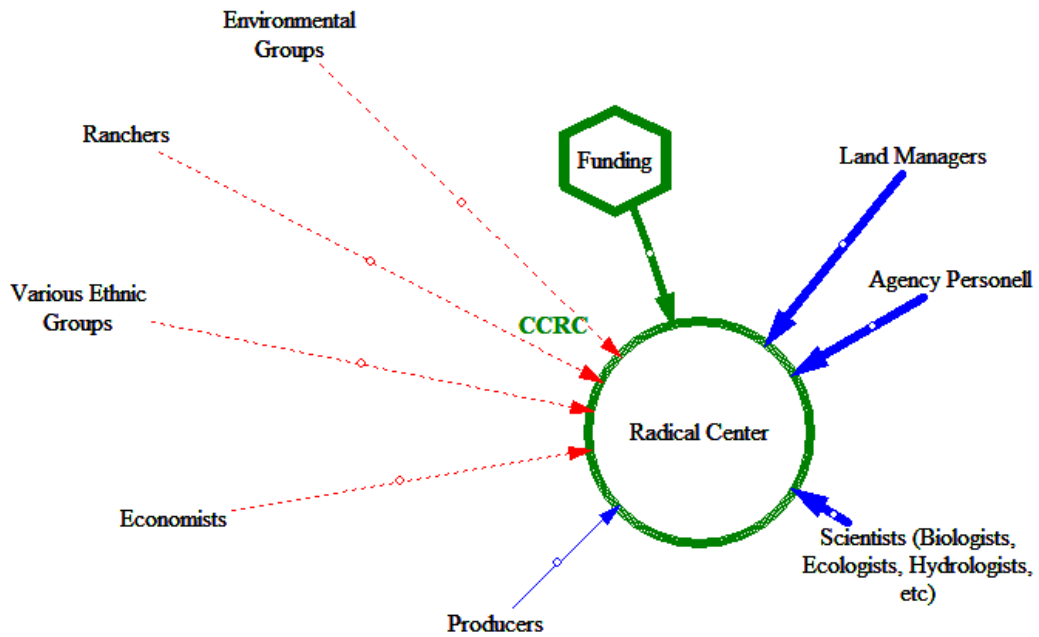


Figure 2. This figure demonstrates how funding can be an external force that pushes the radical center towards specific stakeholder interests.

Further exploring the theoretical and practical framework of the CCRC, funding can push the radical center away from what the radical center is (Figure 2). Of course, the organization is loose, the SC committee appears to be trusted with discretionary decision making, and funding to explore new ventures should not be viewed negatively. However, I am addressing the impact of funding in relation to the CCRC’S mission of finding the radical center, which is supposed to reflect membership needs. For example, funding to conduct composting on rangelands currently exist, even though some SC members agreed it is not very supported by science, and other SC members, one of which is a rancher, acknowledged that it’s not economically feasible or logical for ranchers to engage in. Nevertheless, there is a massive push for it within CCRC meetings because funding for it exists. So, the radical center is not pure and can be pushed in directions that may not be relevant to membership, specifically the ranchers. Within the actual steering committee, a similar framework of where that center would end. The committee is being pushed due to the composition and the lack of representation.

Discussion

This study contributes to the pool of research that aims to evaluate collaborative coalitions, which is needed considering the rise in the number and types of collaboratives. We evaluate and assess the Central Coast Rangeland Coalition (CCRC) with a primary emphasis on trust, revealing organizational dynamics and a lack of stakeholder engagement. We also evaluate the CCRC with specific sets of criteria identified throughout collaborative conservation literature as essential for success but within the context of the CCRC, a volunteer-based, information sharing, rangeland collaborative coalition group. Our assessment of the CCRC is primarily focused on whether the organization has set goals, implemented projects or programs, conducts monitoring efforts to measure progress, engages in top-down or bottom-up decision making, has high diversity and fosters broad inclusion. It is unlikely that the CCRC will meet every criterion, especially if it does not apply to the CCRC format. However, we evaluate the CCRC based on their collaborative process and the fulfillment of their mission statement, or the mission's purpose.

Furthermore, unlike other studies that mention the importance of trust in CCG without further clarification, this study focuses on trust between members and the role it plays in collaboration, and operationalizes and defines trust in the context of the CCRC, and confirms factors that built trust for the CCRC and other coalitions. SC members defined trust nearly identically and determined that trust is based on effective listening and responding and feelings of safety and comfortability. The level of trust between fellow SC members and their perceptions of how the membership trusted them was high. Based on CCG research on trust, we operationalized trust as a feeling that takes time to build, based on listening and talking, built by face-to-face interaction and small groups. Therefore, we expected organizational activities to confirm or reject this operationalization. The CCRC's breakout group questions, structure, facilitator, and similar framework within SC meetings confirmed this operationalization. The power structure of the CCRC is a mix of top-down and bottom-up decision-making processes, and interview responses demonstrate that this may be the CCRC's weakest area, but not for typical reasons. Bottom-up decision making in the CCRC, which is generally viewed as a factor of success, ultimately has led to a power imbalance as agency needs outweigh those of ranchers, led to the disinterest and disengagement of ranchers in the organization and is linked to a disconnect between ranchers and agency personnel.

Interview responses demonstrated that the mission statement determined by SC members differed from the mission presented on their website, so the fulfillment of the mission statement often applied to both missions to provide alternative ways of viewing the organization. Overall, the mission of the CCRC is to share and produce information for rangeland stakeholders and engage in a variety of activities that contribute to the health and assurance of central coast rangelands and communities. The CCRC lacks concrete goals to fulfill this mission statement, and they may benefit from defining clear organizational goals. In doing so, the SC members and the general membership can steer the organization toward a clear focal point, reduce confusion on the organization's

purpose, and measure success/attainment of goals. Based on the responses, perceptions, and clear answers of the SC committee throughout other areas of questioning, I distilled 5 goals that could be a focal point of discussion for the next CCRC meeting and should assist in organizational functioning:

- 1) Unite diverse stakeholders to protect rangelands (but currently technically failing to bring in citizens, other campuses, other racial, gender, ethnic backgrounds).
- 2) Identify the needs of either those directly involved in rangeland management (land managers, scientists, ranchers, academics) OR this could be expanded further to include the regular public.
- 3) Share information regarding rangelands to the community/membership we serve OR serve as a lobbying, policy, outreach coalition.
- 4) Hold two annual meetings a year to educate and provide resources on topics relevant to the ranching community
- 5) Fund a graduate scholar forum to review the literature around the relevant topics to add to the literature and share knowledge with the ranching community

These five goals are both concrete and flexible, which may provide the CCRC with the structure they may be looking for while retaining the flexibility of their organization. The most flexible goal would be the second, which allows the coalition to determine the membership's interests via needs assessments and surveys, rather than constraining the group to objective goals.

The CCRC does not conduct ecological monitoring but does conduct social monitoring. However, both practices would “fulfill” their mission statement and perhaps reveal the need to revisit or at least clarify the organization's mission statement to prevent confusion. The graduate forum was the main project the organization identified, which does contribute to the fulfillment of their mission statement.

