

Tribal Initiatives and Opportunities for Land Return and Co-Stewardship in the Northern Great Plains

By

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Executive Summary

Project Overview

In the Northern Great Plains (NGP), Indigenous Peoples' relationship with the grasslands is profound. Yet, their conservation efforts are often obstructed by a history of insufficient recognition of their land and governance rights and legislative and regulatory obstacles. With Indigenous Peoples representing a significant proportion of the NGP's population, their impact on grassland conservation is substantial and their role in stewardship initiatives is essential for the ecological and cultural integrity of the region.

Since January 2023, serving as student consultants for the Buffalo Nations Grasslands Alliance (BNGA)—an Indigenous alliance composed of 11 Tribes dedicated to managing grasslands on native lands—we have conducted a project aimed at bolstering Indigenous-led conservation in the NGP. Our work has been focused on supporting the initiatives of Tribal Nations, particularly the Lower Brule Sioux Tribe, to navigate and assert their rights and engage in co-stewardship and land return, underpinned by the vital significance of Indigenous stewardship and Traditional Ecological Knowledge (TEK).

The analysis conducted as part of this project seeks to contribute to the growing body of knowledge that recognizes and understands the valuable contributions of Indigenous knowledge systems and governance structures to the restoration of and management of the NGP. Our research efforts are dedicated to supporting the development of tribal-led conservation and co-management strategies with tribes and tribal organizations, which is essential for maintaining the ecological and cultural fabric of these historically significant grasslands.

Project Objectives

In response to the Buffalo Nations Grasslands Alliance's (BNGA) request, we have dedicated our efforts to their defined objectives, which complement their mission to provide technical and financial support to tribes. Under the guidance of our client and along with the invitation from Dr. Brian Molyneaux of the Cultural Resource Office for the Lower Brule Sioux Tribe, we have:

1. Compiled the land ownership dataset in the NGP providing statistical and geospatial information.
2. Evaluated the impact of different land tenure systems on grassland conservation, with a focus on comparing tribal versus non-tribal land ownership.
3. Documented the historical land tenure and loss of land of the Lower Brule Tribe, providing a timeline of reservation diminishment.
4. Identified potential pathways for advancing co-stewardship and land reclamation in the NGP.

Research Methods and Findings

Our research approach combined geospatial data analysis, extensive archival research, legislative review, and fieldwork engagements with tribal representatives and federal employees. We especially concentrated on tracing the historical contraction of the Lower Brule Indian Reservation, as well as crafting a detailed policy timeline concerning the National Grasslands System. This involved rigorous examination of spatial datasets, legislative texts, treaties, archival records, and firsthand narratives to construct a multifaceted picture of land ownership and policy impacts in the region. We compiled the first-ever database of land ownership in the NGP and paired it with the comparison of performance

between tribal and non-tribal lands. All datasets and products will be with BNGA and made available to the Lower Brule Sioux Tribe and other tribes for their own, self-determined uses.

Results demonstrated that tribal trust lands outperform federal, state, and private lands in several critical environmental indicators, including grassland productivity and soil organic carbon stock. Despite tribes being significant landholders, their contributions to land stewardship remain under-recognized due to gaps in tribal land ownership data and acknowledgment of Indigenous land rights.

Case Study and Co-Stewardship Efforts

Our case study of the Lower Brule Indian Reservation has documented the specific legal and regulatory processes that led to a substantial loss of Tribal lands—a 60% reduction since its establishment in 1889, exclusively due to federal policies and actions. This research helps bring to light the historical mechanisms of dispossession already well known to the Tribe, contextualizing their experiences within the larger framework of federal land expropriation.

Building on that foundation, we delved further into the shifts in land governance and ownership over time. During this time, land that was once an integral part of the Lower Brule heritage has transitioned to various forms of federal management and private ownership. Notably, a significant tract of the Fort Pierre National Grasslands adjacent to the reservation was historically identified as Tribal land. Our research detailed the legal history of these land transitions and made it accessible, thereby supporting the Tribe's established initiatives for land return and co-stewardship. Discussions about co-management and potential land restitution to the Lower Brule Tribe, in partnership with the U.S. Forest Service, are already in progress. It is our hope that our findings serve to strengthen the Tribe's position in these ongoing dialogues.

Federal policies and orders, such as Secretarial Order No. 3403, have laid the groundwork for reimagining and transforming relationships and collaborations between the U.S. government and Tribal Nations. Instruments like the Tribal Forest Protection Act (TFPA) and the Good Neighbor Authority are designed to facilitate co-stewardship of federal lands by Tribal Nations. They serve as mechanisms that not only improve environmental management and resilience but also support the recognition and expansion of tribal management capabilities.

The Lower Brule Sioux Tribe is demonstrating the potential opportunities for expanding the authority of Native Nations in the governance of their historic homelands through actively transitioning to more inclusive co-stewardship governance of the Fort Pierre National Grasslands. This is underscored by a \$100,000 TFPA grant earmarked to foster cooperative stewardship efforts, which begins to recognize the historic rights of tribes and the essential roles tribes hold in stewarding the grasslands.

Although systemic barriers remain, there are emerging examples of successful co-stewardship arrangements and land return efforts led by Tribal Nations with federal entities, signaling an evolving transformation in the conservation landscape of the United States. These efforts are representative of what is possible when commitments to mutual respect, recognition of sovereignty, and shared goals coalesce to forge pathways toward reconciling historical disparities and crafting a more just and sustainable future.

Conclusion

The project aims to contribute and support the initiatives of not only BNGA's but also of all the tribes of the NGP in elevating the visibility of Tribal Nations in land stewardship dialogue in the U.S., showcasing their capacity for sustainable land management and substantive contribution to conservation

efforts. Increasing this visibility is pivotal for forwarding conservation goals and meeting the collective challenge of climate change. This is particularly critical in advocating for the sustainable stewardship of the Northern Great Plains grasslands.

The project's findings highlight the critical need for prioritizing Indigenous rights, knowledge, and governance, emphasizing that expanding these elements across federal lands overlapping historic territories is essential—not only for the stewardship of the Northern Great Plains but also for national and global environmental policy.

Introduction

Indigenous leaders, scholars, and knowledge holders have consistently emphasized the efficacy of their stewardship practices in preserving biodiversity, mitigating climate change, and fostering positive social change (Scheidel et al., 2023). Over generations, Indigenous Peoples have centered their knowledge of their landscapes and climate change in their cultures, political organizations, and arts. Many Indigenous Peoples closely track natural cycles and assemblages of plants and animals (Whyte et al., 2023). They closely monitor natural cycles, demonstrating a profound awareness of environmental disruptions (Whyte et al., 2023). Taking the lead in climate action, Indigenous individuals and organizations implement diverse strategies for adaptation and mitigation, guided by Indigenous knowledge and values and the pursuit of self-determination (Whyte et al., 2023; U.S. Climate Resilience Toolkit, 2021).¹

Indigenous Peoples² exercise cultural, economic, and political self-determination by enacting their legal and customary systems, rights, and governance capacities, challenging persistent structures³ of colonialism, capitalism, and industrialization (Whyte, 2021). By exercising their right to self-determination, Indigenous Peoples can respond to climate change in ways that align with the needs and aspirations of their communities (Whyte et al., 2023). However, their ability to exercise this right is often hindered by institutions and policies shaped by the impacts of settler colonialism (Washburn 2023; Whyte et al., 2023; Whyte, 2021).

While the United States recognizes certain Indigenous peoples' self-governance, these rights may face restrictions due to current social and political conditions. For federally recognized Tribes,⁴ the U.S. has a duty of government-to-government consultation (Whyte et al., 2023; Monte & Nie, 2021; Executive Office of the President, 2000). Consultative processes, however, are not yet widely practiced in ways that support the agency of tribes, even when the U.S. and its agencies expand the frequency of consultations (Washburn, 2023; Whyte et al., 2023; Monte & Nie 2021). For instance, federally recognized Tribes may experience differences in collaborative climate and emergency planning compared to non-federally recognized Tribes, who are often excluded from such initiatives involving various jurisdictions, such as federal, state, or municipal governments (Whyte et al., 2023; Whyte, 2021). As an alternative approach, many Indigenous Peoples often advocate for implementing Indigenous-led management and joint administration of lands, rivers, and other resources under federal or state jurisdiction (Whyte et al., 2023; Monte & Nie 2021).

¹ **Indigenous Knowledges:** refers to the practical wisdom of Indigenous Peoples, communities and individuals formed by their deep relationship with the land they reside on. The wisdom has been nurtured over thousands of years, derived from rich lived experiences and a respectful relationship with the environment. Such knowledge has been handed down through generations (Racehorse & Hohag, 2023).

² **Indigenous Peoples:** This term refers to culturally and politically self-determining groups globally, recognized under international law as having the right to self-determination (United Nations (General Assembly), 2007, art. 5). Within the context of the United States, this encompasses those socio-political groups whose rights to self-determination predate the founding of the country, including in territories such as North America, Hawai'i, the US-Affiliated Pacific Islands, Puerto Rico, and the US Virgin Islands (Whyte et al., 2023).

³ Structures are in reference to systems of cultural, economic, and political power or authority (Whyte, 2021).

⁴ **Federally-Recognized Tribes:** An American Indian or Alaska Native Tribal entity that is recognized as having a government-to-government relationship with the United States - with the responsibilities, powers, limitations, and obligations attached to that designation, and is eligible for funding and services from the Bureau of Indian Affairs (Whyte et al., 2023).

Grasslands are fundamental to Indigenous lifeways⁵ in the Northern Great Plains (NGP), with Indigenous Peoples recognizing the interconnectedness of nature, people, and culture (Buffalo Nations Grasslands Alliance 2022). These lands sustain community well-being across spiritual, physical, and cultural dimensions, forming the essence of Native Nations' existence (Buffalo Nations Grasslands Alliance 2022).⁶ The NGP ecoregion is home to 16 federally recognized Tribal Nations whose histories intertwine with the grasslands (Buffalo Nations Grasslands Alliance, 2022; Conant et al., 2018; Ricketts, 1999).⁷

However, natural resources on tribal lands confront formidable threats, primarily habitat loss and degradation exacerbated by climate change (Buffalo Nations Grasslands Alliance 2022). The conversion into croplands poses a significant risk to all grasslands in the NGP. This leads to wildlife habitat loss, degradation of ecosystem services, and depletion of resources crucial to Indigenous well-being (Buffalo Nations Grasslands Alliance, 2022). Native Nations, representing a significant proportion of the NGPs' population and land area, aspire to preserve and enhance intact grassland ecosystems for their ecological, economic, and cultural significance (Buffalo Nations Grasslands Alliance 2022).

Numerous climate adaptations are underway in response to Indigenous Peoples' environmental challenges in the NGP (Conant et al., 2018). Many tribes and tribal programs proactively address these issues, including restoring species and enhancing grassland maintenance efforts (Whyte et al., 2023; Friedman, 2023). These initiatives have been bolstered by collaborative efforts among various organizations and agencies to coordinate conservation actions effectively. However, despite these efforts, tribes encounter significant legal and regulatory challenges stemming from post-colonial resettlement, land fragmentation impacts, and uneven regulation by federal agencies (Conant et al., 2018).

These challenges hinder grassland conservation and the well-being of Native Nations. Insufficient political will, inadequate infrastructure and capacity, and a lack of integrated management and collaboration present significant obstacles (Buffalo Nations Grasslands Alliance, 2022). Additionally, the trust relationship with the federal government, wherein tribal lands are held "in trust," necessitates federal permission for many aspects of land and resource management (Mills & Nie, 2021). Furthermore, state, federal, tribal, and private institutions often overlook the importance of grasslands or fail to provide adequate support for their conservation, neglecting the vital connections between Indigenous Peoples and their ecosystems (Buffalo Nations Grasslands Alliance 2022).

Moreover, despite the United States' recognition of Native Nations' right to self-governance, these rights are frequently constrained in collaborative climate and emergency planning efforts involving multiple jurisdictions (Conant et al., 2018). In response, Indigenous Peoples' organizations advocate for Indigenous-led management and joint administration of resources under federal or state jurisdiction. These efforts are vital to ensuring Indigenous sovereignty and collaborative environmental stewardship.

This collective effort represents an unprecedented strategic opportunity for many tribes to reclaim rights over their ancestral homelands. The legislative actions and increased recognition of Indigenous sovereignty and land stewardship present a unique moment for Tribal Nations to assert their rights and revitalize their connection to the land. Tribes across the country are mobilizing to seize this opportunity. Recent developments include the USDA, the Forest Service, and the Department of the Interior entering

⁵ Lifeways are the interwoven economic activities, food cycles, health maintenance practices, lifestyles, cultural and ceremonial activities, belief systems, and politics of a people.

⁶ In the United States, Indigenous Peoples are commonly referred to as "Tribes" or "Native Nations."

⁷ In the context of this research, the Northern Great Plains is delineated by the defined boundaries of the NGP ecoregion, as opposed to conventional state boundaries (Chapter 1; Figure 1).

into more than twenty new co-stewardship agreements with Native Nations, aimed at enhancing shared stewardship objectives. Additionally, more than sixty additional agreements are advancing through various stages of completion (Racehorse & Hohag, 2023).

The resurgence of the land return movement reflects a comprehensive strategy to fulfill aspirations of self-determination, sovereignty, and conservation. This strategy employs a spectrum of methods, ranging from tribal co-management agreements and conservation easements to the outright purchase or voluntary restitution of tribal lands, without restriction. These diverse tactics undertaken by tribes and tribal organizations represent a compendium of efforts toward the land return and stewardship mission. Such efforts provide actionable examples for other tribes or interested entities striving to achieve interconnected outcomes that are mutually advantageous (Racehorse & Hohag, 2023).

This report intends to contribute to Indigenous Peoples' increasing efforts to advance their treaty rights, Traditional Ecological Knowledge (TEK), and sovereignty across their historic homelands within the NGP and beyond. By shedding light on legislative measures, historical contexts, and current initiatives, we aim to bolster the capacity of Indigenous Peoples as they navigate the realms of efficacious land governance, ecological stewardship, and the safeguarding of cultural heritage.

Research Approach

Geospatial Methods

We conducted extensive data research on public geospatial databases, including the government data hub, non-government organizations, universities, and geospatial data companies. Following the principles of respecting Indigenous Peoples' data sovereignty, we examined the completeness and accuracy of data to decide what specific datasets are appropriate for analysis. Data obtained from the World Wildlife Fund (WWF), Bureau of Indian Affairs (BIA), OnX Hunt App, and state government data hubs were used collectively to identify land ownership information in the NGP. We created a new land ownership typology and compiled a new dataset on land ownership across the entire NGP. Data for evaluating grassland performance were retrieved from WWF, the Food and Agriculture Organization of the United Nations, the U.S. Department of Agriculture (USDA), and non-profit ecological data repositories.

Land History Methods

In 2023 - 2024, an extensive literary and archival search for acts of congress that diminished the Lower Brule Indian Reservation boundaries was conducted, as well as a search for Tribal testimonies regarding this diminishment. This search included utilizing academic databases, libraries, and online repositories. In addition, we thoroughly examined the legislative intent and historical background of these acts to determine their overall purpose, offering comprehensive legal viewpoints. Supplementary sources, such as the Library of Congress and the Oklahoma State University Digital Collections, were utilized to identify and scrutinize pertinent treaties and Congressional Acts related to these land matters. Team members visited and conducted research at the National Archives in Washington D.C. and Kansas City.

The National Archives houses vital data, including tribal grievances against the federal government and land ownership records. However, obtaining these stored legal documents and the lack of digitization present obstacles, resulting in many Nations needing more accessible historical documentation. Thus, we aimed to uncover this archived evidence to support tribal leaders' decision-making regarding the land return and co-management of federal lands. More information on this archival

research can be found in the accompanying document, [*A Guide to Accessing the U.S. National Archives to Study the Legal Histories of U.S. Tribes: A Case Study of Investigating the Land History of the Lower Brule Indian Reservation*](#) (Appendix D).

With the guidance of our client, the team traveled to South Dakota in October 2023. We met with different tribal representatives and employees of the U.S. Forest Service. We abided by the University of Michigan research ethics and compliance standards, receiving an exemption from the Health Sciences and Behavioral Sciences Institutional Review Board. In compliance with this exemption, this research only involved interactions such as interviews, and no human subjects were individually identified throughout this work.

During this research, our objective was to demonstrate respect for tribal data sovereignty by recognizing the rights of each tribe to control their information. Upon obtaining our client's approval, we collected publicly accessible data to provide tribes with this comprehensive overview. Part of the project specifically focuses on the Lower Brule Sioux Tribe in South Dakota, as the positionality of the Tribe offers a unique opportunity for potential co-stewardship agreements with the U.S. Forest Service. All data collected by this research will be transferred to the Tribe.

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Chapter 1: Background on the Northern Great Plains

An Introduction of Indigenous Peoples in the Northern Great Plains

“...a place where the roots of the grasses still reach down into the soil and capture where the grasses provide protection for life that grows in them such as birds, bison, cattle, deer, coyotes, prairie dogs, and the black-footed ferret. This grassland provides food and maintains the connections for all in the life circle.” ~ Monica Rattling Hawk, Citizen of the Oglala Lakota Nation (WWF Wild Classroom, 2021).

