Summer 2023

Weaving Fragmented Lands Together: Perspectives on a National Framework for Landscape Conservation

Jaimie Baxter
Western Washington University, jaimie.r.baxter@gmail.com

Weaving Fragmented Lands Together:
Perspectives on a National Framework for Landscape Conservation

By

Jaimie Baxter

Accepted in Partial Completion
of the Requirements for the Degree
Master of Arts in Environmental Studies

ADVISORY COMMITTEE

Dr. Tammi Laninga, Chair

Dr. Kate Darby

Sharon Farrell

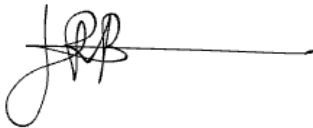GRADUATE SCHOOL

David L. Patrick, Dean

Master's Thesis

In presenting this thesis in partial fulfillment of the requirements for a master's degree at Western Washington University, I grant to Western Washington University the non-exclusive royalty-free right to archive, reproduce, distribute, and display the thesis in any and all forms, including electronic format, via any digital library mechanisms maintained by WWU.

I represent and warrant this is my original work, and does not infringe or violate any rights of others. I warrant that I have obtained written permissions from the owner of any third party copyrighted material included in these files.

I acknowledge that I retain ownership rights to the copyright of this work, including but not limited to the right to use all or part of this work in future works, such as articles or books.

Library users are granted permission for individual, research and non-commercial reproduction of this work for educational purposes only. Any further digital posting of this document requires specific permission from the author.

Any copying or publication of this thesis for commercial purposes, or for financial gain, is not allowed without my written permission.

Jaimie Baxter

June 22, 2023

Weaving Fragmented Lands Together:
Perspectives on a National Framework for Landscape Conservation

A Thesis
Presented to
The Faculty of
Western Washington University

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts in Environmental Studies

by
Jaimie Baxter
June 2023

Abstract

Conservation goals that transcend political boundaries and integrate social-ecological systems are foundational to an emerging field of research and practice called landscape conservation. A nationwide example of a landscape conservation strategy is the Biden administration's "30 by 30" goal and related "America the Beautiful (ATB) initiative." The national 30 by 30 goal aims to protect 30 percent of the United States' (U.S.) terrestrial lands, fresh waters, and ocean waters by 2030. To accomplish the objectives outlined in the ATB initiative and 30 by 30 goal, practitioners and scholars put forth recommendations to design a durable and effective national framework for landscape conservation in the U.S. These recommendations bring up a series of questions related to the ability of a nationwide framework to support a variety of geographic scales and political levels and whether a framework is desired by the communities it aims to serve. Concerns about durability of such a framework in an era of political uncertainty also abound. To address these questions, I conducted participant observation at existing events and performed twenty-two interviews with professionals in the field of landscape conservation in the U.S., including representatives from county, state, tribal nations, federal government agencies, and nongovernmental organizations. This study explores perspectives of desire and need for a national framework for landscape conservation and what would make such a framework durable and effective. Further, this research examines the actors and their activities within the landscape conservation movement in the U.S. Although participants' perspectives differ on whether a new national framework for landscape conservation is necessary, most agree that there is a need and timely opportunity to create an empowering vision for landscape conservation that centers locally led efforts and previously excluded communities. Further, there is a strong desire to connect existing efforts across the U.S., provide financial and technical resources to coordinate

and connect those efforts, and achieve the 30 by 30 goal through its organizing. Time is of the essence and the political will is ripe.

Table of Contents

List of Tables and Figures

Figures

Tables

Chapter One: Introduction and Overview

Conservation efforts that focus on the landscape-scale are necessary to confront complex and emergent challenges in the United States (U.S.). These challenges include climate change, loss of biodiversity, inequitable access to nature, and the related environmental justice issues that stem from these challenges (Curtin 2015; Trombulak and Baldwin 2010). Biodiversity loss, or the loss of species and ecosystem variation in a specific area, is impacted by climate change through increased intensity and frequency of fires, severe storms and floods, and prolonged periods of drought. Increasing biodiversity is considered a nature-based solution for mitigating some of the most severe impacts to climate change, including impacts to human livelihoods, through carbon sequestration, flood prevention, and more (Shin et al. 2022). There are also widespread access inequities to nature and biodiverse areas in the U.S. As of 2020, seventy-four percent of Black, Indigenous, and people of color communities in the contiguous U.S. live in nature-deprived areas (Landau et al. 2020). Practitioners and academics alike recommend looking at these issues at larger spatial scales, such as a landscape-scale or nationwide-scale, to support continual learning and adaptive management, increase consistency and equity across different regions, and strengthen capacity within multiple scales of management (Curtin 2015; Sayer et al. 2013).

Days after taking office in January 2021, President Biden issued Executive Order 14008 that takes a nationwide approach to "tackling the climate crisis at home and abroad" and established a groundbreaking national goal to conserve 30 percent of U.S. lands and water by 2030 (30 by 30). The order also directed several federal agencies to work together to develop recommendations on how to advance an inclusive and collaborative vision for conservation activities across the nation

through the "America the Beautiful" (ATB) initiative. The eight guiding principles laid out in the initial ATB report include pursuing a collaborative and inclusive approach to conservation, conserving America's lands and waters for the benefit of all people, supporting locally led and designed conservation efforts, honoring Tribal sovereignty and supporting priorities of Tribal Nations, pursuing conservation and restoration approaches that create jobs and support healthy communities, honoring private property rights and supporting the voluntary stewardship efforts of private landowners, using science as a guide, and building on existing tools and strategies with an emphasis on flexibility and adaptive approaches (U.S. Department of Interior et al. 2021).

The ATB initiative also includes a grant program called the "ATB Challenge" which provides funding for landscape-scale projects and planning efforts in alignment with the principles outlined in the ATB report. The program consolidates funds from multiple federal agencies and the private sector to make it easier for Tribal nations, states, local and nongovernmental groups to apply for funding in one place, rather than multiple sources (U.S. Department of Interior 2022). In its inaugural year (2022) the ATB Challenge grant program received 527 applicants and awarded ten percent of applicants with approximately $91 million in funds (NFWF 2022). The popularity of the ATB Challenge demonstrates the need for funding landscape-scale efforts across the country.

In addition to the grant program, one of the key deliverables for the ATB initiative is to create a "Conservation and Stewardship Atlas" to create a clear baseline of lands and waters that are restored or conserved and to measure progress towards the 30 by 30 goal. Over 12 states (e.g., California, Nevada, Hawaii, New York) within the U.S. have committed to protecting 30 percent of lands and waters in their own state territories, and a growing list of city councils and counties are committing themselves to a 30 by 30 effort as well (NCEL 2022). The Biden administration

has yet to share a specific definition for what counts towards "conserved" or "protected" for the 30 by 30 goal, although some states (e.g., California) have provided direct guidance towards what counts towards their goal of 30 percent (CNRA 2022). The U.S. Geologic Survey has been tracking biodiversity conservation activities through their Gap Analysis Program since 1989. According to recent data, approximately 26 percent of ocean waters in the U.S. are under some type of conservation designation, whereas about 12.9 percent of U.S. lands are in conservation status (USGS Gap Analysis Project 2020).

Conservation targets such as 30 by 30 are not a new concept nor are they unique to the U.S. In 2016, the renowned scientist E.O. Wilson published *Half-Earth: Our Planet's Fight for Life* and argued to protect half of the planet to reverse species extinction and maintain the long-term health of the planet (Wilson 2016). The Convention on Biological Diversity (CBD), a multilateral treaty established by the United Nations with 196 out of 198 countries signed on, established the Aichi Targets in 2011. These targets were recently updated in the CBD's Post-2020 Biodiversity Framework at COP15 in Montreal (CBD 2021). Several scientists argue that conserving a minimum of 30 percent by 2030 will protect the earth's biodiversity and avoid major impacts from climate change, all while improving people's access to nature and its benefits (Diaz et al. 2019).

Nevertheless, there are several critiques of the 30 by 30 goal from both political parties. One of the most significant critiques comes from Indigenous communities around the world who critique the 30 by 30 goal as another opportunity for governments to seize control of natural resources and remove Indigenous communities from their land in the name of conservation. Several critiques of this type of "fortress conservation" exist in the literature (e.g., Brockington 2002). Property rights advocates in the U.S. also consider 30 by 30 as an opportunity to grow the

federal estate and give the federal government authority for acquiring more land (Jones 2021). Others argue that the 30 by 30 goal is only a flashy, performative goal and suggest that the current administration's priorities should focus on stronger climate policy objectives that more efficiently and effectively reduce U.S. net carbon emissions (Aiken 2022).

Despite these critiques, there is a recommendation by landscape conservation practitioners and scholars that a "durable national framework for landscape conservation" be established to achieve the ambitious 30 by 30 goal and to commit to the principles outlined in the America the Beautiful initiative (Mankowski et al. 2021, p. 2; Peterson and Bateson 2018; Scarlett and Parker 2021). The *Build Back a Better National Landscape Conservation Framework Report*, funded by the Center for Large Landscape Conservation and the Alaska Foundation, outlines several recommendations for the design of a national framework and federal support for landscape conservation. In short, authors assert that connecting regional, collaborative conservation efforts through a national approach will be essential to accomplish the nation's conservation goals (Mankowski et al. 2021).

Clear and concise definitions for "national frameworks" in the academic literature are sparse. In academic research, a framework is typically understood as a conceptual or theoretical framework that demonstrates the relationship between one or more theories, other concepts, and empirical findings and makes the case for the study's design and relevancy (Ravitch and Riggan 2016). Functionally, a national framework can include processes, systems, legislative actions, and the like that support governance around a specific topic or issue. As Mankowski et al. (2021) maintain, a national framework in the context of landscape conservation would create a comprehensive approach to landscape conservation, align disparate conservation actions across the nation, and support consistent sources of funding from Congress and the private sector.

Proposals similar to a national framework for landscape conservation have been suggested by others as well, including Keiter (2018), who argues for a National Conservation Network Act. Through congressional legislation, this type of act would require interagency coordination, establish wildlife corridor and restoration areas, and incentivize voluntary conservation actions on private lands (Keiter 2018). Moreover, the Network for Landscape Conservation included the design of a national framework for landscape conservation in their five-year benchmark goals at their national forum in 2017. They suggested that in a five-year timeframe (i.e., by the year 2022) a national framework "is in place, with associated funding, in which local, state, and federal agencies with other nonprofit and academic partners are working collaboratively to build on the progress of state and federal agencies to date, including the former Landscape Conservation Cooperative Network, to advance science and planning at scale and to connect and conserve landscapes capable of sustaining natural and cultural resources for current and future generations." (NLC 2017, p. 31)

Between 2009 – 2017, the Landscape Conservation Cooperative (LCC) Network operated as such a national framework and was managed by the U.S. Department of Interior's Fish and Wildlife Service agency. However, the program was defunded in 2017 by the Trump administration. Today, there are many other examples of federal land management agencies working outside of their silos and supporting efforts at local and state scales, such as the Migratory Bird Joint Ventures program and National Heritage Areas. The Land and Water Conservation Fund also provides conservation funding to national and state programs. However, there is currently no program or policy that unites the federal land management agencies in their efforts to work with local, state, and Tribal entities towards landscape conservation goals, such as the 30 by 30.

Even so, there are other examples of national frameworks beyond the landscape conservation field. For example, the Federal Emergency Management Agency (FEMA) created a "National Response Framework" to coordinate federal and non-federal resources and entities to meet national emergency response goals. FEMA's framework was created post-Hurricane Katrina through the Post-Katrina Management Reform Act. The framework outlines coordinating structures for communication and collaboration in pre- and post-disaster recovery planning and defines principles, roles, and processes for working at various scales in all phases of emergency management (CRS 2011). FEMA's framework provides a long-standing example of a national framework in the U.S. and demonstrates what can be accomplished with federal support and funding.

Research Questions

There are many questions associated with the recommendation for a national framework for landscape conservation related to desire and need, funding, political durability, governance at various geographic and temporal scales, levels of organization, and roles amongst those involved. My research sought perspectives of need, efficacy, and durability of a national framework for landscape conservation. Recent research points to the failings of landscape conservation efforts that exclude meaningful community input in their design, or that do not address critical social needs in the solutions they use (Artelle et al. 2019; Trisos et al. 2021). To avoid such failings, it is essential for landscape conservation initiatives and a potential national framework, to move beyond traditional conservation paradigms and to be more inclusive of local, regional, and underrepresented communities while making decisions at the national level (Artelle et al. 2019; Eichhorn et al. 2020). Engaging in social science research for conservation efforts promotes more legitimate, salient, robust, and effective outcomes (Bennett et al. 2016).

Therefore, in this research I address the following questions: *Can a national framework for landscape conservation be implemented to serve and support human and ecological systems at multiple scales across the nation? If so, what would it look like?*

I also address the following sub-questions:

1. **National Framework:** *What concerns and opportunities exist regarding a national framework for landscape conservation?*
2. **Durability:** *How do those involved with landscape conservation at national and regional scales describe "durability" for landscape conservation policies and programs?*
3. **Actors and Activities:** *Who are the key actors involved and what activities exist within the landscape conservation movement in the U.S.?*

Through this line of inquiry, I aim to better understand the need and desire for a national framework for landscape conservation and what would make such a framework durable. Additionally, I seek to provide a snapshot of the current state of landscape conservation on a national scale and influence the dialogue surrounding key actors and activities within the landscape conservation field and practice. Ultimately, I hope to support policy changes at national and regional scales that lead to more inclusive and equitable landscape conservation initiatives across the U.S.

Positionality Statement

A researcher's worldview and the social and political positions they adopt in their research (i.e., a researcher's positionality) is important to acknowledge and critically reflect on before, during, and after the research process (Holmes 2020, p.1). This research was motivated by my

professional and research experiences, as well as my personal ethics and values. My professional

experience is rooted in geography, public lands administration, ecosystem management, and

community-based landscape stewardship programs. My connection to large landscapes,

conservation efforts, and stewardship is rooted in my childhood and blossomed through my work

experience in the Golden Gate National Recreation Area and on Mount Tamalpais. Born to a

working-class family, I grew up on a former dairy ranch in the San Francisco Bay Area. I now

live, work, and play in the Pacific Northwest, on the forever homelands of the Lummi Nation,

Nooksack Tribe, and many other Coast Salish nations.

These professional and personal experiences shape my perspectives and interpretations of

landscapes, the necessary speed and scale of action to solve the pressing environmental issues of

our time, and who is ultimately responsible for such actions. The privilege that accompanies my

familiarity with the subject and my position as a white, middle class, and educated woman means

that, despite good intentions, my efforts to support landscape conservation policies and actions in

postcolonial contexts risk being exclusive, patronizing, threatening, and recolonizing. I conduct

this research with humility, and use a critical realist and relational perspective, meaning that all

relations (e.g., humans, non-humans, actions) are constitutive and I support multiple truths and

ways of knowing. I acknowledge my role in this research and reflected on my own assumptions

and beliefs frequently throughout this process.

Structure of Thesis

The following chapter, Chapter Two, contains a literature review on landscape conservation

history and previous actions in the U.S., decolonial perspectives of land, and potential forms of

governance for landscape conservation and social-ecological systems found in western academic

literature. Following that, I outline the methods used for this research in Chapter Three. Chapter Four and Chapter Five are written as two separate journal articles related to perspectives on a national framework for landscape conservation and actors and activities within the landscape conservation movement respectively. Lastly, Chapter Six connects my findings, provides recommendations, and suggests future research opportunities.

Chapter Two: Literature Review

Landscape conservation: A field and practice

Landscape conservation is a broadly encompassing term to describe an intertwined effort between many actors including academic scholars, practitioners, Tribal nations, government agencies, and local communities. The landscape conservation approach strives to conserve natural and cultural resources across geographies and sectors (e.g., land and water management, forestry, public health) for the benefit of nature and people alike (Johnson 2017; Trombulak and Baldwin 2010; Scarlett and McKinney 2016). Further, the approach acknowledges that social processes (e.g., economic, political, and cultural) and ecological processes (e.g., climate patterns, wildfires) are deeply intertwined and need to be managed holistically (Folke et al. 2016).

Landscape conservation is also referred to as "large landscape conservation" (e.g., Bixler et al. 2016; Hebbelwhite et al. 2021; Thomsen and Caplow 2017) and "landscape stewardship" (e.g., Bieling and Plieninger 2017; Cockburn et al. 2020). Some argue that "conservation" is an outdated term and that the word "stewardship" evokes a more inclusive and action-oriented mindset (Bieleing and Plieninger 2017). Landscape conservation is used most frequently in the current academic and grey literature, especially in the U.S., and will therefore be the phrase primarily used in this thesis.

The practices and concepts of landscape conservation are not new, despite the approach recently gaining more traction. In fact, communities across the world and in the U.S. have used comprehensive techniques for supporting landscapes and human livelihoods for several hundred, even thousands, of years. Indigenous peoples have continuously stewarded the lands no known as the U.S. since time immemorial. In fact, Indigenous languages stemming from the Americas

do not have a word or phrase that translates directly to the modern-day vision of "conservation" since there was no need or urgency to protect or preserve wilderness, wildlife, or other natural resources from human influence before colonization (Hernandez 2022).

Now, twenty plus years into the twenty-first century, landscape conservation practitioners and researchers employ a variety of strategies to address some of today's most pressing environmental and social challenges. Addressing these widespread challenges is complex, and includes lessening the impacts of climate change, stemming biodiversity loss, advancing equitable access to parks and open spaces, promoting an ethic of land care and stewardship, bridging the rural and urban divide, and balancing the need to maintain economic livelihoods that rely on finite natural resources (Curtin 2015). Researchers and practitioners involved with landscape conservation recognize *landscapes* as "whole, 'lived in' systems, complex by nature, inclusive of social and ecological dimensions, and always changing." (Johnson 2017, pg.1)

In academia, the interdisciplinary approach of landscape conservation arose from the fields of landscape ecology and conservation biology. Scholars in both fields argue that the fragmentation of landscapes, by land ownership or development, is detrimental to the long-term conservation goals of supporting biodiversity and protecting threatened species (Diamond 1976; Noss et al. 1997). Diamond's (1976) theory of island biogeography argues that connected or protected areas knit closely together ensure greater biodiversity in a given region. Prior to this theory, many of the perceived environmental threats (e.g., species loss, erosion) were seen as local issues, not large spatial scale issues (National Academy of Sciences 2016). Now, in western science, ecological processes and functions are said to be best managed and supported at larger spatial and longer temporal scales. Scholars argue that simply looking at protected areas and reserves is

not comprehensive enough to support biodiversity and ecosystem functionality (Curtin 2015; Thomsen and Caplow 2017).

Realizing the social and political challenges of working at large spatial scales that transcend political and jurisdictional boundaries, the landscape conservation field has come to understand the importance of incorporating social science research in its efforts (Thomsen and Caplow 2017). Social science research for conservation draws from a variety of disciplines such as sociology, political science, human geography, anthropology, and psychology. The social sciences support conservation policy and practice by exploring how people use and relate to natural resources, what impacts specific types of policy have on a given community, the socio-economic implications of certain decisions on landowners, and much more. Whereas most scientific disciplines study nature separate from humans, social-ecological systems scholars argue that "the delineation between social and natural systems is artificial and arbitrary." (Berkes and Folke 2000, as cited by Biggs et al. 2021, pg. 5)

According to some scholars, the potential for integrating social science research fully into the field of conservation has not been completely realized (Bennett et al. 2016; deSnoo et al. 2013; Schultz 2011). Yet, the field of landscape conservation encompasses three main principles that weave social and ecological components. Landscape conservation is: (1) multijurisdictional – the issues being addressed cut across political and jurisdictional boundaries; (2) multipurpose – it addresses a mix of related issues, including but not limited to environment, economy, and community; and (3) multistakeholder – it includes public, private, and nongovernmental actors (McKinney et al. 2010, p. 4).

Decisions around conservation policy have potential political, social, and economic impacts (Adams 2020). It is important to recognize these potential impacts to gain a foundational understanding of how we arrived at the current state of conservation thinking and explore former actions related to landscape conservation in the U.S. In the following paragraphs, I provide an overview of early western ideologies and current decolonial perspectives of land in the U.S. From there, I share a brief history of previous actions and examples of landscape conservation efforts organized by the U.S. government in the past one hundred years. Lastly, I discuss various governance structures offered by the social-ecological systems literature for landscape conservation.

Early western ideologies of land in the United States

The U.S. has an extensive and complicated history with landscape conservation emanating from American colonialism, transcendentalism, romanticism, and frontierism (Cronon 1995; Taylor 2016). These Western-centric ideologies are multifaceted and can fill entire pages of their own. Nevertheless, these ideologies provide important context to the history of landscape conservation in the U.S. and remain influential to current decision making for landscapes across the nation. They are briefly described in the following paragraphs.