A mission statement is the organization's purpose or scope, and outcomes and goals produced should be consistent with the mission, allowing for evaluation (Coughlin et al., 1999; Weber et al., 1984). Interview data revealed that SC members agreed that information sharing and unifying diverse rangeland stakeholders were two aspects of their mission statement. On their website, the CCRC’s mission statement states that their organization “believes in science-informed rangeland and conservation practices that benefit human-natural systems” and “engages in scientific, economic, educational, and political activities intended to develop and maintain research and management policies that assure the health of Central Coast rangeland communities.” Mission statements are characteristic of CCGs, and collaborative are evaluated based on whether the goals or outcomes of activities accomplish what is stated in the mission (Conley & Moote, 2003; Coughlin et al., 1999).

Therefore, when comparing perceptions of the mission to the website listed mission and SC members perceptions, there is overlap between “information sharing” and “scientific, (economic) and educational activities to develop and maintain research.” Thus, SC perceptions would suggest that evaluation of the CCRC depends on the extent to which they share information and unite diverse stakeholders. However, based on the

mission stated online, the CCRC promises to share information and engage in economic and political activities to develop and maintain research and management policies. Failure to engage in these activities or develop/maintain what was promised would mean that the organization is not achieving what it set out to do (Wilkins et al., 2021; Wolff, 2001). Furthermore, the goals and outcomes of the organization should fulfill the mission statement and is a potential evaluation method (Cestero, n.d.; Conley & Moote, 2003).

In the context of setting concrete and measurable goals, SC members demonstrated that they were unsure of whether their organization had goals at all or if they were simply unaware of the existing goals. The lack of consensus regarding goals is problematic for the CCRC as a collaborative coalition for multiple reasons. As mentioned earlier, the organization's mission is its purpose, and clear goals and objectives should arise from the mission statement. CCG evaluation is often based on this mission fulfillment via goal-setting. Therefore the CCRC would fall short in this aspect relative to other collaborative organizations, even information sharing organizations, which identify mission fulfilling goals and work towards their attainment (Cestero, n.d.; Coughlin et al., 1999; Weber et al., 1984). According to the membership, no goals were identified. Nevertheless, CCG research describes setting concrete and measurable goals as being vital for coalition success, and failure to do so often results in coalition failure (Belton & Jackson-Smith, 2010; Wilkins et al., 2021; Wolff, 2001).

Furthermore, goals generally help determine coalition performance and evaluation and guide the coalition to a focal point (Cestero, n.d.; Coughlin et al., 1999). The CCRC exemplified this concept when a quarter of SC members questioned whether the CCRC should become a more policy-based, lobbying, outreach group compared to their current scientific transfer model, and the majority was confused about whether the organization had goals or not, which reflects the organization lacking a common end goal or trajectory. Moreover, to satisfy the principles of collaborative conservation, social, ecological, and economic goals are often implicit to correctly manage natural resources and support the communities and members that benefit from them. Thus the CCRC falls short in this aspect as well (Cestero, n.d.). The CCRC specifies in their online mission that their organization promises to improve ecological, economic, and social conditions but lacks appropriate goals to fulfill this mission, demonstrating the importance between setting goals and their ability to guide an organization. Evaluation of CCGs can also be based on the member's perceptions of the organization's functioning (Conley & Moote, 2003; Wolff, 2001).

SC members overwhelmingly agree that the organization is effective, functioning well, and are satisfied with its performance as a volunteer-based collaborative. The SC member's perception contradicts the notion that failure to set concrete goals equates to failure or is necessary for CCGs (Kretser et al., 2018). These results also support research claiming that well-defined goals can clarify expectations, as confusion can occur when goals are not well defined, which can be a significant challenge (Barry & Ford, 2020; Huayhuaca & Reid, 2014). SC members also reveal the drawbacks of evaluating the

goals of a CCG in that it requires goals to be defined, which is not always the case and not applicable for some organizations (Conley & Moote, 2003). Projects, programs, and monitoring were also cited as significant predictors of organizational success and help evaluate whether outcomes from these targets demonstrate an organization is fulfilling its mission statement or set goals (Muñoz-Erickson et al., 2007; Reid et al., 2010).

Regarding projects, programs, and monitoring, SC members (8/12) overwhelmingly identified that the graduate forum scholar program is a definitive program of the CCRC but expressed generally less agreement (4/12) that the bi-annual meetings and (4/12) identification of topics are project or programs of the organization. Nearly all respondents acknowledged that the CCRC does not conduct ecological monitoring and even indicates the organization may have intentionally halted monitoring efforts due to previous strife in membership created by past efforts. However, the coalition does conduct social monitoring of the organization in terms of surveys and meeting evaluations to identify the needs and changes of membership.

Considering the CCRC adopts a scientific transfer model over an action-based or “boots on the ground” model, it would be unreasonable and even unfair to evaluate the organization based on whether they have implemented conservation programs or conducts ecological monitoring (Conley & Moote, 2003). Furthermore, their mission statement does not mention developing ecological programs. However, it does mention that the CCRC engages in scientific and political activities to develop and maintain research and management policies that assure the health of rangelands. The graduate forum scholar would be an educational and scientific program of the CCRC. The outcome of the program (production of scientific articles for rangeland stakeholders) fulfills this aspect mission statement. The literature recognizes that some collaboratives are more information-sharing based and do not need to implement ecological programs, but these organizations should clarify this intention (Conley & Moote, 2003; Coughlin et al., 1999; Huayhuaca & Reid, 2014).

SC members identify the organization's role as information sharing and the graduate forum scholar as a project that fulfills this. However, the online mission statement implies that the CCRC is responsible for far more than simply information sharing (i.e., Political activities, developing management practices). In addition, conflicting goals and missions of CCGs are often a barrier that leads to reduced functioning (Kretser et al., 2018).

When evaluating the CCRC based on its mission, the lack of ecological monitoring or even avoidance of this monitoring does not fulfill their mission statement that suggests that the organization “believes in science-informed practices” and engages in “scientific activities.” Although monitoring is not an explicit goal established, it could fall under science-informed and science activities to assure the health of rangelands and be considered an activity warranted by the mission. Moreover, the theme of science vs. anti-science concerns the CCRC because it hinders the attainment of their mission statement and because stakeholders, specifically ranchers, usually do not agree with

science practices because they do not trust the practitioners (Hillis et al., 2020; Wilkins et al., 2021). Therefore, the framework I present, the disconnect between the ranchers and agency personnel, and the theme of science versus anti-science suggest a lack of trust between ranchers and CCRC stakeholders. Once again, the process of evaluating a CCG has proven to be difficult, especially when organizations have broad mission statements, lack goals (which is not inherently harmful), serve different purposes, and thus must be evaluated in this context (Conley & Moote, 2003; Coughlin et al., 1999; Reid et al., 2010).