For thousands of years, Indigenous Peoples have inhabited and shaped the Northern Great Plains (NGP). The ecoregion’s rich cultural heritage is intrinsically linked to its original inhabitants. Sixteen Native Nations with federally-recognized tribal lands are found within the NGP, and maintain a presence throughout the region, inhabiting both urban and rural areas (Conant et al., 2018; Figure 1). Within this cultural framework, Indigenous Peoples perceive a profound interconnectedness between nature, humanity, and culture (Buffalo Nations Grasslands Alliance, 2022). Historically and traditionally, Indigenous communities relied on the region's resources, hunting bison, elk, and other grassland wildlife for sustenance, clothing, tools, and shelter (Buffalo Nations Grasslands Alliance, 2022). The intricate balance of grassland ecosystems was fundamental to sustaining their way of life, supporting native food cycles and traditional practices to maintain human health and resilience (Buffalo Nations Grasslands Alliance, 2022).

Native grasslands remain paramount to Indigenous Peoples of the NGP. Following the near-extinction of bison, Native Nations have undertaken significant efforts to restore these iconic species, alongside other once-abundant wildlife such as the swift fox and the elusive black-footed ferret. Native plants and animals, including sage, sweetgrass, pronghorn, and deer, retain profound spiritual and cultural significance, essential to healthy grassland ecosystems (Buffalo Nations Grasslands Alliance, 2022). Moreover, traditional practices encompass the collection of native plants for food, medicine, and ceremonial purposes. At the same time, clean water sources from rivers, lakes, and streams, purified by grasslands, are vital for community well-being (Buffalo Nations Grasslands Alliance, 2022).

Beyond sustenance, natural resources play multifaceted roles in supporting community well-being within Native nations. Hunting and fishing programs, encompassing a variety of ungulates and game birds, provide essential sustenance and contribute to resilient health, employment opportunities, and local economic benefits (Buffalo Nations Grasslands Alliance, 2022). Livestock ranching, the financial cornerstone for many Native nations, generates substantial revenue for tribal governments, providing vital public services to tribal members (Buffalo Nations Grasslands Alliance, 2022). Sustainable ranching practices further ensure the integrity of grasslands while preserving critical wildlife habitat (Buffalo Nations Grasslands Alliance, 2022). Additionally, ecotourism serves as a means of generating revenue beyond reservation boundaries, fostering cultural exchange, and promoting the conservation of natural resources (Buffalo Nations Grasslands Alliance, 2022). Through these diverse avenues, Indigenous communities in the NGP continue to uphold their cultural heritage while actively stewarding their ancestral lands for future generations.

Ecological Overview and Threats to the Northern Great Plains



Figure 1: Map depicting the Tribal Nations in the Northern Great Plains Ecoregion. From Sarah Olimb, World Wildlife Fund (2022).

The NGP ecoregion, spanning five U.S. states—Nebraska, South Dakota, North Dakota, Wyoming, and Montana—as well as two lower provinces of Canada, is characterized by its diverse mosaic of grasslands, forests, wetlands, mountains, and urban landscapes. Covering over 180 million acres, the NGP stands as one of the world's few remaining intact temperate grasslands (Friedman, 2023). A rich array of species thrives within this expansive region, including iconic inhabitants such as the plains bison, black-footed ferret, greater sage-grouse, pronghorn, and swift fox (Friedman, 2023).

Despite the ecological richness of the NGP, many species face significant threats to survival. Historical overhunting, habitat loss, and fragmentation have led to substantial population declines, particularly for species like the plains bison and black-footed ferret (Buffalo Nations Grasslands Alliance, 2022). Additionally, the sage grouse and pronghorn are impacted by the expansion of agricultural activities, with cultivated lands posing barriers to their movement and contributing to population declines and local extinctions of migratory ungulates (Buffalo Nations Grasslands Alliance, 2022).

The intact grasslands of the NGP provide vital ecosystem services with far-reaching societal benefits, including flood control, nutrient cycling, water purification, soil conservation, and maintenance of environmental flows for wetlands, rivers, and aquifer recharge (Buffalo Nations Grasslands Alliance, 2022). Moreover, grasslands play a crucial role in climate stabilization by storing carbon, making them a key component of climate change mitigation efforts (Buffalo Nations Grasslands Alliance, 2022; Conant et al., 2018). Protecting grasslands in the NGP is essential, as it would prevent the release of an equivalent

of 24 million metric tons of CO₂ each year, highlighting the critical importance of preserving these landscapes for local biodiversity and global climate stability (Buffalo Nations Grasslands Alliance, 2022).

However, as grasslands are converted to cropland or development, detrimental consequences ensue: wildlife loses habitat, ecosystem services are degraded, and Native peoples lose essential plant and animal resources crucial to their physical, cultural, and spiritual well-being (Buffalo Nations Grasslands Alliance, 2022). Amidst these challenges, Indigenous communities play a significant role in both the population and landscape of the NGP (Buffalo Nations Grasslands Alliance, 2022). Despite the vast expanse of the NGP, it remains predominantly rural, with urban centers typically supporting populations of fewer than 200,000 (U.S. Climate Resilience Toolkit, 2021).

Driven by a deep commitment to preserving the integrity of grassland ecosystems for their ecological, economic, and cultural importance, Indigenous Peoples in the NGP are actively engaged in various initiatives (Buffalo Nations Grasslands Alliance, 2022). Through tribal programs and Native-led organizations dedicated to fish and wildlife management, environmental conservation, land and range stewardship, and tribal colleges, concerted efforts are underway to support and restore native wildlife species, rehabilitate grasslands and wetlands, promote sustainable ranching practices, deliver educational programs on nature, facilitate world-class sustainable hunting experiences, and combat the proliferation of invasive species (Buffalo Nations Grasslands Alliance, 2022; Friedman, 2023).



Figure 2. Map depicting the NGP ecoregion from Ferrel & David (2014).

The NGP confronts an array of threats that affect not only the land but also the traditional lifestyles of Indigenous Peoples. These communities face heightened vulnerability to climate change impacts, particularly those stemming from hydrological shifts such as alterations in snowfall, precipitation timing, and extreme weather events like floods and droughts (Conant et al., 2018). These changes have already inflicted detrimental effects on tribal economies, livelihoods, and the sacred plants and waters integral to ceremonies, medicine, and sustenance (Conant et al., 2018). Moreover, the region's prominence in fossil fuel extraction and renewable energy development adds another layer of complexity,

fragmenting lands and threatening native wildlife habitats. As the Bakken Shale Formation continues to yield significant oil production, the expansion of energy development activities heightens ecological challenges, underscoring the urgent need for sustainable land management practices. Despite these challenges, many tribes have demonstrated proactive measures in adaptation and strategic climate planning.

Indigenous observations in the region reveal significant shifts in climate and seasonal patterns, impacting livelihoods, traditional subsistence practices, wildlife, plants, and ceremonial and medicinal resources (Redvers et al., 2023; Whyte et al., 2023). Tribal elders and natural resource managers have noted changes in hydrological cycles, phenology, bird migrations, and the decline of key plant species, alongside reduced availability of traditional foods and mismatches between traditional narratives and current climate realities (Redvers et al., 2023; Whyte et al., 2023). Moreover, subsistence fisheries and riparian ecosystems suffer from reduced streamflow and warmer temperatures, leading to declines in essential species like salmon, trout, and mussels (Redvers et al., 2023; Whyte et al., 2023). Additionally, the rise in extreme heat and the depletion of traditional plants like sage and cottonwoods disrupt summer ceremonies, fasting practices, and overall community well-being. Heightened fire risks further threaten forests, freshwater systems, wildlife habitats, and human health, raising concerns for the region's ecological resilience (Whyte et al., 2023).

Agriculture, particularly livestock ranching, constitutes a cornerstone of tribal livelihoods in the NGP. However, warmer temperatures and alterations in water cycles, including reduced snowpack and early runoff, pose significant threats by drying soils, diminishing forage production, stressing livestock, and limiting water access for irrigation systems (Conant et al., 2018). Amid these challenges, converting native grasslands to agricultural fields is a critical concern. The World Wildlife Fund's 2023 Plowprint Report reveals alarming rates of grassland conversion, degrading vital ecosystems and exacerbating habitat fragmentation (*2023 Plowprint Report*, 2023). Furthermore, the NGPs' historical climate variability, compounded by increased heavy precipitation events and climate instability projections, poses grave threats to water-dependent agricultural systems and community well-being (Conant et al., 2018).

In addressing these multifaceted threats, Indigenous co-management initiatives emerge as pivotal strategies for conserving the grasslands of the NGP. By prioritizing collaborative efforts rooted in Indigenous knowledge and stewardship, communities can work towards safeguarding the region's ecological integrity and the cultural heritage of its inhabitants.

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Chapter 2: A Preliminary Geospatial Analysis of Official Tribal Land Ownership in The Northern Great Plains

Background & Purpose

Indigenous Peoples have cultivated deep-seated relationships with nature, communities, and culture for millennia, long before the establishment of the United States, fostering a rich repository of knowledge and practices that have bolstered ecosystem health and resilience. Before colonization, Indigenous Peoples had their land tenure systems for allocating lands and resource rights within their respective territories, and these diverse systems were products of each unique tribal culture and environment (Shoemaker, 2019). These traditional tenure systems have been overwhelmed and subsumed under Western legal property categories, disrupting their traditional lifeways.⁸ Today, Indigenous Peoples in the United States encompass over 700 distinct communities and Native Nations (Whyte et al., 2023).

Academic research has identified land dispossession and forced migration as primary mechanisms employed by settler populations to exert political and economic dominion over Indigenous groups. For Native peoples within the current borders of the United States, this pattern of dispossession began with European colonization (Farrell et al., 2021). It intensified during the 19th and 20th centuries with the continental expansion of the United States, leading to a staggering loss—approximately 99%—of their ancestral lands (Farrell et al., 2021; Wade, 2021). The repercussions of these acts have had long-standing implications, manifesting today in increased vulnerability to health and food security issues, limited access to culturally relevant education, and heightened exposure to environmental contaminants for Indigenous Peoples.

Historical narratives reveal that settler governments frequently relegated tribes to lands that were, at the time, perceived as economically marginal. However, the systematic nature of these relocations and their current-day impacts, particularly concerning vulnerability to climate change, still need to be explored (Farrell et al., 2021). According to official statistics, Indigenous lands constitute 2.3 percent of the United States' total land area (U.S. Department of the Interior, n.d.). The consequent reduction in territorial holdings, alongside enforced migrations, has left several tribes entirely without land, a fact that is documented historically (Farrell et al., 2021).

“It is our belonging to the land – because – we are the land.” — NDN Collective (Landback Manifesto, n.d.)

After reservations were established, a series of land policies directed towards the assimilation of Native Nations within the United States resulted in a complex mosaic of land ownership, often referred to as a "checkerboard" within reservation boundaries (Conant et al., 2018). These policies, underscored by the intricacies and discrepancies in legal land ownership classifications, have led to a heterogeneous pattern of land tenure, adding layers of complexity to reservation land management (Manuel, 2022).

The Northern Great Plains presents a landscape where Native Nations embarking on climate adaptation strategies are confronted with a web of legal and regulatory challenges (Buffalo Nations

⁸ Since this paper is focused on the current reality of tribal land ownership, this analysis will adhere to the property categories as defined in United States law.

Grasslands Alliance, 2023; Mills & Nie, 2021).⁹ These are largely rooted in post-colonial resettlement and the fragmented nature of reservation lands, which further complicate inconsistent regulation by federal agencies (Conant et al., 2018). This fragmentation not only significantly diminishes tribal land rights but also hinders Indigenous Peoples' sovereignty, constraining their capacity to govern and utilize their legitimately recognized territories and resources effectively.

Many tribes have advocated for more robust recognition of their treaty rights and support for land stewardship and land return initiatives (Mills & Nie, 2021). Progress on advancing tribal treaty rights and land stewardship requires a clear understanding of existing and historic land rights and ownership. Though there are available tribal land data, there is a lack of collected data for different land ownership statuses on various spatial scales, restricting tribes' ability to formulate arguments to reclaim their lands. This analysis aims to assist tribes in their land return and land stewardship advocacy by compiling multiple existing datasets into a more uniform representation that depicts the area of tribal jurisdiction and land rights in the NGP.

The analysis was conducted at the invitation of Buffalo Nations Grasslands Alliance (BNGA), a Native-led non-profit organization. The data used in this analysis are all publicly available and were provided by BNGA.¹⁰ To protect tribal data sovereignty, the study only used data to perform a macro-level analysis of land rights across the NGP. It did not disaggregate the data on a tribal basis. All data and analysis were processed with ArcGIS Pro 3.2.0 under BNGA's ESRI license. Original data and products in the study were deleted after being sent to BNGA for their use.

Ownership Categories of Tribal Land

Standard tribal land designations that US Federal agencies utilize include Indian Reservation, Trust Land, Restricted Fee Land, Fee-simple Land, Allotted Land, and Ceded Land (Federation of American Scientists, 2021).¹¹ ¹² Trust Land, Restricted Fee Land, and Fee-simple Land count as legally recognized property. However, designations of Indian Reservations and Allotted Lands can encompass Trust, Restricted Fee, and Fee-simple Lands within their boundaries (Murray, 2021).¹³ To address the intricate legal classifications and land management challenges, this study consolidates the variety of land

⁹The analysis uses the NGP boundary provided by WWF and focuses on areas within the US boundary, across Montana (MT), Nebraska (NE), North Dakota (ND), South Dakota (SD), and Wyoming (WY).

¹⁰To respect the inherent right of Indigenous Peoples to govern their peoples, lands, and resources, the analysis took the utmost precaution to ensure consent for all data used.

¹¹Allotted Lands, or allotments, stem from the treaties and allotment statutes that divided land communally held by tribes and allotted parcels of it to individual tribal members. Allotted Lands can be held in Trust or Restricted Fee status, thus the management of Allotted Land and Tribal Trust Land are often the same.

¹²Ceded Land are areas that a tribe did “cede, relinquish, and convey to the U.S. all their right, title, and interest in the lands and country occupied by them” ... at treaty signing or when Reservations were established (US Department of Agriculture, n.d.). Ceded Land with usufruct rights are Native American Lands that were ceded to the US government where tribes retained usufructuary rights, the right to use and benefit from a property (Legal Information Institute, n.d.). Since most Ceded Lands are now officially held as property by Federal or state agencies or private landowners, it has been removed from the analysis.

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status into five categories: Indian Reservation, Trust Land, Fee Land, Federal Land, and State Land. Many tribes have preserved certain rights through various treaties with the U.S. government, where, despite ceding lands, they retained specific rights.¹⁴

However, simplifying land ownership complexity inherently results in an undercount of areas where tribes continue to have certain rights to resources across their historical territory. As a result, any aggregative data collection process will, by definition, yield an undercount.¹⁵ Therefore, the figures generated by this study should be interpreted as conservative estimates, depicting the minimum quantifiable area of tribal land within each classification. These numbers represent the “at least” extent of tribal land, providing a baseline for understanding the scope of Native Nations’ land rights.¹⁶

Indian Reservation

For our discussion and unless specified otherwise by legislation authorizing Trust acquisitions, the term "Indian Reservation" pertains to land recognized by the United States as under the governmental jurisdiction of a tribe. However, this definition is adapted for Oklahoma or in instances of a legal verdict confirming that a Reservation has been disestablished or diminished; in such cases, “Indian Reservation” denotes the territory that constituted the tribe’s historical reservation as determined by the Secretary (Land Acquisition, 2022). The label for Indian Reservations is not uniform; some are identified as pueblos, rancherias, missions, villages, or communities. It's also important to note that not every tribe has a reservation—while some may have land held in Trust or designated as Restricted Fee, others may not have land at all (Land Acquisition, 2022). In the context of this analysis, the term "Indian Reservation" will be synonymous with "Reservation."

Trust Land or Land in Trust

Trust Land refers to parcels for which the United States holds the title in Trust on behalf of an individual Indian or tribe (Land Acquisition, 2022). This designation ensures the federal protection of these land holdings and recognizes Indigenous Peoples' unique legal status and rights regarding these areas.

Trust Land is further delineated within this category based on its geographic relation to Reservation boundaries. *On-Reservation Trust Land* refers to Trust Land that falls within the boundaries of a designated Indian Reservation. *Off-Reservation Trust Land* refers to Trust Land that is off the reservation boundary. These lands are not contiguous with the physical space of the Reservation but remain under the Trust status by the government for the benefit of the tribe or individual Indians.

Fee Land and Restricted Fee Land

¹⁴Examples of lands where tribes still retain some rights include the Nez Perce and others who retain hunting rights in Yellowstone, and many tribes still retain rights across the NGP.

¹⁵Due to the original diverse lineation of the land for each shapefile, the calculation of the land area from modified shapefiles may be incongruent to other data sources.