White European colonization of the Americas began in the late fifteenth century. In Dr. Dorceta E. Taylor's book, *The Rise of the American Conservation Movement: Power, Privilege and Environmental Protection*, she references Blauner's (1969) definition of colonialism which is "the process by which one country controls the political activities and economic resources of another..." (Blauner 1969, as cited by Taylor 2016, p. 19) Further, colonialism is "a practice of domination, which involves the subjugation of one people to another." (Kohn and Reddy 2023,

p. 1) Between the sixteenth and nineteenth centuries, colonization in the U.S. included the promotion of white supremacy, displacement of Indigenous communities, seizure of land and territory, the reservation system, warfare, slavery, coercive assimilation, and denial of education (Taylor 2016). Simultaneous to the violence and destructive action of colonialism, specific types of environmental consciousness began to rise and spread throughout the settler colonies.

The concept of *transcendentalism* is one of the earliest examples of Western environmental awareness and thinking. First discussed in the 1830's in New England, transcendentalism embodies the belief that there is a spiritual relationship between humans, nature, and God (Taylor 2016). Later, in the nineteenth century, an interest in mysterious, untrammeled, and wild places took hold, continuing the pursuit of separating humans and nature to fulfill an idealized view of "pristine wilderness." This idealized view is known as *romanticism* (Cronon 1995). The late historian Frederick Jackson Turner in his essay, *The Significance of the Frontier in American History*, discarded the sacred view of land that transcendentalism and romanticism promoted and instead encouraged the expansion westward to use the "untouched" wilderness, extract its resources, and embrace an independent and primitive lifestyle (Taylor 2016; Turner 1893). This appropriation of the west and myth of an untouched wilderness is known as *frontierism*.

These dated ideas about the relationship between humans and nature eventually led to the early twentieth century debates between the concepts of *conservation* and *preservation.* At the time, those who promoted *conservation* (such as the well-known forester, Gifford Pinchot, and author George Perkins Marsh) supported the "wise use" and development of natural resources with the intention of maintaining these resources for future generations. On the other hand, those who advocated for *preservation* (such as the famous naturalist, John Muir) endorsed saving and

maintaining natural systems for their own intrinsic value (Adams 2020). Despite their different origins, the two terms are often used interchangeably today.

Regardless of their differences, the ideologies discussed here maintain that humans and nature are inherently separate. This underlying dualistic view of humans and nature has had a considerable influence on policies and decisions made about land in the U.S. For example, the creation of the National Park System (1916) and passing of the Wilderness Preservation Act (1964) maintain a certain idealism towards remote places and embrace the notion that some lands are more worthy of protection than others.

Nonetheless, in the U.S. today, the narrative is changing to encourage people to understand their connection to nature in everyday places. Emphasis is placed on the importance of stewarding land in local communities and backyards, such as Doug Tallamy's "Homegrown National Park" idea which promotes planting native plant gardens to increase pollinator species (Tallamy 2019). It is critical to note that this view of humans and their environment being inherently interconnected, especially through stewardship and spiritual connection, is ever-present for many Indigenous peoples and Indigenous knowledges (Atlas et al. 2021; Carothers et al. 2021; Fox et al. 2017).

Decolonial perspectives of land in the United States

Native Americans and Indigenous peoples in the U.S. have lived and continuously stewarded landscapes across what is now known as the U.S. since time immemorial. They continue to steward the lands and waters based on their own multi-generational knowledges, cultural practices, and traditions (Atlas et al. 2021; Fox et al. 2021). Following the etiquette used by Dunbar-Ortiz (2014), this paper will use Native Americans and Indigenous peoples

15

interchangeably. However, I will refer to specific Tribes and Tribal nations by their unique names whenever possible (e.g., Nooksack Tribe, Lummi Nation).

At the time of this writing, there are 574 unique federally recognized Tribal nations, with several other Indigenous communities holding state recognition or no recognition at all (National Congress of American Indians 2020). According to the Native American Fish and Wildlife Society (NAFWS), federally recognized Tribes manage over 56.2 million acres of land within the lower 48 states of the U.S. This number does not include the many acres managed by Tribal nations in Alaska such as the Haida, Tlingit, Tsimshian, and Athabascan, or land managed by Native Hawaiians (NAFWS 2021).

In 2019, researchers with the Conservation Science Partners group led a study that determined Indigenous-managed lands in the lower 48 states remained "largely intact and stable" and lost a lower proportion (slightly less than three percent) of natural area than federal, state, or private lands between 2001 and 2017 (Conservation Science Partners 2019). Moreover, a recent study by several interdisciplinary scholars argues that most current biodiversity losses are not caused by human conversion or degradation of untouched ecosystems, but are instead caused by the appropriation, colonization, and intensification of use in lands inhabited by Indigenous peoples (Ellis et al. 2021). This research demonstrates the important contributions of Indigenous communities to the nation's biodiversity goals as well as the powerful opportunity to achieve more socially just and effective conservation.

Many argue the importance of not placing sole responsibility or panacea narratives onto Indigenous communities (Artelle et al. 2019; Trisos et al. 2021). In the U.S. and around the world, Indigenous communities hold diverse political, environmental, and economic intentions

16

for the land they manage. Yet, many agree that for the ATB initiative to be successful and the 30 by 30 goal to be achieved in the U.S., Indigenous-led land management and co-management partnerships must be increased and genuinely embraced (Allen et al. 2021; Artelle et al. 2019; Nijhuis 2021).

Through the "Land Back" movement, Indigenous peoples in the U.S. have sought increased recognition and sovereignty of their traditional homelands (Dang 2021). Although land back precisely means returning land back to Tribes, there are several other ways Tribes are reclaiming their rights to land. For example, Tribes can have collaborative or cooperative relationships with federal land agencies. These relationships manifest through federal agencies consulting Tribes on interpretive materials and stewardship and gathering of traditional plants. For example, the Nisqually Tribe recently collaborated with the National Park Service at Mount Rainier National Park on a report that synthesizes five years of traditional plant gathering research (Department of Interior 2022).

Tribal co-management is separate from the collaborative or cooperative relationships discussed here. In co-management examples, Tribes and federal agencies share the power of decision making for a place or specific species through legal agreements. Still, definitions for "co-management" are inconsistent and careful attention to how co-management is operationalized is necessary (Mills and Nie 2021). Mills and Nie (2021) suggest six core principles for a co-management approach: 1.) recognition of Tribes as sovereign governments, 2.) incorporation of the federal government's trust responsibilities to Tribes, 3.) legitimation structures for Tribal involvement, 4.) meaningful integration of Tribes early and often in the decision-making process, 5.) recognition and incorporation of Tribal expertise, and 6.) dispute resolution mechanisms (Mills and Nie 2021, p. 55). Both executive and legislative actions, such as place-

based or systems-wide statutes, can support more consistent, pro-active, and sovereignty-affirming federal-Tribal co-management partnerships (Mills and Nie 2021).

There are recent cases where land was returned to Tribes and Indigenous communities, whether through the federal government or through a transfer from private ownership. For example, in 2022, management of the Bison Range on the Flathead Indian Reservation in Montana was transferred from the U.S. Fish and Wildlife Service back to the Confederated Salish and Kootenai Tribes after two decades of negotiations. In this instance, the land is still owned by the federal government, however, placed in trust for the Tribes (Bolton 2021). In 2021, almost 10,000 acres were returned to the Confederated Tribes of the Colville Reservation in eastern Washington state. This historic land transfer was made possible by years of trust building, financial donations from non-governmental organizations (e.g., The Nature Conservancy and Conservation Northwest), and a private landowner that was willing to sell (Oliver 2022). Additional examples of land back and co-management relationships exist throughout the U.S., yet they are still relatively emergent and insufficient for the land back movement.

Current scholars argue that despite the historic dismantling of many colonial institutions (e.g., the abolishment of slavery), a type of colonialism persists and continues to influence environmental, political, and economic decision-making in the U.S. today (Taylor 2016; Dunbar-Ortiz 2014). This type of colonialism is known as *settler colonialism* and is considered as "a structure not an event" that continues to erase Indigenous communities and knowledges (Wolfe 2006). Eichler and Baumeister contend that to decolonize landscape conservation and be in right relationship with Indigenous peoples, the landscape conservation field "must thoroughly grapple with the legacy of its deeply colonial and settler colonial history." (Eichler and Baumeister 2021, pg. 210) The conservation movement in the U.S. has been slow to reckon with such history,

therefore perpetuating toxic asymmetrical power dynamics and preventing any honorable relationships with Native Americans and Indigenous communities. Claiming that the U.S. remains in a settler colonial state is not an admonition, but rather a recognition of the ongoing work required to genuinely create inclusive and equitable policies and frameworks.

Understanding the current socio-political context of settler colonialism and the movement to decolonize the field of landscape conservation is essential when considering a national framework for landscape conservation in the U.S. These discussions are intricate, demanding, and exceptionally complex. Likewise, to comprehend the various perspectives on the potential opportunities and concerns for creating a national framework for landscape conservation, it is critical to understand current and past actions, policies, and frameworks that led to this point. Many questions remain as to how the field of landscape conservation will move beyond the traditional conservation paradigms discussed here. Previous actions for landscape conservation in the U.S. are discussed in the following paragraphs.

Current and previous actions for landscape conservation in the United States

Established in 1872, Yellowstone National Park is considered one the first and most significant efforts to preserve a single area of land in the U.S. Indeed, the decision to set aside this 3,500 square-mile rectangle from development and human activities – excluding recreation and hunting – sparked a movement to designate specific conservation and land management areas across the country. The U.S. government's initial role in land management was to reserve large areas of land, through displacement and/or removal of Native Americans from their traditional territories, for preservation and protection from future development.

Conservation issues in the U.S. have evolved with various political administrations, environmental priorities, and community concerns. Leshy (2020) argues that conservation actions in the twentieth century were accomplished through political opportunism rather than grand design. With the creation of the Forest Service (1905) and National Park Service (1916), the federal government's role morphed from strictly preservation activities to supporting extractive industries (e.g., timber harvesting, mining) and providing recreational opportunities for urban elites (Taylor 2016). Following years of unfettered development, the U.S. passed a series of "command-and-control" legislation (e.g., Endangered Species Act, Clean Water Act, Wilderness Act) in the 1960s and 70s. This legislation created a legal framework focused on top-down regulation by the federal government to respond to pollution, land degradation, and to protect wildlife and their habitats (Leshy 2020).

The governance model shifted towards public-private partnerships in the 1980s and 90s. While maintaining "command-and control" authority, the focus shifted towards ecosystem management and the interconnectivity between social and ecological systems (Yaffee 1996). Later, collaborative governance models emerged in the late 1990s and early 00s and emphasized more "bottom-up" and shared approaches to environmental management (Gray 1989; Margerum 2008). These models encouraged federal, state, and local governments to work together with communities, private entities, and non-governmental organizations to govern interrelated social and ecological issues. Today, landscape conservation efforts that connect the matrix of public and private lands across the U.S. are proliferating and federal land management agencies are important contributors the success of these efforts.

At present, the federal government in the U.S. owns and manages approximately 640 million acres, about one-third of the nation's land (CRS 2020). There is an additional 200 million acres

of public land managed by state and local governments, such as city and county parks, state

parks and forest lands, and other designations (Nelson 2023). Beyond the federal and state land

holdings, there is another 61 million acres in conservation easement or other legal means due to a

growing land trust movement (Land Trust Alliance 2021). Figure 1 demonstrates the distribution

of public lands across the U.S.
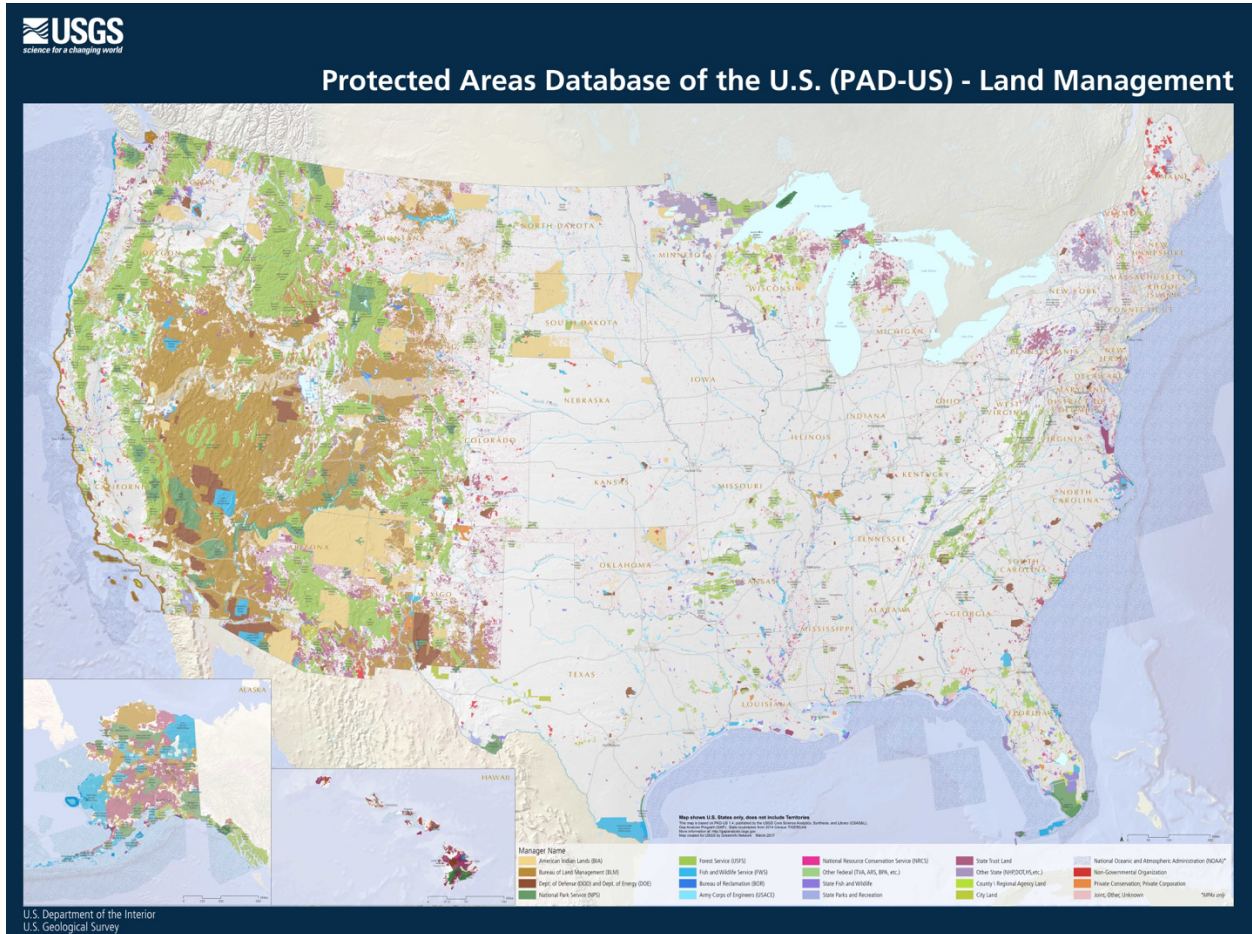
Figure 1. Protected Areas Database of the U.S. (PAD-US) Land Management map (USGS 2017)

There are four federal agencies that administer 95% of the total acreage of federal land: the U.S.

Forest Service (FS), Bureau of Land Management (BLM), U.S. Fish and Wildlife Service

(FWS), and the National Park Service (NPS). The FS exists within the U.S. Department of

Agriculture, while the other three agencies are managed within the U.S. Department of Interior.

The remaining five percent of federal land is managed by several other agencies, including the Department of Defense (DoD) who manages land for military bases, trainings ranges, and more (CRS 2020). Federal land is managed with a variety of purposes, including recreation, protection of biodiversity, and the development of natural resources such as forestry, energy, and grazing (CRS 2020).

For example, the NPS' mission is to "preserve unimpaired the natural and cultural resources and values of the national park system…" (U.S. Department of Interior n.d.) The FWS has a specific responsibility to conserve fish and wildlife in the U.S., especially threatened and endangered species. The FS and BLM lands are managed for "multiple use" meaning that they allow for grazing, timber, recreation, and mineral extraction on most lands. As mentioned, the federal government owns and manages one-third, or thirty percent, of land in the U.S., yet the federal government cannot include all existing public lands into the 30 by 30 goal because of activities supported through multiple use policies on FWS and BLM lands that conflict with goals for biodiversity conservation.

Throughout the past century, Congress has provided federal agencies with varying land acquisition and decision-making powers through each agency's "organic acts" or other statutory authorities (CRS 2020). For example, the Federal Land Policy and Management Act (1976) provides the BLM with broad authority for land acquisition and even land disposal (i.e., putting up land for sale). The Migratory Bird Conservation Act (1929) authorizes the FWS to acquire land and create partnerships in support of migratory birds. Furthermore, the Land and Water Conservation Fund (1964) is the principal funding mechanism for land acquisition by the four federal agencies (FS, BLM, FWS, and NPS) as well as state park systems.

In addition to their internal efforts, the federal government supports a variety of landscape conservation partnerships that work with various stakeholders across the nation to address local and regional conservation challenges (National Academy of Sciences 2016). These partnerships have involved local, state, and federal agencies, Tribes, private landowners and industry, and nongovernmental organizations. Some examples of these partnerships include the Sentinel Landscapes Partnership (Department of Defense), Collaborative Forest Landscape Restoration Program (U.S. Forest Service), and Migratory Joint Ventures (U.S. Fish and Wildlife Service). Although they support important landscape conservation work at scale and with a variety of partners, these individual partnerships do not equate to a comprehensive framework for landscape conservation that works across multiple federal agencies to support a clear vision of landscape conservation in the U.S.

One recent example of a federal landscape-scale conservation partnership is the Landscape Conservation Cooperatives (LCCs) Network. The LCCs were launched in 2009 by the U.S. Department of the Interior's Secretary Ken Salazar but were defunded in 2017 by the Trump Administration. Led by the Fish and Wildlife Service, the LCCs were designed as a network of 22 individual, self-directed regions covering all of the U.S., as well as parts of Canada and Mexico (Figure 2). The geographic boundaries were based on a geographic framework developed by the Fish and Wildlife Service and U.S. Geological Survey (Millard et al. 2012; National Academy of Sciences 2016). LCCs were intended to address climate change and other conservation issues at the landscape-scale and to provide a collaborative framework that could "catalyze conservation planning and action across multiple jurisdictions through partnerships" (National Academy of Sciences 2016, p.1)
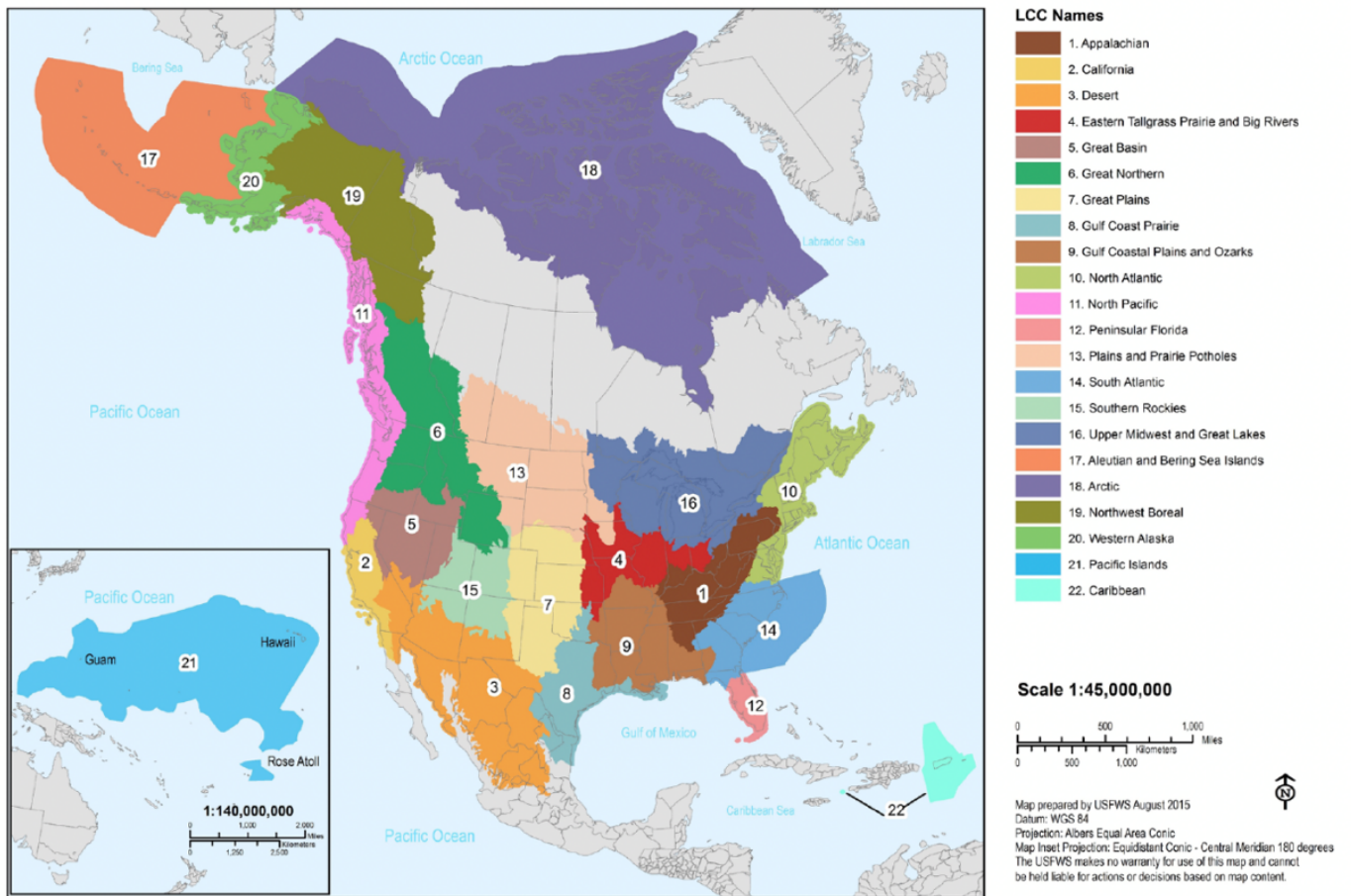
Figure 2. Map of the Landscape Conservation Cooperatives (LCCs). Each colored area on the map represents a different LCC, as represented in the legend on the right side. (National Academy of Sciences 2016)

An independent review of the LCC Network conducted by the National Academy of Sciences in 2015 contended that the LCC Network was "…unique in that no other federal program is designed to address landscape conservation needs at a national scale, for all natural and cultural resources, in a way that bridges research and management efforts." (National Academy of Sciences 2016, pg. 5) According to Baldwin (2018), the LCCs represented the first conservation program that promoted connectivity and persistence at the continental scale and that their strength was in the integration of decision-makers and scientists.

