Community Engagement in National Forest Management Planning: An Analysis of Revised Forest Plans

by

Megan Rangel-Lynch

A THESIS

Presented to the Department of Environmental Studies
and the Robert D. Clark Honors College
in partial fulfillment of the requirements for the degree of
Bachelor of Science

April 2023

An Abstract of the Thesis of

Megan Rangel-Lynch for the degree of Bachelor of Science
in the Department of Environmental Studies to be taken June 2023

Title: Community Engagement in National Forest Management Planning: An Analysis of Revised Forest Plans

Approved: *Sarah Wald, Ph.D.*
Primary Thesis Advisor

Historically, mainstream environmental movements in the United States have been entrenched in settler colonialist ideologies, and white or wealthy individuals have been considered the only legitimate environmental stakeholders. These privileged groups have disproportionately influenced land management decision-making. There is a need for land management to continue in a way that respects tribal sovereignty and engages communities of color, whose claims to public lands have been marginalized, disputed, or erased. Scientific literature has reported that collaboration among multiple stakeholders is essential for achieving the ecological and socioeconomic goals of forest management. However, little research has been done on what it would mean to prioritize environmental justice in managing national forests. The research presented here examines how the United States Forest Service (USFS) sought to engage public stakeholders during recent forest plan revision processes and explores the extent that the USFS employed tactics that engage historically underrepresented communities and tribal nations. This thesis is the result of a community-engaged research process focused on qualitative document analysis of publicly-available federal documents produced from forest plan revision processes. Objective assertions were made about the specific tactics used to include the public in a revision process. Connections were then made between comments from the public, direct statements from the USFS, trends noticed in public behavior, and recommendations from equity

and engagement literature to make assertions about the attention the USFS gave to an equitable, inclusive public participation process. This research determined the USFS was effective in making available a variety of opportunities for members of the public who have been typically engaged in land management planning, but there is room to improve in targeting underrepresented groups and ensuring tactics meaningfully involve a diverse set of stakeholders. As the USFS works to provide a greater array and more innovative tactics for public engagement, they must continue to employ a range of tactics, as web-based options are not accessible to all populations and certain tactics have proven to be more effective for engaging underrepresented groups. Further, a very limited number of tactics were employed beyond the USFS's legal requirement to consult tribes. The USFS not only has the ability to ensure more meaningful inclusion of tribes within existing engagement tactics, but also should consider a future of land management based on principles of comanagement and Indigenous sovereignty.

Acknowledgments

I would not have been able to successfully undertake this journey without the guidance and motivation of my primary advisor Dr. Sarah Wald, who continues to share her knowledge and experience in a way that only strengthens me as an academic. I want to express my deepest gratitude for her feedback and commitment to ensuring this thesis realized its full potential. I am thankful to Dr. Alison Gash, who served as the Clark Honors College representative on my defense committee and has pushed me to interrogate legal structures when examining justice. Special thanks to Bark, and specifically Katie Stanton, for providing new perspectives on how to approach this project and for offering feedback throughout the formation of the concept for this research. I am extremely grateful to the Office of the Vice President for Research and Innovation for awarding me a fellowship that allowed me to conduct my summer research full-time. Their generous support allowed my passion for my project to build uninterrupted.

Words cannot express my gratitude to my mothers who were constantly there to affirm me in times of doubt and never once complained about the numerous calls that came their way. I would like to recognize my amazing and patient friends, whose confidence in me and reassurance kept me motivated throughout the research process. I would like to specifically acknowledge Natasha who provided endless hours of unwavering moral support, a willingness to listen, and encouraging resolutions to any problem. Finally, I would like to acknowledge the professors, advisors, peers, and strangers of Starbucks who offered their kind words of support throughout this endeavor.

Table of Contents

List of Tables

Introduction

The United States Forest Service (USFS) is currently in the process of revising significantly out of date forest plans that govern national forest management. In this thesis, I attempt to answer two key questions, how has the USFS sought to engage public stakeholders during recent forest plan revision processes and to what extent has the USFS employed tactics engaging historically underrepresented communities and tribal nations during these revisions. In an attempt to answer these questions and add to the limited research on what it would mean to prioritize environmental justice in land management, I sought guidance from Bark, a forest watchdog organization, who helped guide the focus, goals, and methodology of this research.

National Forest Land and Resource Management Plans, also known as forest plans, guide all natural resource management activities within national forests and establish forest management standards and guidelines. Forest plans establish resource management practices, levels of resource use, and suitability of lands for resource management. They also include goals, objectives, and desired future conditions for the different forests managed by the United States Forest Service (USFS). The goals and objectives outlined in a plan are intended to guide forest management for ten to fifteen years, calling for the USFS to revise individual forest plans around every decade. Revisions seek to ensure plans accurately reflect the current social, cultural, and ecological needs of a forest and nearby communities. Of the 127 forest plans currently in operation, only 55 have been revised. 72 plans are older than fifteen years old, with them needing to be revised or currently in revision (USDA Forest Service, n.d.a).

The current management standards for the majority of United States national forests were developed prior to a shifting focus toward justice and inclusivity in the outdoors. Almost all forest plans were completed by the year 1990, predating both the 1994 Executive Order focusing

federal actions on addressing environmental justice in minority and low-income populations and the 2017 Presidential Memorandum to promote diversity and inclusion on U.S. public lands. Significant scholarship has also been published after 1990 on the troubled history of public lands and the national forest system. However, despite these aforementioned federal actions and published academia, little research has been done on what it would mean to prioritize environmental justice in managing national forests.

The National Forest Management Act (NFMA) of 1976 and the National Environmental Policy Act of 1970 require public inclusion in land management planning. Both these policies encourage public participation throughout an entire planning process, but only require explicit public review and involvement with document proposals. However, there is a growing recognition by the USFS and the larger community of environmental organizations around the importance of public participation. Including members of the public throughout land management planning supports the USFS in understanding the needs and values of the public, keeping the public informed on planning activities, and allowing the public to comprehend Forest Service programs and proposed actions. The USFS is required to involve the public in the revision process of forest plans. However, advocacy organizations and forest communities are also emphasizing the importance of community involvement being accessible, inclusive, and equitable. Particular populations, including minority and low-income individuals, have historically not been viewed as environmental stakeholders. Therefore, public engagement must also prioritize inclusion to ensure all communities have the opportunity to benefit from the forest and have their management concerns heard.

Bark, a Portland-based nonprofit, is working to incorporate communities that have been historically underrepresented as stakeholders of public lands in the approaches to public lands

management in Mt. Hood National Forest. They are working to transform Mt. Hood National Forest into a place where natural resources prevail, wildlife thrives, and local communities have a social, cultural, and economic investment in the forest's restoration and preservation. Bark is exploring opportunities to influence changes in management to reflect current science, public expectations, and the future of forest communities. Their *Free Mt. Hood* campaign seeks to engage marginalized communities and tribal nations in developing forest management policy that focuses on climate and community resiliency, especially by centering issues of cultural importance for Native nations. They also intend to influence the revision of the Mt. Hood Land and Resource Management Plan, as the current plan has not been revised since 1990. This thesis emerges in partnership with Bark to support their efforts to center environmental justice and cultural reconciliation in the eventual revision of the Mt. Hood Forest Plan. This research will draw conclusions to offer recommendations on how Mt. Hood National Forest can best engage underrepresented communities in the planning process of a revised Mt. Hood Forest Plan. This research also intends to be a tool for Bark to ensure communities are engaged by the USFS in agreement with environmental justice principles.

After reviewing the relevant literature on the history of public lands and literature on public engagement and comanagement, I describe the methods used to conduct this analysis. For my results, key tactics and actions taken by the USFS are presented in tables, followed by a further, more detailed summary and discussion. The discussion and conclusion highlight noteworthy instances of equitable engagement, while also emphasizing areas where the USFS should continue to place its focus or needs to prioritize further.

This research is rooted in addressing the questions, “How has the USFS sought to engage public stakeholders during a forest plan revision process?” and “To what extent did the USFS employ tactics that engage historically underrepresented communities and tribal nations?”

Literature Review

History of Public Lands

Public lands are lands held and managed by government agencies, with many of them open to the public for various uses. Public lands include national parks and national forests, but also local conservation areas, wildlife refuges, memorials and monuments (Black, 2014). Most federal public lands are managed by the following four agencies: the National Park Service, the Forest Service, the Fish and Wildlife Service, and the Bureau of Land Management. Concentrating on the United States Forest Service (USFS), founded in 1905, the agency's mission is, "to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations (United States, Department of Agriculture, Forest Service, 2019). The National Forest System is comprised of 154 national forests, twenty grasslands, and one prairie that total 193 million acres of public land (USDA Forest Service, n.d.b). The USFS is also involved in managing wilderness areas, a designation given to land by Congress. Established by the Wilderness Act of 1964, wilderness is the most protective designation land can receive, as this designation restricts commercial activity, motorized equipment, and mechanized travel or tools on the land. Overall, the USFS is focused on managing for vegetation, restoring ecosystems, reducing hazards, and maintaining ecosystem health (US Forest Service, n.d.).

The history of land management in the United States is complex and troubled. The creation and management of our nation's public lands have been, and still are, rooted in structures of settler colonialism, genocide, exploitation, and exclusion. These structures, invested in upholding power and privilege for a dominant few, have been used to justify and perpetrate violent land dispossession and race-based elimination of people from nature. The rise of

conservation in the United States, in the context of public lands, centered around a view of "the public" that has long been violently exclusionary (LeMengager and Weisiger, 2019). U.S. conservation was erected out of "the appropriation of Native American land and resources; the enslavement of Blacks, the seizure of Latino territories; and the containment of Asians" (Taylor, 2016, p.9).

The conception of nature as an uninhabited wilderness is entirely a human creation, shaped by the discourse of economic, political, intellectual, and religious elites (Taylor, 2016). From the mid-1800s to the mid-1900s, white, urban, male elites advocated for the establishment of national parks to preserve and protect land, unconcerned with the rights of Indigenous peoples, local knowledge, traditions, and connections to land. In the interest of game hunting and recreation, and constructing sanctuaries removed from the blight of urbanization, forest commons were privatized, making criminal the actions of subsistence hunters and blaming wildlife decimation on ethnic minorities (Taylor, 2016). Under the ideals of preservation and conservation, once entirely accessible lands were transformed into our nation's national parks and national forests. These wilderness areas were formed deeply rooted in the idea that man and nature must be separate.

As noted by scholars such as William Cronon, Dorceta Taylor, Mark David Spence, and Karl Jacoby, the myth of wilderness as "virgin" uninhabited land was created through violent land dispossession and forced relocation of Indigenous peoples to reservations. Mark David Spence, in his book *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks,* emphasizes uninhabited wilderness had to be created before it could be preserved. Preservationists dismissed evidence of native use and habitation on public lands, creating an empty, seemingly untouched landscape by forcibly removing and restricting Native

peoples to reservations and using various methods of assimilation to make the Native "disappear". Wilderness became idolized as a nonhuman landscape of pristine nature (Spence, 2000). Preservationist conceptions of wilderness, linked to federal policies of Indian removal, are deeply tied to the founding notions of national parks as landscapes protected from human development and depletion.

Alongside preservation emerged conservation as another settler-based framework, dictating who had rightful claim to be on public lands and what uses were "appropriate." As discussed by Karl Jacoby in *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation*, conservationists strived to create a wilderness safe from the encroachment of human society (2014). Conservationists criminalized traditional practices such as hunting, fishing, foraging, and timber cutting in newly created national parks, forbidding Indigenous peoples from accessing the land in ways they had been for years and making it illegal for rural communities to rely on these lands. Conservationism radically redefined what constituted as legitimate uses of public land and defined how human and nature interactions were to be organized (Jacoby, 2014). Conservationism influenced the stewardship principles that created national forests as landscapes where moral citizens could go to recreate and where industries were permitted to "responsibly" extract resources, but subsistence activities were not legal. Mainstream environmental movements, especially those focused on wilderness, preservation, and conservation, are bound up in settler colonialist ideologies that exhibit no concern for social justice nor acknowledge Indigenous peoples as current members of the population (Bacon, 2019).

Despite this troubled history, people of color have longstanding relationships to nature, public lands, and outdoor spaces. Indigenous people and people of color have molded our

ecological systems, which needs to be reflected in dominant narratives (Wald, 2022). Scholars like Carolyn Finney argue that people of color must no longer be perceived as unlikely stakeholders in environmental issues. Scholarship suggests forest management on U.S. public lands should focus on meaningfully involving individuals in every stage of management planning processes, granting power to the public to make environmental decisions regardless of race, ethnicity, or ability.