However, the coalition does conduct social monitoring of the organization in terms of surveys and meeting evaluations to identify the needs and changes of the membership. According to conservation literature, the CCRC would be considered a successful collaborative because it tracks the progress of its projects (the meetings), allows for bottom-up decision making from membership (meeting evaluations and surveys), and is committed to the collaborative process (Cestero, n.d.; Eagle et al., 2007; Randolph & Bauer, 1999). How those needs identified are addressed and incorporated into organizational direction will be further discussed in the section “Power Structure and Decision Making.”

Completing conservation, social, and economic projects is characteristic of collaborative coalition groups, a factor of their success, and monitoring efforts ensure that projects and programs remain effective and intact (Cestero, n.d.; Hillis et al., 2020). Overall, the CCRC has identified funding and facilitating the graduate forum scholar and holding the bi-annual meetings as two concrete projects, and conducting social and membership monitoring as an effort to track progress. Thus, the data suggests that the CCRC effectively carries out these projects, monitors changes, and enhances the collaborative process in terms of evaluation. The results on trust are promising and reveal more about how trust in the CCRC impacts success while addressing how variable trust can be depending on the organization one is in.

Trust in conservation coalition research is crucial for effective and successful coalitions and multi-level governance, has no specific recipe and is hard to contextualize (Cestero, n.d.; Hillis et al., 2020; Wardrop, 2014). However, I operationalized trust in collaborative coalitions by strong relationships and effective dialogue, which take time, and usually occurs in small groups with face-to-face interaction, based on how trust is described in CCG research. Thus, CCGS should have activities that foster these aspects of trust. In responses to questions about trust, SC member perceptions and responses mirrored most of what is established in the literature. For example, the CCRC defined trust based on safe and comfortable communication between diverse stakeholders, paralleling other studies of trust, stating that trust within coalition groups leads to the development of unlikely alliances among diverse stakeholders, civil dialogue, and yielded positive outcomes (Olsson et al. 2006, Bohlen et al. 2009, Walker 2018).

In addition, SC members view the coalition as functioning and successful, which agrees with conservation literature that establishes a connection between organizational

success and high trust levels (Cestero, n.d.; Coughlin et al., 1999; Hillis et al., 2020; Varley, 2009; Wolf et al., 2017; Wyborn & Bixler, 2013). Furthermore, trust is cited as one of the most common outcomes of collaborative partnerships. SC member perceptions demonstrate that they have high trust for one another from working together. They believe they are trusted enough by the membership to make certain decisions with the assumption that the organizations' best interests are taken into consideration (Conley & Moote, 2003; Wilkins et al., 2021).

Our study also confirms other studies that propose factors that build trust in the context of collaborative partnerships. For example, repeated face-to-face interaction, small stabilized groups, talking with and learning from one another, and organizational activities (which should include and provide stakeholders with opportunities to engage these factors) over long periods of times builds trust between the diverse stakeholders of the CCRC (Lauber et al., 2011; Reid et al., 2010; Wardrop, 2014). However, these individual aspects are rarely operationalized together the way they are in this study. The CCRC's workshop and breakout groups served as an organizational activity that encapsulated and encouraged these trust-building aspects. Within the SC, they also have a small, stabilized group of individuals that are constantly communicating with one another, working together, and have high levels of trust that result from these factors, adding further confirmation on factors that build trust but applying these ideals to both general membership and the coalitions decision-making body.

However, we found that our results confirmed claims from studies that are detrimental to the collaborative process. Similar to other studies on trust in the context of rangeland coalitions, SC interviews revealed that ranchers have low trust for agency personnel, difficulty trusting in general, and their values and priorities are different from the needs of other stakeholders to the point where they do not feel welcome to the table (Lauber et al., 2011). Therefore, a strong connection exists between our study and research asserts that ranchers and managers, academics, agency personnel, and other conservation stakeholders often have different values. These differences can lead to barriers in building trust (Aoyama & Huntsinger, 2019). In addition, trust-building takes time, face-to-face interaction, and learning and talking between stakeholders. These factors suggest a potential explanation for why trust levels are low between ranchers and agency personnel because 1) Ranchers and higher agency personnel are not consistently attending planning or general meetings and therefore not building trust via these factors 2) Due to lack of trust, ranchers ability to trust scientific-based conservation practices is hindered, demonstrated by their hesitation of science and commitment to holistic/anecdotal approaches, 3) Trust is built on time and previous interactions, and ranchers lack time and agencies have high employee turnover rates, which prevent the trust-building process from occurring and strengthening (Conley & Moote, 2001; Coughlin et al., 1999; Lauber et al., 2011; Randolph & Bauer, 1999).

Unlike most conservation literature that addresses trust, this study adds context to trust by revealing how important it is to define trust as an organization and the impact a

collective definition or understanding of trust has on effective dialogue. For example, SC members similarly defined trust. Trust is defined for the membership in breakout groups by priming individuals with certain statements, which often leads to effective conversation between individuals with different perspectives and interests. Most conservation research discusses trust and its importance, but few discuss how organizations and members define trust and tie in this definition with how the membership interacts with one another. Considering the high number and types of collaboratives and the importance of trust for collaboration, it may be necessary for coalitions to define trust to establish a precedent or expectation of active listening and responding for the whole organization to abide by; thus, creating environments where diverse stakeholders can rally behind a definition of trust that consciously and subconsciously plays an effort in coalition functioning and membership interactions. Further research could be done to assess the benefits and drawbacks of priming stakeholders to be more receptive to effective listening and responding, thus building relationships and trust.

The positive impacts of a facilitator on the dynamics of small groups of diverse stakeholders that are communicating and interacting with one another is noted in the literature but could be studied more, considering the connection between actors that increases quality and quantity of communication between stakeholders and trust being more or less a product of dialogue (Belton & Jackson-Smith, 2010; Coughlin et al., 1999; Huayhuaca & Reid, 2014). At times, trust appears to be built through the completion of projects and tasks over a long time. However, the current study may suggest that facilitators act as trust catalysts, expediting the trust-building process between diverse stakeholders via communication rather than task completion. At CCRC meetings, breakout groups, and SC planning meetings, the facilitator role appears to be a crucial trust-building component. Future studies on this role should be conducted to explore and improve the role of the facilitator.

Overall, the CCRC's definition of trust, the SC member's high level of trust, and their activities designed to build relationships and foster dialogue support the operationalization of trust defined in the study. In terms of evaluating the organization, the CCRC appears to be succeeding in building trust between most stakeholders and decision-making members but may need to focus efforts on building trust specifically with ranchers, considering their importance to the organization, disconnect between ranchers and agency personnel, and their lack of representation.

Results suggest that members had high functional diversity, or diversity in backgrounds, perspectives, experts, and viewed traditional binary gender diversity as equal. However, nonbinary gender diversity was low, and nearly every member agreed that the CCRC is primarily white and lacks ethnic diversity within stakeholders, committee members, and general membership. Collaborative conservation is characterized by bringing together diverse stakeholders, and based on the SC member's perception, the organization is excelling in this area because successful CCGs are those

that act as nodes that bring together many different (rangeland) stakeholders (Cestero, n.d.). The CCRC should bring together these stakeholders, encourage conversation between them, and engage the diversity and opposition of the group.