¹⁶In addition to the technical, legal reasons described above, the United Nations Declaration on the Rights of Indigenous Peoples (2007) states that all Indigenous Peoples have some rights on all of their ancestral lands, which means that due to the extensive dispossession of Indigenous Peoples’ lands in the United States, the area of land where Indigenous Peoples continue to have rights is far larger than recognized in current legal terms. This is yet another reason why the results of this analysis are very conservative and should be read as “least” amount of land held by tribes today.

Fee Land, also known as Fee Simple Land, encompasses lands owned outright by an individual or entity with the capability to transfer or burden the property without necessitating federal approval. Non-Indians can own this category of land, but it is also available for acquisition by tribes or individual tribal members, allowing for direct control over land use and transactions (BIA, 2016).

On the other hand, Restricted Fee Land refers to property where the title is held by an individual Indian or tribe, and certain restrictions apply to the transfer or encumbrance of the land. In this scenario, any act to alienate or encumber the land necessitates the consent of the Secretary. The limitations imposed on these land titles arise from the conditions specified within the conveyance instrument, as mandated by federal law, or due to direct restrictions from federal legislation (Land Acquisition, 2022). The distinction between Fee Land and Restricted Fee Land lies in the degree of autonomy granted to the landowner in managing their property interests.

Federal Land

All lands owned or controlled by the United States, including the Outer Continental Shelf, and any land in which the United States has reserved mineral interests, except lands— held in Trust for Indians or Alaska Natives, owned by Indians or Alaska Natives with Federal restrictions on the title, within any area of the National Park System, the National Wildlife Refuge System, the National Wilderness Reservation System, the National System of Trails, or the Wild and Scenic Rivers System, or within military Reservations (Legal Information Institute, 2023). These exclusions serve to delineate Federal Land and distinguish it from other categories of land with specific designations or uses that fall outside the broad scope of federal ownership or administration.

State Land

State Land refers to property under the ownership, control, or operation of any department, agency, institution, or political subdivision within a state. The definition extends to all land within the state's boundaries, including portions of riverbeds, foreshore, and seabeds within the state's territory or territorial waters. The management and regulation of these lands are subject to state, rather than federal, jurisdiction, reflecting the administrative structure of the particular state (Law Insider, 2023).

Data and Methods

In this analysis, securing credible data sources was the primary step taken by the Buffalo Nations Grasslands Alliance (BNGA). The Bureau of Indian Affairs' Aberdeen office supplied the "BIA 2021 Trust Layer" dataset, which covers tribal lands in North Dakota and South Dakota. The BIA website provided a resource for Reservation boundaries titled "American Indian and Alaskan Native Land Area Representations" (BIA, 2021). For Trust layer details in Montana, BNGA obtained parcel data via OnX Hunt, an application acclaimed for its intricate land status information. The boundary defining the NGP was contributed by the World Wildlife Fund (WWF). The Federal Lands dataset, encompassing land managed by various federal entities, was accessed through the Esri website (US Federal Land, 2018).

To amass State Land data, which typically lacks uniformity across different regions, BNGA employed databases from individual state governments within the NGP, namely Montana (MT), Nebraska (NE), North Dakota (ND), South Dakota (SD), and Wyoming (WY). Montana's data encompassed parcels managed by multiple state departments (Montana Cadastral, 2023), while datasets from Nebraska and Wyoming were centered around State Parks (NebraskaMAP, 2023; Wyoming Geospatial Hub, 2023).

North Dakota's information included Wildlife Management Areas and other regionally pertinent lands (NDGISHUB, 2023), and South Dakota's contributed data on recreational and educational lands (South Dakota GIS Data, n.d.).

Furthermore, all identified water bodies were excluded from this analysis, with requisite datasets sourced directly from each state's geospatial data repositories.¹⁷ The original plan to incorporate county parcel data from tribal areas to ascertain land ownership was ultimately abandoned to respect tribal data sovereignty. Fee Land delineation was facilitated through the geospatial processing of diverse datasets in ArcGIS Pro. Due to the complexity inherent in differentiating Restricted Fee Lands from fee simple lands, the analysis categorized all Fee Lands as fee simple, merged with other private lands, and labeled them as "Private land."

The study employed ArcGIS Pro 3.2.0 for shaping files and calculating statistical areas for each land status in the NGP. Consistency was ensured by projecting all shapefiles onto the North American Datum of 1983 (NAD 83) geographic coordinate system, measuring areas in acres. To provide a holistic view of tribal lands, the analysis included lands vested with tribal rights that extend marginally outside the NGP boundary.

Results & Discussion

In the analysis, **Table 1** presents acreage figures for various land tenure types in the NGP. The results indicate that Private-fee Land constitutes most of the NGP, accounting for 76.15%. Trust Lands entail 13.05 million acres in the NGP, representing 8.81% of the region, with 99.16% of these Trust Lands classified as On-Reservation. Of the total 56 million acres of Trust Land in the United States, about 23.3% of the tribal land held in Trust is located in the NGP (US Department of the Interior, 2023). This analysis considers Reservation lands—both in-Reservation Trust and in-Reservation Fee Lands—and off-Reservation Trust Lands as territories where tribes have rights, cumulatively comprising 12.64% of the NGP.

The underestimation of the area of lands to which tribes hold rights is not only an issue of this analysis but is evident in all related datasets and academic studies. This underrepresentation can stem from four main contributors: technical errors, outdated datasets, the complex realities of land status composition, and the absence of recognition and data on lands where Indigenous Peoples continue to have rights. Technical issues, such as inconsistencies between original shapefiles and actual land boundaries, as well as overlaps and gaps between polygons, are common. Discrepancies in delineations may exacerbate these errors and coordinates from various organizations and agencies, contributing to statistical disparities during coordinate transformations and area calculations. Secondly, tribes are actively acquiring lands as Trust Lands, but there is a lack of datasets that could accurately reflect these dynamic land statuses. Thirdly, the complexity of real-world land status composition results in a parcel of land having fractional allotments as both Trust and Fee Lands, making it hard to be classified under a single land designation. Finally, the acute lack of recognition of lands where Indigenous Peoples still have rights resulted in a lack of data, which are fundamental to Tribal land claims and sovereignty, hindering the acknowledgment and enhancement of Indigenous land rights.

Table 1. *Statistical Summary of Land Ownership Status in Northern Great Plains*

¹⁷ The analysis does not remove all the irrelevant data, such as roads and transportation areas.

Land Status	Area (acres)	Percentage of NGP (%)
Northern Great Plains	148,141,709	100.00%
Reservation	18,627,391	12.57%
On-Reservation Trust Land	12,942,220	8.74%
Off-Reservation Trust Land	109,867	0.07%
Federal Land	15,101,491	10.19%
State Land	11,065,041	7.47%
Private-fee Land	112,810,259	76.15%

Conclusions & Recommendations

Statistical results exhibit that tribes are major property holders in the NGP and thus merit support for their initiatives. Given the complexity of tribal land ownership and the limitations of existing data, the current analysis may not capture the complete scope of tribal lands. This underrepresentation can diminish the visibility and influence of Tribal Nations in conservation policy discussions. Moreover, the gaps in data can pose challenges for some tribes in gaining a comprehensive understanding of their land ownership.

To address this concern and facilitate the advancement of tribes’ land return and co-stewardship initiatives, while bolstering tribal capacity, it is recommended to expand this area of research and prioritize the engagement of additional tribal researchers. This would enable tribal researchers to work in collaboration with tribes to investigate the full extent of lands where tribes retain rights, particularly within territories ceded yet still subject to usufruct rights. Supporting tribes and tribal organizations to spearhead these research projects is vital for prioritizing Indigenous perspectives and strengthening the advocacy efforts of both tribes and Indigenous scientists.

Departments or Bureaus such as the Bureau of Indian Affairs (BIA) must enhance the current database systems to accurately reflect the evolving land tenure landscape. The BIA should prioritize efforts to generate up-to-date and precise datasets that encapsulate tribes' dynamic acquisition of Trust Lands and the nuanced complexities of mixed land allotments.

More specifically, the BIA should:

- (1) The BIA should address the technical aspects of geographic information systems (GIS) by ensuring that the shapefiles and boundary delineations it provides are consistent with on-the-ground realities. This includes resolving overlaps and gaps within the GIS polygons to prevent miscalculations and misrepresentations of land areas.
- (2) The BIA must adopt a proactive approach by regularly updating the Trust Land datasets to mirror the continuous purchases and designation changes made by tribes. Embracing temporal data accuracy will enable the BIA to offer more reliable snapshots of land tenure status at any given time.

(3) Recognizing the intricately layered character of land tenure types—particularly where parcels are split between Trust and Fee Lands—the BIA should develop categorization methods that reflect the complexity of these arrangements and reduce the potential for misclassification.

(4) The BIA should acknowledge and address the shortfall in recognizing lands where Indigenous Peoples maintain enduring rights. By creating and preserving datasets that document these rights, the BIA not only affirms its commitment to upholding tribal sovereignty but also equips Native Nations with essential information to advance their land claims and manage their resources more effectively.

These steps are fundamental to acknowledging and enhancing Indigenous Peoples' land rights in the NGP and ensuring that tribes can access accurate, current, and actionable data to support their self-governance and land stewardship initiatives. This report will hopefully enhance the overall understanding and documentation of tribal lands, furthering the support for the advocacy of Indigenous Peoples for their land rights and stewardship initiatives.

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Chapter 3: Analyzing the Performance of Tribal and Non-Tribal Land Tenure on Grassland Conservation: A Preliminary Study

Background & Purpose

For millennia, Indigenous Peoples have inhabited and managed the grasslands. They have served as stewards, employing controlled burning, cultivation, and selective harvesting practices to sustain the ecosystems and their communities (Stewart, 2002). These grasslands are interwoven with economic activities, food cycles, health maintenance practices, lifestyles, cultural and ceremonial activities, and belief systems, providing the foundation for Native lifeways (Buffalo Nations Grasslands Alliance, 2022; Whyte et al., 2023). Abundant native plants and animals are essential to healthy grassland ecosystems but are spiritually and culturally connected to many people. Hunting and fishing are standard and provide food, resilient health, employment, and local economic benefits to Indigenous Peoples. Livestock ranching is a primary financial source for both tribal governments and tribal members. By adopting sustainable ranching practices, Indigenous Peoples protect the grasslands while maintaining wildlife habitats (Buffalo Nations Grasslands Alliance, 2022). However, the ongoing effects of ancestral land dispossession from the 17th to 19th centuries continue to impose significant restrictions on Indigenous Peoples, preventing them from fully engaging in their traditional lifeways (Farrell et al., 2021).

Northern Great Plains (NGP), an ecoregion between the Mississippi River and the Rocky Mountains, is one of the world's only four remaining intact temperate grasslands (WWF, n.d.). Indigenous Peoples constitute a significant portion of both the population and area of the NGP and wish to maintain and enhance intact grassland ecosystems for the ecological, economic, and cultural benefits they provide (Buffalo Nations Grasslands Alliance, 2022; Conant et al., 2018).

Grasslands are among the most rapidly changing and simultaneously the most threatened and least protected ecosystems on Earth, which have suffered considerable damage (Sylvester et al., 2013; Scholtz & Twidwell, 2022). The conversion to cropland poses significant threats to the NGP (WWF, 2023). Wildlife habitats are lost and fragmented, wildlife migration routes are interrupted, soil is degraded, and ecosystem services are impaired. These include problems such as woody encroachment, invasive species, and climate change. Historical dispossessions have contributed to these issues. Notably, the most fertile land for crop agriculture in the NGP was claimed by colonial settlers and non-Tribal people during the 17th and 18th centuries, rendering the reservations located on less productive lands, creating a pattern of unequal resource distribution and increased vulnerability to climate crises (Buffalo Nations Grasslands Alliance, 2022; Conant et al., 2018).

Indigenous knowledge systems fundamentally differ from non-Indigenous settlers and colonizers (Conant et al., 2018). Rooted in direct interactions with the environment across generations, Indigenous knowledge encompasses a broad spectrum of practices, including observation, monitoring, research, record-keeping, communication, and learning, all intertwined with social adaptive capacities to respond to or anticipate changes (Chief et al., 2014). Traditional ecological knowledge (TEK) is one system often invoked in climate change discussions, focusing primarily on the intricate relationships between humans, plants, animals, and natural phenomena (Lefthand-Begay, 2024).

Increasingly, institutions and organizations acknowledge the imperative of preserving grassland ecosystems and have initiated stewardship initiatives. Integrating Indigenous knowledge and management practices is also gaining traction within various sectors. Even prominent environmental NGOs, such as the

World Wide Fund, are beginning to recognize the significance of tribal lands for prairie and wildlife conservation and restoration (WWF, 2023). Government policies are also starting to reflect responsiveness to tribal initiatives to safeguard traditional practices and land rights. For instance, the North American Grasslands Conservation Act of 2022 claimed to incorporate representatives from tribes or tribal organizations into conservation projects. The trend of combining Indigenous knowledge signals a promising shift in the conservation and restoration efforts. This shift necessitates that Indigenous Peoples are not only present but also have the ability to actively engage in decision-making processes, ensuring that their voices are heard, their perspectives valued, and their sovereignty respected (Mills & Nie, 2021).

At the invitation of Buffalo Nations Grasslands Alliance (BNGA), this study aims to conduct an objective comparative analysis of grassland performance across various land ownership categories. The analysis seeks to contribute to the growing body of research that helps understand the contributions of Indigenous knowledge and governance to the restoration and management of the NGP, all towards supporting tribal-led conservation and co-management strategies with tribes and tribal organizations.

Research Question & Approach

To identify the relationship between the type of land ownership and priority conservation outcomes, the analysis selected the following variables to indicate the overall grassland performance: *Land Use/Land Cover (LULC)*, *Soil Organic Carbon (SOC) stock*, *Grassland Productivity*, *Cultivated Land*, and *Biodiversity*.

According to Tan et al., SOC dynamics in terrestrial ecosystems are highly related to *LULC* categories (2005). They suggested a positive relationship between SOC change and grasslands and a negative one between that and cropland. *SOC stock* can also be a universal indicator of soil degradation as it is essential for many soil characteristics and functions, such as soil health, fertility, quality, and productivity (Lorenz et al., 2019). Olson et al. found that changing land use from grasslands to croplands would reduce SOC stock due to soil erosion, potentially resulting in soil degradation (2016). The continued soil erosion would also decrease the maximum yield, which is related to *grassland productivity* (Desta et al., 2021).

Since native undisturbed grasslands in the NGP are still being converted into croplands or *cultivated land*, diminishing grasslands result in the loss of habitats and related loss of species (WWF, 2023). Grassland birds have been identified as the group that experienced the most steep and persistent decline, driven by the massive losses of grassland habitats (Bernath-Plaisted et al., 2023). For this reason, total bird richness was selected to indicate total biodiversity.

Variables & Data

Land Ownership Type

The analysis used the new land ownership typology developed by the team, and the new dataset on land ownership across the entire NGP compiled by the team and described in Chapter 2. The land ownership typology includes Trust Land, Federal Land, State Land, and Private-fee Land. Trust Land data incorporates On-Reservation Trust Land and Off-Reservation Trust Land. Federal Land includes land managed by the Bureau of Land Management, Department of Defense, National Park Service, US Fish and Wildlife Service, and US Forest Service (US Federal Land, 2018). State Land includes State-owned

or managed land in Montana, Nebraska, North Dakota, South Dakota, and Wyoming. Private-fee Land includes Private Land and Fee Land within Indian Reservation boundaries.

Land Use/Land Cover (LULC)

The Land Use/Land Cover (LULC) analysis incorporated the Land Cover layer from the National Land Cover Database (NLCD) 2021 to provide nationwide land cover data at a 30-meter resolution. It features a 16-class legend grounded in a modified Anderson Level II classification system (MRLC, 2023). The analysis calculates the percentage of land cover for each land status.

Soil Organic Carbon Stock

The SOC Stock analysis utilized the first Global Soil Organic Carbon Map (v1.5) published by the Food and Agriculture Organization of the United Nations. This map presents the SOC Stock in tonnes per hectare (t/ha) for the top 0.3 m depth of soil (FAO, 2019). This analysis determines the range of SOC Stock for each land designation and calculates the average, median, and mode values.

Grassland Productivity

Grassland productivity measures the annual production of rangeland vegetation in pounds per acre. The dataset, encompassing annual productivity from 1984 to 2022 with a resolution of 250 square meters, was retrieved from the United States Department of Agriculture (USDA) Forest Service (USDA, 2023). The analysis selected the data for the year 2022, measuring the range, average, and median of grassland productivity across different land statuses.

Cultivated Land Conversion Rate

WWF provided BNGA with the dataset on the amount of cultivated land in the NGP, including raster information about cumulative cultivated versus non-cultivated land up to 2022. When combined with the 2021 LULC dataset, the analysis calculates the rate of cultivated land conversion from 2021 to 2022, disaggregated by land ownership.