Indigenous People, Public Lands, and the Settler State

Centuries-long violence and ongoing processes of settler colonialism serve as the foundation for the relationships between the US government and Indigenous peoples. United States' public lands were founded by expending military force to murder and relocate Indigenous peoples from their homelands, signing treaties restricting Indigenous peoples to specific areas, and implementing tactics of forced assimilation stripping Indigenous peoples of their culture (Norgaard, 2019). Indigenous people's relationships with the government are relationships entrenched in trauma and distrust, especially as agencies like the USFS continue to ignore Indigenous hunting and fishing rights, land tenure, and traditional management practices. The current degradation of the natural environment stems from the mismanagement of public lands due to a failure by state actors to recognize the ways traditional management practices were responsible for flourishing landscapes. The ability of Indigenous peoples to engage in traditional management is vital for the assertion of their political sovereignty and for their ability to engage in subsistence activities that promote the overall health of their people (Norgaard, 2019). Federal land management agencies need to go beyond acknowledging tribal sovereignty and traditional practices, and consider using systems of comanagement on public lands.

Environmentalism and People of Color in America

There has been a historical construction of what is considered a legitimate use of public lands and who belongs in these landscapes, leading to an ongoing exclusion of people of color from nature and environmentalism. The exclusion and danger people of color experience on public lands is widespread, yet racially and ethnically specific (Wald, 2022). The American story of the Great Outdoors does not feature Black adventurers or naturalists, nor do pictures of people recreating in the outdoors feature individuals with Black skin (Finney, 2021). In her book *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors,* Carolyn Finney emphasizes how the legacies of slavery, Jim Crow, and racial violence have shaped the understanding of the "great outdoors" as predominantly white spaces. These legacies have made wilderness a place of fear and struggle for Black individuals, as these sites have historically contained threats for African Americans. Despite the Black experience with nature being one of struggle, exclusion, and pain due to a collective history of limited access to place and spaces, many Black men and women have resisted this history by forming relationships with nature filled with pleasure, healing, liberation, and knowledge-formation. However, representations and perceptions of African Americans are grounded in racist practices that have marginalized or made invisible the environmental experiences of nonwhite individuals on American landscapes. Throughout history, a pervasive narrative around Latinx people in the outdoors has worked to construct them as foreign "others" and as a threatening presence in natural spaces (Wald, 2022). Latinx people in the outdoors are perceived as natural when performing labor, but Latinx individuals are seen as criminals when participating in outdoor leisure (Wald, 2020). Racial formations around Asian Americans began to form in the late 19th century, leading to the passage of the Chinese Exclusion. Passed in 1882, this was the first law to

bar immigration into the US based on race (De Leon, 2020). During World War II, lands disposed from Indigenous people were used to imprison Americans of Japanese descent. Currently, racism against Asian Americans has become ever more visible, as they continue to be connected to uncleanliness and thought of inferior and alien (Kim, 1998). Philosophies of racial segregation have limited generations of people of color from accessing our nation's natural spaces. When white or wealthy individuals are deemed as the only population with environmental concerns that matter, they become a disproportionate target of land management engagement processes. There is a need for land management to continue in a way that respects tribal sovereignty through, policies, practices, and consensual decision-making, while also engaging communities of color, whose claims to the land have been marginalized, contested, or erased.

Environmental Movements and Policies

The objectives and mission of the USFS have prioritized timber production for much of the agency's history (Maier & Abrams, 2018). When the USFS was founded in 1905, the agency rejected the notion of national forests as sites for home, culture, play, or wildlife habitat (Hays, 2009). For the beginning half of the twentieth century, the USFS's mission and management practices positioned the agency as a major timber producer. Yet, from 1920 to 1960, some proponents of wildlife and aesthetics issues on public lands, who had been excluded from the national forest agenda, sought greater inclusion in management affairs (Hayes, 2009). In the decades after World War II, conservationists and recreation groups began to raise concerns about biodiversity and other resources on the lands besides timber. To limit the federal timber harvest, Congress passed the Multiple Use Sustained Yield Act in 1960. This act recognized outdoor recreation and other forest uses as being of equal importance to timber harvest (Maier & Abrams,

2018). Soon, scientists and the public became concerned about the ecological effects of extensive clear-cut logging on federal lands.

In the mid-to-late 1900s, the Timber Wars highlighted the conflict between managing a forest for timber production versus the ecological needs of the forest. Increasing federal timber harvest on public lands generated fear and resistance by conservationists and recreation groups, triggering protests concerned about the future of old-growth forest in the Pacific Northwest (Maier & Abrams, 2018). Due to a lack of strong legal protections for the environment, environmentalists relied on legal concern for endangered species to stop forests from turning into tree farms, centering many arguments around habitat for the Northern Spotted Owl. Rising concern by scientists and the public about the ecological effects of extensive clear-cut logging on federally managed lands led to the development of the National Forest Management Act (NFMA) of 1976 and the Northwest Forest Plan (NWFP) in 1994 (Maier & Abrams, 2018). Both NFMA and NWFP underscored the need to recognize the ecological values of our nation's forests and the importance of integrating multiple stakeholders into forest policy. NFMA emphasized rational planning and ecological values, and introduced public participation into forest policy (Maier & Abrams 2018). NFMA also specifically required the USFS to develop Land and Resource Management Plans (forest plans) for national forests. These forest plans are meant to guide the maintenance and use of resources within United States national forests, while removing agency discretion and establishing formal planning procedures focused on ensuring forest preservation and productivity (Hogan, 1995).

Yet current principles are moving away from focusing on just the trade-offs between the conservation of old-growth forests and timber production. Greater pressure is being placed on management plans to account for climate change, wildfire regimes, species interactions,

ecosystem services, and social values (Spies et al., 2019). Tensions between capitalism, ecology, and social justice make issues of land management dauntingly complex. The needs and interests of the public surrounding these lands remain varied and are increasingly being vocalized. As more individuals recognize the value of forests beyond their supply of timber, there is also an effort to promote management that supports culturally relevant resources and values. The federal government took several actions late in the twentieth century demonstrating their greater recognition of the fundamental interdependence of a healthy environment, a robust economy, and social justice. In 1993, President Bill Clinton created the President's Council on Sustainable Development, which called for constructive, consensus-based solutions to the growing issues of climate change, environmental management, and sustainable urban and rural communities (LeMengager and Weisiger, 2019). Then in 1994, Executive Order 12898 directed federal agencies to develop a strategy for implementing environmental justice and to provide minority and low-income communities access to public information and public participation (Environmental Protection Agency, 2022). Additional federal action came in 1998 when Congress created the US Institute for Environmental Conflict Resolution. The Institute was developed to help facilitate collaboration and consensus-building around environmental issues like the protection of endangered species, timber sales, water management, recreational management, and grazing (LeMengager and Weisiger, 2019). These decisions by the federal government display awareness and a rising focus on including a variety of communities in environmental management.

In addition to NFMA's requirement to create a forest plan for each national forest, the USFS is also guided by a planning rule that sets out the process for the development and revision of these plans. In 1982, the USFS implemented a planning rule requiring public participation

only during points in a plan development process that were subject to the 1970 National Environmental Policy Act (NEPA) (Federal Advisory Committee on Implementation of the 2012 Land Management Planning Rule, 2016). This meant public involvement was mainly sought after following the publication of a draft plan or during the environmental analysis process. Yet, in 2012, the USFS established a new planning rule for how to manage the National Forest System, incorporating the concepts of adaptive management, scientific basis, and public participation. This rule was the first significant update to USFS planning procedures in thirty years (Federal Advisory Committee on Implementation of the 2012 Land Management Planning Rule, 2016). The 2012 planning rule emphasizes collaboration and requires improved transparency (USDA Forest Service, n.d.c). In regards to public involvement, the 2012 planning rule requires decision-makers to emphasize and incorporate opportunities for public involvement through every step of the planning process, ensuring the public is not just involved in forest plan review, but also in development (Federal Advisory Committee on Implementation of the 2012 Land Management Planning Rule, 2016). In addition to compelling earlier engagement in the revision process, the rule will provide greater opportunities for the public to interact directly with the decisionmakers (USDA Forest Service, n.d.c). The 2012 planning rule also requires the USFS to reach out to diverse stakeholders and those who do not typically participate in the planning process. The rule mandates the responsible official to encourage participation by interested individuals and entities which include: private landowners; youth, low-income and minority populations; tribes; and other federal agencies, states, counties, and local governments (USDA Forest Service, n.d.c).

Under this planning rule, the responsible official must honor government-to-government relationships between federally recognized tribes and the federal government (USDA Forest

Service, n.d.c). Beyond required consultation with tribes and Alaska Native Corporations, the responsible official is also required to encourage tribal participation throughout the planning process and to request information about native knowledge, land ethics, cultural issues, and sacred and culturally significant sites (USDA Forest Service, n.d.c). Tribes, by direction of this rule, will be encouraged to request cooperating agency status where appropriate, allowing for greater opportunity to be engaged throughout the revision process (USDA Forest Service, n.d.c).

Public Engagement

Meaningful public involvement requires context-based engagement going beyond simply making people aware of public processes or opportunities to provide comments. However, government agencies integral to the development of natural resource management have long insisted on top-down solutions for land management issues. They deemed top-down management a necessary measure to avoid local overuse of resources by the public (Mistry et al. 2016). This has led to a history of broad-scale planning in the United States that has shown relatively little concern for public interests. As a result, there is limited discussion regarding the applications of public engagement approaches supported by rigorous social science, particularly in the context of land management.

Although there is a lack of intensive studies done on public engagement in this context, an overwhelming number of public engagement methods have been identified. It has also been acknowledged engagement tactics are variably applicable based on the institutional and cultural context in which they are implemented (Armatas et al., 2021). Different strategies to challenges are not mutually exclusive and community-based natural resource management requires a suite of strategies that engage local communities who are part of the social-ecological system (Mistry et el., 2016). More robust research on general public engagement mean land management

planners may understand the technical aspects of a public engagement method. However, the framework for how to implement said method within the context of conservation still needs further development.

In natural resource management, collaboration commonly refers to a process where groups with different interests come together to address management issues across a large geographic area. The goal of public engagement, in terms of forest management, is to integrate local interests and knowledge into the planning process and build a collective vision for how to manage the land. Participants frequently included in forest management engagement efforts are: federal, state, and local government agencies; tribal communities; forest community residents; landowners; organizations; management consultants; recreation users; and others who hold particular interests, like in natural resources or wildlife (Flores and Stone, 2020). Despite management decisions ultimately being the decision of the USFS, public engagement is meant to co-develop solutions through a process that builds trust and mutual understanding, identifies common interests, and reduces conflict (Armatas et al., 2021). Public engagement entails not only listening to everyone, but genuinely hearing the perspectives and interests of different groups to develop collaborative solutions to natural resource problems. Scientific literature published since the establishment of the Northwest Forest Plan has reported collaboration among multiple stakeholders is essential for achieving ecological and socioeconomic goals of forest management (Spies et al., 2019). Collaboration can also enhance trust among stakeholders if it is based on clearly stated objectives, consistent communication, transparent processes, reasonable timelines, honored commitments, and opportunities for candid deliberation and genuine engagement among diverse values (Spies et al., 2019).

Despite growing agreement in academia on the importance of including diverse groups in forest management, inclusion practices vary in interpretation, scope, decision-making, and efficacy (Godwin et al., 2018). In practice, land management public participation processes are met with rigid disagreement from opposing sides of an issue, low levels of public satisfaction, and an unwillingness among stakeholders to participate in forest planning processes (Sheppard & Meitner, 2005). Underrepresented communities often express a lack of understanding of forest management and are unable to see the direct benefits of participating in forest governance (Godwin et al., 2018). Even if a diverse set of stakeholders want to participate in management planning, current barriers to inclusion within forest governance include logistical, linguistic, and geographical barriers to participation. Reduced public support for active participation in forest management stems from a lack of public trust in federal land management due to the prior decades of clear-cutting old-growth forests (Spies et al., 2019). USFS governance networks with external actors are complex and uneven because the Forest Service is often hesitant to cede substantial authority to community-based organizations and actors (Maier & Abrams, 2018). There is a diminishing faith on behalf of communities in government planning processes due to a long history of the USFS ignoring community comments and recommendations, choosing to proceed with their initial preferred alternative.

Although a variety of factors discourage individuals from participating in management planning, the success of forest plans depends on the variety of representation and involvement of different stakeholders (Bruña-García & Marey- Pérez, 2014). A review done by the University of Montana on public participation recognized there is not a “one size fits all” process for public participation; engagement methods will need to be considered in the context of a particular forest’s culture, history, and capacity (Center for Natural Resources and Environmental Policy,

2015). Not only has academia become more outspoken on the topic of public engagement, but the USFS has also begun to shift their thinking. In a Public Engagement Reference Guide, the USFS notes that effective engagement depends on meeting people where they are, talking with them about what they care about, and connecting how public lands provide benefits to society and their community (Forest Service, 2019).