Studies on diversity within collaborative coalition groups suggest that effective CCGs engage the diversity of the group and the intentional conflict that is associated with doing so and avoids degenerating into negative interaction; successful collaboratives are also those that serve as a node that brings in producers, environmentalists, scientists, and agency personnel together (Cestero, n.d.; Coughlin et al., 1999). Considering this information, if the CCRC were deliberately avoiding ecological monitoring to avoid the negative interaction or strife caused by the results of the monitoring, then they would not be “engaging the diversity” and the conflict associated with it. If we evaluate the CCRC based on diversity, is the organization engaging the diversity if ranchers are not engaged or present within the meetings?

The CCRC successfully engages the current diversity and covers various topics, facilitates productive conversations (aside from a few anomaly events), and acts as a node that unites stakeholders, especially considering the volunteer-based nature of the group. However, SC members unanimously agreed that ranchers are disengaged and missing from the planning committee and the general meetings. Of course, not all stakeholders are needed to address environmental problems (Randolph & Bauer, 1999). It is always more helpful than not to include more diversity, but the CCRC is missing the most crucial player in this conservation game—the ranchers (Dukes et al., 2011; Lauber, 2014). Energy and resources expended to recruit every stakeholder may not be worth the value of including lesser stakeholders. However, the expenditure would be worthwhile if the coalition is a rangeland coalition that serves ranchers and represents their needs.

Ranchers are identified by the organization as a primary focus and desired stakeholder. In terms of conservation, ranchers are the stakeholders on the ground directly interacting with the rangeland resources. Therefore, based on the organization-established priorities and the context of rangeland stakeholder priorities, this is an area of improvement the CCRC needs to address promptly to fulfill their mission statement and respond to the membership's feedback. Furthermore, it appears that the CCRC has established a level of comfortability and stasis, which is reflected by the lack of novelty perceived by membership, the perception that there are no new faces at any of the meetings, and the observation that the most important stakeholders are losing interest. This observation modifies claims that successful CCGs continually evolve, integrating new participants, new information, and new ideas, partly because the CCRC considers the organization successful, but true collaborative success entails constantly recruiting and involving new faces (Cestero, n.d.).

Therefore, the CCRC can still be viewed as successful in functional diversity but should develop methods to inject new participants, perspectives, and ideas into the organization. SC member responses demonstrate efforts to talk about new topics and information and reach out to ranchers. However, there is no progress in innovative ways

to reach out and engage with ranchers or ethnic groups. The CCRC may develop new topics and information, but if the information is not relevant to ranchers or relevant enough to incentivize them to come, at the same time considering the difficulties of this specific stakeholder group, then is the CCRC fulfilling their mission statement of 1) bringing together diverse stakeholder and 2) producing and sharing information that is beneficial to the health and assurance of rangelands?

As mentioned earlier, the CCRC is also missing stakeholders such as environmental groups against grazing that would serve as opposition and improve the collaborative process. Once again, it is important to persistently engage critiques and opposition and incorporate multiple interests (Randolph & Bauer, 1999). The perspectives, resources, and actioned-based nature of these environmental groups would complement the CCRC, an information-based sharing organization that aims to protect the ecosystems that human communities rely on and lacks ecological monitoring abilities. In addition, without diverse interests at the table, the perspectives of key players (ranchers), and the injection of new members, the CCRC may experience threats to the long-term viability and have difficulties solving surface problems, which may already be occurring.

The CCRC is an interesting mix of top-down and bottom-up decision-making. In terms of their top-down decision-making processes, SC members—specifically the core group of individuals who consistently show up to planning meetings and handles most of the organization responsibilities—has the discretion to choose topics they feel are essential to the coalition, move the order of topics as needed or desired, and have more sway in decision making than the general membership and SC members that do not show up as consistently. Although it may appear as a power imbalance, this power structure adopted by the CCRC of a higher decision making body composed of a smaller group of individual's that decides on behalf of the organization is a common practice in collaborative conservation (Randolph & Bauer, 1999; Reid et al., 2010).

A power imbalance within the SC committee is also unlikely because SC members perceive the general membership as having appreciation and trust for the inner circle in terms of their commitment to the organization and top-down decision-making. Of course, future interviews could be conducted with the general membership to corroborate this perception, but the inclusivity of the SC also supports the notion of power equality. The SC and the inner circle is welcoming and open for anyone to be a part of (they do not even have to be in the organization), which characterizes effective collaborative processes as those that result from power symmetry and membership access to higher authority positions within organizations (Gray, 1985; Kretser et al., 2018). The openness of the SC also demonstrates broad inclusion, which is also a factor of success for CCGs. Moreover, the potential for overpowering the opinions of others is reduced by the presence of an SC facilitator who ensures that every SC member has the chance to speak their opinion on a topic, which has been highlighted by conservation research as a factor of success and role helpful to ensuring equal opportunity in decision making

(Belton & Jackson-Smith, 2010; Coughlin et al., 1999; Huayhuaca & Reid, 2014). One member questioned the extent that facilitation leads to equality if it took four months to have a request met, demonstrating the need for additional research on facilitators and their impact on the organization and perhaps other members of the SC. If they share this perspective, it would undermine the importance of facilitators and present a split between theoretical vs. practical application once again.

Considering the volunteer-based effort of the organization, high levels of trust between the SC members, general agreement on how well the organization is functioning, the top-down decision making of the CCRC would disagree with literature that suggests these processes are associated with organizational failure and is especially problematic when organizations, such as the CCRC lack goals (Belton & Jackson-Smith, 2010; Conley & Moote, 2001; Hillis et al., 2020). This lack of apparent power abuse in this study may also point out the need to study power imbalances in information-sharing organizations compared to traditional collaborative efforts. The SC is also engaged in a substantial amount of bottom-up decision-making processes.

As mentioned earlier, the SC committee is open to any individuals inside or outside of the CCRC. Members can influence decision-making processes, contribute to the collaborative process, and demonstrates a bottom-up pathway (Conley & Moote, 2001; Coughlin et al., 1999; Randolph & Bauer, 1999). Moreover, potential speakers, topics, and wants of the memberships flow up to the SC via needs assessment surveys sent out every 5 years, bi-annual meeting evaluations, and by the SC members listening to the membership's desires in person. Therefore, the membership is constantly involved in the steering of the organization in terms of topics, changes to organizational structures and activities, and is not limited in the choices or decisions they can take part in, which the literature would characterize as quintessential bottom-up processes and successful collaboration (Conley & Moote, 2001; Hillis et al., 2020; Huayhuaca & Reid, 2014; Reid et al., 2010). However, interview data demonstrated that sometimes bottom-up decision-making is impacted by representation. For example, nearly all SC members agreed that rancher economics are not talked about enough despite its importance to ranchers and their engagement within the organization.

Consequently, because the SC and CCRC membership is dominated by agency personnel and other non-rancher stakeholders (ranchers only make up 10-20% of both membership tiers), the needs of agency personnel outweigh those of the ranchers. Other research supports SC member's perceptions, describing a rangeland coalition where ranchers initially joined for financial reasons and felt that agency and other stakeholder interest outweighed their own and were not diverse enough to overlap, causing ranchers to feel excluded (Coughlin et al., 1999). Based on interviews, SC members describe those ranchers in the CCRC are experiencing a similar fate: lacking engagement, losing interest, questioning the organization's relevancy, and becoming isolated from the discussion and relevant stakeholders.