Total Bird Richness

The number of bird species measures the Total Bird Richness within a defined region. Data was from the BiodiversityMapping.org site, which shares biodiversity data based on Class in different scales (Jenkins et al., 2015). The analysis focuses on the range of values and the average bird richness.

Results

Land Use/Land Cover

Trust Land has the highest proportion of land as grasslands (herbaceous-65.27%) compared to other lands, while Private-fee Land has the lowest (51.62%) (**Table 1**). About 87.9% of Trust Lands in the NGP are natural lands, 9.14% are croplands, and about 0.95% are developed areas. Federal Lands exhibit a minimal degree of development or agricultural use, totaling only 0.65%, which can be attributed to the specific land usage policies of the federal government. Since state lands predominantly encompass wildlife management areas or lands under the management of the Department of Natural Resources, an estimated 90.8% of these lands are preserved in a natural state or under conservation, with a modest 7.52% being cultivated (predominantly those held in state trust). Private-fee lands, subject to less

regulatory control, have the highest percentage of cropland at approximately 24%, and the lowest percentage of land maintained in natural and conserved states at 73%.

Given that Trust Lands are the foundation for tribal livelihoods, the findings demonstrate that tribal members disproportionately limit the exploitation of natural resources compared to other landholders. This finding is consistent with the literature and shared knowledge regarding the crucial relationship between native peoples and the grasslands.

Table 1. *Land Use Land Cover in percentage for Trust, Federal, State, and Private-fee Land.*

Land Use/Land Cover	Trust Land	Federal Land	State Land	Private-fee Land
Open Water	0.16%	0.34%	0.41%	0.31%
Developed, Open Space	0.58%	0.25%	0.68%	1.16%
Developed, Low Intensity	0.29%	0.10%	0.24%	0.42%
Developed, Medium Intensity	0.07%	0.04%	0.09%	0.18%
Developed, High Intensity	0.01%	0.01%	0.03%	0.04%
Barren Land	1.83%	0.85%	0.20%	0.15%
Deciduous Forest	1.54%	0.64%	0.35%	0.39%
Evergreen Forest	3.97%	11.83%	3.36%	1.75%
Mixed Forest	0.40%	0.26%	0.06%	0.07%
Shrub/Scrub	13.60%	32.33%	27.71%	14.21%
Herbaceous	65.27%	52.21%	56.46%	51.62%
Hay/Pasture	0.94%	0.21%	1.04%	3.16%
Cultivated Crops	9.14%	0.15%	7.52%	24.33%
Woody Wetlands	0.96%	0.13%	0.55%	0.46%
Emergent Herbaceous Wetlands	1.25%	0.64%	1.31%	1.75%

SOC Stock¹⁸

The findings for Trust Lands reflect the historical inequality in resource distribution caused by settlers and non-Tribal individuals, as evidenced by the narrowest range of soil organic carbon (SOC)

¹⁸ The original raster data collected from the different sources and used in this analysis lacked attribute tables, which precludes access to detailed datasets required for comprehensive statistical analysis. We were thus not able to determine if there are significant differences among the tenure types.

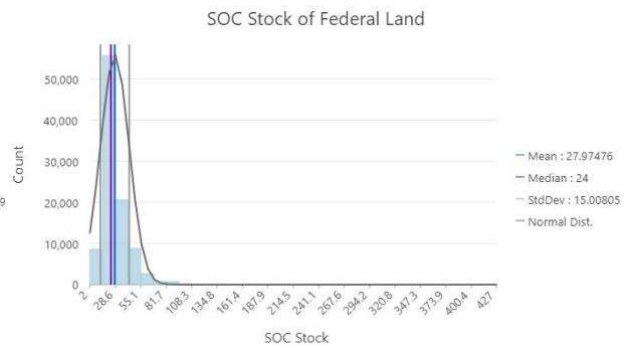
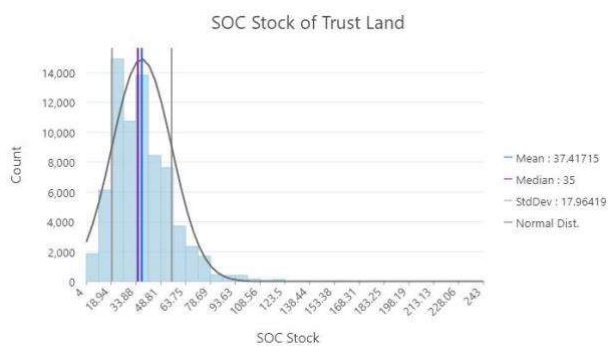
stock (4 to 243) and the correspondingly low maximum value of 243 (**Table 2**). Despite this, Trust Lands maintain a relatively high average SOC stock of 37.42, suggesting comparatively healthy soil conditions. Furthermore, Trust Lands exhibit the highest median and mode value of SOC stock (**Figure 1**). Notably, the minimum SOC stock on Trust Lands is 4, the highest minimum across all land types, which mitigates concerns regarding the overexploitation of grasslands within these lands

In contrast, federal and state lands are characterized by lower average and median SOC stock values. Private-fee lands, encompassing a large portion of fertile NGP territory, show the highest average and maximum SOC stock values. Despite this, a minimum SOC stock of zero on private-fee lands may signal soil degradation and excessive land use. Additionally, this may be due to the more extensive landholdings of private owners, which could lead to greater variability in SOC stock. The mode value of SOC stock on private-fee lands is the lowest, and when coupled with a median that is lower than the average, it indicates a distribution heavily weighted below the median. This pronounced right-skewed distribution signifies extensive land exploitation on private-fee land compared to other lands.

In summary, Trust Land outperforms other land tenure types in SOC stock and presents great potential for enhanced grassland conservation in the future. Especially under the climate risks, tribal lands should be prioritized in schemes that compensate landowners for carbon storage and encourage greater carbon sequestration for mitigation and adaptation.

Table 2. SOC stock for Trust, Federal, State, and Private-fee Land.

SOC Stock (t/ha)	Trust Land	Federal Land	State Land	Private-fee Land
Range	[4, 243]	[2, 427]	[2, 686]	[0, 695]
Mean	37.42	27.97	31.36	37.55
Median	35	24	26	31
Mode	37	20.5	26	15



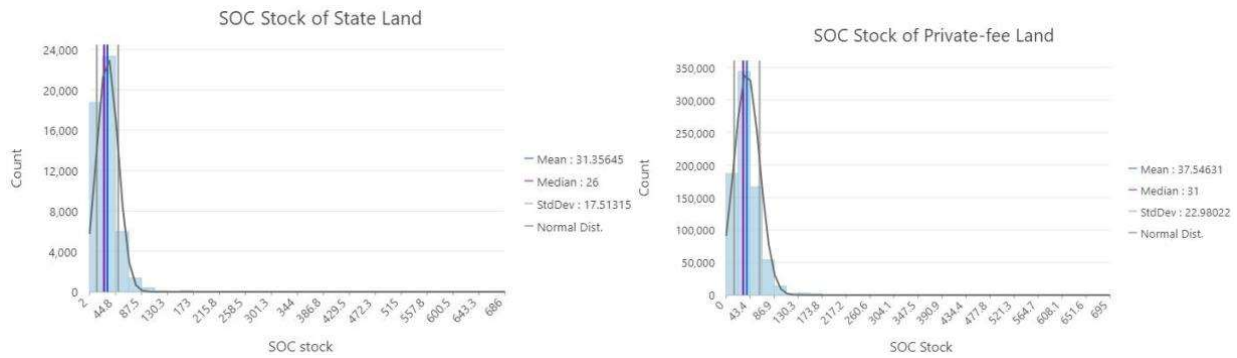


Figure 1. Histogram of SOC Stock for Trust, Federal, State, and Private-fee Land.

Grassland productivity

Grasslands in the Trust Land category of ownership have the highest average (2,043) and median value (1,736) of productivity, indicating that they perform the best and have the greatest potential among different land designations (**Figure 2**). In contrast, grasslands on federal and state lands exhibit low average and median productivity values. While private-fee lands also demonstrate high average productivity for grasslands, the distribution's long right tail indicates a larger proportion of areas with lower productivity.



Figure 2. Histogram of grassland productivity for Trust, Federal, State, and Private-fee Land.

Cultivated land conversion rate

The cultivated land conversion rate is directly proportional to the cultivated land percentage under each land designation, except for Trust Land and state land. Though Trust Land has a higher proportion of cultivated land than state land, its conversion rate is lower, indicating that tribes have slowed down or gradually reduced the cultivation of lands (**Table 3, Figure 3**). State lands have a high proportion of croplands and a relatively high cultivated land conversion rate, which signifies the further development and degradation of lands. Due to much of the land being intentionally set aside for

conservation purposes, Federal Lands has the least amount and percentage of cultivated land and the least increasing in 2021. The most significant conversion to cropland in the NGP occurs on private lands, which host the largest cultivated land percentage and overall area. Farmers' desire to increase production area and the lack of land use regulations to control grassland conversion to cropland precipitated the sharp rise in the conversion rate to cultivated land on private-fee land.

Table 3. *The cultivated land conversion rate for Trust, Federal, State, and Private-fee Land.*

Land Status	Cultivated land in 2021	Cultivated land in 2022	Cultivated land conversion rate	Increased Cultivated Land (acres)
Trust Land	9.14%	10.45%	1.31%	170,982.34
Federal Land	0.15%	0.62%	0.47%	70,977.01
State land	7.52%	9.19%	1.67%	184,786.19
Private-fee land	24.33%	26.97%	2.64%	2,978,190.84

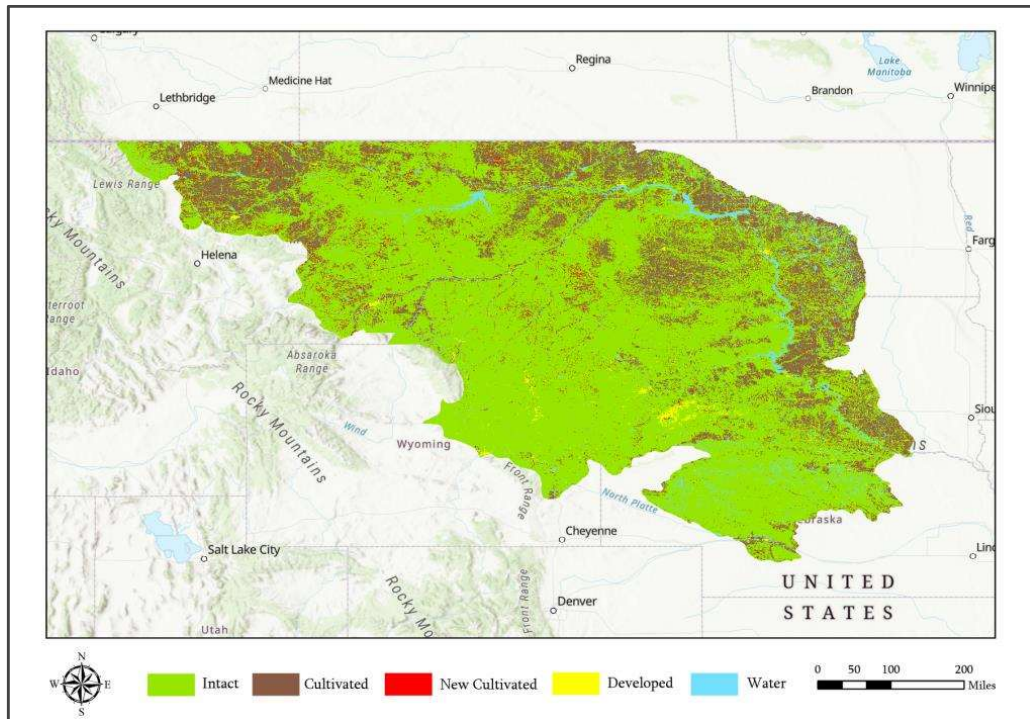


Figure 3. *Map of New Cultivated Lands in 2021 in NGP¹⁹*

Total bird richness

Due to the smaller land occupation in NGP, Trust Land may exhibit less variation in landscapes than other land categories, potentially supporting a lower species diversity and resulting in a lower average bird species count (149) (**Table 4**). In contrast, large expanses of Public (Federal and State)

¹⁹ This map does not provide detailed cultivated land condition in NGP based on land ownership to respect data sovereignty. *Intact* includes intact grasslands and forests, *water* includes open water and wetlands.

Lands and Private-fee Lands are likely to exhibit greater variability in habitats, which can support higher levels of species richness. Moreover, these lands benefit from targeted conservation reserve programs that focus on bird conservation in National and State parks within the NGP. Additionally, carving up the grassland landscape - creating edges and more unnatural habitats, such as tree belts, barns, and bridges - creates a more heterogeneous landscape. This diversity may attract bird species that have adapted to these environments, including those that thrive in grasslands, trees, or artificial structures such as barns or under bridges. However, uniform blocks of homogeneous grasslands typically found on Trust Lands would only provide habitat for species adapted to that relatively narrow habitat type. Therefore bird species richness would be lower in Trust Lands.

Surprisingly, Trust Lands has the most observed bird species, suggesting a notable potential for specifically conserving grassland birds on Trust Lands.

Table 4. *Total bird richness for Trust, Federal, State, and Private-fee Land.*

Total Birds Richness (#)	Trust Land	Federal Land	State Land	Private-fee Land
Range	[130, 189]	[134, 173]	[131, 184]	[130, 186]
Average	149.25	150.57	153.14	148.72

Discussion

Trust Lands can be regarded as exemplary regions for grassland stewardship compared to other land ownership types (**Table 5**). Though Trust Lands encompass only 12,960,730 acres in the NGP, they maintained the most significant proportion of their total area to grasslands (65.27%) compared to other land statuses, with about 8,468,792 acres being grassland. These lands boast commendable soil organic carbon (SOC) stocks, grassland productivity, and substantial biodiversity, especially concerning bird species diversity. However, the escalating conversion to croplands demonstrates a potential trend toward further habitat degradation and fragmentation, which poses significant challenges for future conservation efforts.

In the public lands, despite the considerable extent of lands designated as conservation areas or lands subject to conservation management, grasslands on federal and state lands exhibit suboptimal performance. On the other hand, private-fee lands, which constitute the central portion of grasslands in NGP, demonstrate a certain level of conservation success as evidenced by these grasslands' health and productivity metrics. Nonetheless, the growing expanse of cultivated land within private lands indicates escalating difficulties for grassland ecosystems. Issues such as soil degradation, habitat disruption, and the ensuing biodiversity loss are serious threats that require immediate and sustained conservation measures.

Table 5. *Overall grassland performance in Trust, Federal, State, and Private-fee Land.*

Land Status of NGP	Trust Land	Federal Land	State Land	Private-fee Land
Grassland (%)	65.27	52.21	56.46	51.62

Average SOC (t/ha)	37.42	27.97	31.36	37.55
Average Grassland Productivity (lb/acre)	2043.13	1381.50	1657.11	2014.93
Cultivated land Conversion rate (%)	1.31	0.47	1.67	2.64
Max Total Bird Richness (#)	189	173	184	186

Conclusion

This analysis reveals that Indigenous Peoples are already making outsized contributions to grassland conservation and climate change mitigation in the NGP. It underscores the profound potential for expanded impact through the return of lands to the tribes or collaborative co-stewardship efforts with agencies such as the U.S. Forest Service, the U.S. Park Service, or the Bureau of Land Management. There is a substantial opportunity to support tribal-led initiatives, which could lead to meaningful restoration and conservation outcomes for the NGP ecoregion. The findings suggest a pressing need for robust support mechanisms that facilitate tribal land return and support Indigenous conservation programs. Such measures should aim to strengthen tribes through co-management models, thereby overcoming existing barriers to effective collaboration. Such challenges include a lack of political will, inadequate infrastructure and equipment, and deficient management integration (Buffalo Nations Grasslands Alliance, 2022; Mills & Nie, 2021).

In light of the growing concerns posed by climate change, future strategies and programs must consider climate risks and emphasize the development of community resilience. Promoting the capability of Native Nations to both adapt to and instigate transformative environmental practices is crucial, meriting future comparative research about climate impacts on tribal versus non-tribal land. Ultimately, support for tribal-led conservation is not merely an environmental imperative but also a critical step towards effective, equitable, and inclusive stewardship of the grasslands.

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Chapter 4: The Sioux Nation, Past and Present

The Sioux Nation, comprising the Lakota, Dakota, and Nakota peoples, holds a significant place among the Tribal Nations of the Northern Great Plains (NGP). The Lakota Sioux, also known as the Teton Sioux, traditionally inhabit the region currently known as the Dakotas. The term "Sioux" originates from the Chippewa term, "Nadouessioux," which loosely means "snakes," indicative of the historical enmity between the two nations (Lazarus, 1889). Originally woodland dwellers from the Mississippi area, the Lakota Sioux transitioned to a plains-oriented life, following the movement of buffalo herds and seeking to avoid conflict with the Ojibwa Nation, eventually settling in the NGP (Lazarus, 1999).