However, the National Academy of Sciences review team and others acknowledge that the LCCs struggled with organizational inefficiencies and a lack of trust amongst their partners (Baldwin 2018; National Academy of Sciences 2016). Still, some argue that defunding the LCC Network created a major gap for which a new national framework or program for landscape conservation should fill (Mankowski et al. 2021). There remain conceptual and practical questions about how such a framework or program would be structured, funded, and viable in the long-term with the current political climate in the U.S. Questions related to the ability of a framework or program to be truly inclusive and representative of Indigenous knowledges also remain unanswered.

Forms of governance for landscape conservation

For decades, practitioners and scholars of landscape conservation have experimented with and pursued new ways of governing lands. Today, the field of landscape conservation is ushering in a new era through their use of comprehensive and holistic social-ecological systems frameworks (Chaffin et al. 2016; Scarlett and McKinney 2016). Social-ecological systems researchers recognize the inherent complexity of managing systems at multiple scales and are therefore interested in various alternatives of governance that are adaptive, experimental, and multi-scalar (Bixler et al. 2016; Cash et al. 2006; Ostrom 2009; Salomon et al. 2019). Understanding the context and opportunities of *governance*, or the structures and process by which people in societies make decisions and share power (Biggs et al. 2021), is significant for considering future decision making for landscape conservation.

There is a wealth of research on various governance models for landscape conservation, managing social-environmental systems, and identifying institutional fit (Cash et al. 2006; Shobe 2020). In the literature and in practice, traditional top-down, command-and control governance

systems have been challenged and new systems that are more decentralized and inclusive of private sector actors are emerging (Holling and Meffe 1996; Chaffin et al. 2014).

While there are many systems to be explored, the following paragraphs provide an overview of four commonly discussed types of governance for landscape conservation and social-ecological systems in the literature today: polycentric, adaptive, collaborative, and network governance. It is important to note that these structures are not mutually exclusive and are often used simultaneously or intermittently (Biggs et al. 2021). Just as a more biodiverse ecosystem is inherently more resilient to disturbance and change (Holling 1973), so too are more equitable, diverse, and democratic forms of environmental governance more capable of adapting to change (Cash et al. 2006). To adequately understand the recommendation for a national framework for landscape conservation and its potential to be durable and effective, it is important to understand the approaches for governing social and ecological systems at various scales and institutional levels in the U.S.

Polycentric governance

Polycentric governance is a complex form of governance that involves multiple centers of autonomous decision making across many jurisdictional levels (e.g., local, state, national) (Ostrom 2010). Monocentric governance is the opposite of polycentric governance and involves one predominant government authority that typically assumes a hierarchical, top-down, and command-control structure. Acknowledging the failure of monocentric governance to address complex and multi-scalar environmental issues such as climate change, Ostrom's concept of polycentric governance encourages greater policy innovation and diverse representation (Ostrom 2010; Morrison et al. 2019).

To be considered a true polycentric governance system, there must be sufficient cooperation, mutual adjustment, and non-hierarchical arrangements within the different jurisdictional levels (Morrison et al. 2019). The concept of polycentric governance has been employed by scholars from public administration to natural resources management, and theoretical models are used for researching the efficacy of small to large-scale environmental systems (Carlisle and Gruby 2019; McGinnis 2011). Some critiques of polycentric governance include the limited evaluation of effectiveness (Schoenefeld and Jordan 2017) and the lack of awareness and acknowledgement of the role of power in polycentric governance systems (Morrison et al. 2019).

Adaptive governance

Adaptive governance scholarship incorporates the concepts of polycentric governance through its focus on bridging various scales of governance. Going a step further, however, adaptive governance explores the need for governance systems to embrace the emergent, adaptive, and flexible nature of social and ecological systems challenges (Cash et al. 2006; Folke et al. 2005). Requirements for adaptive governance include nested leadership, information network formation, increased public participation, experimentation, and social learning (Chaffin et al. 2016).

Adaptive governance systems involve broad representation from government and non-governmental actors, networks, and institutions, and require collaboration amongst the various participants (Biggs et al. 2021). In their review of adaptive governance scholarship over the past decade, Chaffin et al. (2016) maintain that adaptive governance cannot be realized without social will, implementation resources, and well-functioning networks with the authority to create cross-level and cross-scale linkages. Adaptative governance, similar to collaborative governance, can

increase trust and demonstrate commitment, however both governance modes have been critiqued for being time consuming, consensus-based processes (Ansell and Gash 2008).

Collaborative governance

Related to polycentric and adaptive forms of governance, collaborative governance is now seen as being relatively commonplace for achieving complex social and ecological goals. Wilkins et al. define collaborative conservation (governance) as "a process that unites diverse stakeholders to collectively manage natural resources (e.g., ecosystems, species, and sites of conservation concern) with the goal of enabling people and spaces to thrive now and in the future." (Wilkins et al. 2021 p. 1)

Research on collaborative forms of governance for landscape conservation started over twenty years ago with particular attention to resolving conflicts over environmental resources (Ansell and Gash 2008; Koontz and Thomas 2006). However, research has struggled to keep pace with the rapidly growing practice of collaborative conservation (Clement et al. 2020; Koontz et al. 2020; Wilkins et al. 2021). By current estimation, there are over 500 unique, regional, or locally based landscape conservation initiatives that have emerged in the past twenty years because of government or non-governmental efforts (Johnson 2017).

Many of these initiatives share the following characteristics: 1. Their efforts are cross-sector (e.g., public, private, non-profit, academic) and cross-jurisdictional (e.g., across municipal, county, state, and even national boundaries), 2. Organized to foster collaboration, cooperation, and coordination, and 3. Designed to achieve one or more (often many) conservation outcomes in a specific area that is large enough to support systemic, significant, and enduring conservation outcomes (Johnson 2017; McKinney et al., 2010). Examples of well-known initiatives across the

28

U.S. include the Yellowstone to Yukon Conservation Initiative, Malpai Borderlands Group, Northwest Boreal Partnership, and the Southeast Conservation Adaption Strategy (Peterson and Bateson 2018). These initiatives are working towards integrating social and ecological systems from local to national scales, and sometimes even international scales.

Despite the recent upwelling of landscape conservation initiatives, there are still significant challenges to defining "success" and "durability" for these efforts (Thomsen and Caplow 2017). Thomsen and Caplow suggest that further research is needed on how success is defined for these landscape conservation initiatives and what the reasonable role is for the many organizing bodies involved with landscape conservation (i.e., landscape conservation initiatives, regional conservation networks, nationally focused federal entities). The America the Beautiful initiative and 30 by 30 goal was designated after Thomsen and Caplow's article was published, but one can infer that there is also a need to identify the roles and measures of success for outcomes of a national framework for landscape conservation associated with the initiative and nationwide goal.

Network governance

Similar to collaborative governance, network governance structures bring together different actors for collective purposes. Specifically, networks can be informal or formal arrangements that connect actors across geographical scales and organizational levels, and they can be particularly important for strengthening and extending management outcomes (Scarlett and McKinney 2016). Network governance allows for local actors and localized actions to respond to ecological and social conditions, while also being linked to actors in other geographic areas

(even nationally and internationally) to facilitate learning, access to new information, and increase involvement with the development of environmental policies (Bixler et al. 2016).

Across the U.S., many of the landscape conservation initiatives mentioned previously are supported by independent, formal or informal "networks" such as the Network for Landscape Conservation and Western Conservation Collaborative Network. These networks connect local and regional initiatives to state and national policy initiatives, and support their members through capacity building, peer learning opportunities, and shared problem solving of policy and funding issues (Peterson and Bateson 2018). While efforts are underway to comprehensively capture the breadth of landscape conservation efforts across the country (e.g., Conservation and Stewardship Atlas, Collaborative Mapping Project), these projects are either in their infancy or only focus on a specific region within the U.S. and not the entire country.

In addition to lacking understanding of effectiveness and durability for a possible national framework for landscape conservation, the role and extent of landscape conservation networks and their influence on national conservation policy, and the inroads for participating in such a network, remains unclear. Gaining an understanding of such inroads will increase opportunities for a greater diversity of partners and voices involved with landscape conservation initiatives and networks. Regardless, many believe these networks have the potential to shape the future of landscape conservation (Bixler et al. 2016; Peterson and Bateson 2018; Scarlett and McKinney 2016). Networks and collaborative initiatives could play important roles in implementing a national framework and achieving the 30 by 30 goals and ATB initiative principles.

Chapter Three: Methods and Analysis

Data collection

In this study, I examine perspectives on recommendations to create a national framework for landscape conservation in the context of the 30 by 30 goal and America the Beautiful initiative. I considered the opportunities and concerns related to a new national framework and explored what would make it durable at various geographic scales and political levels. Lastly, I collected data on the actors involved and their activities at various scales (e.g., local vs national) within landscape conservation.

For this research, I used qualitative data collection methods such as participant observation at workshops and meetings and semi-structured interviews with experts in the field of landscape conservation. I also systematically gathered and reviewed relevant grey literature to gain a broader understanding of the current views related to the ATB initiative, 30 by 30, and national framework. My use of qualitative data collection and analysis allowed me to explore and analyze emergent opportunities and matters within the landscape conservation field, while gathering rich and meaningful data in detail.

Social science research for conservation policy and practice serves instrumental, descriptive, reflexive, and generative purposes (Bennett et al. 2016; Moon et al. 2019). Moon et al.'s (2019) comprehensive outline of the role of social science in conservation guided the decisions on methodology and methods. Conventional interview and participant observation research methods have historically favored researchers over participants and exacerbated negative power dynamics. Newing et al. (2011) provides thoughtful guidance to researchers employing social

science methods, including how to navigate these types of power relations and vested interests in the research process.

Since my research involved observing, recruiting, and talking with research participants, I completed Human Subjects Research training and followed standard research protocols for protecting study participants. My study was reviewed and approved by Western Washington University's Institutional Review Board (IRB) and was determined Exempt (Category 2). Participants received information on the study and were asked for their consent before data collection took place. All qualifying information was removed from the data before analysis.

Participant observation

Used widely in the fields of anthropology and sociology, participant observation involves direct observation, participation in group activities, and informal conversations with participants to collect qualitative data on emerging ideas and unique perspectives of a specific topic (Puri 2011). For this study, I used participant observation at landscape conservation events where there was discussion on state and federal policy, ATB and 30 by 30, and collaborative and network governance models. Event attendance was determined by several factors, such as the relevancy of the event agendas to the research questions, the demographics of event participants (e.g., state and federal agency staff, experts in the field of conservation, etc.), the timeliness of the event to the study period, and invitations extended to the researcher to attend the event.

Using these criteria, I participated in the following events: the California Landscape Stewardship Network's Annual Convening, the Western Collaborative Conservation Network's Annual Confluence, the Future Horizons Retreat, and the America the Beautiful for All Coalition's Inaugural Meeting (Table 1). For consent purposes and as recommended by researchers, I

acknowledged my research intentions to event organizers and participants prior to or at the

beginning of each event (Brown and Murtha 2018). Attending these events provided an intimate

and immersive experience with event participants who work at various geographic and political

scales in the conservation field.

Table 1. List of events attended for participant observation with date, purpose, and event participant details.

Event Name	Date	Purpose	Participant Details
California Landscape Stewardship Network's Annual Convening	6/13 - 6/17/2022	To exchange how we can improve the practice and performance of landscape-scale stewardship in California and beyond	~60 practitioners, researchers and other partners from California (primarily) and other states
Future Horizons Retreat	9/11 - 9/16/2022	To connect over shared challenges and strengthen connections, while charting an ambitious course that imagines how we can cultivate the importance of place-based stewardship for all	~30 practitioners, researchers, and partners in the landscape conservation and stewardship field from across the U.S.
Western Collaborative Conservation Network's Annual Confluence	9/19 - 9/21/2022	Focused on three key topics: 1.) Cross-cultural collaboration 2.) Community-based landscape conservation 3.) Collaborating on water in the west	~115 practitioners, academics, students, and volunteers from across the western U.S. who are experienced or interested in collaboration as a key element of their work
America the Beautiful for All Coalition's Inaugural Meeting	10/26 - 10/27/2022	Relationship building and planning for the America the Beautiful for All Coalition	~15 organizers, steering committee and working group leaders of the America the Beautiful for All Coalition

Data collected at the events included: descriptive and interpretive notes, photos, documents, and

notes from short, informal interviews with participants. Many of the events were held before I

conducted semi-structured interviews, so these data provided insightful context for designing

interview questions and allowed me to be more responsive during the semi-structured interviews.

Semi-structured interviews

Using semi-structured interviews is common for gathering qualitatively rich data related to

conservation decision making contexts and processes (Moon et al. 2019). Semi-structured

interviews use a standard set of questions for each separate interview which allows for

comparison and ensures data quality; however, they also provide flexibility during the interview

if an interesting line of enquiry develops and permits the interviewer to ask follow-up questions,

as desired (Young et al. 2014). The interviews focused on the participants' perspectives

regarding need or desire for a national framework for landscape conservation, durability for a

potential national framework, 30 by 30 goal, and ATB initiative, and the participants' roles and

activities within the field and practice of landscape conservation. Interview questions are listed in

Appendix A.

I conducted twenty-two semi-structured interviews with experts in the field of landscape

conservation at various political levels and geographic scales (between July – September 2022).

To determine whom to interview, I used a purposive sampling technique and designed an

inclusion criterion that considered level of expertise and the focus of geographic location and

political level (e.g., county, state, federal). Designing inclusion criteria for purposive sampling is

advised by Newing et al. (2011) and is a strategy that can ensure meaningful and robust data

(Young et al. 2014).

More than half of the twenty-two interviewees represented either federal agencies (e.g., the

National Park Service, US Fish and Wildlife Service, Council on Environmental Quality) or non-

governmental/private entities (e.g., the Nature Conservancy). Approximately one quarter of the twenty-two interviewees were state agency and Tribal representatives, and less than one quarter represented county government and academia. A breakdown of participant demographics is shown in Tables 2 and 3.

Geographic representation was an important factor in selecting and recruiting participants since this research focused on a national scale. To accommodate meeting with several people in different locations and time zones, all interviews were conducted via a digital meeting platform (Zoom) and lasted approximately one hour. Zoom was also used to schedule and record the interviews which created a consistent workflow.

Table 2. A description of interview participants and number of participants interviewed by description.

Interview Participants	Number of interviews	Description
Tribal representative	3	Person works for a Tribal nation or an organization that works directly for Tribal nations
County agency or other representative	1	Person works at a county-level agency or represents a county-focused organization
State agency or other representative	3	Person works at a state-level agency or represents a state-focused organization
Federal agency or other representative	8	Person works at a federal-level agency or represents a national organization
Non-governmental/private representative	7	Person works for a non-governmental organization or as a private consultant

Table 3. Geographic distribution organized by U.S. Census region (U.S. Census 2021).

Geographic distribution (using U.S. Census Regions) of Interview Participants		
Region	States within U.S. Census Region	Number of interviews with representatives from region
Northeast	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania	7
Midwest	Illinois, Indiana, Michigan, Ohio, Wisconsin Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota	4
South	Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, District of Columbia, West Virginia Alabama, Kentucky, Mississippi, Tennessee Arkansas, Louisiana, Oklahoma, and Texas	4
West	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming California, Oregon, and Washington	5
West (Alaska and Hawaii)	Alaska and Hawaii	2

Grey literature review

In addition to performing participant observation and conducting semi-structured interviews, I gathered and reviewed grey literature to gain a broader perspective regarding the ATB initiative, 30 by 30 goal, and potential for a national framework for landscape conservation.

Grey literature was gathered by identifying several organizations (e.g, Center for Large Landscape Conservation, Network for Landscape Conservation, The Wilderness Society) and government departments and agencies (e.g., Department of the Interior, U.S. Fish and Wildlife Service) that were relevant to research themes and questions. From there, I searched within each organization, department, and agency websites in their "Press Releases," "Documents," or

"Library" sections. I also performed searches via Google database. For all searches I used the key phrases "America the Beautiful initiative" "30x30" "national framework for landscape conservation" and "Biden administration executive order 14008."

To ensure validity of the grey literature reviewed, I used Tyndall's (2010) "AACODS checklist" which provided a thorough and systematic framework for assessing the grey literature that I came across. AACODS stands for Authority, Accuracy, Coverage, Objectivity, Date, and Significance. The checklist requires the researcher to review the materials and inquire about whether the author is from a reputable organization, if the authors cite their sources, when the material was produced and how the information was disseminated, whether a clear methodology was stated, and more (Tyndall 2010). The AACODS checklist and list of grey literature used is referenced in Appendix B. Grey literature was analyzed similar to the participant observation and interview data, as described in the next section.

Qualitative thematic data analysis

I used a qualitative thematic analysis process to summarize the raw participant observation and interview data, plus the grey literature, into themes based on valid inference and inductive reasoning techniques (Miles and Huberman 1994). Qualitative thematic analysis is useful for gaining in-depth insights and has been used by researchers exploring perspectives on social and environmental issues, especially as they relate to policy formation, using either verbal or written language (Auerbach and Silverstein 2003). Data analysis was iterative and began early in the research process, as recommended by experienced qualitative researchers (Auerbach and Silverstein 2003; Miles and Huberman 1994).

All data from participant observation were organized and digitized after each event. The digital recordings from semi-structured interviews were transcribed using the transcription service Otter.ai after each interview. Next, data from both participant observation and interviews were coded using an open and axial coding system using the Atlas.ti qualitative data software. I created an initial coding structure after two initial read throughs of the data using an iterative open coding technique. From there, I used axial coding to create code groups. I read through the participant observation and interview data several times and revised the coding structure, accordingly, as recommended by Miles and Huberman (1994). I kept track of repeating ideas, themes, and illustrative quotes in a word document, as recommended by Auerbach and Silverstein (2003). See Appendix C for the entire list of codes and definitions used.

To analyze the grey literature, I first performed the AACOS checklist as previously described. From there, I began with the coding structure created from the participant observation and interview data. Themes from participant observation, interviews, and grey literature were then compared, combined, analyzed, and turned into recommendations for ensuring durability and effectiveness for the ATB initiative, 30 by 30 goal, and potential national framework for landscape conservation. These recommendations are discussed in Chapter Six.

In the following two chapters, findings from my study are discussed in two articles. Chapter Four reports on perspectives on a national framework for landscape conservation. Chapter Five considers actors and activities within landscape conservation.

Chapter Four: *Perspectives on a National Framework for Landscape Conservation*

Introduction

Days after taking office in January 2021, President Biden signed Executive Order (EO) 14008 entitled "Tackling the Climate Crisis at Home and Abroad." This order outlined several directives to Biden's new administration, such as requiring federal agencies in the United States (U.S.) to use a "whole-of government" approach to collaboratively reduce and mitigate the impacts of climate change, increase biodiversity, and improve the livelihoods of people and the planet. One of the most specific and particularly ambitious goals outlined in the order is the goal to conserve 30 percent of U.S. lands, fresh waters, and ocean waters by 2030 (also known as 30 by 30) (EO No.14008, Section 216).