The CCRC has attempted to remedy this overrepresentation and unintentional consequence of effective bottom-up decision-making. However, this questions the importance of at least having the critical stakeholders at the table and having many diverse perspectives. In returning to their mission statement, which has served as a basis for the evaluation and assessment of the CCRC through the various criteria, the CCRC does appear to be engaged in bottom-up decision making and attempts to reflect the needs of their membership. However, a power imbalance does exist within the CCRC because ranchers are either not feeling welcomed, losing interests, or their needs are not being met; as a result, rancher engagement within the organization has dwindled, and the power to steer and influence the organization is beholden to agency personnel and other non-ranching stakeholders. In evaluating the CCRC, the current issues regarding rancher engagement, disconnect between ranchers and agency personnel, and lack of additional outreach or adaptive changes to make the process more collaborative are areas where they can improve. Additionally, the missions statement presented by the SC members involves bringing together diverse stakeholders and sharing information with them. If ranchers are not attending meetings, contributing their perspective, or receiving information, this would be evidence of a weaker collaborative process and failure to fulfill what was promised in the mission statement.

Overall, assessing the CCRC has demonstrated how complex, diverse, and unique CCGs are. This study attempts to evaluate the CCRC, a volunteer-based information-sharing rangeland coalition, using criteria drawn from a vast pool of conservation literature, focusing on traditional evaluation criteria such as setting concrete goals, project and policy implementation, monitoring, power imbalances, and diversity. However, this study contributes to the literature by focusing on the role of trust in organization function and as a part of CCG evaluations and by adding to the much-needed pool of research that attempts to evaluate these complex but essential partnerships. The finding of this study is limited in terms of generalizability because not all CCGs are information sharing-based or volunteer-based. In addition, assessments and suggestions of organizational processes and functioning were made based on interviews with SC members willing to interview, rather than the entire SC board.

With that being said, the study underpins the idea that it is crucial to evaluate collaborative based on a mix of traditional and less conventional criteria. However, it is also essential to evaluate CCGs based on what they have set out to do, their resources, and whether they are engaged in an effective collaborative process. While there are benefits in evaluating CCGs using a standardized protocol, conducting this assessment of the CCRC has suggested that more flexible criteria can capture less tangible outcomes such as the level of trust between members, quality of their relationships, and commitment to the organizational success of CCRC members. Overall, this study is critical because it sheds light on trust, providing an operationalized definition of trust and how it is built, and connects trust to decision making, power structure, and organizational deficits.

Appendix

A1) Interview Guide

This research evaluates perceptions of the Central Coast Rangeland Coalition (CCRC) advisory board members on coalition function, goals, practices, and the barriers and opportunities to effectively achieving their goals. The knowledge we gain from interviews will help inform future studies on the CCRC.

Your participation in this interview is completely voluntary. If you choose to participate in this interview, your responses will remain confidential, and your name will never be used in any report or publication. You may skip any questions you do not want to answer, and you can stop the interview at any time.

Are you willing to participate in the interview?

Do you mind if I record this interview for transcription purposes?

Opening questions

- What is your current position/ title in the coalition?
- How long have you worked in your current position?
- Can you describe to me the mission of the CCRC?
- What is the purpose of the advisory board members?
- What types of decisions related to the CCRC are you responsible for making or informing?
- In your opinion, what are some factors that make the CCRC a successful collaborative coalition group?
 - i.
 - ii.
 - iii.
- In your opinion what are the most significant barriers to the success of the CCRC
 - i.
 - ii.
 - iii.
- What sets your coalition apart from others?

Setting Reasonable and Measurable goals

- What are some concrete environmental, economic, and social goals that the CCRC has identified? Let's start first with the environmental goals
 1. Environmental
 - i.
 2. Economic
 - i.
 3. Social
 - i.

- Does the CCRC monitor attainment of/progress towards these goals? If so, how is it measured?
 - i. Environmental
 -
 - ii. Economic
 -
 - iii. Social
 -

- What are some ways the goals of the CCRC reflect the interests of a local community? Are there any examples of this that come to mind?
- Are there any other concrete goals your organization has established?
 - i. If yes, could you provide me with some examples of what was accomplished, and how these goals were accomplished?
- Can you tell me more...? Anything else? Don't worry about whether it's right, just tell me what comes to mind.

Projects, Policy, Programs

- What are some projects that the CCRC has implemented on the ground to achieve these goals? Potentially follow up: are these projects on private lands, public lands, both
 - i.
 - ii.
 - iii.
 - iv.
 - v.
- How were these projects funded?
 - i.
 - ii.
 - iii.
 - iv.
 - v.
- What are some challenges that your organization encountered in the implementation of these projects?
 - i.
 - ii.

- iii.
- Are there CCRC projects that are not being implemented due to lack of funding or dependable long-term funding?
 - i. If yes, can you provide some examples of projects that cannot be implemented due to lack of funding?
 - ii. How often is this likely to occur?
- Are there any programs that the CCRC has implemented?
 - i. If so, provide an example(s)
- Are there any policies that the CCRC has implemented?
 - i. If so, provide an example (s)
- What level are these policies being enforced at?

Monitoring

- What monitoring and studies have the CCRC conducted or are still in place?
- What are some of the information's that your organization has acquired due to these monitoring programs?
 - Anything else?
 - Can you tell me more...?
 - Anything else? Don't worry about whether it's right, just tell me what comes to mind.
 - Can you explain why?

Trust

- How do you define trust? Anything to add or include in your definition of trust?
- Are there any activities or actions that are aimed to build trust within the CCRC?
- How would you describe the level of trust you have for your fellow board members?
- On a scale of 1-10 with 1 equally X and 10 = Y how would you rate the trust you have for your fellow board members?
- How would you describe the level of trust constituents have for board members?
- On a scale of 1-10 with 1 equally X and 10 = Y how would you rate the trust between board members and members?
- What are some factors that influence your ability to mutually trust individuals within your organization? You could start off with board members than explain normal

i.

ii.

iii.

- Can you rely on your organization to follow through on promises? If there are not promises, can you explain why?
- Are there any actions or activities that have personally caused you to lose trust within your organization?
- Have you heard of any actions or activities that have caused others to lose trust within your organization?

Power Imbalances

- What is the hierarchical structure of the CCRC? For example, there are advisory board member positions; are there other tiers within the organization?
- How is being on the advisory board of members different than being a normal member?
- What are some additional responsibilities, privileges, and obligations of board members compared to being a normal member?
- Do board members represent larger interest groups within the ranching community?
 - i. If so, please speak more on this?
- Describe the approach that the CCRC uses to make decisions?
 - i. Do interviewees hint at top-down approach
 - ii. Do interviewees hint at bottom down approach
- Maybe a type of question where “Let’s say an individual member of the CCRC had an issue with coalition practices, how would this situation pan out?
- Do you feel as though there is a person, whether a board member or regular member, or small group of people that are more involved in decision making than others?
 - i. If so, could you recount a time where they or them swayed decision making?
- Could you describe a time where you felt as though your voice was not heard?