There is a range to participation and engagement. Participation can be passive, where stakeholders are informed about decisions made by others, or engagement can be more interactive, which leads to joint decisions and shared responsibilities (Bruña-García & Marey-Pérez, 2014). For the USFS, public comments are the most accessible and common mechanism the public uses to engage in planning (De'Arman, 2020). Public commenting is a passive form of participation, where thousands of comments are directed toward the USFS. In this process, form letters (a letter written from a template) regardless of the number of copies submitted, are treated as one comment. This delegitimizes the interests of thousands of commenters (De'Arman, 2020). Open houses have also become one of the most commonly used methods for involving the public, yet are argued to be superficial by critics of engagement processes (Tanz & Howard, 1991). These critics state that no individual can comment intelligently on a forest plan without time, skills, and resources to examine it in detail. Further, the goal-setting stage of the planning process affects the whole more than any other, meaning open houses late in the planning process hardly constitute as real consultation (Tanz & Howard, 1991). The USFS, in order to achieve meaningful engagement, needs to move beyond the pattern of informing, soliciting input, then ignoring. Meetings and interactions are much more productive if structured to promote full group interaction, rather than simple information sharing and feedback (Shindler & Neburka, 1997).

Public Engagement Best Practices

There is a large range of public engagement tactics that can be considered and employed in planning processes. Although it is necessary to consider the most appropriate tactics based on the context in which they are being employed, and in terms of the goals looking to be achieved, research has highlighted a few tactics that can be considered general best practices when aiming to promote equity in engagement. It is important to consider that some stakeholders may not be able to attend physical meetings due to limited time or money (Haddaway et al., 2017). Therefore, resources can be provided to assist in traveling to physical meetings, in addition to using a variety of web-based tools, including teleconferences, webinars, and e-collaboration programs (Center for Natural Resources and Environmental Policy, 2015). To suit stakeholders working regular hours, having duplicate meetings is a significant benefit, especially when one is on a weekday and the other on a Saturday (Walker et al., 2006). In attempting to mitigate biases in stakeholder engagement, the USFS should use multiple advertisement channels to maximize the audience reached. This should be accompanied by providing multiple modes of response, keeping in mind those who cannot attend physical meetings or lack access to the Internet (Haddaway et al., 2017). A singular method of engagement is unlikely to cater to or attract all applicable stakeholder groups.

In specifically looking at the best ways to engage minoritized or populations of color, it is important to consider the language, transportation, and scheduling challenges of each community. If minority populations are not English speakers, the USFS should consider translating written and verbal communications. Groups may require different or tailored language in written communications like emails, especially if their level of understanding of academic literature or systematic review methods do not align with an industry's standard

expectations (Haddaway et al., 2017). Bridging cultural and economic differences that may affect participation can include offering childcare, varying the time of day meetings are held to allow workers to attend, and allowing local leaders to preside over meetings. Developing partnerships on a one-to-one or small-group basis can ensure representation, with the intent of developing trust between the government and potentially affected populations (Grinspoon et al., 2014). The USFS should also be aware that citizens unaffiliated with organized interest groups value place-focused planning processes, as it allows participants to draw on their own knowledge and experience, rather than competing over policy positions (Cheng & Mattor, 2006). Certain populations may also interact more if contacted in a specific way or at a specific time, placing value in assessing already established channels of communication. Remote towns and villages often rely on local radio stations, local newspapers, and posters in grocery stores to disseminate information; they may also use village and community centers, church bulletins, and organization chapter meetings (Grinspoon et al., 2014). To ensure meaningful involvement, the USFS should actively reach out to historically underrepresented groups to determine the most desirable methods, times, and locations for their involvement in public planning processes.

In the very beginning stages of a planning process, the USFS may consider collaboratively developing a public participation strategy with identified stakeholders and dedicating a staff person to manage all public engagement and collaboration activities. It is almost necessary to have a designated staff member organizing engagement because no USFS staff member should be expected to, nor is able to successfully manage their normal workload while also coordinating a robust public participation process. (Center for Natural Resources and Environmental Policy, 2015). It has also been shown staff turnover is detrimental to successful collaboration between the public and the USFS, especially when turnover occurs in agency

leadership roles. Having to rebuild relationships while trying to engage in collaboration disrupts project continuity and wears on the trust of stakeholders, further justifying the need for a specific staff member to be solely focused on public engagement throughout the entirety of a forest plan revision (McIntyre & Schultz, 2020).

Value is added to the general public participation process when the decisionmaker (usually the forest supervisor) has a regular presence at engagement meetings. Their presence helps legitimize the efforts of the group and makes stakeholders feel their contributions are taken more seriously (Shindler & Neburka, 1997). Beyond sincere and genuine leadership, the USFS should ensure they exhibit openness and contactibility to support and facilitate responses from less vocal and minority stakeholder groups (Haddaway et al., 2017). Often-overlooked common courtesies, such as advance distribution of meeting notes and written materials, also add credibility and value to participation for volunteer stakeholders (Shindler & Neburka, 1997). True collaboration is considerably different from the traditional model of open houses, public meetings, and comment periods, which generally represent simple inclusion. There is a need for management agencies to investigate and learn from other participatory planning processes to reflect on how to employ more meaningful participation practices. Equitable engagement in forest management may require extended participatory timelines to allow for community-based consultation, participatory meetings, and genuine community discussions (Godwin et al., 2018).

Tribal Comanagement

The USFS may consider engagement outside pre-existing structures and utilize systems of comanagement with tribal nations. Comanagement efforts are not all the same and are often described on a continuum, where the degree of participation ranges from consultation to complete sharing of authority of decision making (Diver, 2016). Despite a variety of institutional

definitions of comanagement, under this review, comanagement is the concept and practice of multiple sovereign entities working to address and find solutions to issues concerning both nations (Goodman, 2000). It results in the sharing of power and responsibility between government entities, typically through formal agreements (Diver, 2016). However, land management agencies have a historic tendency to inaccurately reduce tribes to a "stakeholder" or "public group" that should be consulted before action is taken on federal lands (Nie, 2008). Yet, tribes are not interest groups, they are sovereign governments. Treating tribes as an interest group overlooks principles of U.S federal Indian law (Diver, 2016). Therefore, the role of tribes in the comanagement of public lands must be developed in recognition of their status as a sovereign government (Goodman, 2000).

Embracing principles of comanagement is not relegating final veto power to tribes; it calls for an end to one-sided decision making by federal agencies. Comanagement aims to incorporate the knowledge, policy, and technical expertise of each sovereign party in a mutual, participatory framework (Goodman, 2000). However, for comanagement to be meaningful, tribes must be engaged in initial discussions of resource areas at the time federal agencies begin to form views regarding management activities (Goodman, 2000). Equality in comanagement between Indigenous peoples and the state is realized when land management integrates key elements from both parties, instead of forcing Indigenous cultures and knowledge to fit into Western "scientific" resource management systems (Mabee & Hoberg, 2006). Confining Indigenous management principles into pre-defined agency structures often results in inadequate representations of complex Indigenous knowledge systems (Diver, 2016). Further, when differences arise between two knowledge systems, agencies often choose Western science as the final authority (Diver, 2016). Comanagement is not a partnership that will default to favoring

federal agency expertise, but is a system where the domination of one knowledge system is avoided and there is no monopoly on scientific competence (Goodman, 2000).

Managing public lands under the principles of comanagement will challenge colonial systems that have historically excluded Indigenous communities from land management. Comanagement also acknowledges Native people's localized, historical understanding of habitats based on their longstanding relationship with these landscapes and centuries of observing, interacting with, and relying on natural resources (Goodman, 2000). Due to the inhibition of natural disturbance and Indigenous tending regimes, forest resources continue to decline in quality and abundance, alongside a reduced resilience and diversity in these ecosystems. Should Indigenous ecological knowledge and relationships be reintroduced, these resources may be revitalized (Long and Lake, 2018). The ultimate goal for comanagement is to achieve equality between Native nations and government authorities when managing public lands. Yet, this management structure can further deliver positive ecological benefits, cross-cultural understanding, and recognize Indigenous self-determination and tribal rights to resources on public lands (Long & Lake 2018; Mabee &Hoberg 2006).

Methods

This thesis is the result of a community-engaged research process focused on qualitative document analysis. From the outset, the purpose, research question, and methods of this thesis were developed in conversation with Bark and their Environmental Justice Engagement Coordinator & Policy Analyst, Katie Stanton. Bark was updated and consulted at various stages of the thesis process, with recommendations continually driving the direction of this research. Upon completion, findings and recommendations will be presented to Bark staff and its Board. This will hopefully result in a conversation that discusses the tactics the USFS should integrate into the revision of the Mt. Hood Land Management Plan.

To determine tactics used to engage public stakeholders in a forest plan revision and uncover instances of equitable engagement or areas for improvement, I performed a content analysis of publicly-available federal documents produced from forest plan revision processes. Through manual qualitative analysis and both an inductive and deductive approach to coding, I sought to uncover the tactics the USFS has historically used to engage community stakeholders in a forest plan revision and evaluate their effort in engaging a diverse array of stakeholders. To limit the scope of this research, plans to be considered for analysis were limited to national forests with land and resource management plans published after the year 2012. This decision was made due to the emphasis of the 2012 planning rule on public involvement and collaboration. Forest plans finalized subsequent to this planning rule were anticipated to have a more extensive public engagement process and place greater emphasis on having diversity among stakeholders in comparison to plans mainly developed under the 1982 planning rule. Provisions of the 1982 planning rule were said to be cumbersome to public participation and did not require consideration of public diversity in engagement. In late May 2022, a general search

was performed to determine the publishing date of each national forest's most current land and resource management plan. This resulted in a collection of sixteen plans with publishing years between 2014 and 2022.

After an initial evaluation of these sixteen plans, I selected a subset of plans to be included in the final, more detailed analysis. Three to six plans were presumed to be the ideal number of plans to include in the final analysis. This number was due to a relatively strict research schedule and suggestions from Bark on the scope of work I could cover during the research period. Not all sixteen plans and ancillary documents could be reviewed in depth during the time available to complete this research. The national forests part of the final analysis were intended to have an augmented public engagement process and/or have similar demographic characteristics to Mt. Hood National Forest. This decision was made based on the central focus of this research on community engagement processes, as well as the desire to apply lessons learned through this project to the revision of the plan for Mt. Hood National Forest.

Mt. Hood National Forest is classified as an urban forest, meaning one million people lived within 50 miles of the forest as of the year 2010. A mix of USFS publications, general searches, and visual evaluations based on ArcGIS population maps were used to determine if any of the sixteen plans finalized after 2012 shared this classification. Four of the sixteen plans were determined to be urban national forests. I then used ArcGIS to perform a visual analysis of population groupings to understand the community demographics of each national forest. This was done using a dot density map displaying race in the United States based on data from the American Community Survey. This analysis involved identifying if any concentrated population groupings lie around the boundary of each national forest. If so, based on dot color volume, the top two most pronounced racial and ethnic groups for each national forest were determined. The

categories for race and ethnicity included: non-Hispanic White, Hispanic or Latino, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander.

After assessing the population and demographics for each of the sixteen forests, I performed a surface-level examination of a limited set of publicly-available federal documents related to each national forest's plan revision process. To evaluate public interest, I established if any forest watch group was invested in the plan revision process. Then, through a general analysis of USFS revision planning webpages, environmental impact statements, final land management plans, and records of decisions, a search was done for six elements pertaining to public participation in each forest plan. This included clear instances of community engagement, any mention of stakeholder diversity or engagement of minority groups, specific references to tribal inclusion, tactics used by the USFS for outreach or engagement, numbers reported regarding quantities of comments received, and general noteworthy content related to public participation. This information was assembled as an overview of each national forest's attention to inclusive public engagement. A subjective determination was then made on which plans presented the most detailed information on revision engagement strategies, had variety or innovative engagement tactics, and emphasized tribal engagement. Five forest plans were deemed necessary for review under these qualifiers: Custer Gallatin (Montana), Flathead (Montana), Inyo (California), Nantahala-Pisgah (North Carolina), and Rio Grande National Forest (Colorado). Additionally, Lake Tahoe Basin Management Unit (California) was selected to be included in the final analysis because of its similarity to Mt. Hood as an urban forest. Lake Tahoe Basin Management Unit was selected as the urban forest that presumably would yield the most insight into equitable engagement processes.