This national goal is related to international goals set forth by the United Nations Convention on Biological Diversity that were discussed at last year's COP15 in Montreal. Since COP15, nearly all countries across the globe have agreed to conserve 30 percent of their nation's lands by 2030 (CBD 2022). The Biden administration has yet to share a specific definition for what counts towards "conserved" or "protected" for the 30 by 30 goal in the U.S., although some states (e.g., California) have provided direct guidance towards what counts towards their goal of 30 percent (CNRA 2021). According to a U.S. Geologic Survey's analysis, approximately 26 percent of ocean waters in the U.S. are under some type of conservation designation, whereas about 12.9 percent of U.S. lands are in conservation status (USGS GAP Analysis Project 2020).

Shortly after the EO was announced, the administration launched the America the Beautiful (ATB) initiative to guide a collaborative and inclusive vision of conserving 30 percent of U.S. lands, fresh waters, and ocean waters by 2030. The initial ATB initiative report, co-developed by

the Department of the Interior, Department of Agriculture, the Department of Commerce's National Ocean and Atmospheric Administration, and the White House's Council on Environmental Quality was published in May 2021. It suggests eight guiding principles which include pursuing a collaborative and inclusive approach to conservation, conserving America's lands and waters for the benefit of all people, supporting locally led and designed conservation efforts, honoring Tribal sovereignty and supporting priorities of Tribal Nations, pursuing conservation and restoration approaches that create jobs and support healthy communities, honoring private property rights and supporting the voluntary stewardship efforts of private landowners, using science as a guide, and building on existing tools and strategies with an emphasis on flexibility and adaptive approaches (U.S. Department of Interior 2022).

A national framework

At around the same time, a proposal was put forth by landscape conservation practitioners and scholars to create a new national framework for landscape conservation to ensure action on 30 by 30 and the ATB principles. The *Build Back a Better National Landscape Conservation Framework Report*, commissioned by the Center for Large Landscape Conservation and the Alaska Foundation, suggests a national framework would create a comprehensive approach to landscape conservation, align disparate conservation actions across the nation, and support consistent sources of funding from Congress and the private sector (Mankowski et al. 2021). The report describes the elements of a "durable national framework" including an overarching policy goal, establishing a strong organizational backbone to facilitate coordination, convening diverse stakeholders, designing conservation strategies that are inclusive of Indigenous knowledges, and providing funding and staff support. Mankowski et al.'s recommendations align with Kieter's (2018) case for a new National Conservation Network Act, which proposes congressional

legislation to require interagency coordination, support consistent funding to locally led collaborative conservation efforts, and validate the current movement towards landscape-scale conservation.

Mankowski et al. (2021) cite previous attempts at a national framework, including the U.S. Fish and Wildlife Service's Landscape Conservation Cooperatives (LCC) Network. The LCC Network was established in 2009 to amplify ongoing conservation efforts by states, Tribes, nongovernmental, and other governmental entities through coordination and partnership. Yet, in 2017, the LCC Network was defunded by the Trump administration. Ultimately, Congress continued to fund cooperative landscape-scale conservation efforts, but the momentum of the LCC Network vanquished. Prior to this, the National Academy of Sciences performed an independent review of the LCC Network and claimed that the LCC Network was "…unique in that no other federal program is designed to address landscape conservation needs at a national scale, for all natural and cultural resources, in a way that bridges research and management efforts." (National Academy of Sciences 2016, pg. 5) Overall, the National Academy of Sciences reviewers favored the LCC Network. Still, reviewers criticized the Network's lack of a shared vision, limited trust amongst non-federal partners, and its heavy handed, top-down, command-and-control management approach (Baldwin 2018; National Academy of Sciences 2016).

Scholars in the field of landscape conservation, particularly collaborative land management, recognize trust, inclusivity, and locally driven efforts as the key to achieving durable and long-lasting conservation goals, policies, and programs (Bixler et al. 2016; Clement et al. 2020; Guerrero et al. 2015). In the past decade, the field has come to realize the importance of larger landscape-scale efforts. Several scholars have argued the importance of landscape-scale conservation for: maintaining biodiversity and conserving critical habitat (Baldwin et al. 2018;

Curtin 2015; Donaldson et al. 2017), supporting agriculture activities and providing ecosystem

services (Sayer et al. 2013; Hodder et al. 2014), and providing greater economic benefits

(Whitfield 2019).

Landscape conservation

Large landscape conservation, landscape-scale conservation, or simply *landscape conservation*,

is a growing field of practice and study that seeks to address the impacts of climate change,

biodiversity loss, economic and social inequities, and other 'wicked' challenges through

planning and management beyond boundaries and sectors. Through landscape conservation, the

ecological, social, cultural, and economic interconnections and interdependencies are explored at

a scale that meets the geography of interest (Curtin and Tabor 2016). In academia, the

interdisciplinary approach of landscape conservation arose from the fields of landscape ecology

and conservation biology. Scholars in both fields argue that the fragmentation of landscapes, by

land ownership or development, is detrimental to the long-term conservation goals of supporting

biodiversity and protecting threatened species (Diamond 1975; Noss et al. 1997). Realizing the

social and political challenges of working at large spatial scales that transcend political and

jurisdictional boundaries, the landscape conservation field has come to understand the

importance of incorporating social science research in its efforts (Thomsen and Caplow 2017).

There are several examples of collaborative, landscape conservation efforts throughout the U.S.,

although they are disparate and ad hoc. The Sagebrush Conservation Strategy, for example, is a

landscape-scale initiative to protect the sage biome across 14 western states in the U.S. for

biodiversity (e.g., protecting habitat for the endangered greater sage-grouse *Centrocercus

urophasianus*) and human use (e.g., grazing, ranching). The Sagebrush Conservation Strategy

connects across political levels and links conservation efforts between local, state, and federal agencies, Tribes, academia, nongovernmental organizations, and private landowners (Remington et al. 2021).

The Sagebrush Conservation Strategy is just one example of several others across the U.S. Some examples even span international borders, such as the Yellowstone to Yukon Conservation Initiative that includes the five states in the northwestern U.S. and four territories in Canada. Another example, the Southeast Conservation Adaptation Strategy, spans fifteen states in the southeastern region of the U.S. and also includes Puerto Rico and the U.S. Virgin Islands. Despite this burgeoning moment for landscape conservation across the U.S., there is no durable, organized framework, policy, program, or funding source with a nation-wide perspective that align these efforts.

Durability, need, and desire

Durability for government policies and programs is immensely difficult to achieve in practice and notoriously undefined in the academic literature (Jenkins and Patashnik). Jenkins and Patashnik maintain that a durable policy or program is commonly viewed as one that endures beyond one administration and maintains influences over a particularly long period of time (Jenkins and Patashnik 2012, p. 15). Unfortunately, the termination of the LCC Network demonstrated the program's fragility to a new administration with differing priorities and approaches to conservation. Yet, as Rabe (2016) suggests in his article focused on sub-federal climate-related policies, durability should not mean rigidity or inflexibility. Despite his stated focus on sub-federal durability, Rabe (2016) suggests similarities between sub-federal and federal components for durability. To summarize Rabe, there are three components that make up

durability for climate-action: stability (can the policy survive at least one election cycle?), flexibility (is there sufficient flexibility to consider emergent issues?), and building and sustaining public support (are there demonstrable outcomes or benefits that build broad support?) (Rabe 2016, p. 106-107). Machlis and Jarvis (2018) go further by explaining that "the durability of future conservation accomplishments will hinge on multigenerational local support." (Machlis and Jarvis 2018, p. 55)

Recognizing the LCC Network's demise, there are several concerns regarding the need, desire, and durability for a national framework for landscape conservation. This research examines various perspectives within the landscape conservation community, considering different scales and levels of organization, on the recommendation for a new national framework for landscape conservation. Although participants' perspectives differ on whether a new national framework for landscape conservation is necessary, most agree that there is a need and opportunity to create an empowering vision for landscape conservation across the U.S. that centers locally led efforts and previously excluded communities (e.g., Tribes, urban communities). A national framework, whether adopted through legislative action or designed through public-private partnership, could be a consistent funding source and coordinating body organized to ensure equity and inclusivity while also addressing today's most pressing environmental challenges.

Methods

Social science research for conservation policy and practice serves instrumental, descriptive, reflexive, and generative purposes (Bennett et al. 2016). This study relied on participant observation at existing events and individual semi-structured interviews to gather themes related to opportunities, concerns, and durability for a new framework for landscape conservation. A

review of publicly available grey literature supported these data and offered invaluable insight

from organizations or agencies that were not represented in the participant observations or semi-

structured interviews. Participants consented to the study prior to observation at events and semi-

structured interviews. All qualifying information was removed from the data before analysis.

Participant observation

Participant observation involves direct observation, participation in group activities, and informal

conversations with research subjects to collect qualitative data on emerging ideas and unique

perspectives of a specific topic, and is used widely in the fields of anthropology and sociology

(Puri 2011). For this study, participant observation was used at specific landscape conservation

events, where attendees were discussing state and federal policy, ATB, and 30 by 30, and

collaborative conservation. Event attendance was determined by several factors, such as the

relevancy of the event agendas to the research questions, the demographics of event participants

(e.g., state and federal agency staff, experts in the field of conservation, etc.), the timeliness of

the event to the study period, and invitations extended to the researcher to attend the event. Using

these criteria, descriptive and interpretive summaries, photos, documents, and notes from short,

informal interviews with participants were collected. Observation at events began months before

the semi-structured interviews which provided key connections for participation and context for

interview questions.

Semi-structured interviews

Using semi-structured interviews is customary for gathering qualitatively rich data related to

intended outcomes for environmental management and perspectives on policy decisions (Moon

et al. 2019). Twenty-two interviews were conducted using purposive sampling technique and

inclusion criterion that considered level of expertise, geographic location and political scale (e.g., county, state, federal). Geographic representation was important to this research because of its national focus. Interview participants were fairly well-distributed across the country, and participants from Alaska and Hawaii were represented.

All interviews were conducted remotely via Zoom, to accommodate meeting with several people in different locations and time zones. Interviews focused on the participants' perspectives regarding the durability and effectiveness of the ATB initiative and 30 by 30 goal as well as the need or desire for a national framework for landscape conservation. Interview questions are provided in Appendix A.

Grey literature review

Grey literature was used to supplement the participant observation and interview data, and to increase the depth and number of perspectives represented. Grey literature was gathered by identifying several organizations (e.g, Native American Fish and Wildlife Society, Center for Large Landscape Conservation, Network for Landscape Conservation, The Wilderness Society) and government departments and agencies (e.g., Department of the Interior, U.S. Fish and Wildlife Service) that were relevant to research themes and questions. From there, searches were conducted in each organization, department, and agency websites and in their "Press Releases," "Documents," or "Library" pages. Key search phrases included "America the Beautiful initiative," "30 by 30," "national framework for landscape conservation," and "Executive Order 14008." Interviewees were also sources of grey literature. Tyndall's (2010) AACODS (Authority, Accuracy, Coverage, Objectivity, Date, and Significance) checklist was used to ensure validity of the grey literature before review.

Analysis

Raw participant observation and interview data was coded into themes based on valid inference and inductive reasoning techniques (Auerbach and Silverstein 2003). All data were coded using Atlas.ti qualitative software and an iterative open and axial coding technique (Auerbach and Silverstein 2003; Miles and Huberman 1994). See Appendix B for the coding frame. The coding frame was created after several read throughs of the raw text. From there, observation and interview data were coded. The grey literature was uploaded to Atlas.ti and coded using this coding frame as well. Themes were further refined with the grey literature.

Results

The results of participant observation and semi-structured interviews illustrate the perspectives on a national framework for landscape conservation, including what would make such a framework durable and what concerns and opportunities exist for creating a nationwide framework. Similarly, the publicly available grey literature broadened the perspectives from the landscape conservation community, especially government agencies and nongovernmental organizations not represented in the observational and interview data.

Opportunities for a national framework for landscape conservation

This research took place on the heels of the Biden administration's announcement of the 30 by 30 goal and ATB initiative. These announcements generated excitement and optimism within the landscape conservation community, especially those calling for a national framework to be created to support both the 30 by 30 goal and the ATB initiative (Mankowski et al. 2021). Table 4 provides an overview of four themes generated from participants' perspectives on a national

47

framework for landscape conservation. The four themes are also expanded upon in the following paragraphs and include advocacy for existing and ongoing work, consistency and coordination, design of a conservation and stewardship atlas, and the creation of a shared vision for conservation.

First, the data show that a national framework for landscape conservation may encourage greater advocacy for existing and ongoing collaborative conservation efforts. One participant shared,

> Can we highlight the work that's already being done, rather than try to re-brand or start something new? I hear this all the time from my constituents from rural, ranching communities and other partners in the intermountain west. They want to be recognized for their existing efforts.

Several examples of existing and ongoing collaborative conservation efforts were shared during this research process. These examples are supported by public and private funding, and a few examples are the Western Klamath Restoration Partnership, Southeast Conservation Adaptation Strategy, Partnership for Gulf Coast Land Conservation, and the Midwest Landscape Initiative.

Second, a national framework for landscape conservation may also support more consistency and coordination across different geographies and political levels. Participants at each event attended for this research stressed the importance of communicating and coordinating across agency and organization. While discussing the opportunities for a national framework for landscape conservation, one participant shared "We still do believe in this core need for a national network of these partnerships for federal resources to bear and to better coordinate all these different federal investments and programs."

Through interviews and reviewing the grey literature, it is clear that networks of collaborative conservation initiatives, such as the California Landscape Stewardship Network, Western Collaborative Conservation Network, and Regional Conservation Partnership program, prioritize communication to local collaboratives and federal agency representatives to coordinate funding opportunities, make policy recommendations, and support peer-to-peer learning opportunities. However, there are geographies that are not included in these networks, such as Alaska, Hawaii, the Midwest, and the Southeast, that may unintentionally be excluded from certain conversations.

Data from several sources also suggest that a framework could create momentum for a conservation and stewardship atlas, which is already a committed deliverable of the ATB initiative. The opportunity to create an atlas was described by one interview participants as "a means of measuring progress towards that [30 by 30] metric and establishing a baseline." Another participant acknowledged the atlas as "not just a database, but a tracking tool." Public comments on the design and information included in the atlas were requested by the Department of Interior in January 2022, yet participants in this study knew very little of the current status of the atlas.

Last, and perhaps most inspirational, there is desire for a shared vision for landscape conservation that is embraced across several federal agencies and political and geographic scales, and includes Tribes, states, urban and rural audiences, private landowners, and nongovernmental organizations. A grey literature report suggests that "Working collaboratively, the conservation community is on the cusp of connecting the disparate efforts of the past with the collaborative vision of the future to overcome the biodiversity and climate challenges facing our nation."

(USFWS 2022, p. 11). To many of the participants, the current administration may be the right

moment to catalyze a new vision for landscape conservation.

Table 4. Codes, definitions, and narratives related to opportunities for a national framework.

Opportunities for a National Framework for Landscape Conservation		
Code	**Definition**	**Narrative**
Advocacy for existing and ongoing work	Advocating for collaborative conservation efforts that already exist and are understood and embraced by decision makers at multiple scales	"In some places adding some incentives to create some new collaborations. But by and large, I think it's more a matter of supporting some of the existing partnerships out there."
Consistency and coordination amongst initiatives	Consistent use of language, reporting metrics, funding on an annual basis, peer learning, and community of practice; coordination amongst multiple federal programs and initiatives across the country	"We still do believe in this core need for a national network of these partnerships for federal resources to bear and to better coordinate all these different federal investments and programs. And ultimately, to invest in collaborative capacity on the ground."
Design of a conservation and stewardship atlas	The development of an atlas to create a baseline of information on lands and waters that are conserved plus the collaborative efforts to reach conservation status	"The atlas is a means of measuring progress towards that metric and establishing a baseline."
Creation of a shared conservation vision	A national framework creates an opportunity for a shared vision of conservation amongst the federal agencies, state and county/local governments, Tribes, nonprofit organizations, etc.	"Let's make sure that everybody has the resources and support to come together to create a shared conservation vision at the watershed, landscape, seascape scale, the biologically relevant scale of the ecosystem, and then also the scale that's amenable to or conducive to connecting communities across boundaries, who share conservation challenges and climate challenges."

Concerns for a national framework for landscape conservation

Despite the enthusiasm, participants also expressed skepticism and concern related to the

development of a national framework for landscape conservation. The four themes describing

50

this concern include command-and-control governance, federal land acquisition, repeating LCCs, inadequate institutional structure (Table 5).

While participants are supportive of greater consistency and coordination, they were opposed to too much federal agency involvement and "command-and-control" style decision making. One participant at an event who was particularly opposed to a federally managed national framework for landscape conservation shared, "This collaborative [landscape] conservation work is about people giving up power, which is a cultural shift and it's challenging, especially at the federal level…to the extent its [a national framework] is run by the federal government, it will fail." Others described federal agencies as "heavy handed" and described concern over government "overreach."

Relatedly, participants referenced the former LCC Network and described its often-undesirable top-down approach to planning, coordinating, and decision making. The data show that states and Tribes were most critical of the LCC Network. One interview participant shared "While there was a stated commitment and overtures made to engage state and Tribal partners as co-equals in this endeavor, I think that fell short of the expectations and the needs of those sub-national government entities, such as they felt it was more of a top-down approach than it was ever intended to be." Overall, participant observation and interview data, plus the grey literature, reflect highly on the LCC Network and view it as a model to learn and evolve from.

There is also a fear that a national framework could lead to greater federal land acquisition, thereby diminishing decision making authorities and social-economic opportunities of local communities. For example, one Tribal representative expressed their first reaction to the 30 by 30 goal and the extractive and settler colonial practices performed by the federal government:

I will tell you, like my first knee jerk reaction [to 30 by 30] living and working where I work was that they were going to look at the 562 million acres of Tribal lands and be like, okay, we'll just count that in the 30 percent. I mean, that's the first thing I think of, it's always been kind of a take and use mentality and extraction from Tribes.

While county governments are different than Tribal nations in several ways, they also share concern over the potential for a 30 by 30 or a national framework to increase the federal estate. One interview participant shared two of the main concerns by stating, "I mentioned that the tax base issue being probably the biggest factor in this thinking, but also just the red tape, and everything that comes with federal land ownership and management of that land is also a major concern." According to participants, the words "national framework" present challenges as well. One participant stated, "as soon as you say, 'national framework' it creates pushback and controversy and generates all the backlash from folks who think that there's some conspiracy afoot to have more federal lands and federal dominion over decision making."

Additionally, the data suggest that the geography across the U.S. is too diverse for a holistic vision and that the current institutional structure at the federal level is inadequate to support a national framework for landscape conservation. Several participants used the word "unlikely" in context related to a national framework. For example, "The idea that one would be able to advance a national framework in this political context is highly unlikely."

Table 5. Codes, definitions, narratives related to concerns for a national framework for landscape conservation.

Concerns for a National Framework for Landscape Conservation		
Code	**Definition**	**Narrative**
Command-and-control governance	Imposing hierarchical authority and decision making in a top-down structure (i.e., decisions made from the federal government onto to the state or local level of government)	"I think it's a laudable goal to try to come up with a national landscape conservation framework. I'm just a bit skeptical as to how that can be implemented in a way that isn't heavy handed."
Federal land acquisition	Approach to achieving 30 by 30 and conserving land through federal land acquisition	"I'm not sure that we would support 30% of new federal lands. You know, we've had people trying to get us to jump on board with putting more lands into federal status. And why would we do that? If we're going to support anything we would support land going back to tribes."
Repeating Landscape Conservation Cooperative (LCCs) Network	Concern of repeating recent landscape conservation program led by the USFWS (2009 – 2017) that was unfavorable by some, due to the perceived top-down, command-and-control structure	"I think [LCCs] fell short of the expectations and the needs of Tribes and sub-national government entities, such as they felt it was more of a top-down approach than it was ever intended to be."
Inadequate institutional structure	The internal infrastructure is too complex to create a framework that supports landscape conservation across agencies, departments, etc.	"There's the setting on the Hill, which makes it unlikely, in my opinion, that one would see some kind of a coherent and integrated embrace of a framework."

Durability for a national framework for landscape conservation

Participants also shared concern over the durability of the 30 by 30 goal, ATB initiative, and a potential framework. The need for a durable national framework for landscape conservation was mentioned by several landscape conservation practitioners and leaders in government and non-government agencies prior to this research study (Mankowski et al. 2021; EESI 2021). Four overarching themes emerged for what influences and increases durability for a national-scale

effort for landscape conservation. These four themes, outlined in Table 6, are legislative actions, executive actions, long-term funding, and public support and awareness.

Summarizing what is meant by durability, one interview participants said, "What we mean by durable is a framework that can withstand the test of time, political winds, and shifting priorities of different administrations." Both legislative and executive actions were mentioned frequently in the data as necessary for durability. One example of durable legislative action would be an authorization by Congress of a standalone piece of legislation that directs funds and federal agencies to invest in locally led landscape conservation activities across the U.S. The Biden administration's Executive Order (14008) that designated the 30 by 30 goal is an example executive action, however, it is not necessarily durable. According to many participants, the Biden administration can show executive action through increased internal communications and relationships with departments and agencies not traditionally considered a part of the conservation community (e.g., Department of Defense, Department of Commerce).