Relationships and Dialogue

- Describe a typical dialogue between you and another coalition member?
- How often do members communicate with one another?

- Are there specific organizational activities or programs that foster dialogue?
 - i. If so, provide some examples
- What other practices not currently observed would you consider important to increase dialogue within coalition members?
- What are some barriers to open dialogue that the coalition faces?
- How do you describe coalition culture?
- Have you or other coalition members terminated any relationships with other members?
 - i. If so, what was the reason for the termination?
- Within all coalition members who do you have the strongest relationship with?
 - i. Why do you think this is?
 - ii. What are actions or traits this person has that has strengthened the relationship you two have?
- In your opinion, what are some ways that you feel communication within the CCRC could be improved?

Diversity/Wide Inclusion

- How do you view the diversity of the CCRC?
- Do you feel like there are individuals from different interest groups, backgrounds, agencies etc.
 - i. If yes, could you give some examples of this within the organization?
- Describe some ways that the CCRC is seeking to include these types of individuals
- How often are non CCRC members involved in decision making processes?
 - i. Could you give me an example of this?
- What kind of experts or personnel are missing from the CCRC that would contribute to their success?
- Has there ever been a time where inclusion of outside people, scientists, or interests' groups was not desired?
 - i. If yes, provide an explanation of the situation

Membership

- How is membership in the CCRC defined?
- How does participation vary at different levels of membership?
- Can you speak on the member turnover of the CCRC?
- How did you become a “member” of the CCRC, and did anything change when you became an advisory board member?

Closing questions

- Is there a question or topic you How wished I would have asked about?
- If you could improve/fix one thing about the CCRC, what would it be?
- Just so I can get an overall picture of the demographics, could you tell me your:
 - Age (year born)
 - Highest grade in school you have completed? (If college, what coursework/degree?)
 - [Male___Female__]

Thank you for taking the time to talk with me today.

Other practices

A2) Table of SC member career, education, and year born

SC Member ID	Role/ Position	Highest Education	Degree (Highest Education)	Year Born
1	Rangeland Specialist for Government Agency	M.S	Range Management	1978
2	Rancher	B.S.	Agricultural Systems Management Minor in Agriculture Business and Concentration in Rangeland Management	1984
3	Land Manager Government Agency	PhD	Ecology and Evolutionary Conservation Science	1965
4	Researcher/ Coordinator for cooperative multi-agency effort	B.S.	Natural Resource Management	1956
5	Director/Researcher/ Advisor for Agency	M.S.	Range Management	1973
6	Researcher/ Resource Manager for Agency	M.S.	Range Management	1955

7	Resource Conservationist for Agency	M.S	Environmental Studies with a concentration in resource management	1979
8	Freelance Consultant/Scientist/Researcher	PhD	Wildland Resource Science (Vegetation Ecology)	1953
9	Researcher/Botanist / Ecologist/ Coordinator	PhD	Grassland and Restoration Ecology	1965
10	Livestock and Resource Advisor / Researcher	PhD	Sustainability for Rangelands, Pastoralists, Livestock Production	1966
11	Researcher/Scientist	PhD	Wildlife Conflict and Prevention	1981
12	Advisory Council/Chair member	B.S.	Natural Resource Management	1952

REFERENCES/WORKS CITED/BIBLIOGRAPHY

- Ali, A. H., Amin, R., Evans, J. S., Fischer, M., Ford, A. T., Kibara, A., Goheen, J. R., & Abdullahi Ali, C. H. (n.d.). *Evaluating support for rangeland-restoration practices by rural Somalis: an unlikely win-win for local livelihoods and hirola antelope?* <https://doi.org/10.1111/acv.12446>
- Aoyama, L., & Huntsinger, L. (2019). Are Landowners, Managers, and Range Management Academics on the Same Page About Conservation? *Rangelands*, 41(1), 61–69. <https://doi.org/10.1016/j.rala.2018.10.001>
- Balachowski, J. (2018). *Climate Vulnerability Assessment of California Rangelands*. June, 1–73.
- Ballard, H., Kraetsch, R., & Huntsinger, L. (2002). *Collaborative Monitoring in Walnut Creek*, . 94720, 617–624.
- Barry, S., & Ford, L. (2020). *A Guide to Livestock Leases for Annual Rangelands*. February.
- Bedunah, D. J., & Angerer, J. P. (2012). Rangeland Degradation, Poverty, and Conflict: How Can Rangeland Scientists Contribute to Effective Responses and Solutions? *Rangeland Ecology & Management*, 65(6), 606–612. <https://doi.org/10.2111/REM-D-11-00155.1>
- Belton, L. R., & Jackson-Smith, D. (2010). Factors influencing success among collaborative sage-grouse management groups in the western United States. *Environmental Conservation*, 37(3), 250–260. <https://doi.org/10.1017/S0376892910000615>
- Bennett, D. E., Knapp, C. N., Knight, R. L., & Glenn, E. (2020). *The evolution of the rangeland trusts network as a catalyst for community-based conservation in the American West*. November 2019, 1–9. <https://doi.org/10.1111/csp2.257>
- Biswell, H. H. (1956). Ecology of California Grasslands. *Journal of Range Management*, 9(1), 19. <https://doi.org/10.2307/3894645>
- Blackburn, S., Hopcraft, J. G. C., Ogotu, J. O., Matthiopoulos, J., & Frank, L. (2016). Human–wildlife conflict, benefit sharing and the survival of lions in pastoralist community-based conservancies. *Journal of Applied Ecology*, 53(4), 1195–1205. <https://doi.org/10.1111/1365-2664.12632>
- Box, T. W. (1978). Food, Fiber, Fuel, and Fun from Rangelands. *Journal of Range Management*, 31(2), 84. <https://doi.org/10.2307/3897649>
- Brick, P. (2000). *Across the Great Divide: Explorations In Collaborative Conservation And The ...* - Philip Brick - Google Books. https://books.google.com/books?hl=en&lr=&id=_trfv5qL4u8C&oi=fnd&pg=PA1&dq=defining+collaborative+conservation&ots=hZLHZ6hQEY&sig=SAfxCVQdvIuMUaRBzH9MUZyKmQU#v=onepage&q=defining collaborative conservation&f=false
- Brunson, M. W., & Huntsinger, L. (2008). Ranching as a conservation strategy: Can old