For the six plans, I located every publicly available planning document produced during the plan revision process for each national forest. These documents were sourced from national forest planning websites or additional sites directly related to the plan revision process. These planning documents ranged from meeting transcripts, news releases, and Federal Register notices to final plans, final environmental impact statements, and signed records of decisions. Using these documents, I built a timeline of public engagement, recording the type of engagement opportunity, its location and/or platform, how many members of the public were engaged, and specific details related to equity or audience. Notes were also made on particularly innovative engagement tactics or tactics employed for the purpose of including a specified group. I determined if the USFS hired or partnered with another entity for the sole purpose of fostering public participation, and also documented moments in the revision process where the public was able to provide input or had an influence on the planning documents. Lastly, a notes section was dedicated to any general mention of outreach or engagement tactics, or broad statements made about public involvement.

Once the six timelines of engagement had been assembled, I combined both an inductive and deductive approach to qualitative coding to derive results from these plan revision engagement timelines. I began by using an open coding style to categorize the content of these documents into three categories: specific tactics employed, specific and/or underrepresented populations engaged, and behaviors aligned with literature based best-practices. Once all timeline information had been classified into one of these three categories of information, it became evident the information could be divided into seven more specific groupings. These groupings (outreach and communication techniques, engagement tactics, meeting-based engagement, ways communication could be received, populations engaged, tribal engagement

tactics, and strategic planning processes and planning aids) served as the structure for organizing and presenting trends discovered in these planning processes. Using focused coding, I re-categorized the engagement timelines under these seven groupings. This information was then used to produce seven tables. Row headers were established based on actions taken during the revision process, in addition to best practices falling under each grouping based on published literature. Colum headers list each national forest included in this analysis. Tactics noted in each timeline were then assigned to a specific table and row. The content of the six engagement timelines were translated into seven tables that are not dependent on frequency, but instead, simply state "yes" if a planning process included that tactic at least once during the revision process.

These tables serve as the foundation for discussing the results of this research, analyzing engagement throughout plan revision processes, and offering recommendations. Objective assertions were made about the specific tactics used to include the public in a revision process. Connections were then made between comments from the public, direct statements from the USFS, trends noticed in public behavior, and recommendations from equity and engagement literature to make assertions about the attention the USFS gave to an equitable, inclusive public participation process. This resulted in a collection of conclusions and recommendations that are intended to illuminate ways to bolster equitable engagement in future plan revision processes.

Results and Analysis

The actions taken and tactics used throughout the revision of the six forest plans are broken into seven distinct categories which include: outreach and communication techniques, engagement tactics, meeting-based engagement, ways communication could be received, populations engaged, tribal engagement tactics, and strategic planning processes and planning aids. To present the content included in a category, each section provides a table outlining which forests engaged with specific audience or tactic during the revision of its plan. Tables are then followed by a more in-depth discussion of the techniques, tactics, and decisions made by the USFS, describing the trends visualized in the table and offering greater detail than what is encompassed in a "yes" designation. This summary also includes relevant points to the revisions not listed in the tables, but do fall under the general category of each header. Summaries are followed by a discussion of trends and actions taken during each revision. The discussion highlights strategic tactics and decisions, relates elements of the revision to assertions made in the literature, and offers comments on how to improve future public planning processes.

Outreach and Communication Techniques

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
Forest Service Planning website	Yes	Yes	Yes	Yes	Yes	Yes
General Forest Service/USDA website	Yes	Yes				Yes
Third-Party/Partner Organization websites		Yes			Yes	
Email Announcements/Listservs	Yes	Yes	Yes	Yes	Yes	Yes
Letters				Yes		
Written Invitations						Yes
Direct Mailings					Yes	Yes
Phone Calls						Yes
Word of Mouth					Yes	
Media Notices			Yes			

Media Interviews		Yes			Yes	
Newsletters	Yes	Yes			Yes	
Press/News Releases	Yes	Yes	Yes		Yes	Yes
Federal Register Notice	Yes	Yes	Yes	Yes	Yes	Yes
Notice posted in newspaper of record	Yes	Yes	Yes	Yes	Yes	Yes
Notices posted in local newspapers	Yes	Yes		Yes		
Local Newspaper Articles	Yes		Yes		Yes	
Print Flyers/Media					Yes	Yes
Radio Announcements/Interviews	Yes		Yes		Yes	Yes
Podcasts	Yes					
Television media	Yes				Yes	
YouTube Postings					Yes	
Social Media Posts (e.g. Facebook)	Yes	Yes	Yes		Yes	
Information tables at public events (e.g. festivals or conferences)					Yes	
Information tables at public spaces (e.g. grocery stores or local meeting spaces)						
Publications available at local libraries offices	Yes				Yes	
Publications available at Forest Service offices	Yes	Yes	Yes		Yes	Yes

Table 1: Outreach and Communication Techniques

Summary of Findings

A wide range of techniques can be employed for the purposes of outreach and engagement. Therefore, this analysis chose to highlight twenty-seven techniques deemed most relevant to the goals of the USFS. Of these twenty-seven techniques the USFS may have used to disseminate information to the public or used to perform public outreach, only four techniques were used across all plans included in this analysis. To inform the public, all six revision processes performed outreach through a Forest Service-maintained website specifically for plan revision, email announcements, Federal Register notices, and notices in the newspaper of record. Every revision utilized a Forest Service website containing information only about the plan revision to share information. These planning-specific websites housed published documents and

maps, in addition to serving as a place to publish meeting notifications and public notices. Every revision process also relied on email announcements and/or email listservs to inform the public of available documents and/or upcoming meetings. The Federal Register was used by each national forest to inform the public about different stages of the revision process including the following: Notices of Initiation of Assessment, Notices of Intent to Revise the Forest Plan, Notices of Availability of Draft Environmental Impact Statements and other draft materials, Notices of the Opportunity to Object, and Notices of Plan Approval. Across the six plans, notices were also published in a designated newspaper of record. Of the six, half of the forests also chose to publish Notices in other local and regional newspapers. Besides notices, three forests also utilized newspaper articles. Custer Gallatin National Forest shared information about the Draft Plan and Draft Environmental Impact Statement via articles in numerous local and regional newspapers. Inyo National Forest mentioned using newspaper and feature articles to reach a wider audience throughout the revision process. On multiple occasions, Nantahala-Pisgah National Forest published news and press articles in a variety of newspapers and magazines.

Other forms of press and media outreach implemented in these revision processes include media notices, media interviews, newsletters, and press releases. Five of the six forests, not including the Lake Tahoe Basin Management Unit, utilized press and news releases. Custer Gallatin National Forest used a press release to publicly launch the revision process and sent out a news release to notify the public about a later round of public meetings. Flathead National Forest used news releases to inform the public about a series of field trips, to make them aware of open houses, and to invite the public to various meetings. Inyo National Forest utilized news releases to announce the start of the official plan revision process, and later to announce upcoming public meetings, workshops, and open houses. Nantahala-Pisgah developed news

releases to inform the public about draft materials and virtual engagement opportunities, whereas Rio Grande National Forest used press releases to advertise meetings prior to the official revision process. Half of the plan revision processes (Custer Gallatin, Flathead, and Nantahala-Pisgah) used newsletters as a way to inform the public about the availability and ability to comment solely on draft materials. Upon the availability of draft materials, both Flathead and Nantahala-Pisgah were the only national forests to inform the public using media interviews. Neither newsletters nor media interviews were used to inform the public at any other stage of their revision processes. Finally, Inyo National Forest was the only revision process to utilize a different form of media notice. These notices took the form of Get Involved updates, released from the Regional Forest Service Office.

Web-based outreach methods included a general preexisting USDA website, third-party or partner organization websites, social media, and YouTube or video postings. Three of the six forests published information on a preexisting USDA Forest Service website. Custer Gallatin National Forest published a link to their Plan Revision webpage on their main Forest Service website. Flathead National Forest used their existing Forest Service website to provide basic information regarding upcoming meeting dates and times, background information, and other announcements. Flathead's Final Environmental Impact Statement, revised plan, and other supporting documents including the Draft Record of Decision, were made available on the USDA Forest Service Northern Region's Species of Conservation Concern webpage. Rio Grande made all of their assessment information, a final wilderness inventory report, and an initial inventory of Wild, Scenic, and Recreational Rivers available on their general national forest website. Two additional forests used non-Forest Service websites to disseminate information to the public. Nantahala-Pisgah used partner websites to advertise opportunities to attend meetings

and digital gatherings, whereas Flathead National Forest used a publicly-accessible third-party facilitator website for announcements, to display meeting times, locations, agendas, and summaries, and to provide informational background documents and other resources. Four of the six national forests used social media as a platform to provide updates, messages, and other information. These forests (Custer Gallatin, Flathead, Inyo, Nantahala-Pisgah) specifically mentioned Facebook as one of, or as the only social media platform through which information was shared with the public. Nantahala-Pisgah was the only forest to use emerging technologies such as YouTube postings and Facebook Live to share information with the public, including pre-draft content, plan materials, and the Draft Environmental Impact Statement.

In regard to print, radio, and television media, all but two forests used one or a mixture of these forms of media. Custer Gallatin National Forest shared the release of its Final Environmental Impact Statement through radio and television media. Although not speaking solely on the Custer Gallatin National Forest itself, the revision process highlighted a resource-specific forest planning podcast series known as *Your Forests, Your Future*, as a tool the public could use to obtain information. Inyo National Forest only used radio media, by means of radio spots, to inform the public about upcoming workshops. Nantahala-Pisgah reached the public through radio articles and morning radio interviews, in addition to television spots. Nantahala-Pisgah also chose to advertise opportunities to attend meetings and digital gatherings through paper flyers. Lastly, Rio Grande National Forest staff sent press releases to radio stations and had their public participation facilitator post flyers in local gathering spots, announcing upcoming meetings.

Several national forests engaged in more direct or personalized outreach to the public via letters, written invitations, direct mailings, or phone calls. Only one of the forests utilized letters

as a means to send announcements. Lake Tahoe Basin Management Unit used letters to notify individuals or organizations who had submitted formal comments during the revision process that the Final Record of Decision and Draft Record of Decision were available. Rio Grande National Forest was the only forest to implement written invitations and phone calls as a form of public outreach. Higher level USFS leadership sent written invitations and made phone calls to local stakeholders to advertise meetings. Both the Rio Grande and Nantahala-Pisgah National Forests used direct mailings to contact the public. The Nantahala-Pisgah plan revision team directly mailed interested and potentially affected individuals and organizations upon the availability of the Draft Plan and Draft Environmental Impact Statement. The Rio Grande plan revision team sent meeting advertisements through the mail to key contacts. Nantahala-Pisgah National Forest also noted the use of word of mouth as a strategy to advertise meetings and digital gatherings.

Various techniques were implemented to make information physically available for the public. Nantahala-Pisgah National Forest was the only plan revision process to host booths or information tables at public events. The USFS had booths regarding the forest plan revision at a music festival, a Cradle of Forestry event, the Cherokee Archeology Conference, the Outdoor Economy Conference, and at the Annual Indian Fair Tribal Elder's Day. Despite the Rio Grande collaboration team considering hosting information tables at local stores or meeting places during their collaborative assessment, no forest decided to implement tabling at local public spaces as a method of outreach. Every forest besides the Lake Tahoe Basin Management Unit had printed versions of planning documents and related reports available at one or multiple Forest Supervisor's Offices. Only two of these forests, Custer Gallatin and Nantahala-Pisgah, had publications also available at local libraries for public access.

Discussion of Findings

Although the USFS was productive in their communication and performed outreach through a variety of tactics during plan revision processes, these tactics happened to be very general forms of communication and were not specifically directed at informing traditionally underrepresented stakeholders. Even more innovative methods of communication did not seem to establish any novel lines of communication or raise significant awareness in communities not already interested in land management planning. In order to increase the involvement of culturally diverse stakeholders in a revision process, the USFS ought to direct outreach specifically toward these groups. This will likely require extra effort on behalf of the USFS to meet underrepresented groups where they are or integrate planning messaging into lines of communication already established among these groups. A more diverse set of stakeholders may not traditionally see themselves as concerned with issues of forest management and therefore, will not seek out public engagement opportunities themselves during plan revision. Phone calls, direct mailings, written invitations, and letters were among the least frequently used outreach techniques. However, direct contact with stakeholders in these forms can encourage members of the public to take interest in forest planning and see themselves as a stakeholder in forest management. Being reached out to directly fosters much greater buy-in than when needing to seek out information or being informed through a widely distributed general public notice.