The data also show that consistent, long-term funding is required for durability of a national framework for landscape conservation and to achieve the 30 by 30 goal and principles outlined in the ATB initiative. One participant stated, "I think funding is the biggest issue…having the ATB challenge grants was a big pot of money that can impact a lot of people, but also impact a large landscape." Speaking directly to the necessity of funding for durability, another participant shared, "What you need to actually have a program [or framework] that is durable, is you have to have a dedicated source of funding."

In addition to long-term funding, public support and awareness is also considered in the data as necessary for durability. The data show that participants in the landscape conservation

community rely on trust and genuine relationships to accomplish landscape conservation goals

that benefit social and ecological systems. For example, one participant said, "It really gets down

to relationships, at the local level, and the ability to trust each other, develop relationships among

the various entities, and then build a program from the bottom up."

Table 6. Codes, definitions, and narratives related to durability for a national framework for landscape conservation.

Durability for a National Framework for Landscape Conservation		
Code	**Definition**	**Narrative**
Legislative actions	Use current legislation more strategically or create new legislation to ensure long-term funding for landscape-scale conservation efforts	"Some elements of a durable framework would be congressional recognition and standalone authorizing legislation, stating that it's the policy of Congress to support a collaborative landscape approach…"
Executive actions	Current executive administration should increase institutional support for landscape conservation and build buy-in from within	"The richest target for durability is executive action."
Long-term funding	Increased funding opportunities is required to build trust, support ongoing conservation efforts, ensure capacity needs are met, and to maintain consistency and adaptability	"We recognize that an important element of durability is not being solely dependent on one source of funding to keep your operations going…without funding, then I think there's no connective tissue."
Public support and awareness	Increase public support for landscape conservation through communication and inclusive engagement	"The foundation of any durable conservation initiative is public support, public knowledge."

Discussion

Opportunities and concerns

Ad-hoc or highly prescribed practices of conservation are no longer viable to meet current

environmental and social challenges (e.g., climate change, biodiversity loss, environmental

inequities). The field of landscape conservation is ushering in a new era that eschews the top-down, command-and-control management of the past. This new era is collaborative, network-based, and centered on local and regionally led efforts. The social-ecological systems literature, with particular attention to the literature on institutional fit and collaborative and network governance, provides several frameworks to guide this new era of landscape conservation and can support the design of a national framework for landscape conservation in the U.S. (Bodin 2017; Guerrero et al. 2015)

A place to start in thinking about a national framework for landscape conservation is developing a shared vision to connect policies, programs, and several existing landscape conservation efforts in an equitable and coordinated manner. This type of coordinated national effort is necessary to amplify work that is already being done and to ensure these efforts receive adequate funding and resources. It would also encourage regions that do not currently have support for landscape-scale efforts to receive funding to plan, coordinate, and implement landscape conservation efforts that meet their specific region's needs. As Kieter (2018) argues in his case for a National Conservation Network Act, an act (or framework) should not be designed to standardize or overly prescribe any particular landscape. However, a visionary framework could empower federal and state agencies, Tribes, local governments, private landowners, and the public to work together with an eye towards solving issues at the right scale and pace (Kieter 2018).

Given the vast and diverse geography of the U.S., there is also an opportunity to document, track, and gather data on conservation and stewardship efforts across the country through an atlas. One of the deliverables of the ATB initiative is an "American Conservation and Stewardship Atlas" that would be a comprehensive and accessible tool to track conservation efforts across the country. Leaders of the ATB initiative requested public comments in early

2022 for the atlas, however, no updates have been shared since then and participants of this study knew little about the atlas' design or data inputs. The desire to know what "counts" towards the 30 by 30 national goal is strong, yet some participants expressed reservations about defining the goal too strictly or too loosely. In anticipation of a federal definition, some environmental organizations, such as the Defenders of Wildlife, have performed their own analysis and offer interpretations of what should count (Rosa and Malcom 2020). Having a database for ongoing landscape-scale conservation work would allow for greater coordination between landscape conservation efforts and illuminate gaps.

Initial criticism of the 30 by 30 goal and ATB initiative included concerns that the national goal and initiative were designed to increase the federal estate and that a federal land grab was imminent (Aiken 2022). Understanding this concern is critical when pursuing a coordinated effort for landscape conservation and communicating efforts with the public. There are countless examples in U.S. history of the government forcibly taking land from Native Americans and Indigenous communities, and the enduring trauma of these experiences should not be overlooked (Dunbar-Ortiz 2014; Taylor 2016).

There is also considerable concern over whether our current federal system has the infrastructure to support such a visionary framework that requires collaboration and sharing of resources across several federal and state agencies, Tribes, etc. During its time, the LCC Network was an interagency initiative, so there is precedent for landscape-scale planning across federal agencies. Despite this, participants mentioned there are several practical hurdles that exist in collaborating across agencies, like the barriers to sharing data and creating effective communication pathways. These concerns impact the potential for a sustainable and effective national framework for

landscape conservation to achieve the 30 by 30 goal and address the principles laid out in the ATB initiative.

Durability and effectiveness

The need to broaden public support to sustain landscape-scale conservation efforts, especially in considering a national framework and vision, is undisputed. Recent polls suggest that regardless of political affiliation or the current economy, land conservation and access to nature have considerable national and local support (Richman et al. 2017). However, more can be done to include audiences that have been excluded from decision-making for conservation actions.

To that end, the America the Beautiful for All Coalition recently released a policy agenda that outlines several equitable conservation priorities to support the 30 by 30 goal, ATB initiative, plus the administration's environmental justice-focused initiative, "Justice 40." Considering themselves the "largest and most representative coalition working to catalyze forward movement on 30 by 30," the ATB for All Coalition is a diverse alliance made up of hundreds of frontline organizations, communities of color, Indigenous communities, public health groups, legacy conservation groups, hunting and recreation groups, and several others (ATB for All 2023). The landscape conservation community, particularly state and federal decision-makers and funders should consider the policies outlined in the ATB for All Coalition's recent agenda and follow the Coalition's work moving forward.

This research also determined that some type of legislative action is recommended to ensure durability for a framework for landscape conservation to be sustained beyond this current federal administration. Both Mankowski et al. (2021) and Keiter (2018) argue for Congress to codify a national landscape conservation framework and to provide federal funding authorization to

support the coordination and capacity building required to support such a network. The LCC Network received funding through the U.S. Fish and Wildlife Service's annual appropriation budget for administrative and science support which made its funding vulnerable. Regardless of the administration in office, any proposed legislation supporting a national framework for landscape efforts will require a heavy political lift.

Still, with historic levels of funding from the recent passage of the Inflation Reduction Act (2022) and Infrastructure Investment and Jobs Act (2021), plus annual appropriations and other funding streams, the current administration could make impactful investments for conservation activities and communities. These investments have the potential to support governance systems that address current environmental challenges, gain traction on the 30 by 30 goal, and match the relevant scale of social-ecological complexity.

Conclusion

This research offers insight into the landscape conservation community and their perspectives on the ATB initiative, 30 by 30 goal, and recommendation for a national framework for landscape conservation. There are challenges in studying such a nascent and evolving topic, yet the benefits of following emergent conversations outweighed these challenges and the research topic was timely. It was critical to consider and acknowledge the U.S.' vast and varied geographic scales (e.g., political, historical, and physical) while performing data collection and analysis.

Future research on the ATB initiative, 30 by 30, and a national framework for landscape conservation should center the perspectives of Tribal nations and Indigenous peoples in the U.S. for several reasons. Landscape conservation decisions in the U.S. have been made without consideration of Indigenous peoples and Indigenous knowledges for far too long. To be truly

equitable, collaborative, and inclusive, a national framework must benefit Tribal nations and Indigenous peoples in the U.S. and work towards dismantling ongoing paradigms that center settler colonial conservation.

This research focused exclusively on *landscape* conservation, not marine or freshwater conservation activities. More research is needed on whether a comprehensive national framework is desired or whether it can support marine and freshwater conservation needs. Fremier et al. (2015) have started this conversation surrounding freshwaters. Other countries across the globe have committed to conserving 30 percent by 2030, future research comparing other countries' approaches to achieving this milestone could provide support to the ATB initiative and potential guidance on a national framework for landscape conservation.

There is a strong desire to create a national framework that supports a vision for connected landscape conservation efforts across the U.S., provides financial and technical resources to coordinate and connect those efforts, and achieves the 30 by 30 goal through its organizing. However, this desire is met with several concerns and skepticism about the potential durability and institutional structure of such a framework. Regardless of this debate, the 'wicked' social and environmental challenges the landscape conservation community seeks to address will continue to persist unless action is taken. Time is of the essence and the political will is ripe.

Chapter Five: *Actors and Activities in Landscape Conservation: Networking and Collaborating at Multiple Scales to Achieve Landscape-Scale Conservation Goals*

The migrating monarch butterfly *(Danaus plexippus plexippus)* is known for its epic annual journey of up to 2,500 miles across the Americas, between Mexico, California, the rest of United States (U.S.), and even parts of Canada. During their migration, monarch butterflies move past several political and geographic boundaries, a variety of built environments and working lands, waterways, and millions of people. Sadly, this iconic species has declined 99.9% since the 1980s, from over 10 million to 1,914 butterflies. The decline is attributed to deforestation, intensive agriculture, and increasing impacts of climate change (IUCN 2022). To address this decline, scientists, local community groups, Tribes, and government agencies are using a landscape-scale approach to make decisions on where to establish more habitat and overwintering sites for the butterflies and to determine what policy changes are required to support the butterflies at various political levels.

Geographic scales and political levels

Operating at the landscape-scale to solve some of today's greatest environmental challenges, like species decline and biodiversity loss and the impacts of climate change on ecosystems and human livelihoods, is now relatively commonplace in the U.S. (Curtin and Tabor 2016; Hebbelwhite et al. 2021; Shreeve and Dennis 2011). This approach is being used along the Appalachian Trail to maintain an ecological corridor for plants and wildlife, in the Texas Hill Country to protect water resources, livelihoods, and recreational opportunities, and in many other places across the U.S. Working at the landscape-scale requires a multi-jurisdictional, multi-sector, and multi-purpose (economic, social, and environmental) approach, yet the inherent

complexity of incorporating several actors, activities, and geographies makes it so there is no one-size-fits all model to address environmental issues (Bixler et al. 2016). Ultimately, landscapes are not defined by the size of a specific area, but by the interacting elements of ecosystems and human systems (Curtin and Tabor 2016). The aim of this research is to illustrate the current actors involved in the field and practice of landscape conservation and the activities they are involved with.

The aspects of scale and level are important to this research. According to Biggs et al., *scale* refers to physical dimensions, either in space (spatial) or time (temporal), and *level* refers to discrete levels of social organization (e.g., individual, community) (Biggs et al. 2021). Critical geographers warn us, however, to be careful of holding oversimplified ideas of scale and level (Bartlett and Vavrus 2017). After all, the distinctions of scale and level are social constructs. Determining the correct use and boundaries for various scales and levels has the potential to influence the power of different actors, frame debates, and impact social and environmental outcomes (Adams 2020). Cash et al. (2006) acknowledge the challenges of cross-scale and cross-level interactions and argue that the most fundamental challenge is ignorance to the influence and importance of scale and level. Working at the landscape-scale requires intention and understanding of the various spatial and temporal scales while working within various political and community levels.

Goals for landscape-scale conservation

In January 2021, the Biden administration recognized this landscape-scale conservation approach by establishing a national goal to conserve 30 percent of U.S. lands, freshwaters, and marine waters by 2030 (30 by 30). To guide these efforts, the Biden administration also launched the

America the Beautiful (ATB) initiative which outlines eight principles for supporting collaborative and inclusive conservation actions towards the 30 by 30 goal. Funding to support these efforts has been provided through combining federal appropriation and private foundation dollars into a competitive grant program, the ATB Challenge grants. However, practitioners and scholars argue that a more coordinated approach is required and suggest that a national framework connecting federal and state agencies, Tribes, networks of landscape conservation practitioners, non-governmental organizations, and local governments could provide a more inclusive and aligned platform (Mankowski et al. 2021). Further analysis of this recommendation is described in Chapter Four.

Federal and state programs that incentivize landscape-scale project design and collaborative practice have come to fruition over the past two decades. For example, the Sentinel Landscapes Partnership, a partnership founded in 2013 by the U.S. Department of Defense and supported by Department of Agriculture and Department of the Interior, brings together federal agencies, state and local governments, and non-governmental organizations to work with private landowners on sustainable land management practices around military installations and ranges. Another example is the U.S. Forest Service's Collaborative Forest Landscape Restoration Program which encourages science-based ecosystem restoration of priority forest landscapes by working with local, mainly rural, communities to complete projects that reduce wildfire risk and benefit forest ecosystems. The Sentinel Landscapes Partnership and Collaborative Forest Landscape Restoration program are just two examples that demonstrate collaboration amongst multiple actors and political levels. These programs are singular examples that have the potential to be supported through the design of a holistic, national framework for landscape conservation.

Governing at the landscape-scale

Scholars in the field of social-ecological systems have long discussed various types of environmental governance for managing natural resources and addressing environmental issues. Social-ecological systems research stems from the collaboration between scholars working in a variety of disciplines such as geography, ecology, economics, anthropology, and common-pool resource systems (e.g., Berkes and Folke 2000; Ostrom 2009). Whereas most scientific disciplines study nature separate from humans, social-ecological systems scholars argue that "the delineation between social and natural systems is artificial and arbitrary." (Berkes and Folke 2000, as cited by Biggs et al. 2021, pg. 5)

Broadly speaking, *environmental governance* is "broader than management" and encompasses the structures, processes, and traditions through which people in a society share power and make decisions on environmental issues (Biggs et al. 2021, p. 481). Ostrom (1990) provides frameworks for managing common-pool resources and suggests *polycentric governance* to account for the overlapping scales of decision-making in a specific region. Chaffin et al. (2014) discuss *adaptive governance* and its intention of connecting actors, networks, organizations, and institutions in pursuit of a desired state for social-ecological systems. *Collaborative governance*, as discussed by Wilkins et al. (2021) is cross-sector, collaborative, and focused on systemic large-scale conservation outcomes. Bixler et al. (2016) and Scarlett and McKinney (2016) maintain that *network governance* relies on networks to support landscape-scale efforts, and that networks are "informal arrangements where two or more people exchange ideas, build relationships, identify common interest, explore options on how to work together, share power, and solve problems of mutual interest." (Scarlett and McKinney 2016, p. 122)

People are central to governance. With the emergence of landscape conservation approaches that are collaborative and network-based (e.g., the ATB initiative and the recommendation for a national framework), I thought it was pertinent to take a step back and capture some of the basic aspects of who is involved in the governance for landscape conservation at what scales and levels, and what activities these actors are involved in. A comprehensive review of the field and practice of landscape conservation is required to adequately champion its merits for a legislative action or funding for a national framework for landscape conservation.

Methods

This study relied on semi-structured interviews, review of publicly available grey literature, and participant observation to gather themes related to the actors involved and perceived activities within landscape conservation.

Semi-structured interviews

Semi-structured interviews were conducted with twenty-two people using a purposive sampling technique and inclusion criterion that considered level of expertise and the focus of geographic location and political scale (e.g., county, state, federal). Using semi-structured interviews is customary for gathering qualitatively rich data related to intended outcomes for environmental management and perspectives on policy decisions (Moon et al. 2019). Interview questions focused on the participants' activities in landscape conservation, the desire and need for a national framework for landscape conservation, and perspectives on who is missing from current the conversation. Interview questions are provided in Appendix A.

Grey literature review

Grey literature supplemented the research by providing perspectives on activities within the landscape conservation movement and who is currently active in decision-making for landscape conservation efforts. Grey literature was gathered by identifying several organizations (e.g, Center for Large Landscape Conservation, Network for Landscape Conservation, The Wilderness Society) and government departments and agencies (e.g., Department of the Interior, U.S. Fish and Wildlife Service) that were relevant to research themes and questions. Interviewees were also sources of grey literature. Tyndall's (2010) AACODS (Authority, Accuracy, Coverage, Objectivity, Date, and Significance) checklist was used to ensure validity of the grey literature before review.

Participant observation

Lastly, participant observation was used at specific events where discussions were held on the topics of landscape conservation, state and federal policy, ATB and 30 by 30, and collaborative and network governance. Used widely in the fields of anthropology and sociology, participant observation involves direct observation, participation in group activities, and informal conversations with research subjects to collect qualitative data on emerging ideas and unique perspectives of a specific topic (Puri 2011). Event attendance was determined by several factors, such as the relevancy of the event agendas to the research questions, the demographics of event participants (e.g., state and federal agency staff, experts in the field of conservation, etc.), the timeliness of the event to the study period, and invitations extended to the researcher to attend the event. Using these criteria, I collected descriptive and interpretive summaries, photos, documents, and notes from short, informal interviews with participants.

Analysis

Raw participant observation and interview data was coded into themes based on valid inference and inductive reasoning techniques (Auerbach and Silverstein 2003). All data were coded using Atlas.ti qualitative software and an iterative open and axial coding technique (Auerbach and Silverstein 2003; Miles and Huberman 1994). See Appendix B for the coding frame. Once the coding frame was created and the observation and interview data were coded, the grey literature was uploaded to Atlas.ti and coded as well. Themes were further refined with the grey literature. Qualitative thematic analysis is useful for gaining in-depth insights and has been used by researchers exploring perspectives on social and environmental issues, especially as they relate to policy formation, using either verbal or written language (Biggs et al. 2021).

Results

Results from this research demonstrate key actors in the landscape conservation field and practice and the activities they engage in. The data presented here is not an exhaustive list but rather a synthesis of what is top of my mind for landscape practitioners and researchers today based on the data gathered in this study. *Actors* are described in the first section and activities follow. *Activities* are used here instead of "roles" because actors wear many hats and often do not fit into one specific role. Actors engage in multiple activities, often times simultaneously, and work to connect activities at multiple geographic scales and political levels.

Actors

The data collected from this research and the literature clearly show that everyone has a role within landscape conservation. Participants described various scales required within the

landscape conservation movement such as state-wide, regional, or the watershed-scale as well as different levels of participation including national, regional, state, and local. Involving members of the public was seen as critical to the success and durability of landscape conservation initiatives (Figure 3). A quote from the grey literature summarizes it best, "We need a collective, all-hands-on-deck, national effort to conserve and restore the lands and waters upon which we all depend. We cannot do this without our state and local partners, many of whom have led the way to this moment." (Scarlett and Parker 2021)
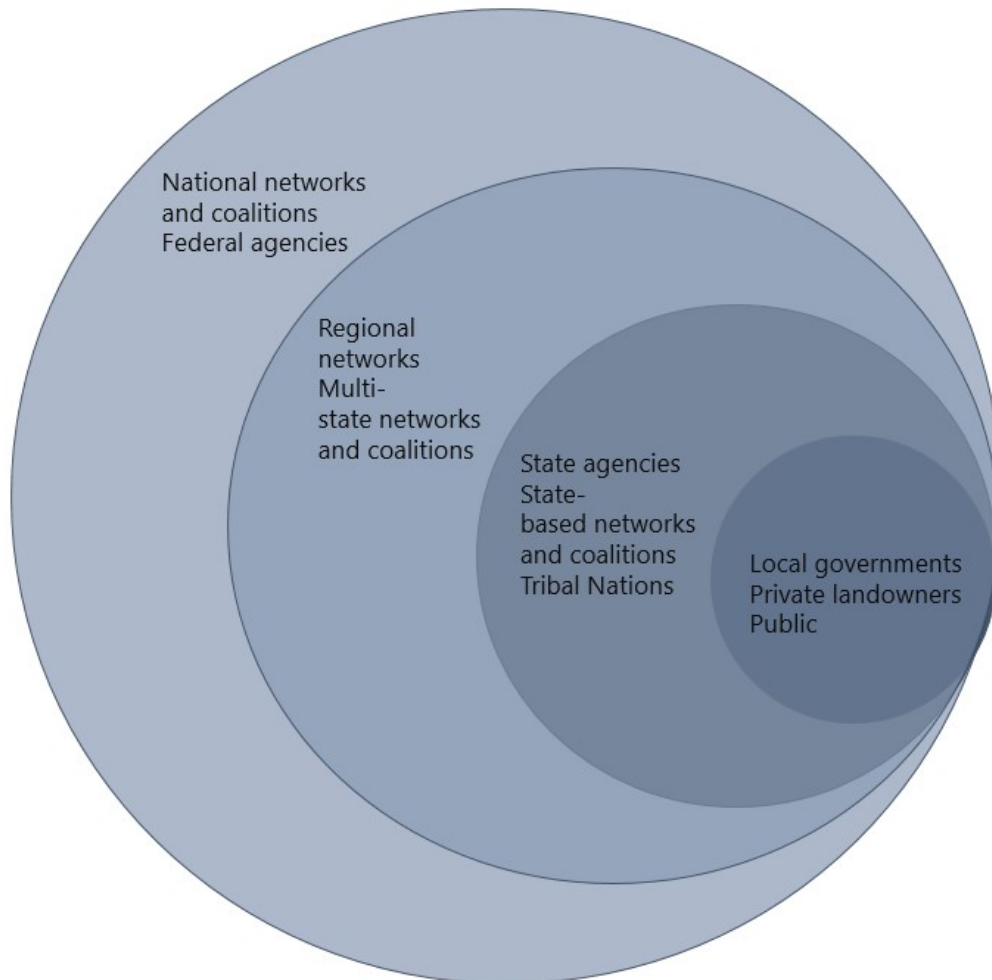

Figure 3. Concentric circles demonstrate the interconnected level of participation for landscape conservation efforts in the U.S.