- ranchers save the new west? *Rangeland Ecology and Management*, 61(2), 137–147.
<https://doi.org/10.2111/07-063.1>
- Butynski, T. M., & Jong, Y. A. de. (2014). Primate Conservation in the Rangeland Agroecosystem of Laikipia County, Central Kenya. *https://doi.org/10.1896/052.028.0104*, 2014(28), 117–128.
<https://doi.org/10.1896/052.028.0104>
- Buxton, S. H., Hopwood, J., Moranz, R., & Powers, R. (2020). *Rangeland Management and Pollinators: A Guide for Producers in the Great Plains*. 6.
<https://xerces.org/publications/fact-sheets/rangeland-management-and-pollinators>
- Byrd, K., D, P. A. P., Flint, L., & Flint, A. (2014). *Future Scenarios of Impacts to Ecosystem Services on California Rangelands*. 1(March).
- Cameron, D. R., Marty, J., & Holland, R. F. (2014). *Whither the Rangeland?: Protection and Conversion in California's Rangeland Ecosystems*. 9(8).
<https://doi.org/10.1371/journal.pone.0103468>
- Castillo, D. A., Gaitán, J. J., & Villagra, E. S. (2021). Direct and indirect effects of climate and vegetation on sheep production across Patagonian rangelands (Argentina). *Ecological Indicators*, 124, 107417.
<https://doi.org/10.1016/J.ECOLIND.2021.107417>
- Cestero, B. (n.d.). *B E Y O N D the H U N D R E D T H M E E T I N G :*
- Cheatum, M., Casey, F., Ph, D., D, P. A. P., & Parkhurst, B. (2011). *Payments for Ecosystem Services : A California Rancher*. September.
- Conley, A., & Moote, A. (2001). Collaborative Conservation in Theory and Practice: In *Udall Center Publications* (Vol. 7, Issue 3). <https://doi.org/10.37282/991819.20.72>
- Conley, A., & Moote, M. A. (2003). Evaluating collaborative natural resource management. *Society and Natural Resources*, 16(5), 371–386.
<https://doi.org/10.1080/08941920309181>
- Coughlin, C., Hoben, M. L., Manskopf, D. W., & Quesada, S. W. (1999). A Systematic Assessment of Collaborative Resource Management Partnerships. *A Master's Project Completed for the School of Natural Resources & Environment, University of Michigan, August*. <http://www.snre.umich.edu/emi/pubs/crmp.htm#pdf>
- Eagle, A. J., Eiswerth, M. E., Johnson, W. S., Schoenig, S. E., & Kooten, G. C. Van. (2007). Costs and Losses Imposed on California Ranchers by Yellow Starthistle. *Rangeland Ecology Management*, (2007), 60(4), 369–377.
[https://doi.org/10.2111/1551-5028\(2007\)60](https://doi.org/10.2111/1551-5028(2007)60)
- Elavarthi S, M. C. (2014). Rangelands as Carbon Sinks to Mitigate Climate Change: A Review. *Journal of Earth Science & Climatic Change*, 05(08).
<https://doi.org/10.4172/2157-7617.1000221>
- Evelyn, C. J., & Barbara, S. (2018). *Conserving Monterey County's Ranchland : Trends and Strategies Conserving Monterey County's Ranchland : Trends and Strategies*.

May 2007. <https://doi.org/10.13140/RG.2.2.20261.35043>

- Farley, K. A., Walsh, K. C., & Levine, A. S. (2017). Opportunities and obstacles for rangeland conservation in San Diego county, California, USA. *Ecology and Society*, 22(1). <https://doi.org/10.5751/ES-09077-220138>
- Getz, W. M., Fortmann, L., Cumming, D., Du Toit, J., Hilty, J., Martin, R., Murphree, M., Owen-Smith, N., Starfield, A. M., & Westphal, M. I. (1999). Sustaining natural and human capital: Villagers and scientists. *Science*, 283(5409), 1855–1856. <https://doi.org/10.1126/science.283.5409.1855>
- Godde, C. M., Boone, R. B., Ash, A. J., Waha, K., Sloat, L. L., Thornton, P. K., & Herrero, M. (2020). Global rangeland production systems and livelihoods at threat under climate change and variability. *Environmental Research Letters*, 15(4), 044021. <https://doi.org/10.1088/1748-9326/AB7395>
- Gray, B. (1985). Conditions facilitating interorganizational collaboration. *Human Relations*, 38, 911–936.
- Harmon, M. M. and W. (2004). The Western Confluence: A Guide to Governing Natural Resources. *Environmental Practice*, 8(2), 144–145. <https://doi.org/10.1017/s1466046606280153>
- Hayes, G. F., & Holl, K. D. (2003). Cattle Grazing Impacts on Annual Forbs and Vegetation Composition of Mesic Grasslands in California. *Conservation Biology*, 17(6), 1694–1702. <https://doi.org/10.1111/j.1523-1739.2003.00281.x>
- Hillis, V., Berry, K. A., Swette, B., Aslan, C., Barry, S., & Porensky, L. M. (2020). Unlikely alliances and their implications for resource management in the American West. *Environmental Research Letters*, 15(4). <https://doi.org/10.1088/1748-9326/ab6fbc>
- Homewood, K. M. (2004). Policy, environment and development in African rangelands. *Environmental Science and Policy*, 7(3), 125–143. <https://doi.org/10.1016/j.envsci.2003.12.006>
- Howell, I. (2012). *An Analysis of Rangeland Preservation in Western States An Analysis of Rangeland Preservation in Western States*.
- Huayhuaca, C., & Reid, R. S. (2014). *The Atlas of Collaborative Conservatino in Colorado*. 2014.
- Huntsinger, L., & Bartolome, J. W. (2014). Cows in California Rangelands and Livestock in the Golden State. *Rangelands*, 36(5), 4–10. <https://doi.org/10.2111/Rangelands-D-14-00019.1>
- Huntsinger, L., & Oviedo, J. L. (2014). *Case of California 's Mediterranean Rangelands Ecosystem Services are Social – ecological Services in a Traditional Pastoral System : the Case of California 's Mediterranean Rangelands*. 19(1).
- Kowal, V. A., Ahlborn, J., Jamsranjav, C., Avirmed, O., & Chaplin-Kramer, R. (2021). Modeling Integrated Impacts of Climate Change and Grazing on Mongolia's