For those not already responsive to USFS mailing lists and media outlets, or who are not invested in seeking out information regarding a planning process, it may be necessary to interface with these members of the public in spaces they already frequent. One method to accomplish this is to host information tables in public spaces such as libraries, grocery stores, outdoor stores, or other local meeting spaces within the community. Tabling can be quite

resource-intensive so the USFS could also choose to intentionally reach diverse audiences by posting print flyers and other outreach materials in community spaces that are frequented by a large array of the public. Outreach in public spaces, whether it be in person through Forest Service staff or printed media, can be an especially effective means of communication in small towns with limited Internet access. This tactic is also beneficial for stakeholders who may not be as likely to come across USFS announcements through other forms of media. Members of the public who may distrust or fear interacting with government authorities are more likely to feel comfortable speaking to and obtaining information from a USFS agent at a public event or outside a community location, such as a grocery store.

Another way to connect with the public is through already-established community organizations. In this analysis, only one third of the planning processes used third-party or partner organization websites as a means to communicate with the public. Further, only one plan revision process, Inyo National Forest, acknowledged the benefit of working with diverse organizations to reach members of the public from minority communities. Inyo National Forest, prior to initiating its forest plan revision process, had begun building relationships with Spanish-speaking media sources and the organization Outdoor Afro, whose mission is to foster Black connections to nature. Before initiating a plan revision, members of the USFS need to form working relationships with other organizations, which will serve as a foundation to build on throughout the revision process. If the USFS invested focus and time in building coalitional relationships prior to, or early on, in the revision process, third-party organizations could assist the USFS in reaching a wider, more diverse set of stakeholders. Reaching minority populations through an already established and trusted organization takes effort on behalf of the USFS to build relationships with members and leadership from outside organizations. The USFS can

utilize relationships built through trust, mutual understanding, and communication to engage directly with communities not as frequently engaged in land management planning or not typically reached through traditional USFS media tactics (Grinspoon et al., 2014). These relationships could be used to seek commitments from stakeholder organizations to distribute announcements to their own members. Organizations could also post process updates, or links to commenting tools and virtual tactics on their individual websites. There is a much higher likelihood non-Forest Service-affiliated websites would be willing to post notices or updates on their platforms if there is an already working relationship between the two groups. Outreach through partner websites and organizations has the potential to attract nontraditional stakeholders who are more likely to value the work and priorities of an organization they trust and are involved with.

The USFS has traditionally relied on communicating with the public through more official platforms, like agency websites, federal databases, and email listservs, but also has begun to expand outreach through less-traditional forms of media. The use of social media platforms, like Facebook and YouTube, may help the USFS reach a broader group of stakeholders, especially in terms of age. Few young people today rely on newspapers to receive their news. Announcements and updates on social media are more likely to reach a younger audience, creating another point of accessibility for a group typically less engaged in forest planning. Yet, the USFS needs to be cognizant of the ways rural and low-income citizens may lack reliable, or any, access to the Internet. There needs to remain a variety of in-person or physical modes of engagement in order to ensure the participation process remains accessible to variable populations.

Engagement Tactics

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
Conference Call/Teleconference		Yes			Yes	Yes
Open House/Chat with the Ranger Session	Yes	Yes	Yes		Yes	
Presentation at a non-FS hosted meeting (e.g. conferences, trainings, public events, schools, etc.)	Yes				Yes	
Informational/Stakeholder Interviews		Yes	Yes			Yes
Forum				Yes		
Workshop	Yes	Yes	Yes	Yes	Yes	
Webinar	Yes		Yes	Yes	Yes	Yes
Symposium	Yes					
Field Trip		Yes			Yes	
Art Contest	Yes					
Collaborative/Interactive Mapping Tool		Yes			Yes	Yes
Interactive Website			Yes			Yes
Online Questionnaire	Yes	Yes			Yes	Yes

Table 2: Engagement Tactics

Summary of Findings

To engage the public, workshops and webinars were employed in the greatest number of plan revision processes. Five out of the six revised plans included in this analysis incorporated workshops as a tool used to interact with the public. Workshops adopted two general focuses; one centered around the revision process itself, and the other form focused more on specific topics. Process-based workshops included: Flathead's two workshops, one focused on the *Stakeholder Collaboration Process Proposal* and the second on modeling assumptions that will be used in the development of the proposed action; Inyo's two workshops for anyone wanting to learn more about the revision process and the proposed collaborative process; Lake Tahoe Basin Management Unit's two initial workshops to discuss their forest plan development approach and gauge public interest in planning topics; and Nantahala-Pisgah's workshop focused on plan revision tasks. The more topic-specific workshops included: Custer-Gallatin's workshops

focused on assessing the climate vulnerability of forest vegetation and management options; Flathead's workshop on the Draft Grizzly Bear Conservation Strategy; Inyo's workshop geared toward those wanting to provide detailed input on specific scientific and technical concerns regarding the Forest Assessment; and Nantahala-Pisgah's workshops centered around topics of forest health, wildlife habitat, fuels reduction, water quality, and recreation opportunities. Webinars were incorporated into five of the six processes, not including Flathead National Forest's revision. These webinars were used as a supplement to or alongside public meetings, as a deep dive into specific topics or locations, and/or as a mode to explain processes specific to the revision.

Other web-based engagement tactics included collaborative mapping tools, interactive websites, and online questionnaires. Half of the plan processes (Flathead, Nantahala-Pisgah, Rio Grande) engaged the public through a collaborative or interactive mapping tool. All mapping tools allowed the public to view wilderness inventory and/or forest area maps. The mapping tool used by Flathead National Forest allowed the public to communicate with each other and USFS staff, creating a "real-time" discussion, in contrast to a more traditional unidirectional collection of public comments. Flathead National Forest also provided a Wilderness Inventory and Evaluation tool allowing commenters to indicate where they would like to see specific management areas or new designations. Through this tool, the public could attach comments or pictures to a specific place, while also providing general comments that other members of the public could review and reply to. Both Inyo National Forest and Rio Grande National Forest incorporated an interactive website into their public engagement scheme. Inyo National Forest used a non-Forest Service website to build an online community called Our Forest Place. On this website, the public could interact through blogs and discussion groups, in addition to finding

information about forest planning and current events. Stakeholders were also able to provide information via a "Talking Points" website, where stakeholders could leave general comments or attach specific comments to defined areas or points on the map. Rio Grande National Forest employed the web-based tool MindMixer. MindMixer was used to send updates about site-based discussions and upcoming meetings, as well as to help generate ideas about management and visitor experience in the forest. An online questionnaire was another web-based engagement tactic, utilized by four of the six national forests. The form-fillable questionnaires or online evaluation forms allowed Custer Gallatin, Flathead, Nantahala-Pisgah, and Rio Grande National Forests to receive public input without requiring individuals to attend an in-person meeting.

The least frequently used engagement tactics (employed by two or fewer plans), include a forum, art contest, symposium, field trip, and a presentation at a non-Forest Service-hosted meeting. Lake Tahoe Basin Management Unit's interagency collaborative process, known as Pathway 2007, hosted local and national special interest groups in a forum setting with state and local governments, and agencies. During the Custer Gallatin Forest Plan revision, youth in grades three through eight were invited to participate in an art contest, requesting works that conveyed what the Custer Gallatin National Forest meant to them. Over 60 entries were received from schools around the forest, with entries then put on display at later public meetings. Custer Gallatin National Forest was also the only plan revision process to incorporate a symposium into their engagement scheme. The Forest Service hosted what they named The Science of National Forest Planning Symposium. The symposium was free, with numerous speaker presentations and a concluding panel discussion. Flathead and Nantahala-Pisgah hosted field trips open to members of the general public. Flathead held four field trips, each focused on different subject topics and traveling to a different Ranger District. Although an RSVP was required one week

before each field trip date, all transportation was provided and most trips offered two pick-up/drop-off spots. Nantahala-Pisgah National Forest hosted two field trips, one focusing on forest products and the other focusing on restoration, but was only accessible to members of the stakeholder forum. Lastly, presentations by the USFS at a non-Forest Service-hosted event were among the most infrequently implemented engagement tactics. Custer Gallatin Forest Service presented as part of a town council Meeting, a county commission meeting, and presented to undergraduate and graduate classes at Montana State University. The Forest Service also hosted presentations at a local public library and in an REI Community Room after releasing the Proposed Action. Nantahala-Pisgah Forest Service similarly made presentations to schools, and to a University of North Carolina at Asheville wildlife class, in addition to presentations at several public events and at other organizations' meetings.

Three additional engagement tactics were used semi-frequently. These included conference calls, open houses, and stakeholder interviews. Three of the six USFS offices choose to host meetings only through conference calls. Flathead National Forest followed up topical stakeholder working group meetings with conference calls, in addition to having their third-party facilitator host two "process advice calls" in order to receive suggestions regarding the collaborative process. Nantahala-Pisgah National Forest held four teleconference public question-and-answer calls in response to canceling public meetings due to the outbreak of Covid-19. The question-and-answer calls followed the publication of the Draft Plan and Environmental Impact Statement. Rio Grande National Forest held one of their Objection Resolution meetings through conference call only. Four of the six forests hosted open houses or more informal meetings, creating an opportunity for the public to directly ask a member of the USFS questions. Open houses hosted by Custer Gallatin, Flathead, Inyo, and Nantahala-Pisgah National Forests

all followed a similar model. These open houses served as a way to share information with the public and allow the public to speak to USFS staff about specific topics or concerns. Three forest plan revision processes received public input through informational interviews. Flathead National Forest conducted stakeholder interviews to learn what issues were of particular interest to the public, understand what local collaborative groups were already doing, and how the efforts of these groups could complement engagement activities. These interviews were also meant to identify challenges, and begin discussions regarding appropriate ways to include all interest groups throughout the revision process. Inyo National Forest used informational interviews to better understand issues of public concern and to gather public recommendations about how to best involve them and their networks in the revision process. Rio Grande National Forest relied on stakeholder interviews to gauge public awareness of forest planning and to assess the best timing to hold upcoming meetings. Another set of in-person interviews was used by the Rio Grande to clarify community needs, concerns, and interests.

Discussion of Findings

The USFS has a history of engaging stakeholders too deep into the planning process for any concerns or advice given to have a meaningful impact on documents. However, half of the national forests included in this analysis interviewed stakeholders in the beginning stages of the planning process. The interviews allowed the USFS to learn early on what concerns the public had and how the public preferred to be engaged in the planning process. Hearing from the public directly and early on in the process meant public input could actually impact the direction of planning efforts. Public viewpoints could be incorporated into the forest plan before the Forest Service was too far along in the process to potentially integrate any public input.

In centering equity in this engagement method, it is imperative stakeholders interviewed are from a diverse group of the public. Only one plan specifically mentioned interviewing individuals of a racial or ethnic minority. In order for planning processes to account for the needs of minority groups and for the plans to include the interests of a wide array of stakeholders, a greater proportion of nontraditional participants in forest planning need to be included in these early process-focused interviews. Equity begins by seeking input from a diverse set of perspectives and taking a bottom-up approach to planning. It is meaningful if the USFS takes the time to organize its engagement process around the needs and interests of the community, instead of forcing stakeholders to align their input with methods they had no say in developing.

The USFS is incorporating more innovative ways to engage and collaborate with the public beyond traditional methods like open houses, workshops, and forums. Engaging the public through field trips, art contests, interactive mapping websites, and presentations has the potential to attract participation from a wider and more diverse set of the community. These tactics, especially interactive websites and field trips, also allow for greater discussion between the public and decisionmakers, going beyond the conventional structure of information sharing followed by an opportunity to comment. Stakeholders may feel more comfortable expressing concerns about desired conditions for a geographic area after spending the day discussing that landscape alongside the Forest Service, instead of approaching a staff member formally at an open house. New approaches to public participation, however, must occur early in the revision process and gather input that will legitimately be considered in the direction of the plan for these tactics to be considered meaningful.

Although over half of the plans offered the option to join a meeting via conference lines, participants from the Flathead revision process noted that this form of participation was far from

satisfying. As stated in the Flathead *Stakeholder Collaboration Final Report*, members of the public joining via a conference line found it difficult to hear all parts of the meeting and struggled to find an opportunity to participate in the discussion. Although an option to engage with the planning process may be offered, engagement methods should not just be employed as a formality, but should actually lead to worthwhile public input and satisfaction.

It is critical that the public has a general understanding of the forest plan development process, as seen in the collaborative assessment results from the Rio Grande Plan revision process. These results determined that a basic understanding of the forest plan revision process and the 2012 planning rule would boost public participation throughout. This means the USFS should not simply emphasize public engagement tactics that obtain input and engage in conversation. They should also host opportunities for the public to learn about the broader planning process and hold information sessions on the structure and criteria used to develop different plan sections. Members of the public who have never participated in land management planning before, or who have not frequently engaged with the USFS, can come to better understand the general process of revising a forest plan. In addition, they can develop foresight on when their input will be sought after through early informational tactics. This may strengthen feelings of comfort and reduce certain stakeholders' anxiety when entering a participation process.