Interaction between the Sioux Nation and non-Indigenous settlers remained minimal until the onset of the 19th century. The Louisiana Purchase in 1803 marked the beginning of increased tensions between the Sioux and the U.S. government. Notably, in 1804, during the Lewis and Clark expedition, the explorers proclaimed to the Sioux that the newly acquired lands were now under U.S. sovereignty, dubbing them "Free Americans" (Lazarus, 1999). Initially, the Plains were deemed the "Great American Desert" by U.S. policymakers, due to their perceived insufficient agricultural potential, leading to the establishment of the area as a "Permanent Indian Country" in 1825, designated exclusively for Tribal Nations (Lazarus, 1999). However, a semblance of peace was disrupted in the 1840s as pioneers traversed Sioux territory, disrupting ecosystems crucial for bison and grassland preservation. The incursion of settlers intensified with the California Gold Rush of 1849, further encroaching upon Sioux lands (Lazarus, 1999).

The realization of the land's true value, particularly the Black Hills, led to a surge in colonial agendas and westward expansion, resulting in a series of treaties and acts. Over the subsequent decades, through various treaties and so-called "agreements," the Sioux Nation experienced the expropriation of around 87.1% of their ancestral territory due to federal takings (Hoover, 1989).

Relevant Historical Events Before 1889

The period leading up to 1889 was a critical time for the Sioux Nation. It was marked by a series of treaties that would define, and in many cases, constrain their traditional territorial boundaries. The treaties and acts below provide a brief history of how the Sioux Nation was diminished over time, eventually becoming the six Tribal Nations of present-day South Dakota. Please note that this is not a complete comprehensive history, but rather a highlight of some of the key legislative measures that affected the Tribal Nations in the NGP.

Treaty of Fort Lookout (1825)

Regarded as the initiatory treaty with the Sioux Nation, the 1825 Treaty of Fort Lookout set territorial limits and set the precedent for the type of engagements to follow between the Sioux and the United States (Treaty with the Teton Sioux, 1825). Article 1 recognized that the Teton, Yankton, and Yanktonies bands of the Sioux resided within the territories of the United States, compelling them to accept U.S. authority and seek its protection (7 Stat. 250). Article 5 codified the promise of a new "friendship" between the Sioux Nation and the federal government, suggesting camaraderie where underlying motives of control were in play.

Treaty of Fort Laramie (1851)

Since the 1840s, non-Native settlers continued their westward migration in search of secure travel corridors through Native territories. Thomas Harvey, the U.S. Superintendent of Indian Affairs during this period, was tasked with securing an agreement with the Sioux (Lazarus, 1999). As a result, in 1851, the U.S. Congress authorized a treaty council with Natives at Fort Laramie. There were more than 10,000 Tribal members in attendance, including members of the Sioux, Cheyenne, Arapaho, Assiniboin, Crow, and Arikara Tribes (Treaty of Fort Laramie with the Sioux, 1851). On September 17, 1851, the Fort Laramie Treaty of 1851 was signed, granting the U.S. government permission to establish roads and military posts on Sioux land. It also held the Sioux accountable for any misconduct or crimes by its members against settlers. Article 3 of the treaty also held a promise from the U.S. to shield the “aforesaid Indian Nations against the commission of all depredations by the people of the said United States,” a clause that would later be broken (11 Stats. 749). The treaty was the first attempt to define the boundaries of the Great Sioux Nation, establishing the areas where the Sioux were allowed to hunt (Treaty of Fort Laramie with the Sioux, 1851).

Treaty of Fort Laramie (1868)

The subsequent Treaty of Fort Laramie signed on April 29, 1868 (15 Stat. 635), represented a renewed effort by the U.S. Government and the Sioux Nation to establish peace after protracted conflict. This treaty created the boundaries of the Great Sioux Reservation, conferring official recognition by the U.S. of the Black Hills as integral to the reservation and reserved exclusively for Sioux use. It also acknowledged supplementary, unceded territories where the Sioux retained the right to hunt. In exchange, the Sioux ceded vast expanses of land and consented to relocate to the Dakota Territory. The newly constituted Great Sioux Reservation encompassed roughly 26 million acres, a large reduction from the 60 million acres designated in the 1851 Treaty of Fort Laramie. This decrease in territory reflected the continuously shrinking land base of the Sioux, a trend emerging from ongoing negotiations and treaties (Neville and Anderson, 2013).

The Act of 1877

The Act of February 28th, 1877, known as the Black Hills Taking Act, revoked the previous 1868 Treaty of Fort Laramie, implementing an agreement that the Sioux Nation would relinquish their rights to the Black Hills and their rights to hunt in additional unceded territories (19 Stat. 254). The 1868 Treaty of Fort Laramie stated that no treaty could acquire cessation of this reservation unless it were “executed and signed by $\frac{3}{4}$ of the adult male Sioux population” (15 Stat. 635). The “agreement” of 1877 only gained 10 percent of these signatures. (Lazarus, 1999). Thus, the legality of this act later formed the basis of the Black Hills Claim court case.

After a decades-long legal battle, the U.S Supreme Court ruled in the court case, United States V. Sioux Nation of Indians (1980), that the Sioux Nation is owed just compensation for the illegal seizure of the Black Hills as it was a cognizable taking under the Fifth Amendment (United States v. Sioux Nation of Indians, 1980). While the Supreme Court has awarded the Sioux Nation 100 million, now nearly 2 billion with accrued interest, as payment for the taking of the Black Hills, Tribal members stand firm on not accepting this payment as they never wanted the money; they want their land returned (LeGro, 2011).

General Allotment Act

A new policy era began in 1887 with the passage of the General Allotment Act, or Dawes Act, which divided Indian reservations and territories into individual land allotments (24 Stat 388). Each head of the household in a tribe received 160 acres of land, while single persons over eighteen years of age would qualify for forty-acre allotments (Carlson, 1978). The reservation lands remaining after all eligible tribal members received allotments were to be opened up for non-Native settlement, and surplus reservation land was sold to non-Native citizens or transferred to the U.S. Government (Carlson, 1978). These lands were originally designated to be held in trust by the federal government for 25 years. During this period, the trust land could not be sold, leased, taxed, mortgaged, devised by will, or otherwise encumbered without the federal government's consent. However, the act was amended shortly after its passage allowing Natives to sell their allotments to non-Natives if they received permission from the Office of Indian Affairs (Carlson, 1978). As a result of this act, tribal ownership of land drastically decreased, leading to "checkerboard reservations" and fractionated land holdings (Manuel, 2022). Due to the allotment process, the Sioux Nation has lost millions of acres of land (Lower Brule Sioux Tribe, 2019).

The Act of March 2, 1889

The Act of March 2, 1889 divided the Great Sioux Reservation and created the present-day reservations in the Dakotas (25 Stat. 888). The Great Sioux Reservation was reduced into six separate reservations, losing over 9,000,000 acres in the process (Hoover, 1989). The remaining acres became "surplus" and subject to sale under federal purchase or supervision with the proceeds going into the United States Treasury in the names of the Tribes (Hoover, 1989). The Great Sioux Reservation was thus divided up into the Cheyenne River, Crow Creek, Standing Rock, Pine Ridge, Rosebud, and Lower Brule Indian reservations, with only 12,681,911 acres left within their original boundaries (Hoover, 1989).

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Chapter 5: The Lower Brule Indian Reservation

The Lower Brule Indian Reservation was established following the Great Act of March 2, 1889, which was an act to break up the Great Sioux Reservation into six smaller reservations (25 Stat. 888). After this split, the Lower Brule Indian Reservation was 446,500 acres, just a proportion of the aboriginal territory size of the Great Sioux Nation. Since this designation, the United States has continued to pass Acts of Congress that have further diminished the reservation boundaries.²⁰

The first diminishment occurred in 1899 when Congress passed the Act of March 3rd, 1899 (30 Stat. 1362). Article 2 of this act called for a 120,000-acre reduction in the Lower Brule Indian Reservation, stating that “...the said Indians of the Lower Brule Indian Reservation do hereby cede and relinquish to the United States a tract of territory consulting a portion of the Lower Brule Indian Reservation, and estimated to contain about one hundred and twenty thousand acres.” The Lower Brule Indian Reservation was decreased to approximately 326,500 acres.

In 1906, the reservation boundary was further diminished by the Act of April 21, 1906 (32 Stat. 124). This act authorized the sale of 56,560 acres of land on the reservation, most of which was opened for homesteading. After this, the reservation was now only 269,940 acres. Much of this homesteaded land was then re-designated as federal lands in the 1930s and has ended up in the hands of the U.S. Forest Service (Chapter 6).

Furthermore, the reservation is divided into different parcels of land ownership, including lands that belong to the Tribe or Tribal members and are held in trust by the US government (known as trust lands, tribal lands, and allotted lands), as well as lands that have been removed from trust and are owned outright by both Tribal and non-Tribal individuals (referred to as fee lands). Restoring lost territories has been the paramount focus in this intricate cultural milieu. Since more than 50% of the land on the reservation was possessed by non-Indigenous individuals until the 1950s, the Lower Brule Sioux Tribe has initiated a determined endeavor to repurchase and consolidate territory (The Lower Brule Sioux Tribe, 2019). One method that the Tribe may pursue in this endeavor is to engage in co-stewardship agreements with the neighboring Fort Pierre National Grassland, which the U.S. Forest Service manages. If these agreements are successful and Tribal capacity is strengthened, then there may be potential for eventual land return of these federally held lands.

²⁰ For a more detailed overview of this diminishment, see Appendix C. Please note that this report holds sensitive information that is to only be used by the Lower Brule Sioux Tribe and Buffalo Nations Grassland Alliance.

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Chapter 6: The National Grasslands System

History and Creation of the National Grasslands

The historical narrative of land management in the United States is deeply intertwined with the government's expansionist policies, which systematically dispossessed Indigenous Peoples of their ancestral territories. As the federal government engaged in what has been characterized by many historians as a genocidal campaign against Indigenous populations, it designed and executed the reallocation of these lands. This process not only enabled the distribution of lands to private settlers under homesteading laws but also resulted in the establishment of a public domain. Such lands were subsequently partitioned and managed by various federal land agencies, including the U.S. Forest Service, the National Park Service, and the Bureau of Land Management, which were instituted to oversee the stewardship of the nation's public lands in the aftermath of colonial expansion.

In response to these new governance structures, a diverse array of public land designations emerged, encompassing national forests, grasslands, and experimental forests, among others. Collectively, these public lands account for an extensive network that covers approximately 1,919 million acres, each category subject to its unique mandate and management principles (Holtrop, 2006; Olson, 1997). Within this vast domain, 92 million acres were designated as rangelands for livestock grazing, with nearly 8,700 Forest Service permittees authorized for grazing (Holtrop, 2006). This framework of public land maintenance and utilization reflects the complex interplay between the country's legislative directives and its changing conservation and resource use philosophies.

Between 1862 and 1934, pivotal developments unfolded with the implementation of various homestead acts aimed at privatizing federal lands. To encourage settlement of the Great Plains and other sparsely populated areas in the West, Congress passed the Homestead Act of 1862 (Olson, 1997). This legislation and subsequent amendments granted 160-acre parcels of federal land to individuals who met specific requirements (Olson, 1997). For those who fulfilled the criteria, "ownership" of the land was required only through filing fees and submission of an application (Olson, 1997). Additionally, settlement and cultivation of the land were mandatory for five years, after which a patent would be issued to the homesteader (Domek, 2005; Olson, 1997). The promise of free land attracted many people to the West (Domek, 2005; Olson, 1997). By 1904, nearly 100 million acres of western land had been homesteaded into 500,000 farms, many of which were established on submarginal lands²¹ (Olson, 1997). Despite facing challenges such as inadequate land size and environmental adversities, which resulted in varying levels of success, thousands of farm families ultimately found themselves living in poverty, contributing to the onset of the Great Depression (Domek, 2005).

Amidst these developments, the 1930s witnessed a significant shift in federal policy towards land reacquisition and rehabilitation in response to agricultural and economic crises. Beginning in the 1930s, the government initiated a large-scale "land utilization program" (hereafter referred to as the "LUP") to address many of the agricultural challenges facing the country (Olson, 1997). Initially focused on purchasing and developing submarginal lands, the LUP gradually evolved into a program to reclaim such lands through acquisition and restoration efforts to transfer them to their "most suitable use" (Olson,

²¹ Submarginal Land - will be used to refer to lands low in productivity or otherwise ill-suited farm crops. Such land falls below the margin of profitable private cultivation (Olson, 1997).

1997; Domek, 2005). Officials envisioned the LUP to promote "sound" land use practices and balance rural economic needs and natural resource preservation (Turck, 2011).

The first federal assistance for the LUP came from the 1933 Industrial Recovery Act and the Emergency Relief Appropriation Act of 1935 (Turck, 2011; Domek, 2005). This legislation permitted the government to purchase submarginal lands and resettle families (Turck, 2011; Domek, 2005). As part of these initiatives, the National Grasslands system was established in 1960, repurposing lands formerly designated as Land Utilization Projects (LU lands) (Domek, 2005; *History of the National Grasslands*, n.d.). These lands, primarily acquired from homesteaders, were transformed into productive rangelands and recreational areas, contributing significantly to biodiversity conservation efforts.

The LUP culminated with the passage of the Bankhead-Jones Farm Tenant Act of 1937²² (hereafter referred to as "BJFTA") (Olson, 1997). In 1937, the BJFTA gave custody of these lands to the Secretary of Agriculture (USDA 2023). BJFTA authorized the federal government to acquire and rehabilitate damaged or underutilized lands for conservation purposes (Domek, 2005; *History of the National Grasslands*, n.d.). Under Title III, this program allowed the Secretary of Agriculture to manage land conservation and utilization, including retiring lands unsuitable for farming, to fix land use issues. While Congress authorized \$50 million for land acquisition, only \$20 million was allocated.

The Soil Conservation Service managed the LUP from 1938 to 1954 (*History of the National Grasslands*, n.d.; Olson, 1997). During this time, 2.6 million acres were acquired until 1946, totaling 11.3 million in the LUP for \$47.5 million (*History of the National Grasslands*, n.d.; Olson, 1997). Much of the LUP land was transferred or sold, with 5.8 million acres going to various federal agencies and 5.5 million acres remaining under the Department of Agriculture (*History of the National Grasslands*, n.d.; Olson, 1997). In 1954, the Forest Service took over the LUP administration, expanding improvement activities such as surveys, land management agreements, revegetation, and habitat improvement (Olson, 1997). About 1.5 million acres became part of national forests, and 3.8 million acres became National Grasslands (Olson, 1997). Since 1960, the size and number of National Grasslands have remained steady, while federal land administration laws have evolved rapidly (Olson, 1997).

Fort Pierre National Grassland

The National Grasslands are the second-largest component within this system, covering 3,842,278 acres across twenty sites in thirteen states (Olson, 1997). Notably, the Great Plains states of Colorado, North Dakota, South Dakota, and Wyoming host nine National Grasslands, comprising over 82% of the total acreage (Domek, 2005; Olson, 1997).

The Fort Pierre National Grassland occupies a significant portion of the three distinct National Grasslands, stretching over 115,000 acres of federal land (Domek, 2005). Positioned south of Pierre/Fort Pierre, north of Interstate 90, and west of the Lower Brule Indian Reservation, the grassland intermingles with federal, state, tribal, and private lands, forming a mosaic landscape (Domek, 2005). Much of the land comprising the Fort Pierre National Grassland was originally part of the Lower Brule Indian Reservation, reflecting the historical dispossession of Native American lands in the region (Molyneaux, 2022).

Characterized by a mixed-grass prairie on undulating terrain, the Fort Pierre National Grassland hosts a diverse range of grass species, including big bluestem, side-oats grama, western wheatgrass, and porcupine grass, with taller grasses compared to those further west (Domek, 2005). Sparse tree cover

²² Full act can be found [here](#).

featuring cottonwoods, green ash, willow, and Rocky Mountain juniper accents the grassland's scenery. The Fort Pierre is a vital habitat for numerous wildlife species, including white-tailed deer, pronghorn antelope, and various waterfowl like ducks and geese (Domek, 2005). Additionally, mirroring the management practices of other National Grasslands, Fort Pierre demonstrates a solid commitment to sustaining livestock grazing (Domek, 2005).

This examination of the Fort Pierre National Grassland highlights its ecological importance and emphasizes the critical role of collaborative management strategies in safeguarding it for posterity. Considering the Fort Pierre National Grassland within the broader United States land policy framework reveals how historical legislative measures and evolving policies have influenced its present condition and significance.

Legal Foundations of Federal Land Management

This section reviews some foundational constitutional and legal principles that guide the management of federal public lands and resources, including the National Grasslands. Understanding the legal framework governing federal public lands, including National Grasslands, is crucial to comprehending the complex legal landscape of land management. The United States Constitution grants Congress extensive authority over federally owned land through the Property Clause, a power upheld by the Supreme Court (Olson, 1997). Congress often delegates this authority to the executive branch through statutes, leading to multiple laws governing the same land or resource (Olson, 1997). As conditions change, Congress can amend or repeal these statutes (Olson, 1997). Agencies responsible for land management must operate within the bounds of these statutes, reconciling conflicting laws and adhering to regulations (Olson, 1997). They can issue further regulations for clarity or guidance on implementation (Olson, 1997). While agencies' interpretations of statutes carry weight, they can be challenged in court if deemed arbitrary (Olson, 1997). Understanding these principles provides valuable insight into how agencies like the Forest Service manage National Grasslands and the legal environment surrounding the Forest Service's management of National Grasslands.