Data analysis of participant observation and semi-structured interviews show that actors involved with landscape conservation are diverse and depend upon the region and landscape-scale concerns of that area. For example, in the predominantly forested landscape of New England in the U.S., approximately 80% of the forest is privately owned, therefore making private landowners an essential actor in landscape conservation in that region (McBride et al. 2019). In the case of Southeast Conservation Adaptation Strategy, a partnership of public and private organizations supports efforts for landscape conservation across fifteen states in the U.S. Southeast region of and parts of the Caribbean.

Public agencies at various political levels are required actors for landscape-scale conservation. On a federal level, the U.S. Fish and Wildlife Service, National Park Service, U.S. Forest Service, Bureau of Land Management, Department of Defense, and others manage over 640 million acres of public land and also have the authority to work outside their boundaries. Tribes lead landscape-scale activities on their own lands and work with federal and state agencies in a government-to-government manner through co-management or co-stewardship activities. States lead fish and wildlife management efforts and maintain their own network of public lands and partnerships with private landowners. Local governments are at the ground floor of the landscape conservation movement, and one participant described county commissioners as the "most ecologically impactful and focused civic group."

Furthermore, participant observation demonstrated the importance of networks and coalitions (e.g., Network for Landscape Conservation, California Landscape Stewardship Network, Regional Conservation Partnership Network) to connect local and regional initiatives to state and national policy initiatives, and support their members through capacity building, peer learning

opportunities, and shared problem solving of policy and funding issues as described in the next section.

Activities

There are several activities required for ensuring effective landscape conservation efforts. In reviewing my data, these actions were most evident: Collaborative/partnership work, stakeholder engagement, equity and inclusion building, applying Western science and Indigenous knowledges, and policy agenda setting (Table 7). These four themes are described further in the following paragraphs.

Although not a panacea, collaborative and partnership coordination was commonly mentioned as a priority activity to accomplish landscape-scale activities, especially in regions with a matrix of public and private lands. In their op-ed in *The Hill*, Scarlett and Parker emphasize the importance of collaboration and partnerships, "Large-scale, interconnected conservation requires investing in collaborative partnerships of diverse communities through which to engage their ideas and insights. We must move beyond piecemeal conservation of individual parcels and towards an integrative approach." (Scarlett and Parker 2021) Relatedly, stakeholder engagement and relationship building were emphasized in the data as critical to the success of landscape conservation activities. As one participant shared, "We should be thinking about not only involving stakeholders in some meeting, but in an overall process."

Ensuring the process and decision-making for landscape conservation efforts is equitable and inclusive of marginalized communities is emphasized in the literature and in the data collected in this research. Many participants highlighted the currently missing voices in the landscape conservation movement, including members of historically marginalized communities. The

Black Church Lands report states "Equity and inclusion…can only be achieved through regular, repeated, robust consultation and deliberation with communities of color, where communities of color lead the conservation efforts." (NRPE 2022, p. 18) Senator Tom Udall, an advocate for landscape conservation and the 30 by 30 goal, writes "Indeed, equity, inclusion and environmental justice must be our [conservation community's] guiding lights – our true North Star." (Udall 2020)

Table 7. Codes, definitions, and narratives that relate to activities within landscape conservation.

Activities within Landscape Conservation		
Code	**Definition**	**Narrative**
Collaborative/Partnership coordination	Capacity to connect with efforts across political levels and geographic scales, acquire funds, create plans, implement projects, and evaluate partnership.	"It's becoming so obvious that if we're going to make a difference in conservation, we all have to work together."
Stakeholder engagement	Engage and involve local community, state agencies, Tribal nations, private landowners, federal agencies (e.g., NPS, USFS)	"It really gets down to relationships at the local level and the ability to trust each other and develop relationships among the various entities."
Equity and inclusion building	Ensure process and decision-making for landscape conservation efforts is equitable and inclusive of historically marginalized communities; use the design of national framework to ensure resources are distributed equitably (e.g., providing more money to Tribes)	"The sort of large landscape conservation framework and all of the dialogue that, that we've been having, you know, a much more intentional effort to broaden participation, I think it's really, really important."
Applying Western science and Indigenous knowledges	Embrace and integrate intergenerational knowledges, extensive observations and natural histories. Mapping and monitoring of biodiversity, climate change, species loss, wildlife connectivity corridors, invasive species, etc. Land management activities (e.g., removing invasive species, species reintroduction), disseminate research and information to various audiences.	"A landscape approach is critical and fundamental." "For most Native people, they don't see themselves as external managers of a system, they see themselves as part of the ecosystem."

Policy agenda setting	Researching, writing, and advocating for policy at county, state, and federal levels that supports landscape conservation	"As counties, we're co-regulators and implementers of environmental policy."

The data and the literature acknowledge the importance of integrating knowledge, tools, technology, and social science in the pursuit of landscape conservation and a potential national framework for landscape conservation to achieve the 30 by 30 goal. There is growing recognition of the value of Indigenous knowledges and the need to embrace these knowledges more genuinely in the Western-based conservation science community. Several participants argue that the conservation community must go beyond consultation with Tribes, and deliberately seek efforts for Tribal co-management.

Lastly, the data show that conservation community at various political levels, networks, and coalitions actively engage in reviewing, suggesting, and commenting on new policy and updates to current policy. The America the Beautiful for All Coalition, for example, distributed a policy agenda for 2023 with twenty policies related to the ATB initiative/30 by 30 goal and the Biden administration's Justice 40 initiative.

Discussion

In this article, I argue that it is necessary to understand who the various actors are within geographic scales and political levels and what activities they are engaged in. Especially as more networks and coalitions arise, it is essential to understand who the players are and how they interact to maximize efficiency and efficacy, reduce competition for grant funding, and foster the

collaborative spirit networks and coalitions aim to create. Further, the data reflect that a national framework will only be successful if it can be implemented at various geographic scales and within multiple political levels, benefit historically marginalized communities, and be embraced by the public at-large.

This research uncovers perspectives from the landscape conservation community of who is *currently* involved in the landscape conservation movement and at what scales and levels are necessary to operate within. In the process of discussing who is involved in the landscape conservation movement it became clear that there are missing voices. Indigenous peoples, urban populations, and private landowners are mentioned as necessary actors in the landscape conservation movement; however, their perspectives are underrepresented in this study and in the grey literature.

Those seeking a national framework for landscape conservation or attaining the 30 by 30 goal should engage with the America the Beautiful for All Coalition (ATB for All). Organized around the 30 by 30 goal and Justice40 (another Biden administration initiative focused on environmental justice metrics), ATB for All is an effort that unites the "land, freshwater, ocean, wildlife, community, recreation, and equity advocates" and seeks to elevate and amplify diverse voices across the country (ATB for All 2023). The traditional conservation community can gain new perspectives, lend their support to the ATB for All efforts, and contribute to a vision for landscape conservation that recognizes America's diverse communities and landscapes.

For at least the past century, the landscape conservation movement has been dominated by western conservation science and positivist epistemologies. Indigenous knowledges are increasingly being recognized by the landscape conservation community as critical contributions

to the collective understanding of landscapes, environmental, and social systems. Attempts to respectfully integrate the intergenerational understandings, extensive observations and natural histories within Indigenous Knowledges are underway yet will require considerable trust building, time, and effort by western scientists.

The White House Office of Science and Technology Policy and Council on Environmental Quality recently released a guide for federal departments and agencies on Indigenous Knowledges. The report outlines the necessity for federal agencies and departments to obtain consent before including Indigenous Knowledges in policy, research, and decision making and references Tsosie et al.'s (2022) six Rs of Indigenous research.[1] The report also suggests examples of Tribal co-management opportunities on sacred lands, including Bears Ears National Monument and Northern Bering Sea Climate Resilience Area (OSTP and CEQ 2022). The actions laid out in the guide are important steps to reconcile injustices between the federal government and Indigenous Peoples in the U.S., however, continued recognition and action are required. As Eichler and Baumesiter (2021) contend, the landscape conservation movement must continue to reckon with its settler colonial history.

Landscape conservation practitioners are also influencing and creating policies that provide funding opportunities and laws and legislation to support actions for landscape conservation (e.g., endangered species protection, regulation, land acquisitions). Those involved with network governance, such as the Network for Landscape Conservation and America the Beautiful for All coalition, actively follow legislation and offer policy agendas to federal agencies and departments. Representatives of government agencies often seek perspectives from landscape

---

[1] The six Rs of Tsosie et al.'s Indigenous research framework includes respect, relationship, representation, relevance, responsibility, and reciprocity (Tsosie et al. 2022).

conservation practitioners at various scales, particularly at the local scale and community level. Thus, it is important to recognize that these actors wield power in the field of landscape conservation.

Largely, those involved in this research and the grey literature argue for greater coordination of actors and activities amongst the landscape conservation community. However, whether this coordination is led by a federal entity is debated and more likely to be successful if organized by a non-governmental entity or through public-private partnerships. As described in Chapter Four, this coordination and durability of success requires consistent, long-term funding from public and private sources.

Conclusion

The landscape conservation movement is at a unique point in time with several federal commitments to landscape conservation activities, such as 30 by 30 and the ATB initiative. The primary value of this research is its snapshot of the actors and activities involved within landscape conservation during the Biden administration. Thus, this research is not exhaustive nor representative of everyone involved in the landscape conservation movement.

Questions remain about who is missing from the conversations and what scales and levels are certain activities best suited. Further, the ability to influence and enact policy requires a certain amount of power and influence. Therefore, an exploration of power dynamics across and within the landscape conservation movement, across spatial scales and political levels, would illuminate how and why decisions at the national level are made. Addressing these questions will further the field and practice of landscape conservation, build public support and political will, and potentially solve some of today's most pressing environmental challenges. If approached

properly, the questions may even attend to making landscape conservation more inclusive and equitable for all who live in the U.S.

Chapter Six: Recommendations and Conclusion

This research began with curiosity of how the Biden administration intended to accomplish the ambitious goal of conserving 30 percent of U.S. lands and waters by 2030 and by what means the landscape conservation community in the U.S. would achieve this goal. The launch of the ATB initiative and recommendation for a national framework for landscape conservation initiated several questions about the potential to organize the landscape conservation community around a common goal (30 by 30) and to receive durable, long-term federal support (e.g., through legislation and funding) for this effort. From there, questions arose about how to make ensure equity and inclusivity while working towards national conservation goals, who influences decision-making for landscape conservation, and what activities are involved with landscape conservation actions at various geographic scales and levels. It became clear that conversations with the landscape conservation community would elicit perspectives on a national framework and highlight the current actors and activities involved in landscape conservation efforts.

As described in this research, the landscape conservation community is growing its networks of informal, and even formal, interactions with a variety of individuals, groups, and organizations at various geographic and political levels. The landscape conservation community engages in political conflicts as they seek legislative and executive action to ensure durability of conservation policies and programs. Whether the landscape conservation has a shared collective identity is questionable, especially as the community seeks to engage historically excluded audiences and integrate multiple knowledges. A national framework for landscape conservation could support the landscape conservation community's efforts to build an empowering vision across the country, while also providing necessary interventions to restore habitats for

biodiversity, mitigate the impacts of climate change, and create more greenspaces in nature-deprived areas.

Several themes were generated through analysis of participant observation data, semi-structured interviews data, and review of the grey literature that may be instrumental in providing recommendations and building momentum towards an empowering and long-lasting vision for landscape conservation. These recommendations are addressed to those involved at the decision-making level such a federal and state government agencies and non-governmental networks and organizations. The recommendations are organized by themes generated in this research on durability and are outlined in Table 8. The recommendations are further explained in the following paragraphs.

Table 8. Recommendations for supporting landscape conservation activities in the future.

Theme	Recommendation
Legislative actions	1. Use current legislation more strategically to ensure long-term funding for collaborative, landscape-scale planning and implementation of efforts that are unique to the physical geography, history, socio-economic of regions in the U.S.
Executive actions	1. Current executive administration should increase institutional support for landscape conservation and build buy-in from within 2. Continue to make good on promises made to Tribes, especially with national monument designations and co-management opportunities
Long-term funding	1. Address capacity barriers for government agencies, Tribes, and non-governmental organizations to achieve funding for landscape-scale initiatives through investments in collaborative infrastructure (e.g., training, shared databases, communication pathways) 2. Invest in locally led initiatives that are working on landscape-scale efforts that consider social-ecological systems holistically 3. Invest in efforts to document, track, and map landscape conservation efforts, starting with locally led efforts and scaling up to national scale efforts

Public support and awareness	1. Ensure planning, implementation, and future goals are inclusively and equitably designed, specifically prioritize the needs of Tribes and urban communities
	2. Increase and diversify communication surrounding landscape-scale conservation activities with the public and within federal agencies

Legislative actions

Existing legislation can be used more effectively to ensure long-term funding and support for collaborative, landscape-scale conservation efforts. For example, the Land and Water Conservation Fund secures $900 million in annual funding that goes to states for preserving natural and cultural areas, water resources, and recreational opportunities. This funding was recently made permanent through the Great American Outdoors Act and is administered through the U.S. Department of Interior and Department of Agriculture. Some examples of successful uses of this funding can include increasing habitat connectivity and wildlife corridors, prioritizing projects in urban areas, and supporting Tribal co-management partnerships. Through their annual appropriations, the Department of Interior and Department of Agriculture can prioritize these examples of collaborative, landscape-scale efforts that may support achieving the 30 by 30 and the ATB initiative's list of priorities.

Through their organic acts, both the National Park Service and the Bureau of Land Management have opportunities to manage land more holistically and in partnership with surrounding communities. For example, the National Park Service's U.S. Biosphere Reserve Network works with communities and partners to "work together to advance positive relationships between people and nature at large geographic scales." (NPS 2021) The Bureau of Land Management's Federal Land Policy Management Act offers an opportunity to consider watershed-scale

planning to ensure ecological integrity and water flow. These are just two examples of existing legislation and other legislation should be considered as well.

Executive actions

The Biden administration's Executive Order (EO) 14008 initiated conversations and actions for landscape-scale conservation activities. There are several actions the administration can take to maintain momentum since the EO was signed. For example, the administration can continue to use existing authorities, such as the Antiquities Act, to designate national monuments in areas supported or led by Indigenous communities and other underserved communities. Although recent designations have been made (e.g., Avi Kwa Ame National Monument and Castner Range National Monument), there are several other designations that can still be made (e.g., expansion of Berryessa Snow Mountain National Monument).

Furthermore, the administration should find existing authorities to expand Tribal co-management opportunities of federal lands and provide funding to support these opportunities. The ATB for All Coalition's *2023 Policy Agenda* outlines several specific opportunities for executive actions to advance Tribal co-management (ATB for All 2023).

Long-term funding

Addressing capacity barriers for government agencies, Tribes, and non-governmental organizations to achieve funding for landscape-scale initiatives is essential for meeting the 30 by 30 goal and achieving the ATB initiative priorities. Examples of capacity barriers include financial barriers (e.g., match requirements), lack of access to grant administrators and writers, lack of knowledge of funding opportunities and deadlines, and confusion related to funding

award criteria across departments and agencies. Examples for addressing these barriers include increasing technical assistance, offering flexible match programs, and coordinating grant applications and criteria across agencies. Specifically, the ATB Challenge grants can expand their funding criteria to include planning and capacity building activities.

The ATB Challenge grants have provided almost $1 billion in investments to locally led initiatives working on landscape-scale efforts. A long-term fund should be designated to ensure these grants are provided consistently and for years to come. To ensure durability, this fund should be supported through public and private funding.

Establishing a shared database and mapping tool to identify current landscape-scale efforts and regional gaps is necessary to track progress towards the 30 by 30 goal and to understand where investments are needed. This database and mapping tool requires financial investments to document, track, and map landscape conservation efforts, starting with locally led efforts and scaling up to national scale efforts. Again, to ensure durability, this effort can be led by federal agencies and supported by private, non-governmental organizations.

Public support and awareness

There are several ways for the landscape conservation community to be more inclusive and equitable and much recent research has centered around this topic (e.g., Beasley 2017, Finney 2014, Gilio-Whitaker 2019). Specific examples mentioned in this research and recommended here include increasing transparency and inclusive participation in decision-making processes (e.g., National Environmental Policy Act), prioritizing Indigenous communities and underserved communities in all grant opportunities, and developing more diverse and representative workforces in environmental agencies and organizations.

Increasing and diversifying communications surrounding landscape-scale conservation activities with the public and within federal agencies is highly recommended. For example, leaders in landscape conservation can work with filmmakers, social media professionals, and educators to design more impactful storytelling opportunities and create strategies for connecting with a more broad and diverse audience.

Research limitations and Future Research

Similar to other conservation social science research, there were limitations to this research. First, this research was limited by the two-year timeline of this project. Semi-structured interviews were limited by the amount of time available for data collection, transcription, and analysis. Participant observation at existing events was limited to events held only within the data collection timeframe, therefore limiting the opportunity to attend other events.

Second, my inherent biases and positionality has unintentionally influenced this research and its results. The sampling criteria for participant observation and semi-structured interviews was limited to those considered to be key players in the landscape conservation community. This limits the data to their perspectives and different criteria may have provided different results. Furthermore, the sampling size is not exhaustive or comprehensive of the landscape conservation community in its entirety. Instead, this research intended to provide a snapshot of perspectives from the landscape conservation community at different geographic scales and political levels across the U.S. Lastly, the emergent and evolving aspects of the conversation made it challenging, yet the benefits of a timely topic outweighed these challenges.

Future research opportunities on perspectives of the ATB initiative, 30 by 30, a national framework for landscape conservation should center the perspectives of Tribal Nations and

Indigenous peoples in the U.S. for several reasons. First, landscape conservation decisions in the U.S. have been made without consideration of Indigenous Knowledges and concerns for far too long. To be truly equitable, collaborative, and inclusive, a national framework must prioritize and benefit Tribal Nations and Indigenous Peoples in the U.S. Ideally, this research would be conducted from within the community to ensure trust and relevancy.

Questions remain about who else is missing from the landscape conservation movement and at what scales and levels are certain activities best suited. Further, the ability to influence and enact policy requires a certain amount of power. Therefore, an exploration of power dynamics across and within the landscape conservation movement, across spatial scales and political levels, would be beneficial. Addressing these questions will further the field and practice of landscape conservation, build public support and political will, solve some of today's most pressing environmental challenges, and attend to making the landscape conservation movement more inclusive and equitable for all Americans.

As described, the 30 by 30 goal is a global initiative with almost every country committed to conserving 30 percent of their lands and waters by 2030. Examining other countries, particularly countries with a similar in size and complexity as the U.S., and their approaches to achieving 30 by 30 and through what means (e.g., national framework, land acquisition) may be provide alternative perspectives for decision-makers in the U.S. I also recommend reviewing existing landscape-scale programs in the U.S., especially those that are nationwide in scale (e.g., National Heritage Areas, Migratory Bird Joint Ventures). Understanding their participants, measures of success, and current priorities will provide key information to understanding how to design a national framework for landscape conservation.

The landscape conservation community is poised to make a lasting impact with the current administration's political will and access to existing resources. The field and practice's interdisciplinary focus on improving the well-being of social, ecological, cultural, and economic elements has the potential to involve many voices. A national framework can empower the landscape conservation community, historically excluded communities, and the public at-large, to reflect and act on our vision for more equitable and holistically managed landscapes.

This research demonstrated a strong desire by the landscape conservation community to create a national framework that supports a vision for connected efforts across the U.S., provides financial and technical resources to coordinate and connect those efforts, and achieves the 30 by 30 goal through its organizing. However, this desire is met with several concerns and skepticism about the potential durability and institutional structure of such a framework. Regardless of this debate, the 'wicked' social and environmental challenges the landscape conservation community seeks to address will continue to persist unless action is taken. These actions require considerations of existing and new legislative opportunities, increased public awareness, and long-term investments in locally led activities, mapping and evaluating these activities, and addressing capacity barriers to collaboration at multiple geographic scales and political levels. Time is of the essence and the political will is ripe.

Works Cited

Adams, William. (2020). *Green Development: Environment and Sustainability in a Developing World*. Routledge.