Meeting-based Engagement Tactics

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
FS Hosted Public Meeting	Yes	Yes	Yes	Yes	Yes	Yes
Objection Resolution Meeting	Yes	Yes	Yes	Yes		Yes
Status Update Meeting						Yes
Web-based/Remote Meeting	Yes				Yes	
Virtual-stream Meeting		Yes	Yes			
Cooperating Agency/Partner Organization Meeting	Yes					
Co-hosted Meeting						Yes
Third-party Meeting			Yes			Yes
Meeting due to agency/organization request				Yes	Yes	
Stakeholder Collaboration Meeting		Yes			Yes	
Intergovernmental Working Group/ Interagency Group	Yes	Yes				
Virtual option to attend	Yes					
Option to join via teleconference		Yes	Yes	Yes		Yes
Provided handouts and issue papers prior to meetings	Yes	Yes		Yes	Yes	
Hosted topic-specific meetings outside of the objection process		Yes				Yes
Hosted duplicate meetings (different times or different days)	Yes		Yes	Yes		Yes
Provided snacks and/or beverages at a meeting	Yes	Yes				Yes
Third-party facilitator for meetings	Yes	Yes	Yes	Yes	Yes	Yes

Table 3: Meeting-based Engagement Tactics

Summary of Findings

Public meetings are one of the core tactics the USFS traditionally uses to foster public engagement. Across the six plans, public meetings occurred in twelve different forms. The most common form of meeting, implemented by all six forests, was a public meeting hosted by the USFS. Most followed the traditional structure seen in public meetings during USFS planning

processes, which opens the meeting with a presentation and information sharing, followed by an opportunity for discussion or comments. However, Rio Grande National Forest went outside this mold and notably designed their Forest Plan Community Awareness meetings to be community-based and interactive. They did this through tools like real-time polling and video interviews, in addition to more traditional methods like map-based exercises and discussion time with snacks. For many of the plans, public meetings were held at multiple stages of the plan revision process. Publicly-available planning documents for the Nantahala-Pisgah Plan revision were the only set of forest planning documents that did not demonstrate the forest hosting Objection Resolution meetings. Custer Gallatin, Flathead, Inyo, and Rio Grande National Forests held three days of Objections Resolution meetings to discuss with the public and clarify issues, agree on facts, and explore possible opportunities for resolution, while Lake Tahoe Basin Management Unit hosted two resolution meetings. Rio Grande National Forest was the only forest to host what they called a Plan Revision Status Update meeting. Four Status Update meetings were held in different locations around the planning area prior to the release of the Draft Need for Change document.

The USFS also created opportunities for stakeholders to attend and participate in public meetings without having to physically be in the meeting space. Two plan revision processes hosted meetings remotely. Custer Gallatin National Forest held their objection resolution meetings remotely via Cisco Webex, and Nantahala-Pisgah National Forest hosted one of their Stakeholders Forum meetings on the web. Although four of the six planning processes allowed the public to remotely join some meetings via a teleconference line, only two of those four also provided a way for the stakeholders to virtually stream the meeting. Flathead National Forest provided the option for Interagency Group members to participate via the USFS video-teleconferencing system and Inyo National Forest provided the opportunity to participate via live

webinars for multiple public meetings. When the option to join via conference call or webinar was offered during the Inyo planning process, it was only available for the first half of the meetings. Following the meetings, stakeholders could provide their feedback in a written format. Custer Gallatin National Forest appeared to be the only forest to have a virtual opportunity for the public to attend meetings that also allowed attendees to participate in small group discussions. Attendees did not just passively listen to the in-person discussion, but could discuss and provide input via a virtual "pod".

USFS meetings with other agencies, organizations, or distinct stakeholder groups took several different forms. The Custer Gallatin revision process was the only planning process to distinguish a cooperating agency, in this case Sweet Grass County, as having hosted multiple public meetings. This is similar to the Rio Grande revision process, which was the only process to note co-hosting public meetings with various associations and organizations. The Forest Service, in two planning processes, obtained input from a third-party meeting hosted by an outside organization. Inyo National Forest worked with the Eastern Sierra Recreation Collaborative, which as a collaborative, invited recreationists and regional stakeholders to a series of public meetings. Through these meetings, the Collaborative identified values, principles, and guidelines they desired to be included in the forest plan revision. These desires were then communicated to the USFS. During the Rio Grande planning process, the Forest Service participated in meetings hosted by various councils and County Commissioners. Two USFS offices declared they attended a public meeting due to a request by an outside agency or organization. The Lake Tahoe Basin Management Unit attended meetings after requested by interested agencies and special interest groups prior to the Notice of Intent to prepare a forest plan, and again, met by request with thirteen interest groups, organizations, local agencies, and

the Washoe Tribe of California and Nevada during the Draft Environmental Impact Statement comment period. Nantahala-Pisgah Forest Service attended regular meetings of three primary collaborative groups by request. Also, due to requests, the Nantahala-Pisgah Forest Service attended over 100 collaborative group meetings held by local governments, non-governmental organizations, and interest groups.

Meetings between the USFS and multiple organizations and agencies also occurred, with groups meeting together in one space. During two of the six plan revision processes, an interdisciplinary team and/or stakeholder collaboration group was established and met regularly throughout the revision. Flathead National Forest convened several stakeholder collaboration meetings organized around different topics and centered around different portions of the forest plan, including desired conditions and objectives. Nantahala-Pisgah National Forest also assembled a stakeholders forum. The stakeholders forum was comprised of nearly thirty individuals representing organizations with various environmental, wildlife, recreational, and industry interests. This forum met regularly for over two years of the planning process. The stakeholders forum reviewed drafts of plan components and offered solutions to address all interests, providing key input to the USFS. Two planning processes, the Custer Gallatin and Flathead, established an intergovernmental or interagency working group. Custer Gallatin assembled an intergovernmental working group with tribal, state, county, and local governments, in addition to other federal agencies. Virtual meetings held over three years of the planning process informed participants of planning progress, offered an opportunity for greater understanding and feedback, and gave space for participants to engage in conversation with the range of other agency participants. Flathead National Forest assembled an interagency group comprised of members from various federal agencies, county government departments, and

tribes. Interagency group meetings provided an opportunity to give updates on the revision process and for participants to raise questions, concerns, and suggestions for the revision process.

In shifting to focusing on how the USFS incorporated equity or extended courtesies into public meetings, all six plan revision processes had a third party facilitate at least one set of meetings. Custer Gallatin, Flathead, and Lake Tahoe Basin used a third party to facilitate objection resolution meetings. Forests, including Flathead, Inyo, Nantahala-Pisgah, and Rio Grande, relied on a third party to facilitate various public meetings, workshops, interagency and/or stakeholder group meetings. Four of the six planning processes provided handouts or issue papers prior to public meetings. Custer Gallatin created a handout with definitions of all the different designated areas and a visual of the alternatives. This was similar to how Nantahala-Pisgah provided the public with a document prior to objection meetings detailing certain proposed instructions being considered and the Forest Service's interpretation of remedies proposed by the objectors. Nantahala-Pisgah made these documents available both before the objection meeting and as hard copies at the meeting. Rio Grande National Forest encouraged participants to arrive early to review materials and gather handouts prior to the start of the meeting. As an aside to meetings, Rio Grande National Forest provided stakeholders with the opportunity to review assessment topic reports. Each report included an executive summary, that due to great intention and a high level of effort, was written to be digestible by a broad audience. Written executive summaries were short with details on major issues, while the reports themselves relied on maps, tables, and other graphical materials to make the material accessible to a broader audience. Flathead National Forest provided reference materials and meeting agendas on the website of Meridian Institute, their third-party facilitator. They also provided everyone with briefing papers on each issue topic at the objection resolution meeting, which

were sent out electronically and provided in hard copy at the meeting. Half of the planning processes (Custer Gallatin, Flathead, and Rio Grande) provided light snacks, beverages, or coffee during at least one of their meetings as a courtesy for the public sharing their input and time.

Various engagement strategies not represented in the tables are worth highlighting due to their contribution to broader planning process effectiveness. Flathead National Forest held a public meeting where attendance was much higher than had pre-registered, some attendees were unfamiliar with forest planning and the issues being discussed, and a few dominant voices consumed the conversation of the big group. Flathead, in subsequent meetings, switched to the structure of small table discussions which better accommodated high stakeholder interest. Inyo National Forest saw during the revision process that meetings where only one person asked a question at a time, did not allow the majority of stakeholders in attendance to have their questions answered. This was why Inyo favored an open house format for public engagement. Small group discussions allowed for more in-depth conversations that fostered greater cooperation. Another takeaway from the Flathead engagement process was the USFS and third-party facilitators should prepare for a larger than anticipated turn-out, first-time attendees, and participants of many different interests.

Certain factors influenced the extent of participation in public meetings by various stakeholders. The Custer Gallatin Plan revision process received fewer stakeholder participants when public meetings were held in smaller communities in comparison to larger communities. Generally across the plans, meetings or public engagement opportunities held in places of lower population densities attracted fewer participant stakeholders than when held in higher population density areas. Also, the timing of meetings seemed to impact stakeholder participation. A stakeholder commented during a Flathead Objection Resolution meeting they were able to attend

because the meeting was in late spring and they had to travel over the mountain. Included in the Final Environmental Impact Statement, senior members of the public and stakeholders from rural mountain communities of Inyo National Forest expressed a desire for meetings to be closer to their homes in order to avoid long drives at night. In response, Inyo National Forest adjusted meeting times to end earlier over the course of the revision process. A "Lessons Learned" document stated Rio Grande National Forest held recreation-focused meetings during specific seasons to ensure a greater number of recreationists would be in town to attend planning meetings if interested. Found in Flathead's *Stakeholder Collaboration Final Report*, in regard to timing, the majority of stakeholders in the Flathead engagement process preferred weekday evening meetings, starting no earlier than 5 pm and concluding by 9 pm. However, stakeholders of this forest also noted that short meetings felt rushed and it would have been useful to incorporate one longer public session at critical points of the planning process.

Equity and consideration for public needs were also incorporated into the structure of planning meetings. Both Flathead and Rio Grande National Forest held meetings, outside of objections, centered around a specific topic. This included meetings specific to recreation, wilderness and designated areas, vegetation, wildlife, etc. Topic-specific meetings narrowed the focus and made meetings more relevant to specific participant interests. Notably, four of the six planning processes held a duplicate meeting on either a different day or at a different time to cater to different groups of stakeholders. Custer Gallatin, Lake Tahoe Basin, and Rio Grande held two sessions on the same day of the same meeting, one earlier and one later, to cater to different work schedules. Inyo National Forest also held a workshop/webinar at two separate times in one day, but also held identical workshops on a Friday and Saturday to accommodate those who have availability during the work week and those who are better able to attend outside

of normal working hours. Not included in the visual, but noteworthy, was Custer Gallatin National Forest's decision to hold alternative meetings on two Saturdays. They declared this was an intentional choice made so members of the public had the time and availability to travel from farther distances to participate in discussion.

Discussion of Findings

As demonstrated by the aforementioned observations, the USFS should consider the social and temporal context in which meetings are held in order to maximize their accessibility. Larger communities attract a greater number of public participants, but it is vital the USFS continues to host meetings close to low-density populations. Hosting meetings nearest to city centers may attract a greater quantity of participants, but may in turn diminish the accessibility of these meetings for the rural public and stakeholders outside the main communities. Hosting meetings in various community types is one effort the USFS can undertake to attract a diverse group of stakeholders. In areas where weather poses a hazard, the USFS must also be cognizant of the landscape of their forest, the potential for dangerous traveling conditions, and the types of engagement tactics they choose to offer. Should weather potentially endanger stakeholders attempting to engage in the revision process, the USFS could consider either web-based engagement methods or a temporary hiatus on aspects of planning that benefit from public input. Stakeholder demographics also influence the desired time and season of meetings. To be even more responsive to the needs of the public, the USFS should consider disseminating a public survey to better understand when to host meetings, instead of scheduling meetings at times they think are most desirable.

During the planning process, the majority of USFS offices hosted duplicate meetings, whether on multiple days or at different times; this is an important tactic to promote equity in

public engagement. Considering factors like age and location, older stakeholders and individuals living in rural areas expressed a preference for meetings earlier in the day. However, people who work during the week prefer later evening meetings or meetings on the weekends. It is important the USFS holds duplicate meetings, at the very least during critical stages of the planning process, and provides engagement opportunities at a variety of times to appeal to a diverse array of stakeholders.