Analysis of BJFTA

Originating in response to significant agricultural challenges during the 1930s, exacerbated by the Great Depression and Dust Bowl, the BJFTA, particularly Title III, enabled the government to acquire and rehabilitate submarginal lands damaged by unsustainable farming practices. These lands were then managed for various purposes that were more suitable than traditional farming. The analysis of the BJFTA reveals its evolution and impact. Originally comprising four titles, Congress repealed Titles I, II, and IV in the Agricultural Act 1961, leaving behind Title III (Olson, 1997). As previously discussed, Title III was pivotal in formally establishing the LUP (Olson, 1997). Specifically, Section 31 of Title III authorized and directed the Secretary to develop a comprehensive program to conserve land and rectify land use issues to address soil erosion, reforestation, natural resource preservation, and various other objectives (Olson, 1997).

Over the years, Congress has amended Title III several times²³, incorporating changes that reflect evolving priorities. The BJFTA has undergone significant transformations, notably with the repeal of specific titles and revisions to the goals and objectives of the LUP within Title III (Olson, 1997). The

²³ For a detailed description and list of the amendments made, see the Appendix section.

Secretary's authority to acquire land under Title III was also eliminated (Olson, 1997). As a result, Section 31 now encompasses a broader spectrum of objectives, including the development and protection of recreational facilities, energy resource development, and watershed protection, among others (Olson, 1997). Despite these changes, the BJFTA remains a cornerstone of the Forest Service's management of National Grasslands. However, it's essential to recognize that other laws also play significant roles in governing the administration of these areas (Olson, 1997).

Other Laws Governing the National Grasslands

It is essential to highlight other major laws that play pivotal roles in the legislative landscape shaping the administration of National Grasslands. In the 1960s and 1970s, Congress responded to the growing environmental movement and concerns about national forest management by enacting several essential laws, many of which apply to the management of National Grasslands (Olson, 1997).

One significant law enacted in 1969 is the National Environmental Policy Act (NEPA). This law requires federal agencies to evaluate the environmental impact of substantial federal actions that significantly affect the quality of the human environment. In 1973, Congress passed the Endangered Species Act (ESA), which mandates federal agencies to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction of critical habitat. Another critical legislation, the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), requires the Forest Service to prepare resource assessments, implement renewable resource programs, conduct inventories, and develop management plans for units of the National Forest System, including National Grasslands. This act solidified the integration of National Grasslands into the broader National Forest System, subjecting them to various planning provisions and other forest management laws (Olson, 1997).

In addition to these major statutes, various regulations apply to administering National Grasslands. For instance, the rules outlined in 36 C.F.R. §213, known as the "213 Regulations," stipulate principles of land conservation and multiple uses for National Grasslands (Olson, 1997). These regulations incorporate and apply other rules governing activities such as livestock grazing, timber harvesting, mining, particular uses, and administrative appeals unless they conflict with the provisions of the BJFTA. Understanding these laws and regulations provides crucial insights into the comprehensive framework governing the management of National Grasslands.

Summary of the Legal Landscape

The Forest Service faces a multifaceted task in administering National Grasslands in compliance with federal laws and regulations. While the BJFTA remains a significant statute, it's just one piece of the puzzle. The Forest Service must navigate a complex web of laws and regulations that govern land management decisions.

The broad language of the BJFTA presents challenges in harmonizing its requirements with those of other applicable statutes (Olson, 1997). This complexity underscores the importance of thorough consideration and analysis in decision-making processes. The historical repurposing of these lands under federal management, including their incorporation into the National Grasslands system, had profound consequences for Native Nations and whose ancestral territories these new federal designations fell on. The federal government's acquisition of grasslands traditionally owned or utilized by tribes led to displacement and disenfranchisement (Molyneaux, 2022). Furthermore, it raised questions about tribal

sovereignty and self-determination over their ancestral territories (Molyneaux, 2022; Washburn, 2022). While federal laws like the BJFTA aimed to address environmental and economic challenges, their implementation significantly affected Indigenous land rights and stewardship (Molyneaux, 2022). These consequences underscore broader issues of tribal sovereignty within the context of U.S. land management policies.

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Chapter 7: The Momentum of Land Return Initiatives and Co-Management Advocacy

When Native Nations actively shape climate policies, foster strong economies, engage in sustainable development, and contribute to natural resource management decisions, their communities and livelihoods become more resilient (Chief et al., 2014). Their reliance is further amplified by the push for Indigenous-led management or co-management, providing avenues for tribal resource management to address critical issues such as biodiversity loss and climate change (Whyte et al., 2023; Chief et al., 2014). The advocacy for land return initiatives and the co-management of lands within federal systems has gained significant traction, particularly in nations like the United States, Australia, and Canada, where federal governance structures preside (Swerdfager & Armitage, 2023; Imai, 2009). This movement, while sharing common aspirations with international Indigenous land rights efforts, operates within distinct legal and historical contours defined by each country's unique relationship with its Indigenous populations (Washburn, 2022; Whyte, 2021). Despite historically significant obstacles, there has been a steady increase in calls for land return and co-management of public lands by Native Nations and the federal government (Washburn, 2022). This includes the pressing need for tribes to be actively involved in decisions regarding natural resource management, research design and implementation, and future policies (Chief et al., 2014).

Tribes have long advocated for a more significant role in public lands management, supported by compelling arguments for tribal co-management. Tribal governments, often responsible for managing federal trust lands within their reservations, are well-positioned for increased engagement in federal public land management. It's essential to recognize that much of the federal public land in the United States consists of "ceded land," relinquished by tribes in treaties while reserving remaining lands as perpetual homelands, commonly referred to as "reservations" (Washburn, 2022). Collaboration between tribal and government entities with trust responsibilities, as well as partnerships between tribes and non-governmental organizations, are crucial aspects of this process (Chief et al., 2014). Strengthening mutual respect between traditional knowledge holders and non-Indigenous scientists and fostering a deeper understanding of the relationship between these two approaches can further enhance future collaborations in natural resource management (Chief et al., 2014).

In recognition of Indigenous calls for greater respect for their sovereignty, the United States government, particularly under the Biden-Harris administration, has initiated efforts to incorporate Indigenous management approaches into the stewardship of federal lands (Washburn, 2023). This movement toward tribal co-stewardship of federal lands marks a significant shift within land management policy. Federal agencies tasked with land management possess distinct missions and organizational cultures, which can influence their stewardship strategies and their interactions with tribes (Washburn, 2023). Among these agencies, the Bureau of Land Management oversees the most extensive area with approximately 245 million acres, followed by the U.S. Forest Service managing 193 million acres, the U.S. Fish & Wildlife Service with 95 million acres, and the National Park Service, responsible for 85 million acres (Washburn, 2023). Except for the U.S. Forest Service, which operates under the Department of Agriculture, all these agencies fall within the jurisdiction of the Department of the Interior.

The histories and objectives of each federal land management agency contribute to their distinct stewardship approaches and interactions with Native Nations (Washburn, 2023). Tribal stewardship of

lands and wildlife has a long legacy predating the United States, though formal mechanisms for tribal co-management have existed for nearly half a century. The dialogues concerning land management that have surfaced since the inception of the Biden-Harris administration have been made possible by - and are a continuation of - the resurgence of tribal governments (Washburn, 2023).

The proximity of many tribal reservations to federal lands amplifies the potential for cooperative management. For instance, the Lower Brule Indian Reservation is located near the Fort Pierre National Grassland, which underscores possible avenues for collaboration based on historical treaties and executive orders (Washburn, 2022). The geographical closeness of these lands presents unique opportunities for cooperation between federal agencies and Indigenous Peoples in managing these landscapes.

Emerging Opportunities for Co-Stewardship

The establishment of tribal co-management necessitates proactive engagement with the federal government (Racehorse & Hohag, 2023). Establishing collaborative stewardship agreements is exemplified by critical documents such as the Department of Interior's Office of Solicitor report, "[Current Land, Water, and Wildlife Authorities that can support Tribal Stewardship and Co-Stewardship Final Report](#)" from 2022. As analyzed by Washburn (2023), this report comprehensively enumerates and clarifies the scope of legal authorities relevant to tribal stewardship arrangements, some broadly applied while others narrowly tailored. It further illuminates the legal frameworks and potential barriers associated with co-stewardship, a point reiterated by Mills & Nie (2024). Additionally, the U.S. Department of Agriculture's General Counsel has produced a parallel legal review focused predominantly on the Forest Service and encompassing authorities about other principal USDA agencies (Washburn, 2023). According to the Office of the General Counsel (2021), this [memorandum](#) succinctly addresses many legal authorities, though it is not exhaustive in scope. Both memoranda are instrumental in elucidating the intricate legal and administrative implications of tribal participation in managing public lands. By highlighting these complexities, Mills & Nie (2021) suggest that such resources are invaluable for facilitating informed dialogue and cooperation, ultimately advocating for a reconciliatory path forward that acknowledges and integrates diverse historical perspectives into contemporary land management practices.

Building on this understanding of legal precedents, it becomes apparent that embracing a more integrated approach to public lands management is essential—one where the legal framework actively includes Native Nations rather than marginalizing their interests. Such inclusion is pivotal in leveraging the depth of tribal co-management practices to enhance stewardship strategies for federal lands (Mills & Nie, 2021). This paradigm shift advances inclusivity and invites innovation and deeper involvement, as evidenced by paradigmatic instances at places like Badger-Two Medicine and Bears Ears. These examples, among others, illuminate how integrating tribal expertise with conventional conservation methods can yield strategies that honor and preserve these landscapes' natural and cultural heritage (Mills & Nie, 2021).

Tribal Co-Stewardship with the USDA Forest Service

In February 2023, the USDA Forest Service released its "[Strengthening Tribal Consultations and Nation-to-Nation Relationships: A USDA Forest Service Action Plan](#)" as part of their commitment to uphold federal trust and treaty responsibilities (*First Annual Report on Tribal Co-Stewardship*, 2023).

This action plan represents a crucial step in the agency's approach, initiating a thorough review of existing policies, programs, and practices to gauge their impact on Indigenous Peoples. It sets out defined objectives and outcomes to ensure accountability in its implementation (*First Annual Report on Tribal Co-Stewardship*, 2023).

The plan is structured around four core areas, and it addresses obstacles that tribes have highlighted through consultations. These areas include the enhancement of tribe-service relations, fulfillment of broad trust and treaty responsibilities, advancement of tribal relations internally, and the strengthening of co-stewardship of forests and grasslands (*First Annual Report on Tribal Co-Stewardship*, 2023). A strategic step within this plan is creating a new sub-directorate focusing on tribal relations within the Office of Tribal Relations as part of the state, private, and tribal forestry deputy area. This development, coupled with the informed application of Joint Secretarial Order 3403, represents the Forest Service's dedication to collaborative engagement with Native Nations (*First Annual Report on Tribal Co-Stewardship*, 2023).

Alongside these efforts, the Forest Service has introduced the [Tribal Partnership Comparison Matrix](#). This tool streamlines decision-making in partnership strategies between Native Nations and the Forest Service by comparing foundational agreements and authorities (*Tribal Partnership Comparison Matrix*, 2022). However, it is recognized that some Indigenous communities, including Native Hawaiians, Alaska Natives, and non-federally recognized tribes, may be unable to benefit from all partnership tools due to factors like trust land status and federal recognition (*Tribal Partnership Comparison Matrix*, 2022). In addition, it includes a corresponding Tribal Partnership Comparison Matrix (Matrix) that serves as a guide to facilitate the implementation of Shared Stewardship agreements. It examines different modalities of engagement with the Forest Service tailored to the unique circumstances of Native Nations as sovereign entities, considering various factors like project type, proximity of trust lands, and specific partner requests (*Tribal Partnership Comparison Matrix*, 2022). Given the distinctiveness of Native Nations, communities, and organizations as stakeholders in forest management - especially regarding their sovereignty and priorities - carefully selecting engagement methods is advocated.

Initiating Frameworks

Tribal Forest Protection Act

Enacted in 2004 following devastating wildfires in 2002 and 2004, the Tribal Forest Protection Act²⁴ (TFPA), PL 108-278, offers tribes a mechanism to propose projects aimed at safeguarding their lands, resources, and rights from threats like wildfires, insects, and disease (Council, I.T., 2013). This legislation represents a crucial step towards fulfilling the federal government's responsibility to protect tribal trust lands while promoting the restoration of healthy forest ecosystems (Council, I.T., 2013).

Under the TFPA, federally recognized tribes can submit proposals for initiatives designed to mitigate risks to tribal lands that border or are adjacent to Forest Service (FS) or Bureau of Land Management (BLM) administered lands (Council, I.T., 2013). Authorized by the Secretaries of Agriculture and Interior, these agreements or contracts facilitate collaboration between tribes and federal agencies in addressing hazardous conditions and promoting sustainable land management practices (Council, I.T., 2013). The imperative guides efforts under the TFPA to preserve tribal interests, encompassing ecological, cultural, and archaeological aspects (Council, I.T., 2013). Initiatives like the

²⁴ [Text](#) of the Bill

Tribal Action Plan and Memorandum of Understanding (MOU) aim to enhance co-stewardship between tribes and federal agencies, fostering a deeper integration of Indigenous perspectives into land management decisions.²⁵

The TFPA signifies a shift in dialogue between federal agencies and tribes, supporting tribal communities to initiate projects and play a more significant role in collaborative forest management (Lucero and Tamez, 2017). This legislative milestone has paved the way for subsequent actions to advance Indigenous involvement in land management. The Farm Bill 2014 introduced the Good Neighbor Authority (GNA), enabling states, counties, and federally recognized tribes to undertake land management projects on or adjacent to National Forest System lands. Subsequent legislative developments, such as the Farm Bill of 2018, expanded these efforts by allowing the National Forest Service to establish “638” agreements and undertake TFPA work under the Indian Self-Determination Education and Assistance Act (Public Law 93-638). These legislative measures not only provide additional avenues for tribal engagement but also foster the potential for more mutually beneficial co-stewardship agreements between tribal communities and National Forest Service personnel.

Good Neighbor Authority

The Good Neighbor Authority (GNA) grants the Bureau of Land Management (BLM) and the U.S. Forest Service to engage federally recognized tribes in executing specific projects on federal lands that align with delineated land management objectives (Office of the Solicitor, 2022). The GNA facilitates the formation of cooperative agreements or contracts with states, counties, Alaska Native Corporations (ANCs), and tribes to provide forest, rangeland, and watershed restoration services. This collaboration may extend across various land ownerships, encompassing federal, non-federal, and tribal lands (Office of the Solicitor, 2022).

Activities sanctioned under a GNA agreement focus on enhancing or restoring the health of forests, rangelands, and watersheds, including the habitats of various fish and wildlife species (Office of the Solicitor, 2022). However, such agreements typically preclude constructing or repairing roads, parking facilities, or other public infrastructure (Office of the Solicitor, 2022). Notably, the financial model of these agreements allows for projects to be partially funded through the revenues generated from timber sales resulting from the restoration efforts (Office of the Solicitor, 2022).

A vital advantage of the GNA is the degree of autonomy it grants to the participating tribe, in addition to the provision of extended agreement terms—up to 10 years—compared to other types of agreements (*Tribal Partnership Comparison Matrix*, 2022). Another benefit of the GNA is that it does not mandate a matching fund contribution, thereby reducing the financial barriers to tribal involvement and promoting a more equitable partnership model (Office of the Solicitor, 2022; *Tribal Partnership Comparison Matrix*, 2022).

Agreement Tools

Service First and Interagency Agreements

The "Service First" approach eliminates the requirement for assessing indirect costs under Interagency Agreements, thereby enabling the total allocation of funds for on-the-ground project

²⁵ To read more about the Tribal Forest Protection Act (TFPA) and their reports from the Intertribal Timber Council please refer to their website page underneath [Issues & Projects](#).

implementation (*Tribal Partnership Comparison Matrix*, 2022). Such Service First Agreements are optimally employed in conjunction with the Bureau of Indian Affairs (BIA) or other federal entities capable of providing supplementary services or financial resources that contribute to the successful execution of a project (*Tribal Partnership Comparison Matrix*, 2022).

Under the Service First framework, a tribe can partner with the BIA. At the same time, the Forest Service can form an Interagency Agreement (IA) with the BIA (*Tribal Partnership Comparison Matrix*, 2022). This arrangement facilitates the transfer of funds from the Forest Service to the BIA, which, in turn, is responsible for allocating these resources to the tribe (*Tribal Partnership Comparison Matrix*, 2022). Despite this mechanism, the Forest Service prefers direct interactions with Tribal Nations. Engaging with tribes directly is preferable to strengthening government-to-government relations, improving communication, and fostering more immediate collaborative efforts (*Tribal Partnership Comparison Matrix*, 2022).