Aiken, J. D. (2022). The 30x30 program: A federal land grab? *Cornhusker Economics*. https://digitalcommons.unl.edu/agecon_cornhusker/1159

Allen, R.W., Forsman, L., Keoni-Franklin, R., Payment, A. (2020, December 17). Tribal leaders: Support the '30 by 30 initiative' to protect 30 percent of US lands and waters. *Indian Country Today*, Opinion. Retrieved from https://indiancountrytoday.com/opinion/tribal-leaders-support-the-30-by-30-initiative-to-protect-30-percent-of-us-lands-and-waters?redir=1

America the Beautiful (ATB) for All Coalition. (2023, January 27). *America the Beautiful for All Coalition: 2023 Policy Agenda*. America the Beautiful for All Coalition. https://americathebeautifulforall.org/wp-content/uploads/2023/01/EMBARGOED-until-8AM-ET-1.27.23-atb4all-policy-agenda-2023.pdf

Ansell, C., and Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, *18*(4), 543–571. https://doi.org/10.1093/jopart/mum032

Artelle, K. A., Zurba, M., Bhattacharyya, J., Chan, D. E., Brown, K., Housty, J., and Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation, 240*, 108284. https://doi.org/10.1016/j.biocon.2019.108284

Atlas, W. I., Ban, N. C., Moore, J. W., Tuohy, A. M., Greening, S., Reid, A. J., Morven, N., White, E., Housty, W. G., Housty, J. A., Service, C. N., Greba, L., Harrison, S., Sharpe, C., Butts, K. I. R., Shepert, W. M., Sweeney-Bergen, E., Macintyre, D., Sloat, M. R., and Connors, K. (2021). Indigenous systems of management for culturally and ecologically resilient Pacific salmon (Oncorhynchus spp.) fisheries. *BioScience*, *71*(2), 186–204. https://doi.org/10.1093/biosci/biaa144

Auerbach, C., and Silverstein, L. B. (2003). *Qualitative Data: An Introduction to Coding and Analysis*. New York University Press.

Baldwin, R. F., Trombulak, S. C., Leonard, P. B., Noss, R. F., Hilty, J. A., Possingham, H. P., Scarlett, L., and Anderson, M. G. (2018). The future of landscape conservation. *BioScience, 68*(2), 60–63. https://doi.org/10.1093/biosci/bix142

Bartlett, L. and Vavrus, F. (2017). *Rethinking Case Study Research: A Comparative Approach*. Routledge.

Beasley, M. (2017, May). *Beyond Diversity: A Roadmap to Building an Inclusive Organization*. Prepared for Green 2.0. https://diversegreen.org/research/beyond-diversity /

Bennett, N. J., Roth, R., Klain, S. C., Chan, K. M. A., Clark, D. A., Cullman, G., Epstein, G., Nelson, M. P., Stedman, R., Teel, T. L., Thomas, R. E. W., Wyborn, C., Curran, D.,

Greenberg, A., Sandlos, J., and Veríssimo, D. (2016). Mainstreaming the social sciences in conservation. *Conservation Biology*, *31*(1), 56–66. https://doi.org/10.1111/cobi.12788

Berkes, F., Folke, C., and Colding, J. (2000). Linking social and ecological systems: Management practices and social mechanisms for building resilience. Cambridge University Press.

Bieling, C., and Plieninger, T. (Eds.). (2017). *The Science and Practice of Landscape Stewardship*. Cambridge University Press. https://doi.org/10.1017/9781316499016

Biggs, R., de Vos, A., Preiser, R., Clements, H., Maciejewski, K., and Schlüter, M. eds. (2021). *The Routledge Handbook of Research Methods for Social-Ecological Systems*. Routledge. https://doi.org/10.4324/9781003021339

Bixler, R. P., Johnson, S., Emerson, K., Nabatchi, T., Reuling, M., Curtin, C., Romolini, M., and Grove, J. M. (2016). Networks and landscapes: A framework for setting goals and evaluating performance at the large landscape scale. *Frontiers in Ecology and the Environment*, *14*(3), 145–153. https://doi.org/10.1002/fee.1250

Blauner, R. (1969). Internal Colonialism and Ghetto Revolt. *Social Problems*, *16*(4), 393–408. https://doi.org/10.2307/799949

Bodin, Ö. (2017). Collaborative environmental governance: Achieving collective action in social-ecological systems. *Science, 357*(6352), eaan1114. https://doi.org/10.1126/science.aan1114

Bolton, A. (2022, June). *Interior Secretary Deb Haaland to Attend CSKT Bison Range Recovery Celebration.* Montana Public Radio. https://www.mtpr.org/montana-news/2021-06-24/tribes-one-step-closer-to-fully-managing-national-bison-range

Brockington, D. (2002). *Fortress Conservation: The Preservation of the Mkomazi Game Reserve, Tanzania*. Oxford: James Currey.

Brown, M. and Murtha, T. (2018). *The present and future possibilities of landscape scale conservation: The Appalachian Landscape Conservation Cooperative (AppLCC) ethnographic study*. Report for the AppLCC. https://applcc.org/research/applcc-funded-projects/integrating-cultural-resourcepreservation-at-a-landscape-level/natural-resources-fellowship/executive-summary-present-and-futurepossibilities-of-landscape-scale-conservation/at_download/file

California Natural Resources Agency (CNRA). (2022). *Pathways to 30x30 California: Accelerating conservation of California's nature*. California Natural Resources Agency. https://canature.maps.arcgis.com/sharing/rest/content/items/8da9faef231c4e31b651ae6dff95254e/data

Carothers, C., Black, J., Langdon, S. J., Donkersloot, R., Ringer, D., Coleman, J., Gavenus, E. R., Justin, W., Williams, M., Christiansen, F., Samuelson, J., Stevens, C., Woods, B., Clark, S. J., Clay, P. M., Mack, L., Raymond-Yakoubian, J., Sanders, A. A., Stevens, B. L., and Whiting, A. (2021). Indigenous peoples and salmon stewardship: A critical relationship. *Ecology and Society*, *26*(1), art16. https://doi.org/10.5751/ES-11972-260116

Carlisle, K., and Gruby, R. L. (2019). Polycentric systems of governance: A theoretical model for the commons. *Policy Studies Journal*, *47*(4), 927–952. https://doi.org/10.1111/psj.12212

Cash, D.W., W.N. Adger F. Berkes, P. Garden, L. Lebel, P. Olsson, and L. Pritchard. (2006). Scale and cross-scale dynamics: Governance and information in a multilevel world. *Ecology and Society, 11*(2): 8. www.jstor:stable/26265993

Chaffin, B. C., Garmestani, A. S., Gunderson, L. H., Benson, M. H., Angeler, D. G., Arnold, C. A. (Tony), Cosens, B., Craig, R. K., Ruhl, J. B., and Allen, C. R. (2016). Transformative environmental governance. *Annual Review of Environment and Resources*, *41*(1), 399–423. https://doi.org/10.1146/annurev-environ-110615-085817

Chaffin, B.C., Gosnell, H., and Cosens, B. (2014). A decade of adaptive governance scholarship: Synthesis and future directions. *Ecology and Society*, *19*(3). https://doi.org/10.5751/ES-06824-190356

Clement, S., Guerrero Gonzalez, A., and Wyborn, C. (2020). Understanding effectiveness in its broader context: Assessing case study methodologies for evaluating collaborative conservation governance. *Society & Natural Resources*, *33*(4), 462–483. https://doi.org/10.1080/08941920.2018.1556761

Cockburn, J., Rosenberg, E., Copteros, A., Cornelius, S. F. (Ancia), Libala, N., Metcalfe, L., and van der Waal, B. (2020). A relational approach to landscape stewardship: Towards a new perspective for multi-actor collaboration. *Land*, *9*(7), Article 7. https://doi.org/10.3390/land9070224

Congressional Research Service (CRS). (2020). *Federal land ownership: Overview and data.* https://crsreports.congress.gov/product/pdf/R/R42346/18

Congressional Research Service (CRS). (2011). *The National Response Framework: Overview and possible issues for Congress*. https://www.everycrsreport.com/reports/RL34758.html

Conservation Science Partners (CSP). (2019). *Methods and approach used to estimate the loss and fragmentation of natural lands in the conterminous U.S. from 2001 to 2017*. Technical Report. https://www.csp-inc.org/public/CSP_Disappearing_US_Tech_Report_v101719.pdf

Convention on Biological Diversity. (2021, July 5). *First draft of the Post-2020 Global Biodiversity Framework*. United Nations Environment Programme. https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf

Cronon, W. (1995). The Trouble with Wilderness: Or, Getting Back to the Wrong Nature. *Environmental History*, *1*(1), 7–28. https://doi.org/10.2307/3985059

Curtin, C. G., and Tabor, G. M. (2016). Large Landscape Conservation: Addressing the Realities of Scale and Complexity. In *Reference Module in Earth Systems and Environmental Sciences*. Elsevier. https://doi.org/10.1016/B978-0-12-409548-9.09210-1

Curtin, C. G. (2015). *The Science of Open Spaces: Theory and Practice for Conserving Large, Complex Systems*. Island Press.

Dang, T. K. (2021). Decolonizing landscape. *Landscape Research*, *46*(7), 1004–1016. https://doi.org/10.1080/01426397.2021.1935820

de Snoo, G.R., Herzon, I., Staats, H., Burton, R.J.F., Schindler, S., van Dijk, J., Lokhorst, A.M., Bullock, J.M., Lobley, M., Wrbka, T., Schwarz, G. and Musters, C.J.M. (2013). Toward effective nature conservation on farmland: making farmers matter. *Conservation Letters, 6*: 66-72. https://doi.org/10.1111/j.1755-263X.2012.00296.x

Diamond, J. M. (1976). Island biogeography and conservation: Strategy and limitations. *Science*, *193*(4257), 1027–1029. https://doi.org/10.1126/science.193.4257.1027

Diani, M. (1992). The concept of social movement. *The Sociological Review*, *40*(1), 1–25. https://doi.org/10.1111/j.1467-954X.1992.tb02943.x

Diaz, S. (Ed) (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). ISBN No: 978-3-947851-13-3. www.ipbes.net/ system/tdf/spm global unedited advance.pdf? file=1&type=node&id=35245

Donaldson, L., Wilson, R. J., and Maclean, I. M. D. (2017). Old concepts, new challenges: Adapting landscape-scale conservation to the twenty-first century. *Biodiversity and Conservation*, *26*(3), 527–552. https://doi.org/10.1007/s10531-016-1257-9

Dunbar-Ortiz, R. (2014). *An Indigenous Peoples' history of the United States*. Beacon Press.

Eichhorn, M. P., Baker, K., and Griffiths, M. (2020). Steps towards decolonising biogeography. *Frontiers of Biogeography*, 12(1). https://doi.org/10.21425/F5FBG44795

Ellis, E. C., Gauthier, N., Klein Goldewijk, K., Bliege Bird, R., Boivin, N., Díaz, S., Fuller, D. Q., Gill, J. L., Kaplan, J. O., Kingston, N., Locke, H., McMichael, C. N. H., Ranco, D., Rick, T. C., Shaw, M. R., Stephens, L., Svenning, J.-C., and Watson, J. E. M. (2021). People have shaped most of terrestrial nature for at least 12,000 years. *Proceedings of the National Academy of Sciences*, *118*(17), e2023483118. https://doi.org/10.1073/pnas.2023483118

Executive Order No. 14008, 86 FR 7619. (2021, January 27). https://www.federalregister.gov/d/2021-02177

Finney, C. (2014). *Black Faces, White Space: Reimagining the Relationship of African Americans to the Great Outdoors*. University of North Carolina Press.

Folke, C., Biggs, R., Norström, A. V., Reyers, B., and Rockström, J. (2016). Social-ecological resilience and biosphere-based sustainability science. *Ecology and Society*, *21*(3). http://www.jstor.org/stable/26269981

Folke, C., Hahn, T., Olsson, P., and Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*, *30*(1), 441–473. https://doi.org/10.1146/annurev.energy.30.050504.144511

Fox, C. A., Reo, N. J., Turner, D. A., Cook, J., Dituri, F., Fessell, B., Jenkins, J., Johnson, A., Rakena, T. M., Riley, C., Turner, A., Williams, J., and Wilson, M. (2017). "The river is

us; the river is in our veins": Re-defining river restoration in three Indigenous communities. *Sustainability Science*, *12*(4), 521–533. https://doi.org/10.1007/s11625-016-0421-1

Fremier, A. K., Kiparsky, M., Gmur, S., Aycrigg, J., Craig, R. K., Svancara, L. K., Goble, D. D., Cosens, B., Davis, F. W., and Scott, J. M. (2015). A riparian conservation network for ecological resilience. *Biological Conservation*, *191*, 29–37. https://doi.org/10.1016/j.biocon.2015.06.029

Gilio-Whitaker, D. (2019). *As Long as Grass Grows: The Indigenous Fight for Environmental Justice, from Colonization to Standing Rock*. Beacon Press.

Gray, B. (1989). *Collaborating: Finding common ground for multiparty problems* (1st ed.). Jossey-Bass.

Guerrero, A. M., Ö. Bodin, R. R. J. McAllister, and K. A. Wilson. (2015). Achieving social-ecological fit through bottom-up collaborative governance: An empirical investigation. *Ecology and Society 20*(4):41.http://dx.doi.org/10.5751/ES-08035-200441

Hays, S. P. (1959). *Conservation and the Gospel Of Efficiency: The Progressive Conservation Movement, 1890–1920*. University of Pittsburgh Press. https://doi.org/10.2307/j.ctt7zw8b4

Hebblewhite, M., Hilty, J. A., Williams, S., Locke, H., Chester, C., Johns, D., Kehm, G., and Francis, W. L. (2021). Can a large-landscape conservation vision contribute to achieving biodiversity targets? *Conservation Science and Practice*, *4*(1), e588. https://doi.org/10.1111/csp2.588

Hernandez, J. (2022). *Fresh Banana Leaves: Healing Indigenous Landscapes through Indigenous Science*. North Atlantic Books.

Hodder, K. H., Newton, A. C., Cantarello, E., and Perrella, L. (2014). Does landscape-scale conservation management enhance the provision of ecosystem services? *International Journal of Biodiversity Science, Ecosystem Services & Management*, *10*(1), 71–83. https://doi.org/10.1080/21513732.2014.883430

Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics*, *4*, 1–23. https://www.jstor.org/stable/2096802

Holling, C. S., and Meffe, G. K. (1996). Command and control and the pathology of natural resource management. *Conservation Biology*, *10*(2), 328–337. http://www.jstor.org/stable/2386849

Holmes, D. and Gary, A. (2020). Researcher positionality—A consideration of its influence and place in qualitative research—A new researcher guide. *Shanlax International Journal of Education*, *8*(4), 1–10. https://doi.org/10.34293/education.v8i4.3232

International Union on Conservation and Nature (IUCN). (2022, July 21). Migratory monarch butterfly now Endangered – IUCN red list [Press release]. https://www.iucn.org/press-release/202207/migratory-monarch-butterfly-now-endangered-iucn-red-list

Jenkins, J. A., and Patashnik, E. M. (Eds.). (2012). *Living Legislation: Durability, Change, and the Politics of American Lawmaking*. University of Chicago Press. https://press.uchicago.edu/ucp/books/book/chicago/L/bo12938143.html

Johnson, S. (2017, February). *Building a large landscape conservation community of practice*. Working Paper, Lincoln Institute of Land Policy. https://www.lincolninst.edu/publications/working-papers/building-large-landscape-conservation-community-practice

Jones, B. (2021, May 31). *The right-wing effort to derail Biden's conservation plan, explained*. Vox. https://www.vox.com/22421152/president-joe-biden-30-by-30-conservation-interior-department-right-wing-opposition

Keiter, R. B. (2018). Toward a National Conservation Network Act: Transforming landscape conservation on the public lands into law. *Harv. Envtl. L. Rev., 42, 61.* https://doi.org/10.2139/ssrn.3171678

Kohn, M., and Reddy, K. (2023). Colonialism. In E. N. Zalta & U. Nodelman (Eds.), *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/spr2023/entries/colonialism/

Koontz, T. M., Jager, N. W., and Newig, J. (2020). Assessing collaborative conservation: A case survey of output, outcome, and impact measures used in the empirical literature. *Society and Natural Resources*, *33*(4), 442–461. https://doi.org/10.1080/08941920.2019.1583397

Koontz, T. M., and Thomas, C. W. (2006). What do we know and need to know about the environmental outcomes of collaborative management? *Public Administration Review*, *66*(s1), 111–121. https://doi.org/10.1111/j.1540-6210.2006.00671.x

Landau, V.A., McClure, M.L., and Dickson, B.G. (2020). *Analysis of the disparities in nature loss and access to nature*. Technical Report. Conservation Science Partners. https://www.csp-inc.org/public/CSP-CAP_Disparities_in_Nature_Loss_FINAL_Report_060120.pdf

Land Trust Alliance. (2021, December 7). *61 million acres voluntarily conserved in America, 2020 National Land Trust census report reveals* [Press release]. https://landtrustalliance.org/newsroom/press-releases/61-million-acres-voluntarily-conserved-in-america-2020-national-land-trust-census-report-reveals

Leshy, J.D. (2020). *Our Common Ground: A History of America's Public Lands*. Yale University Press.

Machlis, G.E. and Jarvis, J.B. (2018). *The Future of Conservation in America: A Chart for Rough Water*. University of Chicago Press.

Mankowski, J., Wathen, G., Poe, A., Mordecai, R., and Wearn, A. (2021). Build back a better national landscape conservation framework. *Parks Stewardship Forum*, *37*(3). http://dx.doi.org/10.5070/P537354733

Margerum, R. D. (2008). A Typology of Collaboration Efforts in Environmental Management. *Environmental Management*, *41*(4), 487–500. https://doi.org/10.1007/s00267-008-9067-9

McBride, M. F., Duveneck, M. J., Lambert, K. F., Theoharides, K. A., and Thompson, J. R. (2019). Perspectives of resource management professionals on the future of New England's landscape: Challenges, barriers, and opportunities. *Landscape and Urban Planning*, *188*, 30–42. https://doi.org/10.1016/j.landurbplan.2018.10.019

McGinnis, M. D. (2011). Networks of adjacent action situations in polycentric governance. *Policy Studies Journal*, *39*(1), 51–78. https://doi.org/10.1111/j.1541-0072.2010.00396.x

McKinney, M., Scarlett, L., Kemmis, D., and Lincoln Institute of Land Policy. (2010). *Large landscape conservation: A strategic framework for policy and action*. Lincoln Institute of Land Policy. http://www.lincolninst.edu/pubs/1808_Large-Landscape-Conservation

Miles, M.B., and Huberman, A.M. (1994). *Qualitative Data Analysis* (2nd ed.)*.* Sage Publications.

Millard, M. J., Czarnecki, C. A., Morton, J. M., Brandt, L. A., Briggs, J. S., Shipley, F. S., Sayre, R., Sponholtz, P. J., Perkins, D., Simpkins, D. G., and Taylor, J. (2012). A national geographic framework for guiding conservation on a landscape scale. *Journal of Fish and Wildlife Management*, *3*(1), 175–183. https://doi.org/10.3996/052011-JFWM-030

Mills, M., and Nie, M. (2021). Bridges to a new era: A report on the past, present, and potential future of Tribal co-management on federal public lands. *Public Land & Resources Law Review*, *44*(1). https://scholarworks.umt.edu/plrlr/vol44/iss1/2

Moon, K., Blackman, D. A., Adams, V. M., Colvin, R. M., Davila, F., Evans, M. C., Januchowski-Hartley, S. R., Bennett, N. J., Dickinson, H., Sandbrook, C., Sherren, K., St. John, F. A. V., van Kerkhoff, L., and Wyborn, C. (2019). Expanding the role of social science in conservation through an engagement with philosophy, methodology, and methods. *Methods in Ecology and Evolution*, *10*(3), 294–302. https://doi.org/10.1111/2041-210X.13126

Morrison, T. H., Adger, W. N., Brown, K., Lemos, M. C., Huitema, D., Phelps, J., Evans, L., Cohen, P., Song, A. M., Turner, R., Quinn, T., and Hughes, T. P. (2019). The black box of power in polycentric environmental governance. *Global Environmental Change*, *57*, 101934. https://doi.org/10.1016/j.gloenvcha.2019.101934

National Academies of Sciences, Engineering, and Medicine (National Academy of Sciences). (2016). *A Review of the Landscape Conservation Cooperatives*. Washington, DC: The National Academies Press. doi: 10.17226/21829.