Hosting topic-specific meetings, which was done by two plans in this analysis, can be reviewed through two different perspectives. On one hand, if the public is aware of what topics are being discussed at a specific meeting, they may be more inclined to attend meetings centered on issues that are of interest to them. This removes the worry over sitting through many hours of a public meeting waiting to discuss a single issue of interest. The discussion may also be more productive, as there is a greater likelihood that those attending a topic-specific meeting have some interest or background knowledge on the topic. However, for that reason, topic-focused engagement may feel more exclusive to members not as involved in forest management issues or who are new to topics included in a forest plan. Although topic-specific meetings were open to all members of the public, these meetings may be perceived as open only to those who already have a working knowledge of the issue being discussed. It is important to consider the ways nontraditional stakeholders may feel intimidated entering a topic-specific space if their experience with the issue is limited, or if their interest in forest planning cannot be reduced to issues of recreation, specific resources, or certain wilderness areas.

The majority of the plans in this analysis provided handouts or informational materials prior to at least one set of public meetings. This is an important meeting tactic to continue to employ and expand upon. Providing informational materials prior to a meeting, whether it be

electronically or in-print, allows stakeholders who chose not to or did not have the ability to attend earlier meetings to become more familiar with the issues that have been discussed. Frustration resulting from repeating previous discussions or taking time to answer process-related questions can be avoided if stakeholders better understand where the discussion has gone and how the planning process has progressed so far. Information provided prior to public meetings can reduce feelings of uncertainty or lack of knowledge for members of the public who are joining later in the planning process, or who have not been consistently involved in the development of planning topics.

With the rise of the internet and especially following the COVID-19 pandemic, the USFS has begun to offer a wide variety of digital engagement opportunities and web-based tools for communication. This broadens who can engage in the planning process by eliminating the need to be in close proximity to the national forest to attend meetings, and removing the need for financial liberty to pay travel costs to attend workshops. Virtual participation also reduces the time it takes to engage in the process by allowing the public to access opportunities in their homes.

Across the plans in the analysis, the participation of members from tribal communities or leadership from organizations representing tribal interests was infrequent or nonexistent in stakeholder group meetings or interagency groups. Across the plans, tribal members were not included in the membership of stakeholder coalitions. Of the 25 stakeholder forum members from the Nantahala-Pisgah Plan revision, not a single member was from a tribe. All members represented recreational, environmental, industry, or wildlife interests. During the Flathead Plan revision process, tribes were not specifically stated to have attended stakeholder collaboration meetings. However, they did participate in intergovernmental/interagency meetings. Yet, tribal

attendance at these meetings tended to be infrequent, small in proportion, or began once several meetings had already occurred. Of the 138 individual participants in the intergovernmental working group meeting for Custer Gallatin in May 2016, 32 participants were a representative of a tribe, a tribal historic preservation officer, or from a heritage program. During the Flathead Plan revision process, of all 30 interagency group participants across the meetings, only two were from the Confederated Salish-Kootenai Tribes. The Flathead National Forest also invited the Montana Natural Heritage Land Program manager and The Blackfeet Nation to participate in interagency meetings, but they did not attend. Although there is the option for tribes to engage with the USFS through official government-to-government consultation, their input is lacking in stakeholder or interagency group spaces. Minority interests have not consistently been present in these spaces, meaning the needs and interests of these groups are more likely to get overlooked. The USFS should consider why stakeholder forum members do not include more people from underrepresented populations, or why tribes are not accepting invitations to be involved in spaces where numerous other agencies are invited.

Ways Communication Could Be Received

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
Email	Yes	Yes	Yes	Yes	Yes	
Hard-copy Mail/Letters	Yes	Yes	Yes	Yes	Yes	
Hand Deliveries			Yes	Yes		
Fax	Yes	Yes	Yes	Yes	Yes	
Comment Boxes	Yes		Yes		Yes	
Web-based Commenting Tool	Yes	Yes	Yes		Yes	
Forest Service Website	Yes		Yes		Yes	
Interactive Website			Yes			
Online Forum		Yes				

UNKOWN

Table 4: Ways Communication Could be Received

Summary of Findings

None of the publicly available documents found and reviewed for the Rio Grande National Forest Plan revision explicitly stated how Rio Grande received public contact or in what form the public was able to send information directly to the USFS. However, for the five other plans where this information was clearly stated, all revision processes accepted public comments or objections via email, hardcopy mail or letters sent through a mail carrier, and fax. Both Inyo National Forest and the Lake Tahoe Basin Management Unit made it so either comments or objections could be hand delivered to a local USFS office. Additionally, three planning processes had comment boxes available at public meetings or events hosted by the USFS. Custer Gallatin had comment boxes available at open houses for written submissions. Inyo National Forest accepted public comments at a workshop and Nantahala-Pisgah hosted 23 meetings where in-person comments could be received.

The USFS also used a variety of online methods to receive public comments and objections, including a specific web-based commenting tool, a Forest Service website, an outside

interactive website, or an online forum. The majority of the plans (Custer Gallatin, Flathead, Inyo, and Nantahala-Pisgah) used a web-based commenting tool. Custer Gallatin, Inyo, and Nantahala-Pisgah Plan revision processes received comments electronically through the online tool CARA. Flathead received comments via a content analysis and response application web portal. Custer Gallatin, Inyo, and Nantahala-Pisgah National Forests allowed the public to submit comments electronically at the Forest Plan project website. Only one forest used a separate interactive website as a way to collect comments from the public. Inyo National Forest established a wiki site, known as the Living Assessment, which was a collaborative and interactive website where the USFS released draft "topic papers" and users could add information to these 15 National Forest Assessment topics.

Discussion of Findings

In regards to the input the USFS can incorporate into a forest plan, it is important to clarify that land management plans establish management direction for federal activities in national forests. They do not decide on individual projects or actions. Although it is also important to make the public aware of the laws and regulations that constrain forest management flexibility and what can be included in a plan, it is also necessary to recognize that not all stakeholders will stay inside these sideboards. The USFS should not discourage members of the public from providing input and continue to accept all types of comments, even if stakeholders' feedback cannot legally be considered in the plan revision.

As the opportunity for digital engagement grows and technology becomes more advanced, the USFS needs to continue to consider the usability of these web-based tools. In this analysis, digital methods that were not user-friendly or were too difficult to use attracted low levels of engagement. The accessibility of web-based tools does not overshadow the need for

consideration of complexity. Therefore, web-based tools have the ability to create more accessible engagement opportunities as long as they remain easy to use or are accompanied by thorough training.

Populations Engaged

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
Youth	Yes				Yes	Yes
Educators					Yes	Yes
Underserved						Yes
Low-Income						
Minority			Yes		Yes	
Rural communities					Yes	
Universities/Researchers	Yes					

Table 5: Populations Engaged

Summary of Findings

Throughout this analysis, there were several instances of the USFS orienting its process to engage a specified subset of the public. Of all the stakeholder groups the USFS chose to target with tailored engagement methods, youth had the attention of the greatest number of forests. Half the forests in this analysis created and employed tactics that were focused on engaging youth, and two of the three also focused on engaging educators. Custer Gallatin National Forest designed engagement for youth around specific age groups. For children in grades three through eight, the forest held an art contest to create artwork that represented what Custer Gallatin National Forest meant to them. Custer Gallatin Forest Service also gave presentations in local high school biology classes. Nantahala-Pisgah, early in plan development, made presentations in schools to share information with youth about the national forest and forest planning. Later in plan development, the Nantahala-Pisgah shifted its focus to sharing material with educators, such as through the regional Envirothon competition. This created opportunities for teachers to

integrate forest planning into their class curricula. Rio Grande National Forest took a similar approach of engaging both youth and educators. Rio Grande held three Youth/teacher meetings over the course of plan revision: the first with Envirothon students, the second with local teachers, and the final with Beaver Creek Youth Camp participants. Custer Gallatin and Nantahala-Pisgah chose to target individuals involved in higher education. Custer Gallatin Forest Service gave presentations to both undergraduate and graduate classes at Montana State University, where Nantahala-Pisgah Forest Service presented to a University of North Carolina at Asheville wildlife class. Through a series of workshops, Custer Gallatin also collaborated with university partners to assess the climate vulnerability of forest vegetation and what management options would be most appropriate to adopt in the revised plan.

More than one plan revision process directed engagement specifically at minority populations. Inyo National Forest interviewed representatives of the Hispanic* community when developing its *Collaboration and Communication Plan*, which aimed to better understand the interests of this community and how best to involve them in the revision process. Nantahala-Pisgah National Forest, although a very general and potentially meaningless declaration, stated USFS staff presented at conferences, trainings, public events, and in webinars targeting audiences who identify as Black, Indigenous, and people of color (BIPOC).

The Rio Grande was the only revision process to provide meeting notices or any public outreach in a language other than English. At the beginning of assessment development, meeting notices for community awareness meetings were available in Spanish. These community awareness meetings were meant to provide the public with background on the forest plan revision process and give an overview of public participation opportunities throughout the

* To align with the official language used by the USFS in planning documents, the word "Hispanic "is being implemented for consistency.

process. Spanish translators were specifically present at these meetings with no indication that translators were offered at subsequent meetings. Although the Rio Grande was the only forest to provide translators or translated materials during the official forest plan revising process, Inyo National Forest did indicate a potential for language-focused strategies in their *Collaboration and Communication Plan*. Inyo National Forest planning documents declared the forest considered the possibility of developing a relationship with a local Spanish-language newspaper and a Spanish-language DJ, who hosts a radio program on a local broadcasting station in order to reach the Hispanic community. The other four national forests did not indicate interest in offering materials or opportunities in a language other than English, demonstrating minimal concern to minimize the ways language barriers hinder public participation.

Outside of historically minoritized groups, Nantahala-Pisgah explicitly targeted rural audiences. Additional conference calls were scheduled with local elected officials and county staff in an attempt by the USFS to further include rural voices and interests. Also, in choosing to share information in other forms besides web-based media, like radio and print, Nantahala-Pisgah Forest Service recognized they had a better likelihood of reaching rural audiences who have limited Internet availability. In an effort to reach what they named underserved communities, meetings for the Rio Grande Plan revision process were scheduled in remote locations.

Discussion of Findings

Youth and educators were the specific section of the public most targeted with intentional outreach and engagement by the USFS during plan revision. Members of underserved, minority, or rural communities were not reached out to as directly or frequently as were youth and educators. Creating engagement opportunities specifically for youth and educators is

constructive because it demonstrates the USFS has the ability to build connections and create plans to engage specific groups of the public. Also, public schools tend to consist of an increasingly diverse portion of the population, both racially and economically. Outreach and education targeting youth can increase the diversity and magnitude of the population taking interest in the management of public lands. From a young age, a greater range of the public may begin seeing their input as valuable to land management and forest planning processes. On the contrary, the USFS is consistently limited by inadequate resources, including limited staff time for engagement projects and money from the budget to dedicate outside absolutely essential duties. Dedicating staff hours and a portion of the planning budget to specifically reaching youth and educators also means this staff time and money is not being directed toward communities of color and other historically minoritized groups. It has been proven that minority groups require particular attention, whether that be more frequent communication or greater investments in relationship building, to increase their awareness and participation in public processes such as a forest plan revision.

Scholarship has been published acknowledging the ways in which language barriers prohibit official planning processes from attracting a more diverse set of stakeholders. Therefore, it is critical to call attention to the fact that only one forest in this analysis acted to make land management accessible to members of the public that do not speak English or possess sufficient language skills to understand more technical conversations. Although providing a translator may strain already limited resources, the USFS could at least consider providing a translator at certain critical public meetings during different stages of the planning process. This is especially critical in planning areas with a high Latinx population. Meetings would be much more accessible to

non-English speakers, a rising dominant group in the US, if language barriers were alleviated in forest planning.

Tribal Engagement Tactics

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
Consultation/In-person Meeting	Yes	Yes	Yes	Yes	Yes	Yes
Informational Meeting	Yes		Yes			
F.S. Presentation/Booth at Tribal Event					Yes	
Forum			Yes			
Letters	Yes		Yes		Yes	Yes
E-mail	Yes		Yes		Yes	Yes
Phone Call/ Phone Interview	Yes		Yes	Yes		Yes
Tribal Communications Plan created			Yes			

Table 6: Tribal Engagement Tactics

Summary of Findings

Although widely considered an underrepresented group, there is a distinct difference between Indigenous peoples and other minoritized populations due to tribes being sovereign nations. This results in different implications and responsibilities on behalf of the USFS when considering engaging tribes. The only tactic employed across all six plans to engage tribal communities was the federally required process of formal government-to-government consultation. In-person meetings were the form most used for consultation. Custer Gallatin held face-to-face meetings at reservation headquarters at three different key stages of the revision process. Nantahala-Pisgah National Forest had in-person dialogue between tribal leaders and forest supervisors, as did Inyo National Forest, who specified hosting in-person briefings. Staff from Inyo Forest Service also attended To Bridge a Gap meetings to present updates, host

discussion sessions, and collect comments from tribes. To Bridge a Gap, established in 2001, are meetings between federal agencies and tribes meant to strengthen government-to-government relationships between the Forest Service and federally recognized tribes through discussing a variety of cultural and natural resource management issues. Rio Grande also noted convening a separate meeting between several tribal representatives, USFS staff, and staff from other federal agencies.