Master Agreement, Supplemental Project Agreement (SPA), and Stand-Alone Agreement

Master Agreements establish broad frameworks for partnership but do not obligate funds or prescribe specific work directives. Instead, they facilitate the formulation of tiered Supplemental Project Agreements (SPAs) that clearly define the nature and scope of work to be carried out on National Forest System (NFS) lands. Including an SPA under a Master Agreement introduces precise project details and criteria that differ from the general terms outlined in the Master Agreement. Regardless of the type of Master Agreement, a SPA must be linked to it and cannot function independently as a stand-alone document (*Tribal Partnership Comparison Matrix*, 2022).

SPAs are particularly beneficial for entities intending to form multiple agreements with the Forest Service, as they specify the particulars of each project. Stewardship Agreements are unique among partnership tools in that they authorize the removal of forest products, the revenue from which may be used to offset project costs. Any stipulations concerning matching funds will be specified within the SPA when connected to a Master Agreement. Furthermore, while a Master Participating Agreement typically spans five years, this duration is only realized when explicated within a SPA (*Tribal Partnership Comparison Matrix*, 2022).

However, it is possible to consolidate the Master Agreement and SPA into a single composite document when dealing with a singular project. This simplifies the agreement process when no further projects are anticipated under the same partnership framework (*Tribal Partnership Comparison Matrix*, 2022).

638 Agreements

The enactment of the 2018 Farm Bill signaled a significant development for the Forest Service, granting it, for the first time, the authority to enter into "638" agreements. These agreements facilitate work under the Tribal Forest Protection Act (TFPA) and are authorized by the Indian Self-Determination and Education Assistance Act (ISDEAA, Public Law 93-638).

"638" Agreements are designated explicitly for tribal entities managing trust lands, offering them substantial autonomy in implementing projects without necessitating matching funds (*Tribal Partnership Comparison Matrix*, 2022). The ISDEAA, enacted in 1975, underscores the principles of tribal self-determination and self-governance. It authorizes tribes, through Title I of the Act, to enter into contracts—commonly referred to as "638 contracts" or self-determination contracts—with the Departments of the Interior and Health and Human Services (Office of the Solicitor, 2022). These

contracts enable tribes to take over the planning and administration of certain federally funded services and programs, thus giving them greater control over matters directly affecting their communities (Office of the Solicitor, 2022).

Findings and Recommendations of the TFPA

Variations in perceptions and understanding of TFPA authority, as well as the process of proposal development and implementation, exist among tribes, the Bureau of Indian Affairs (BIA), and the Forest Service (FS) (Council, I.T., 2013). The level of comprehension regarding government-to-government relationships and trust responsibilities towards tribes also varies across national forests (Council, I.T., 2013). Tribes often hesitate to pursue TFPA projects due to concerns about investing limited tribal resources without certainty of success and the potential for drawn-out and costly administrative processes with the FS (Council, I.T., 2013, 2013; Lucero and Tamez, 2017). High turnover rates in leadership and staff at tribal and FS levels hinder establishing long-term collaborative relationships (Council, I.T., 2013). Additionally, unclear FS policy guidance, lack of incentives, and uncertain funding complicate TFPA implementation (Council, I.T., 2013). The heavy reliance on Congressional appropriations to fund TFPA projects exacerbates the challenges, especially considering the diminishing opportunities to offset treatment costs (Council, I.T., 2013). Addressing these obstacles and enhancing TFPA implementation requires improving understanding of TFPA, government-to-government relationships, and trust responsibilities through joint training and technical support (Council, I.T., 2013; Lucero and Tamez, 2017). Tribal outreach initiatives should inform tribes about TFPA and encourage utilization (Council, I.T., 2013). Strengthening partnerships between the FS and tribes through formal agreements, collaborative project planning, and engagement in forest plan revisions is essential (Council, I.T., 2013, 2013; Lucero and Tamez, 2017). TFPA utilization by the FS can be promoted through performance incentives, accountability measures, and collaborative strategies with the Intertribal Timber Council (ITC) and BIA (Council, I.T., 2013). Exploring options to amend TFPA or other authorities to streamline project approval and implementation processes, including addressing environmental compliance and dispute resolution, is crucial (Council, I.T., 2013; Lucero and Tamez, 2017). Despite challenges, there are opportunities for Native Nations to assert their rights and interests in natural resource management, with TFPA serving as a potential avenue for advancing co-management efforts. This potential is further underscored by Executive Order 3403, which recognizes tribal sovereignty and self-governance in environmental stewardship. By addressing challenges and leveraging collaborative strategies, tribes can navigate TFPA complexities and move towards meaningful co-management of forest resources.

Overview of Secretarial Order 3403

*Executive Order No. 3403*²⁶

Recognizing the relationship between the Federal Government and Tribal Nations, Executive Order No. 3403, born out of the Tribal Nations Summit in November 2021, heralded the inauguration of the “Tribal Homelands Initiative.” This initiative, a cooperative effort between the U.S. Departments of Agriculture (USDA) and the Interior (DOI), aims to improve the care of public lands, waters, and wildlife. It does this by supporting tribal communities in their involvement with managing federal lands (*First Annual Report on Tribal Co-Stewardship*, 2023). Following this initiative's creation, Secretaries

²⁶ For a full description of the order please view [here](#).

Tom Vilsack and Deb Haaland signed Joint Secretarial Order 3403 (Order) titled “Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters” (*First Annual Report on Tribal Co-Stewardship*, 2023). This Order underscores the commitment of both USDA and DOI to manage Federal lands and waters in a manner that upholds the treaty, religious, subsistence, and cultural rights of federally recognized tribes, honoring the nation-to-nation relationship between the United States Government and tribes, and fulfilling the Government’s trust obligations (*First Annual Report on Tribal Co-Stewardship*, 2023). Additionally, the Order outlines the Departments' responsibilities in executing these obligations (*First Annual Report on Tribal Co-Stewardship*, 2023). It mandates each Department to pursue agreements with tribes to engage in the co-stewardship of Federal lands and waters within their jurisdictions while also supporting opportunities to consolidate tribal homelands and tribal stewardship of those resources (*First Annual Report on Tribal Co-Stewardship*, 2023). In November 2022, Joint Secretarial Order 3403 was amended to include the U.S. Department of Commerce (DOC), expanding the scope for co-stewardship of Federal waters (*First Annual Report on Tribal Co-Stewardship*, 2023).

Terminology of Stewardship, Co-Stewardship, and Co-Management

In the wake of Secretarial Order 3403, there has been an influx of resources and definitions from federal agencies, including the Interior Solicitor and Interior agencies, elucidating the concepts of co-stewardship and co-management (Mills & Nie, 2024). It is essential to discern how these terms are employed across different contexts, states, and situations, given their susceptibility to political influences (Mills & Nie, 2024). Particularly noteworthy is the distinction between "stewardship" and "co-stewardship," as delineated in S.O. 3043, contrasting with the term "co-management," as defined by Secretarial Order No. 3342 (Mills & Nie, 2024). While stewardship encompasses management-related activities, co-stewardship, as outlined in S.O. 3403, denotes collaborative or cooperative arrangements between Bureaus and tribes or Native Hawaiian Organizations concerning the management, conservation, and preservation of Federal lands and waters (Mills & Nie, 2024; Office of the Solicitor, 2022). These arrangements encompass a broad spectrum of cooperative efforts, including the sharing of technical expertise, the integration of tribal knowledge into land management practices, and the establishment of cooperative agreements or annual funding arrangements under the Tribal Self-Governance Act (Office of the Solicitor, 2022). Co-management, conversely, narrowly pertains to collaborative stewardship arrangements mandated by Federal authority or legal necessity, such as managing the salmon harvest in the Pacific Northwest (Office of the Solicitor, 2022). Secretary Order 3403 advances the collaborative ethos initiated by Secretary Jewell in 2016 through Order 3342, underscoring the statutory frameworks agencies can utilize to foster cooperative relationships (Mills & Nie, 2024). While co-management operates within a legal framework, co-stewardship focuses on nurturing relationships between federal agencies and Native Nations, emphasizing principles of tribal sovereignty, shared decision-making, and mutual accountability in land management practices (Office of the Solicitor, 2022). Thus, S.O. 3403 delineates co-stewardship as a comprehensive term encompassing various cooperative strategies, including the potential for co-management, in promoting effective collaboration between federal agencies and tribal entities (Office of the Solicitor, 2022).

Challenges to Co-Management

Despite the longstanding presence of federal frameworks designed to facilitate tribal co-management—such as the Indian Self-Determination and Education Assistance Act (ISDEAA), the Tribal

Self Governance Act (TSGA), and the Tribal Forest Protection Act (TFPA)—tribal entities have encountered substantive challenges in realizing significant contracts with the federal government for land management services. Congressional efforts to foster tribal co-management have encountered obstacles stemming from various systemic issues. These include the absence of mandatory federal funding for such initiatives, inadequate motivation among federal officials to develop partnerships with tribes proactively, misunderstandings about the extent of tribal expertise, restrictive provisions within the TFPA that confine contracting to federal lands directly adjacent to or bordering Indian forest or rangeland, and the constricted reach of present co-management agreements (Racehorse & Hohag, 2023).

Recent scholarly efforts by experts such as Kevin Washburn, Monte Mills, and Martin Nie have critiqued these deficiencies and proposed remedial strategies to strengthen the prospects for tribal co-management. These recommendations include expanding the geographical eligibility for co-management under the TFPA, guaranteeing dedicated funding for contracts relating to federal land management in a manner akin to the Bureau of Indian Affairs (BIA) and Indian Health Service (IHS) federal programs, and instituting incentives for federal agencies and their representatives to actively pursue and establish co-management contracts with tribes (Racehorse & Hohag, 2023).

In light of these complex obstacles, it is noteworthy that significant examples of successful partnerships remain that merit attention. These instances, albeit few, demonstrate tangible progress and serve to illustrate the potential for effective collaboration in light of the challenges above (Racehorse & Hohag, 2023).

Case Examples of Collaborative Stewardship

Interagency Agreement Case Example: Bears Ears National Monument

The Bears Ears National Monument in southeastern Utah is a case study of the collaboration between the federal government and Native Tribes on land management. Established in 2016 during the Obama-Biden Administration, Bears Ears is a culturally significant area for the Ute Mountain Ute, Navajo, Ute Indian Tribe of the Uintah Ouray, Hopi, and Zuni Tribes, who have resided in its vicinity for thousands of years (Washburn, 2023). The landscape, with its ancient roads, villages, and religious sites, remains a place where these Tribes practice traditional activities like hunting, gathering, and performing ceremonies (*NARF stands strong with Tribes for Bears Ears National Monument, 2024*).

Despite its significance, the region was threatened by destruction and misappropriation, leading to the formation of the Bears Ears Intertribal Coalition. The coalition, backed by the Native American Rights Fund, worked towards the monument's designation to protect its integrity (*NARF stands strong with Tribes for Bears Ears National Monument, 2024*). The culmination of this advocacy was the established National Monument that included a plan for Tribal involvement in stewardship (*NARF stands strong with Tribes for Bears Ears National Monument, 2024*).

Further enhancing this relationship, on June 18, 2022, a formal [Inter-Governmental Cooperative agreement](#) was signed between the Bureau of Land Management, the U.S. Forest Service, and the five Tribes of the Bears Ears Commission. This agreement outlines joint management responsibilities for the monument, ensuring that future planning, management, and conservation efforts are inclusive of Tribal perspectives and protect cultural practices tied to these lands (*NARF stands strong with Tribes for Bears Ears National Monument, 2024*; Office of the Solicitor, 2022). The interagency agreement will fund Tribal capacity to coordinate and cooperate in the federal management of 1.36 million acres of the Bears

Ears National Monument on the Manti-La Sal National Forest in Utah (*First Annual Report on Tribal Co-Stewardship*, 2022).

Memorandum of Understanding Case Example: Superior National Forest - Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Lake Superior Chippewa.

In May 2023, the Superior National Forest and three Chippewa Bands—the Bois Forte Band, the Fond du Lac Band, and the Grand Portage Band—entered into a landmark Memorandum of Understanding (MOU) that established a cooperative framework for environmental stewardship within the region. This MOU encompasses a multifaceted set of commitments between the federal government and the Bands above to preserve Ojibwe cultural life-ways, including living cultural resources and Tribal cultural properties. It also strives to promote sustainable economic development by supporting initiatives in education, training, and employment, affirming the Tribes' sovereign rights to self-governance, and paying heed to Environmental and Social Justice principles (*Tribes and Forest Service host 2-day Shared Learning for Co-Stewardship 2024*; *First Annual Report on Tribal Co-Stewardship*, 2023).

This ground-breaking agreement, the first between these Bands and the Forest Service, affords the Bands recognition as the historical custodians of the lands now managed by the Superior National Forest. Outlined within the MOU are procedural safeguards to ensure that Tribal perspectives are integrated into the decision-making processes of the USDA Forest Service. Essential to this integration are robust mechanisms for early and effective Tribal consultation on actions by the USDA Forest Service that may influence the Bands' treaty-reserved rights (*First Annual Report on Tribal Co-Stewardship*, 2023). Moreover, the MOU stipulates the identification and protection of areas that hold particular cultural significance, outlines collaborative objectives for forest management, and advocates for joint training initiatives between the Tribes and the Forest Service (*First Annual Report on Tribal Co-Stewardship*, 2023).

One of the cornerstone principles of the MOU is the pursuit of joint funding opportunities, which are intended to support co-stewardship efforts within the Superior National Forest. By facilitating the contribution of deep-rooted, place-based Tribal ecological knowledge, the agreement enables the Bands to play a critical role alongside the Forest Service in steering efforts to safeguard and improve the health of the lands and waters, thereby ensuring their preservation for future generations (*First Annual Report on Tribal Co-Stewardship*, 2023).

Tribal Forest Protection Act Case Example: The Lost Burros Tribal Forest Protection Act Project

In 2009, the White Mountain Apache Tribe (the Tribe) and the Apache-Sitgreaves National Forests (the Forest) entered into a Participating Agreement to implement the Los Burros Project in east-central Arizona. It was funded under the Tribal Forest Protection Act (TFPA), the Los Burros Project aimed to mitigate wildfire risk by reducing fuel loads within the Forest area. The project was structured into three sequential phases: Phase 1 focused on training Tribal crews in preparation for subsequent fieldwork; Phase 2 involved mechanized fuel reduction performed by a third party, already under contract with the Forest; and Phase 3 consisted of tree thinning, which was based on assessments from the initial phases and carried out by the Tribe (Tamez, 2012).

A pivotal success factor for the project was the acquisition of economic stimulus funding, which allocated approximately \$908,000 to the Tribe and an additional \$92,000 to the Forest. These funds were not only earmarked for operational costs but also facilitated vital training for Tribal members. This

financial support was particularly well-received given its dual focus on capacity building and employment, in addition to reducing fire risk to Tribal trust lands and resources (Tamez, 2012). Despite facing several challenges, including the expedited development of funding proposals, the existing solid partnership between the Forest and the Tribe was instrumental in overcoming these hurdles.

Good Neighbor Agreement Case Example: Confederated Salish & Kootenai Tribes

The Confederated Salish and Kootenai Tribes (CSKT), comprising the Salish, Pend d'Oreilles, and the Ksanka band of Kootenai, inhabit the Flathead Indian Reservation in northwest Montana. Established by the Treaty of Hellgate in 1855, the reservation spans 1.3 million acres, while the Tribes retain traditional usage rights over their former aboriginal territories, extending across approximately 22 million acres in present-day western Montana and eastern Idaho. Historically occupied for over 10,000 years, these lands continue to host traditional activities such as hunting, berry picking, fishing, and gathering medicinal plants, as evidenced by oral histories and archaeological findings (Durglo, 2018).

Following completing the McGinnis/Cabin Stewardship Contract (the McGinnis Project) under the Tribal Forest Protection Act (TFPA) authority, the CSKT collaborated with the Lolo National Forest on subsequent fuel reduction projects utilizing BIA fuels funding. These efforts included underburning in thinned areas and executing other prescribed fire projects (Durglo, 2018).

In the fiscal year 2023, CSKT entered into three new agreements that reinforced their longstanding collaboration with the Northern Region of the Forest Service. A new Good Neighbor Agreement established a structural basis for both current and prospective restoration initiatives, and two challenge cost-share agreements were instituted to further mutual interests. Notably, these agreements aimed to enhance the understanding of natural and cultural resources in the ancestral homelands of the Tribes, thereby ensuring that these considerations become central to future land management strategies and priority settings (*First Annual Report on Tribal Co-Stewardship*, 2023).

A key component of the Good Neighbor Agreement was the introduction of a full-time liaison, who would be responsible for strengthening communication and conveying recommendations between the Tribes—including their resource departments, cultural committees, and Tribal Council—and the four national forests (Bitterroot, Flathead, Kootenai, and Lolo) (*First Annual Report on Tribal Co-Stewardship*, 2023).