- Rangelands. *Land* 2021, Vol. 10, Page 397, 10(4), 397.
<https://doi.org/10.3390/LAND10040397>
- Kretser, H. E., Beckmann, J. P., & Berger, J. (2018). A Retrospective Assessment of a Failed Collaborative Process in Conservation. *Environmental Management*, 62(3), 415–428. <https://doi.org/10.1007/s00267-018-1045-2>
- Kyriazopoulos, A. P., Arabatzis, G., Abraham, E. M., & Parissi, Z. M. (2013). Threats to Mediterranean rangelands: A case study based on the views of citizens in the Viotia prefecture, Greece. *Journal of Environmental Management*, 129, 615–620.
<https://doi.org/10.1016/j.jenvman.2013.08.035>
- Lasker, R. D., Weiss, E. S., & Miller, R. (2001). Partnership Synergy: A Practical Framework for Studying and Strengthening the Collaborative Advantage. *Milbank Quarterly*, 79(2), 179–205. <https://doi.org/10.1111/1468-0009.00203>
- Lauber, T. B., Stedman, R. C., Decker, D. J., & Knuth, B. A. (2011). Linking Knowledge to Action in Collaborative Conservation. *Conservation Biology*, 25(6), 1186–1194.
<https://doi.org/10.1111/j.1523-1739.2011.01742.x>
- LAUBER, T. B., STEDMAN, R. C., DECKER, D. J., & KNUTH, B. A. (2011). Linking Knowledge to Action in Collaborative Conservation. *Conservation Biology*, 25(6), 1186–1194. <https://doi.org/10.1111/j.1523-1739.2011.01742.x>
- Lin, W., Chen, C.-P., And, & Shin, P. (2014). *Collaborative conservation for horseshoe crabs*. 48(4), 482–483.
- Lund, H. G. (2007). Accounting for the World's Rangelands. *Society for Range Management*, 3–10. [https://doi.org/10.2111/1551-501X\(2007\)29](https://doi.org/10.2111/1551-501X(2007)29)
- Maestas, J. D., Knight, R., & Gilgert, W. (2001). Biodiversity and land-use change in the American Mountain West. *Geographical Review*, 509–524.
<https://doi.org/10.2307/3594738>
- Maestas, J. D., Knight, R. L., & Gilgert, W. C. (2003). Biodiversity across a Rural Land-Use Gradient. In *Conservation Biology* (Vol. 17, Issue 5).
- Martín, L., Iniesta, A. I., García, L. M., I, P., Casado, & DGD, A. A. (2012). *Uncovering Ecosystem Service Bundles through Social Preferences*.
- Mazloum, B., Pourmanafi, S., Soffianian, A., Salmanmahiny, A., & Prishchepov, A. V. (2020). The fate of rangelands: Revealing past and predicting future land-cover transitions from 1985 to 2036 in the drylands of Central Iran. *Land Degradation and Development*. <https://doi.org/10.1002/LDR.3865>
- Muñoz-Erickson, T. A., Aguilar-González, B., & Sisk, T. D. (2007). Linking ecosystem health indicators and collaborative management: A systematic framework to evaluate ecological and social outcomes. *Ecology and Society*, 12(2).
<https://doi.org/10.5751/ES-02092-120206>
- Nickerson, C., Ebel, R., Borchers, A., & Carriazo, F. (2011). *Major Uses of Land in the United States, 2007*. 89, 67.

- Perevolotsky, A., & Seligman, N. (1998). *Role of Grazing in Mediterranean Rangeland Ecosystems*. 48(12), 1007–1017.
- Porter, C., Plant, R., Aaron, B., Hass, B., Coordinator, W., Naftzger, M., Keeler-wolf, T., Camp, L., Press, C., Morin, N., Follette, W., Mclaughlin, S., Islands, C., Magney, D., Landis, B., County, M., Longstreth, C., Parsons, L., Barrows, K., ... Holstein, G. (2011). *California's prairies and grasslands*. 39(2).
- Raiesi, F. (2017). A minimum data set and soil quality index to quantify the effect of land use conversion on soil quality and degradation in native rangelands of upland arid and semiarid regions. *Ecological Indicators*, 75, 307–320.
<https://doi.org/10.1016/j.ecolind.2016.12.049>
- Randolph, J., & Bauer, M. (1999). Improving Environmental Decision-Making Through Collaborative Methods. *Learning*.
- Reid, R. S., Scharf, V. L., Huayhuaca, C., Lynn, S., Loyd, K., & Jandreau, C. (2010). *Collaborative conservation in practice : Current state and future directions*. 1–27.
- Sandhage-Hofmann, A. (2016). Rangelands - an overview | ScienceDirect Topics. *Reference Module in Earth Systems and Environmental Sciences*.
<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/rangelands>
- Schuman, G. E., Janzen, H. H., & Herrick, J. E. (2002). Soil carbon dynamics and potential carbon sequestration by rangelands. *Environmental Pollution*, 116(3), 391–396. [https://doi.org/10.1016/S0269-7491\(01\)00215-9](https://doi.org/10.1016/S0269-7491(01)00215-9)
- Sheridan, E. T. (2012). In the Trenches: Collaborative Conservation in a Contested West. *ANTHROPOLOGY AND ENVIRONMENT SOCIETY*.
- Sulak, A. (2017). *Transhumance and pastoralist resilience in the western United States*. *Transhumance and pastoralist resilience in the Western United States*. January.
<https://doi.org/10.3362/2041-7136.2010.002>
- Sulak, A., & Huntsinger, L. (2007). Public Land Grazing in California: Untapped Conservation Potential for Private Lands? *Rangelands*, 29, 9–12.
[https://doi.org/10.2111/1551-501X\(2007\)29\[9:PLGICU\]2.0.CO;2](https://doi.org/10.2111/1551-501X(2007)29[9:PLGICU]2.0.CO;2)
- Varley, I. (2009). *Strengthening Collaborative Conservation for Working Ranch Lands , Water and Wildlife : A State Conservation Fund for Montana* by.
- Wardrop, M. J. (2014). *Innovation for 21st Century Conservation* (J. F. Penelope Figgis (ed.); Issue January 2012).
- Weber, E. P., Lovrich, N. P., & Gaffney, M. J. (1984). *Assessing Collaborative Capacity in a Multidimensional World*. 6(2), 87–92.
- Wedin, W. F., & Fales, S. L. (2009). *Grassland Quietness and Strength for a New American Agriculture*.
- Wilkins, K., Pejchar, L., Carroll, S. L., Jones, M. S., Walker, S. E., Shinbrot, X. A.,

- Huayhuaca, C., Fernández-Giménez, M. E., & Reid, R. S. (2021). Collaborative conservation in the United States: A review of motivations, goals, and outcomes. *Biological Conservation*, 259(April). <https://doi.org/10.1016/j.biocon.2021.109165>
- Wolf, K. M., Baldwin, R. A., & Barry, S. (2017). Compatibility of Livestock Grazing and Recreational Use on Coastal California Public Lands: Importance, Interactions, and Management Solutions. *Rangeland Ecology and Management*, 70(2), 192–201. <https://doi.org/10.1016/j.rama.2016.08.008>
- Wolff, T. (2001). A Practitioner's Guide to Successful Coalitions. *American Journal of Community Psychology*, 29(2), 173–191. <https://doi.org/10.1023/A:1010366310857>
- Wyborn, C., & Bixler, R. P. (2013). Collaboration and nested environmental governance: Scale dependency, scale framing, and cross-scale interactions in collaborative conservation. *Journal of Environmental Management*, 123, 58–67. <https://doi.org/10.1016/J.JENVMAN.2013.03.014>
- Yaffee, S. L., & Wondolleck, J. M. (2003). Collaborative Planning and Sustainable Resource Management: The North American Experience. *Environments*, 31(2), 59–72. www.fes.uwaterloo.ca/research/environments/
- Yahdjian, L., Sala, O. E., & Havstad, K. M. (2015). Rangeland ecosystem services: shifting focus from supply to reconciling supply and demand. *Front Ecol Environ*.
- Zhaoli, Y., Ning, W., Dorji, Y., & Jia, R. (n.d.). *A REVIEW OF RANGELAND PRIVATISATION AND ITS IMPLICATIONS IN THE TIBETAN PLATEAU, CHINA*.