Native American Fish and Wildlife Society. (2021). *Sharing information and techniques nationwide*. https://www.nafws.org/about/background/

National Caucus of Environmental Legislators (NCEL). (2022, January 11) *State-Federal coordination key to achieving 30x30 conservation goal* [Press release]. https://www.ncelenviro.org/articles/state-federal-coordination-key-to-achieving-30x30-conservation-goal/

National Congress of American Indians. (2020). *Tribal Nations and the United States: An Introduction*.

http://www.ncai.org/tribalnations/introduction/Indian_Country_101_Updated_February_2019.pdf

National Fish and Wildlife Federation (NFWF). (2022, November 10). *NFWF, Federal Agencies and Private Partners Announce $91 Million in Grants from America the Beautiful Challenge* [Press Release]. https://www.nfwf.org/media-center/press-releases/nfwf-federal-agencies-and-private-partners-announce-91-million-grants-america-beautiful-challenge

National Park Service (NPS). (2021, October). *U.S. Biosphere Network*. National Park Service, Department of the Interior. https://www.nps.gov/subjects/connectedconservation/us-biosphere-network.htm

National Religious Partnership for the Environment (NRPE). (2022, September). *Stories on the land: Showcasing Black history on public lands*. Retrieved from: http://www.nrpe.org/uploads/2/4/4/7/24473122/black_church_lands_final.pdf

Nelson, R. (2023, March 13). *State-owned lands in the eastern United States: lessons from state land management practices*. Property and Environment Research Center (PERC). Retrieved from: https://www.perc.org/2018/03/13/state-owned-lands-in-the-eastern-united-states/

Newing, H., Eagle, C.M., Puri, R.K., and Watson, C.W. (2011). *Conducting Research in Conservation*. Routledge.

Network for Landscape Conservation. (2017). *Pathways forward: Progress and priorities in landscape conservation*. https://landscapeconservation.org/wp-content/uploads/2018/08/Pathways-Forward_2018_NLC.pdf

Nijhuis, M. (2021, March 21). What Protecting 30 Percent of the Planet Really Means. *Scientific American*. Retrieved from https://www.scientificamerican.com/article/what-protecting-30-percent-of-the-planet-really-means/

Noss, R.F., M.A. O'Connell, and D.D. Murphy. (1997). *The Science of Conservation Planning: Habitat Conservation under the Endangered Species Act*. Island Press.

Office of Science and Technology Policy (OSTP) and Council on Environmental Quality (CEQ). (2022, November 30). *Guidance for federal departments and agencies on Indigenous Knowledge*. Report, Executive Office of the President. https://www.whitehouse.gov/ceq/news-updates/2022/12/01/white-house-releases-first-of-a-kind-indigenous-knowledge-guidance-for-federal-agencies/

Oliver, O. (2022, May). *Significant Washington Land Returned to the Colville Tribe, Its Original Stewards* [Press Release]. The Nature Conservancy. https://www.nature.org/en-us/about-us/where-we-work/united-states/washington/stories-in-washington/land-back-figlenski-ranch-colville-tribe/

Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. *Science*, *325*(5939), 419–422. https://doi.org/10.1126/science.1172133

Ostrom, E. (2010). Beyond markets and states: Polycentric governance of complex economic systems. *The American Economic Review*, *100*(3), 641–672. http://www.jstor.org/stable/27871226

Peterson, J. and Bateson, E. (2018, March). *Assessing the state of landscape conservation initiatives in North America: A survey and report*. Network for Landscape Conservation. https://landscapeconservation.org/wp-content/uploads/2018/04/NLC-2017-Survey-Report_Final-Report_corrected.pdf

Puri, R.K. (2011). Chapter 5: Participant observation. In Newing, H., Eagle, C.M, Puri, R.K. and Watson , C.W. (Eds), *Conducting Research in Conservation: Social Science Methods and Practice*, pp. 85-97. Routledge.

Rabe, B. G. (2016). The Durability of Carbon Cap-and-Trade Policy. *Governance*, *29*(1), 103–119. https://doi.org/10.1111/gove.12151

Ravitch, S. M., and Riggan, M. (2016). *Reason & Rigor: How Conceptual Frameworks Guide Research*. Sage Publications.

Remington, T.E., Deibert, P.A., Hanser, S.E., Davis, D.M., Robb, L.A., and Welty, J.L. (2021) *Sagebrush conservation strategy—Challenges to sagebrush conservation*. U.S. Geological Survey Open-File Report 2020–1125. https://doi.org/10.3133/ofr20201125

Richman, E., Lotze, N., and Loza, A.M. (2017). *National poll results: How Americans view conservation*. Pennsylvania Land Trust Association. https://conservationtools.org/library_items/1207-National-Poll-Results-How-Americans-View-Conservation

Rosa, L. and Malcom, J. (2020). *Getting to 30x30: Guidelines for decision-makers*. Defenders of Wildlife. https://defenders.org/sites/default/files/2020-07/getting-to-30x30-guidelines-for-decision-makers.pdf?utm_source=webstory&utm_medium=social&utm_campaign=report-30x30guidelines-071520

Salomon, A. K., Quinlan, A. E., Pang, G. H., Okamoto, D. K., and Vazquez-Vera, L. (2019). Measuring social-ecological resilience reveals opportunities for transforming environmental governance. *Ecology and Society*, *24*(3). http://www.jstor.org/stable/26796981

Sayer, J., Sunderland, T., Ghazoul, J., Pfund, J.-L., Sheil, D., Meijaard, E., Venter, M., Boedhihartono, A. K., Day, M., Garcia, C., van Oosten, C., and Buck, L. E. (2013). Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses. *Proceedings of the National Academy of Sciences*, *110*(21), 8349–8356. https://doi.org/10.1073/pnas.1210595110

Scarlett, L., and McKinney, M. (2016). Connecting people and places: The emerging role of network governance in large landscape conservation. *Frontiers in Ecology and the Environment*, *14*(3), 116–125. https://doi.org/10.1002/fee.1247

Scarlett, L. and Parker, M. (2021, April 22). 21st century conservation: A vision of collaboration across landscapes. *The Hill,* Opinion. Retrieved from: https://thehill.com/opinion/energy-environment/549729-21st-century-conservation-a-vision-of-collaboration-across/

Schoenefeld, J., and Jordan, A. (2017). Governing policy evaluation? Towards a new typology. *Evaluation*, *23*(3), 274–293. https://doi.org/10.1177/1356389017715366

Schultz, P. W. (2011). Conservation Means Behavior. *Conservation Biology*, *25*(6), 1080–1083. https://doi.org/10.1111/j.1523-1739.2011.01766.x

Shin, Y.-J., Midgley, G. F., Archer, E. R. M., Arneth, A., Barnes, D. K. A., Chan, L., Hashimoto, S., Hoegh-Guldberg, O., Insarov, G., Leadley, P., Levin, L. A., Ngo, H. T., Pandit, R., Pires, A. P. F., Pörtner, H.-O., Rogers, A. D., Scholes, R. J., Settele, J., and Smith, P. (2022). Actions to halt biodiversity loss generally benefit the climate. *Global Change Biology*, *28*(9), 2846–2874. https://doi.org/10.1111/gcb.16109

Shobe, W. (2020). Emerging issues in decentralized resource governance: Environmental federalism, spillovers, and linked socio-ecological systems. *Annual Review of Resource Economics*, *12*(1), 259–279. https://doi.org/10.1146/annurev-resource-110319-114535

Shreeve, T. G., and Dennis, R. L. H. (2011). Landscape scale conservation: Resources, behaviour, the matrix and opportunities. *Journal of Insect Conservation*, *15*(1), 179–188. https://doi.org/10.1007/s10841-010-9336-9

Tallamy, D. (2019). *Nature's Best Hope: A New Approach to Conservation That Starts in Your Yard*. Timber Press.

Taylor, D. E. (2016). *The Rise of the American Conservation Movement: Power, Privilege, and Environmental Protection*. Duke University Press.

Thomsen, J. M., and Caplow, S. C. (2017). Defining success over time for large landscape conservation organizations. *Journal of Environmental Planning and Management*, *60*(7), 1153–1172. https://doi.org/10.1080/09640568.2016.1202814

Trisos, C.H., Auerbach J., and Katti, M. (2021). Decoloniality and anti-oppressive practices for a more ethical ecology. *Nature Ecology & Evolution 5*(9): 1205–12. https://doi.org/10.1038/s41559-021-01460-w

Trombulak, S., and Baldwin, R. (Eds). (2010). *Landscape-Scale Conservation Planning*. London, New York: Springer Dordrecht Heidelberg. https://doi.org/10.1007/978-90-481-9575-6

Tsosie, R. L., Grant, A. D., Harrington, J., Wu, K., Thomas, A., Chase, S., Barnett, D., Hill, S. B., Belcourt, A., Brown, B., and Sweetgrass-She Kills, R. P. (2022). *The six Rs of Indigenous research*. *Tribal College Journal of American Indian Higher Education*, *33*(4). https://tribalcollegejournal.org/the-six-rs-of-indigenous-research/

Turner, F. (1893). *The significance of the frontier in American history*. Annual Report of the American Historical Association, p. 197-227. https://www.historians.org/about-aha-and-membership/aha-history-and-archives/historical-archives/the-significance-of-the-frontier-in-american-history-(1893)

Tyndall, J. (2010). AACODS Checklist. University of Flinders. Retrieved from: http://dspace.flinders.edu.au/dspace/

Udall, T. (2020, January 31). Tom Udall: It's past time we confront the climate and nature crises. *High Country News*, Opinion. https://www.hcn.org/articles/climate-change-tom-udall-its-past-time-we-confront-the-climate-and-nature-crises

U.S. Census Bureau. (2021). *Geographic levels*. Retrieved from: https://www.census.gov/programs-surveys/economic-census/guidance-geographies/levels.html#par_textimage_34

U.S. Department of Interior (Department of Interior). (2022, June 21). *BLM, Forest Service and Five Tribes of the Bears Ears Commission Commit to Historic Co-management of Bears Ears National Monument* [Press Release]. https://www.doi.gov/pressreleases/blm-forest-service-and-five-tribes-bears-ears-commission-commit-historic-co-management

U.S. Department of Interior (Department of Interior). (2022, April 11). *Biden-Harris Administration Launches $1 Billion America the Beautiful Challenge to Support and Accelerate Locally Led Conservation and Restoration Projects* [Press release]. https://www.whitehouse.gov/ceq/news-updates/2022/04/11/biden-harris-administration-launches-1-billion-america-the-beautiful-challenge-to-support-and-accelerate-locally-led-conservation-and-restoration-projects/

U.S. Department of Interior, U.S. Department of Agriculture, U.S. Department of Commerce, and U.S. Council on Environmental Quality. (2021, May). *Conserving and restoring America the Beautiful*. https://www.doi.gov/sites/doi.gov/files/report-conserving-and-restoring-america-the-beautiful-2021.pdf

U.S. Department of Interior (DOI). (n.d.). *National Park Service dataset*. https://data.doi.gov/organization/about/national-park-service

U.S. Geological Survey (USGS) Gap Analysis Project. (2020). Protected areas database of the United States (PAD-US) 2.1: U.S. Geological Survey data release, https://doi.org/10.5066/P92QM3NT

U.S. Fish and Wildlife Service (USFWS). (2022). *Report to the Committees on Appropriations: A summary of the U.S. Fish and Wildlife Service's support of the next generation of landscape conservation*. USFWS Science Applications. https://www.fws.gov/sites/default/files/documents/FWS%20LCC%20Report.pdf

Whitfield, M.B. (2019). *Toward holistic landscape conservation in the 21st century*. Working paper, Lincoln Land Institute of Land Policy. https://www.landconservationnetwork.org/sites/default/files/whitfield_wp19mw1.pdf

Wilkins, K., Pejchar, L., Carroll, S. L., Jones, M. S., Walker, S. E., Shinbrot, X. A., Huayhuaca, C., Fernández-Giménez, M. E., and Reid, R. S. (2021). Collaborative conservation in the United States: A review of motivations, goals, and outcomes. *Biological Conservation*, *259*, 109165. https://doi.org/10.1016/j.biocon.2021.109165

Wilson, E. O. (2016). *Half-Earth: Our Planet's Fight for Life*. Live Right.

Wolfe, P. (2006). Settler colonialism and the elimination of the native. *Journal of Genocide Research*, *8*(4), 387–409. https://doi.org/10.1080/14623520601056240

Yaffee, S. L. (1996). Ecosystem Management in Practice: The Importance of Human Institutions. *Ecological Applications*, *6*(3), 724–727. https://doi.org/10.2307/2269472

Young, J. C., Waylen, K., Sarkki, S., Albon, S., Bainbridge, I., Balian, E., and Watt, A. (2014). Improving science-policy dialogue to meet the challenges of biodiversity conservation: Having conversations rather than talking at one-another. *Biodiversity and Conservation*, *23*, 387–404. https://doi-org.ezproxy.library.wwu.edu/10.1007/s10531-013-0607-0

Appendix A: Interview Questions

Introduction:

1. Does your work intersect with the design of a national framework for landscape conservation? If so, how?

2. When did you become familiar with the idea of a national framework?

3. How have you been involved thus far?

Detailed:

4. In an ideal world, what would a national framework accomplish in ten years?

5. What does the word "durability" mean to you in the context of a national framework, and how can it be measured?

6. What does the word "effective" mean to you in the context of a national framework, and how can it be measured?

7. In your perspective, who are the different actors involved in a national framework, and what are their roles?

8. What challenges do you foresee, if any, for a national framework to become durable and effective?

Conclusion:

9. Are there stakeholders or specific groups of people missing from the conversation and design of a national framework? If so, who?

10. Is there anyone else you think I should speak with about this?

11. Is there anything you would like to add, or is there anything I didn't ask about it but should have?

Appendix B: AACODS Checklist and List of Grey Literature Reviewed

The Tyndall's (2010) AACODS checklist is a checklist designed for the evaluation and critical appraisal of grey literature. It covers the following areas:

- **Authority**: who is responsible for the content?
- **Accuracy**: is the content clear and consistent?
- **Coverage**: what is the scope?
- **Objectivity**: what are the underlying biases (stated or unstated)?
- **Date**: how current is the content?
- **Significance**: is the resource meaningful, representative, or impactful?

Association of Fish & Wildlife Agencies. (2021, September). *Leading At-Risk Fish and Wildlife Conservation: A Framework to Enhance Landscape-scale and Cross-boundary Conservation Through Coordinated State Wildlife Action Plans.* A report from the AFWA State Wildlife Action Plan and Landscape Conservation Work Group to the AFWA Wildlife Diversity Conservation and Funding Committee. Washington, DC. https://www.fishwildlife.org/application/files/6416/3240/1090/SWAPLandscapeConservationReport_2021-FINAL.pdf

Build a 100 Percent Clean Economy: The Challenges Facing Frontline Communities. U.S. House of Representatives, Subcommittee on Energy and Commerce, Committee on Energy and Commerce. 116th Congress. (2019). (Hon. Melissa Cribbins, Commissioner from Coos County, Oregon). https://www.congress.gov/event/116th-congress/house-event/110247

Center for Large Landscape Conservation. (2020). *Key considerations in developing a strategy to conserve 30% of Nature by 2030*. https://largelandscapes.org/resources/

Haubold, E. and Wathen, G. (2017). *The future of the Landscape Conservation Cooperatives: A white paper for the National Forum on Landscape Conservation*. Future of Conservation Forum. https://www.futureofconservation.earth/uploads/1/3/2/8/132872018/lcc_network_white_paper.pdf

Hilty, J., Worboys, G. L., Keeley, A., Woodley, S., Lausche, B. J., Locke, H., Carr, M., Pulsford, I., Pittock, J., White, J. W., Theobald, D. M., Levine, J., Reuling, M., Watson, J. E. M., Ament, R., and Tabor, G. M. (2020). *Guidelines for conserving connectivity through ecological networks and corridors* (C. Groves, Ed.). IUCN, International Union for Conservation of Nature. https://doi.org/10.2305/IUCN.CH.2020.PAG.30.en

Mawdsley, J. (Ed) (2017). *State Fish and Wildlife Agency approaches to landscape-scale conservation*. AFWA, Association of Fish and Wildlife Agencies. https://www.fishwildlife.org/download_file/view/548/220

Native Americans in Philanthropy. (2021). *Tribal leader statement on 30x30 proposed policy*. https://nativephilanthropy.org/wp-content/uploads/2021/05/FINAL-Tribal-Leader30x30-Statement-5.6.21.pdf

National Religious Partnership for the Environment (September 2022). *Stories on the land: Showcasing black history on public lands*. http://www.nrpe.org/uploads/2/4/4/7/24473122/black_church_lands_final.pdf

Richards, R. (2018). *Measuring conservation progress in North America*. CAP, Center for American Progress. https://cdn.americanprogress.org/content/uploads/2018/12/03082643/Measuring-Conservation-Progress_.pdf

Rosa, L. and Malcom, J. (2020). *Getting to 30x30: Guidelines for decision-makers. Defenders of Wildlife*. https://defenders.org/sites/default/files/2020-07/getting-to-30x30-guidelines-for-decision-makers.pdf?utm_source=webstory&utm_medium=social&utm_campaign=report-30x30guidelines-071520

Shuffield, J. and Nedd, A. (May 2021). *Biden administration releases report on their goal to conserve 30 percent of land and waters by 2030*. NACO, National Association of Counties. https://www.naco.org/blog/biden-administration-releases-report-their-goal-conserve-30-percent-lands-and-waters-2030

Support for Select Federal Programs that Address Climate Change Mitigation and Adaptation. U.S. Senate Committee on Appropriations, Subcommittee on Interior, Environment, and Related Agencies, Committee on Energy and Natural Resources. 116th Congress. (2020). (Daniel Bresette, Executive Director of the Environmental and Energy Study Institute). https://www.energy.senate.gov/services/files/D7B30941-BF5D-4AA6-9078-C93C99739E22

U.S. Department of Interior. (2023). *Fact Sheet: Interior Department to Take Action to Restore Lands and Waters, Advance Climate Resilience*. U.S. Department of Interior. https://www.doi.gov/sites/doi.gov/files/interior-department-to-take-action-to-restore-lands-and-waters.pdf

U.S. Fish and Wildlife Service (USFWS). (2022). *Report to the Committees on Appropriations: A summary of the U.S. Fish and Wildlife Service's support of the next generation of landscape conservation*. USFWS Science Applications. https://www.fws.gov/sites/default/files/documents/FWS%20LCC%20Report.pdf

U.S. Fish and Wildlife Service (USFWS). (2022, March 28). *President's $2B Service Budget Request Prioritizes Conservation, Key Administration Initiatives* [Press Release]. USFWS, Public Affairs HQ. https://www.fws.gov/press-release/2022-03/presidents-2b-service-budget-request-prioritizes-conservation-key

Appendix C: Data Analysis Coding Frame

Theme: Policy Durability for Landscape Conservation

Code	Definition
Legislative actions	Use current legislation more strategically or create new legislation to ensure long-term funding for landscape-scale conservation efforts
Executive actions	Current executive administration should increase institutional support for landscape conservation and build buy-in from within
Long-term funding	Increased funding opportunities is required to build trust, support ongoing conservation efforts, ensure capacity needs are met, and to maintain consistency and adaptability
Public support and awareness	Increase public support for landscape conservation through communication and inclusive engagement

Theme: Concerns and Opportunities for a National Framework for Landscape Conservation

Code	Subcode	Definition
Concerns	Command-and-control governance	Imposing hierarchical authority and decision making in a top-down structure (i.e., decisions made from the federal government onto to the state or local level of government)
	Federal land acquisition	Approach to achieving 30x30 and conserving land through federal land acquisition
	Repeating Landscape Conservation Cooperative (LCCs) Network	Recent landscape conservation program led by the USFWS (2009 – 2017) that was unfavorable by some due to the perceived top-down, command-and-control structure.
	Inadequate institutional structure	The internal infrastructure is too complex to create a framework that supports landscape conservation across agencies, departments, etc.

Opportunities	Advocacy for existing and ongoing work	Advocating for collaborative conservation efforts that already exist and are understood and embraced by decision makers at multiple scales
	Consistency and coordination amongst initiatives	Consistent use of language, reporting metrics, funding on an annual basis, peer learning, and community of practice; coordination amongst multiple federal programs
	Design of a conservation and stewardship atlas	The development of an atlas to develop and track a clear baseline of information on lands and waters that are conserved plus the collaborative efforts to reach conservation status
	Creation of a shared conservation vision	A national framework creates an opportunity for a shared vision of conservation amongst the federal agencies, state and county/local governments, Tribes, nonprofit organizations, etc.

Theme: Activities within Landscape Conservation

Code	Definition
Collaborative/Partnership coordination	Capacity to connect with efforts across political levels and geographic scales, acquire funds, create plans, implement projects, and evaluate partnership.
Stakeholder engagement	Engage and involve local community, state agencies, Tribal nations, private landowners, federal agencies (e.g., NPS, USFS)
Equity and inclusion building	Ensure process and decision-making for landscape conservation efforts is equitable and inclusive of historically marginalized communities; use the design of national framework to ensure resources are distributed equitably (e.g., providing more money to Tribes)
Integrate and apply Western science and Indigenous knowledges	Embrace and integrate intergenerational knowledges, extensive observations and natural histories. Mapping and monitoring of biodiversity, climate change, species loss, wildlife connectivity corridors, invasive species, etc. Land management activities (e.g., removing invasive species, species reintroduction), disseminate research and information to various audiences.
Policy agenda setting	Researching, writing, and advocating for policy at county, state, and federal levels that supports landscape conservation