The burgeoning partnerships now encompass various stakeholders such as the U.S. Fish and Wildlife Service, Montana State Department of Natural Resources, Bureau of Land Management, and The Nature Conservancy. These collaborations are predicated on the robust, established relationships, which serve as a foundation for successfully implementing fuel reduction and wildland fire suppression initiatives, conservation of significant Tribal cultural resources, and a refined understanding of the regional cultural landscape (Durglo, 2018).

With the anticipated treatment of over 8,600 acres of federal lands adjacent to the reservation using Reserved Treaty Rights Lands (RTRL) funding from the BIA, the partnerships encapsulate a broad scope of activities that build on the strategies developed in the original TFPA project. In fiscal year 2018, the CSKT received \$2,036,100 in RTRL funding to support both TFPA and related projects, indicative of a commitment to ongoing and expansive co-stewardship and resource management (Durglo, 2018).

Conclusion

In conclusion, the analysis within this report emphasizes the critical nature of federal-tribal partnerships for the effective stewardship of natural resources, especially in the management of culturally significant species and lands. Frameworks such as Executive Order No. 3403 and the Tribal Forest Protection Act serve as legislative cornerstones, facilitating opportunities for tribes to contribute to and initiate resource management projects on federal lands adjacent to Indian Trust Land (Mills & Nie 2024). Despite these structural provisions, continued challenges in governance underscore gaps in tribal political engagement with federal, state, and local entities, potentially impeding tribes' abilities to enact culturally tailored adaptive strategies and to enact influence on broader resource management paradigms (Washburn, 2023; Mills & Nie, 2021).

Interactions between Native Nations and U.S. governmental bodies remain fraught with complications that can exacerbate ecological issues, placing additional strains on tribal communities already facing the impacts of climate change. The imperative is clear: governance infrastructures must be reinforced to ensure robust government-to-government relations, effective tribal consultation, and partnerships that extend to non-Indigenous organizations (Chief et al., 2014). These measures are indispensable for upholding tribal sovereignty and enhancing resilience to environmental challenges.

This discourse gains further sentiment in the land return movement and climate justice context. The historical dispossession of Indigenous Peoples' lands has not only been an issue of social equity but also one of ecological mismanagement, which is now manifesting as a major contributory factor to climate change (Racehorse & Hohag, 2023; Whyte et al., 2023). Recognizing the unique position of Indigenous Peoples' communities—as they are often at the forefront of opposing extractive projects and experiencing the front-line effects of environmental degradation—there emerges a clear alignment of interests in championing Indigenous-led conservation efforts (Racehorse & Hohag, 2023).

Indigenous stewardship practices, rooted in deeply held cultural, spiritual, and moral obligations to nurture ecosystems for future generations, offer invaluable insights and models for sustainable and respectful interactions with our environment. The involvement of Indigenous perspectives in environmental conservation and resource management is not merely an ethical imperative but an essential strategy for addressing complex environmental crises. As governmental agencies, organizations, and land trusts increasingly recognize the profound role that Indigenous groups play as stewards and leaders, we find ourselves on the cusp of a pivotal shift in environmental governance—a shift that places Indigenous wisdom and leadership at the forefront of devising solutions to urgent global ecological challenges.

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Reclaiming the Grasslands: Supporting Indigenous Land Return and Co-Stewardship in the Northern Great Plains

This report's findings come together to highlight the pivotal roles of Indigenous visions, leadership, knowledge, and sovereignty in the stewardship of natural resources within the Northern Great Plains (NGP). At its core, the analysis poignantly illustrates that tribes are not only substantial landholders worthy of recognition in conservation policy but also pivotal actors in the movement toward ecological preservation and climate change mitigation.

The challenges identified — from gaps in data accuracy to legal complexities — underscore the pressing need for federal agencies, such as the Bureau of Indian Affairs (BIA), to significantly improve their engagement and bolster support for Native Nations. These agencies must commit to improving data systems, ensure tribes have better access to these resources, and strengthen overall service provision and collaborative partnerships. Refining and broadening land ownership databases and ensuring tribal access to these informational resources is imperative. The existing shortcomings hinder Native Nations from accurately understanding and managing their lands and resources, which is fundamental to their sovereignty and autonomy. These gaps in data quality and availability must be rectified to respectfully support tribal governance and stewardship of lands.

By improving the precision and breadth of land ownership databases, particularly through interventions by the Bureau of Indian Affairs (BIA) and other governing bodies, tribes will be able to strengthen the design and lead their initiatives and research in land return movements and co-stewardship efforts. Such actions will not only rectify historic injustices but also bring Indigenous land management practices to the forefront of ecological strategies, marrying traditional wisdom with contemporary realities and conservation needs.

Further complicating this landscape is the intricate network of federal laws and policies that govern land management, embodying a complex web of statutory requirements that often intersect with and impact tribal sovereignty. This necessitates a more nuanced and considerate approach that takes into account the dynamic and layered character of Native Nations' land tenure and rights. Advances in federal policy, including frameworks such as the tribal Forest Protection Act, offer critical stepping stones, yet they also highlight enduring gaps in political engagement and the integration of tribes' strategies into broader resource management paradigms.

As this report conveys, the support for tribal-led conservation is not merely conducive to environmental outcomes but also foundational to equitable and inclusive grassland stewardship. The land return movement and climate justice advocacy gain further significance against this backdrop, where Indigenous dispossession is recognized not just as a historical and social issue but as one that has tangible ecological repercussions.

In conclusion, the integration of all findings from this report underscores the necessity of adopting a collaborative approach that centers Native Nations in U.S. conservation policy discussions. Given the pivotal role of the U.S. in shaping global conservation policies, progress in this area is critical not only within national boundaries but also in transforming environmental governance worldwide. By placing Indigenous Peoples at the forefront of these discussions, conservation policies in the U.S. could more effectively reflect and respect Indigenous stewardship, setting a precedent for the international community to likewise recognize and incorporate Indigenous perspectives in environmental efforts globally. Such an approach is necessary not just as a means to ethical governance but as a strategic

imperative to navigate the complex environmental crises of our times. Acknowledging Indigenous land rights and fostering federal-tribal partnerships that deeply respect Indigenous points of view are crucial for developing resilient and sustainable responses to pressing environmental issues facing Native Nations, the United States, and the broader international community.

Appendices

Appendix A: Creation of National Grasslands Timeline

Date	Description	Notes
1862	From 1862 to 1934, the government gave out 1.6 million homesteads and turned 270 million acres of federal land into private property. This happened because of laws like the Homestead Act of 1862, the Enlarged Homestead Act of 1909, and the Stock Raising Homestead Act of 1916 (USFS History of the National Grasslands, n.d.).	The Homestead Act and the Enlarged Homestead Act were repealed by the Federal Land and Policy Management Act of 1976
1905	USDA Forest Service was established as a land management agency (USFS History of the National Grasslands, n.d.).	
1930s	To address agricultural challenges like the Dust Bowl and economic hardships such as the Great Depression, the Federal government bought back over 11 million acres of "submarginal land" through the "Land Utilization Program" (LUP) (USFS History of the National Grasslands, n.d.).	
1933	The Soil Erosion Service was created, which later became the Soil Conservation Service (SCS) and eventually the Natural Resource Conservation Service (NRCS). The SCS oversaw the Land Utilization Programs (LUPs) until 1954 and helped set up grazing associations recognized by the states. The SCS followed principles to collaborate with private landowners, ensuring conservation plans aligned with their goals (USFS History of the National Grasslands, n.d.).	
June 16, 1933	The National Industrial Recovery Act - Title II, Section 208 allowed the president to buy farms, partly to help move people from overcrowded cities to rural areas (Molyneaux, 2022).	
1937	The Land Utilization Program (LUP) reached its peak with the Bankhead-Jones Farm Tenant Act (BJFTA), which let the Federal government shift land to its best use and create a plan for conserving and using the land wisely (USFS History of the National Grasslands, n.d.).	
July 22, 1937	Title III of this Act, called "Retirement of Submarginal Land," allowed the Secretary of Agriculture to do a few things, including buying or getting as gifts submarginal land (land not suitable for farming) and land that's not mainly suitable for growing crops (Molyneaux, 2022). The Farm Security Administration initially managed these purchases,	

	followed by the Soil Conservation Service until 1953 and then by the Forest Service (USFS History of the National Grasslands, n.d.) (Molyneaux, 2022).	
1938 - 1954	The Soil Conservation Service administered the LUP from 1938 - 1954 (USFS History of the National Grasslands, n.d.).	
1954	The Land Utilization Program (LUP) lands moved from the Soil Conservation Service to the USDA service (USFS History of the National Grasslands, n.d.).	
1960	3.8 million LUP lands were renamed and distinguished as the National Grasslands (USFS History of the National Grasslands, n.d.).	
June 24, 1960	On this date, a new Part 13 was added, referring to the Administration of Lands under Title III of the Bankhead-Jones Farm Tenant Act by the Forest Service. This part instructed the Chief of the Forest Service to manage and develop National Grasslands. Some of these grasslands included federally-owned lands in Jones, Lyman, and Stanley Counties, previously part of the Lower Brule Indian Reservation (Molyneaux, 2022).	
1998	The Dakota Prairie Grasslands split from the Custer National Forest to become a “stand-alone” unit of the National Forest System (NFS) (USFS History of the National Grasslands, n.d.).	
2002	Land and Resource Management Plan (LRMP) Decision (ROD) signed (USFS History of the National Grasslands, n.d.).	
2006	LRMP Livestock Grazing ROD signed (USFS History of the National Grasslands, n.d.).	

Appendix B: Timeline of Management Legislation of the National Grasslands

Date	Description	Notes
1929	Congress passed the Agricultural Marketing Act, which allowed the Federal Farm Board to look into how land was used for farming and explore ways to decrease the amount of land unsuitable for efficient cultivation (Olson, 1997).	Significant event leading to the enacting of the BJFTA in 1937
1931	The Secretary of Agriculture organized a National Conference on Land Utilization. During the conference, attendees agreed upon a set of resolutions, some of which later served as the basis for the Land Utilization Program (LUP) guidelines. Additionally, the participants suggested creating a National Land Use Planning Committee (Olson, 1997).	Significant event leading to the enacting of the BJFTA in 1937
1932	A National Land Use Planning Committee was set up to examine issues related to farming on submarginal lands. President Hoover recognized the Committee's efforts and highlighted that the primary goal of studying land use problems was to encourage restructuring in agriculture. This restructuring aimed to shift land away from unprofitable uses and prevent the cultivation of land that perpetuated poverty among those who depended on it (Olson, 1997).	Significant event leading to the enacting of the BJFTA in 1937
1933	The Committee released a report emphasizing the importance of public acquisition, retention, and management of less productive land. It also highlighted the necessity of relocating farm families to lands suitable for specific purposes based on the land's adaptability (Olson, 1997).	Significant event leading to the enacting of the BJFTA in 1937
1934	President Roosevelt created the National Resources Board through an executive order. The Board released a detailed report on the land and water resources of the United States. The report recommended several actions, including adopting national policies to encourage land ownership and use that benefit the public, correcting problems in how land is used, increasing the amount of land for forests, parks, and wildlife refuges managed by federal and state agencies, and acquiring 75 million acres of land (Olson, 1997).	Significant event leading to the enacting of the BJFTA in 1937
1934	The Agricultural Adjustment Administration launched a program to buy less productive land with \$25 million in Federal Emergency Relief Administration funding. Through this program, they acquired 8.7 million acres of land (Olson, 1997).	Significant event leading to the enacting of the BJFTA in 1937

1937	The Forest Service currently manages 3.8 million acres of National Grasslands, part of the more extensive National Forest System spanning 191 million acres. These lands were initially acquired under Title III of the Bankhead-Jones Farm Tenant Act of 1937 (Olson, 1997).	
1960s - 1970s	Congress passed several laws in response to the growing environmental movement and increasing dissatisfaction with how national forests were managed. Many of these laws also affect how National Grasslands are administered (Olson, 1997).	
1962	Congress removed the part about retiring submarginal or unsuitable lands from the land conservation and utilization program goals in Section 31 (Olson, 1997).	Amendment to Title III of BJFTA
1962	Congress included "protecting fish and wildlife" and "but not for building industrial parks or starting private businesses" as new goals and objectives for managing LUP lands in Section 31 (Olson, 1997).	Amendment to Title III of BJFTA
1962	Congress removed the Secretary's power to acquire land, as stated in Section 32 (Olson, 1997).	Amendment to Title III of BJFTA
1962	Congress created new power in Section 32, allowing the Secretary to give grants to help state and local governments with their land utilization programs (Olson, 1997; USFS History of the National Grasslands, n.d.).	Amendment to Title III of BJFTA
1966	Congress added "protecting recreational facilities" to the list of foals and objectives for which the LUP may be administered in Section 31 (Olson, 1997; USFS History of the National Grasslands, n.d.).	Amendment to Title III of BJFTA
1969	Congress passed the National Environmental Policy Act, which usually requires federal agencies to assess how their significant actions impact the environment and human surroundings (Olson, 1997; USFS History of the National Grasslands, n.d.).	
1973	Congress passed the Endangered Species Act, which usually ensures that federal agencies don't put endangered or threatened species at risk of disappearing or harming their critical habitats (Olson, 1997; USFS History of the National Grasslands, n.d.).	
1974	Congress passed the Forest and Rangeland Renewable Resources Planning Act of 1974, which tells the Forest Service to: <ol style="list-style-type: none"> 1. Assess renewable resources like forests and grasslands. 2. Put in place programs to manage these resources sustainably. 	

	<p>3. Keep track of the resources available.</p> <p>4. Create plans for managing the land and resources in National Forests.</p> <p>This law is essential for National Grasslands because it includes them under the definition of the National Forest System, as stated in Section 11(a) of the RPA (Olson, 1997; USFS History of the National Grasslands, n.d.).</p>	
1981	<p>Congress included "developing energy resources" as a new goal and objective for managing the Land Utilization Program (LUP) in Section 31 (Olson, 1997; USFS History of the National Grasslands, n.d.).</p>	<p>Amendment to Title III of BJFTA</p>

Appendix C: History of the Diminishment of the Lower Brule Indian Reservation and Opportunities for Land Return & Co-Stewardship

This content of this appendix delves into the historical trajectory of territory loss experienced by the Lower Brule Indian Reservation and identifies opportunities for remediation through land return and collaborative management initiatives. However, due to the sensitive nature of the content, which encompasses detailed historical, legal, and cultural information, this document is not being made available for unrestricted public access and is not included in the documentation submitted to the University of Michigan for the purposes of fulfilling the team's obligations to graduate.

The decision to exclude this report from the University of Michigan and general circulation is a respectful acknowledgment of the sovereign proprietary rights of the Lower Brule Sioux Tribe over their historical narrative and future aspirations. The work undertaken represents a thorough examination, leveraging archival resources, legal documentation, and input from relevant stakeholders, to chart the systematic reduction of the reservation's lands. Through this process, the potential pathways for land return and co-stewardship were explored, with careful consideration given to the sovereignty and self-determined goals of the Lower Brule Sioux Tribe.

While the comprehensive documentation is reserved due to the principles of cultural sensitivity and self-determination, the methodology, ethical considerations, and intent behind this inquiry have been thoughtfully summarized where appropriate in the broader report. This limited disclosure ensures that the Tribe's control over their own history remains intact, while still acknowledging the academic and practical implications of the findings and their contribution to the ongoing discourse on land rights and Indigenous sovereignty.

Appendix D: A Guide to Accessing the U.S. National Archives to Study the Legal Histories of U.S. Tribes: A Case Study of Investigating the Land History of the Lower Brule Sioux Tribe

This appendix presents the outcome of an investigation on the legal historical context of the Lower Brule Sioux Tribe's land. The research details complex legal histories and acknowledges the sensitivity and autonomy of the Lower Brule Sioux Tribe, which has guided our careful control over the access to these findings. The approach to this research was ethically and culturally informed, aligning with the highest standards of respecting Indigenous data sovereignty.

As such, the historical account compiled here is accessible only with explicit permission from the Lower Brule Sioux Tribe and the Buffalo Nations Grasslands Alliance, ensuring the Tribe's prerogative to manage the narrative of their past is maintained. The decision to restrict access to this report stems from a strong commitment to Indigenous rights over their historical and legal narratives.

The research reflected in this appendix was thorough and involved transparent research methods, an in-depth review of archival documents, and a collaborative process with Tribe's leaders. While the complete findings are selectively shared, an outline of our research methods and goals is detailed in the primary report, providing the necessary context for the integral role of this work in broader discussions on Indigenous land rights and cooperative land management.

This appendix also acts as a practical guide for archival research, offering key insights into the resources available for investigating the land history of the Lower Brule Sioux Tribe. Utilizing resources from the National Archives and Records Administration (NARA) and the Library of Congress (LOC), we examined relevant treaties, legislative acts, and a broader range of related documents. Our visits to the National Archives in Washington, D.C., and Kansas City were crucial to identifying and analyzing documents that support Tribal leadership in strategic decisions regarding land return and co-management proposals.