Beyond formal government-to-government consultation, letter, email, and phone communication were other common tactics, implemented by four of the six plans. Custer Gallatin National Forest sent letters to determine if tribes were interested in participating in plan revision. Inyo National Forest sent letters that included an open invitation for recognized tribes to request formal government-to-government consultation, or extended the opportunity to meet for non-federally recognized tribes. Nantahala-Pisgah sent letters to notify tribes of an opportunity to engage in the development of the Assessment, Plan, and Environmental Impact Statement, in addition to using letters to announce the upcoming plan release. Rio Grande National Forest sent letters to nineteen tribes, formally requesting their input on draft plan sections related to matters of tribal importance. Custer Gallatin, Inyo, and Rio Grande National Forests communicated with tribes through email and phone calls, as both a way to send information to tribes and to gather information from them. Nantahala-Pisgah National Forest used only email as a way to send maps and documents, for general correspondence, and also as a mode to receive input. Lake Tahoe Basin Management Unit used phone calls with tribal representatives to understand unique tribal concerns and issues.

Two or fewer plans choose to engage tribes through informational meetings, presence at a tribal event, or a forum. Custer Gallatin National Forest interacted with tribes through

informational meetings, including Interagency Bison Management meetings and North Dakota Office of Transportation meetings. The third-party facilitator for Inyo's Plan revision process conducted informational interviews with tribal members representing various tribes and tribal organizations to better understand tribal concerns, how to improve tribal consultation/involvement, and to develop recommendations for tribal involvement during the plan revision process. These interviews resulted in the development of a *Collaboration, Tribal and Public Involvement Plan* detailing how the forest would interact with tribes during the plan revision process. Inyo National Forest was the only plan process to establish this type of formal plan for engagement with tribes throughout the revision. The Nantahala-Pisgah Plan revision process was the only process to interact with members of tribal communities through events. At the Cherokee Archaeology Symposium, the USFS had a display and panel discussion on the forest plan revision, in addition to having an information booth at the Annual Tribal Elder's Information Fair. Tribal forums were held throughout the Inyo Plan revision process to present information and seek input on various documents at several stages in the revision process.

Discussion of Findings

Executive Order 13175 mandates the federal government to consult tribes in the development of regulatory policies that have tribal implications. Therefore out of obligation, government-to-government consultation has become standard practice in forest management planning. Yet for tribes, there is a need for the USFS to go beyond the limited requirement to engage in consultation. It should not be only one forest that established an official tribal collaboration and communication plan. Understanding tribal preferences for modes of communication and participation, that are then formulated into an official plan, should become customary. The USFS needs to break out of the history of forcing native nations to conform to

prescribed engagement tactics (Mabee and Hoberg, 2006). They must engage with tribes in different forms if they are to truly hear and respect tribal perspectives and needs. The USFS, in pursuing true equity in land management, should ultimately consider principles of co-management. Tribes from the Inyo National Forest planning area have expressed interest in developing co-management areas within the forest in an effort to integrate traditional ecological knowledge into more conventional management practices. They have also expressed interest in receiving small parcel transfers of forest lands bordering reservations as a method to meet community or cultural objectives. Partnerships and co-management opportunities between the USFS and Indigenous groups are expanding and gaining more interest. The USFS needs to not only fulfill its obligation to consult federally-recognized tribes, but to expand the opportunities for tribes to assist in managing public lands, giving Indigenous peoples the power to implement less common stewardship techniques.

Strategic Planning Process and Planning Aids

	Custer Gallatin	Flathead	Inyo	Lake Tahoe Basin	Nantahala-Pisgah	Rio Grande
Hired Partnership		Yes	Yes		Yes	Yes
Communication and Collaboration/Public Outreach Plan established	Yes		Yes			
Collaborative process prior to initiating revision process	Yes		Yes	Yes		
Offered translators or translated materials						Yes
Leadership performed meeting notice calls/announcement						Yes

Table 7: Strategic Planning Process and Planning Aids

Summary of Findings

Beyond well-developed categories like outreach, engagement, and communication, the USFS undertook several efforts to bolster planning processes that are also relevant in the

conversation of equitable engagement. Four of the six plan revision processes hired a third party to facilitate public participation throughout the planning process. Both the Rio Grande and Nantahala-Pisgah National Forests contracted the National Forest Foundation; Inyo National Forest contracted California State University Sacramento; and Flathead National Forest contracted with the U.S. Institute for Environmental Conflict Resolution, who then assigned facilitation responsibilities to Meridian Institute. The National Forest Foundation is a non-profit federally designated to work with the United States Forest Service as a facilitator of stakeholder involvement. The Rio Grande National Forest contracted the National Forest Foundation in 2014 to manage, coordinate, and facilitate the plan revision's first year of public participation. The National Forest Foundation, at the start of their contract, conducted stakeholder interviews to better understand community needs, concerns, and interests, and then shared themes from these interviews with Rio Grande Forest staff. In regards to the Rio Grande revision process, the National Forest Foundation did not have the capacity to facilitate all plan revision meetings due to only having one staff person in the state of the forest. This caused them to hire Peak Facilitation, a third-party consultant. Peak Facilitation then became responsible for scheduling, organizing, managing, and facilitating all plan revision meetings. This responsibility fell onto two staff, a lead facilitator and one administrative staff member who supported public meetings and assisted with online engagement. Nantahala-Pisgah also contracted the National Forest Foundation, using their services to assist in gathering competing interests into one collaborative group, the Stakeholders Forum, and to facilitate the Forum's monthly meetings. Prior to the start of the revision process, Inyo National Forest contracted the Center for Collaborative Policy, California State University Sacramento (CCP). The CCP conducted two interview processes: one with tribal members and tribal organizations and the other with a variety of stakeholders. These

interviews resulted in the development of a tribal communication plan and a general public *Communication and Collaboration Plan*. The CCP also helped facilitate two workshops prior to the initiation of the plan revision. Flathead National Forest contracted with the U.S. Institute for Environmental Conflict Resolution (USIECR) to create a collaborative stakeholder engagement process. The USIECR met with both USFS staff and key stakeholders to gauge the likelihood of public engagement in a collaborative process convened by a neutral third party. Meridian Institute, selected to be the third party, facilitated numerous topic-specific work groups, an interagency group, and various meetings between work groups and interested citizens. Meridian Institute also made their facilitation team available any time by phone or email to stakeholders who may want to share concerns and/or offer suggestions regarding the engagement process.

Despite the 2012 planning rule requiring public participation throughout the entire forest plan revision process, only two of the six forests included in this analysis established a communication and collaboration, or public outreach plan. Custer Gallatin National Forest established a *Forest Plan Revision Public Participation and Collaboration Strategy* document. This document thoroughly presented goals and practices for public engagement, and a timeline for when and how frequently engagement was planned to occur. The plan clearly detailed how participation and collaboration throughout the revision intended to be implemented. For Inyo National Forest, the Center for Collaborative Policy, California State University Sacramento (CCP) collaborated with the USFS to create a *Communication and Collaboration Plan*. The Center for Collaborative Policy began by interviewing over 50 stakeholders active within the Inyo National Forest to learn about issues important to the public and to gather recommendations about how Inyo National Forest can involve stakeholders and their networks throughout the plan revision process. Stakeholders included in this interview process were recreationists, those

representing business interests, local government, business owners, tribes, environmental groups, and members of the Hispanic community. In addition to these informational interviews, the CCP held two workshops for those wanting to learn more about the forest plan revision process, focusing more in-depth on the collaborative process proposed to be used. These interviews and the two public workshops contributed to the development of the *Inyo National Forest Communication and Collaboration Plan*. This plan described the various outreach, involvement, and collaborative activities that would be used to engage the public during the entire forest plan revision process. The collaboration plans established by both these forests not only specified the range of methods the forests intended to use to engage the public and the various stakeholder groups they intended to reach, but also detailed the timeline on which this would occur.

Three forest plan revision teams choose to engage in a collaborative process two to three years prior to the official initiation of plan revision. These forests were the Custer Gallatin and Inyo National Forests, and the Lake Tahoe Basin Management Unit. Although engagement took different forms during the early collaborative processes of these three forests, the universal goal of early collaboration was to create a shared understanding before moving into the official revision process. Custer Gallatin's early engagement process was formed as a working group. The Custer Gallatin Working Group (CGWG) was established midway through 2014, with representatives from city, industry, recreational, and environmental interests. The goal of the Working Group was to develop agreement around priority areas, including recommended wilderness and wild and scenic rivers. The CGWG also focused on building consensus about approaches to project work, including establishing an idea of desired forest conditions. This was similar to the goals of the collaborative process for the Lake Tahoe Basin Management Unit, which was named Pathway 2007. Beginning in 2004, three years prior to the launch of the plan

revision, state and federal agencies, along with the public developed a shared vision for the future of Lake Tahoe. This included developing desired conditions for the forest. Inyo National Forest also began public involvement three years prior to officially initiating plan revision. Inyo National Forest's early collaborative process, named the Sierra Cascade Dialog, manifested as a series of public meetings that sought to build a shared understanding of forest management. This was done by bringing together stakeholders from public agencies, industries, environmental organizations, tribes, youth, and landowners. The other three national forests that did not engage in a collaborative process prior to announcing the revision of their land management plan chose to initiate and work within existing collaborative structures, or focused on building consensus and collaboration throughout the process itself.

Out of the six plan revision processes, Rio Grande was the only national forest to explicity state members of forest leadership reached out to the public in an effort to make the public aware of upcoming meetings. Throughout the Rio Grande Forest Plan revision process, local line officers or other district leadership would intermittently send written invitations and make calls to local stakeholders. A document published in 2015 by the National Forest Foundation titled *Public Participation Component of the Rio Grande National Forest's Forest Plan Revision Process: Lessons Learned*, asserts that levels of public attendance at meetings significantly increased when line officers or other leaders at the district level reached out to notify individuals of upcoming meetings.

Discussion of Findings

Formal communication and collaboration plans not only outline a general timeline for stakeholder engagement, but also detail which tactics the USFS intends to use and how they intend to reach specific groups of stakeholders. More planning processes should implement these

plans as a tool to set expectations for public engagement early in the planning process. In mapping out when and how engagement is going to occur throughout the revision process, the USFS is stating what they believe must be done in order to reach the level of public engagement they desire. This allows the public to have realistic expectations for how often they can provide input, but it also allows the public time to share their needs and expectations with the Forest about how they want to be included in the process. When objectives are communicated early on, the public has enough time to edit the communication plan to meet their needs and interests. Clearly defining goals and objectives for public participation prevents the USFS from operating haphazardly or without a direction of why they are choosing to collaborate with the public in a specific way. It also can assist in ensuring a variety of engagement opportunities are considered in addition to creating a common understanding of the purpose of specific engagement tactics. When goals, objectives, and implementation ideas are shared with the public, stakeholders are able to reference this document and hold the USFS responsible for ensuring adequate and diverse engagement opportunities.

Future Considerations

There was further information found about each tactic that was not addressed in the summaries of findings, including the number of participants, locations of participation, organizations and populations who were included, number of comments received, agendas and outcomes of meetings, etc. The results included were intended to give a broad view of the engagement processes that occurred during the six plan revisions and assess the equity in these processes based on the structure of public participation. The discussion surrounding each category of topics is rooted in my personal evaluation, opinions expressed by members of the public involved in these engagement processes, and suggestions found in academic literature.

It is also important to recognize the limitations of this research. Restricted by time constraints, this research limited the scope to publicly available planning documents. In order to offer a broader, more well-informed set of recommendations, research should be expanded to understand the context in which planning took place, including budgetary constraints, staffing limitations, and any disconnects between intention and outcome. Also, these recommendations are the result of evaluating a limited number of plan revisions. To observe other trends, holes, or innovative tactics, an evaluation should be done of a greater array of plans. This greater scope should include the several plans that are in process of being finalized, which were revised entirely under the direction of the 2012 planning rule.

Should this review be extended to more plans and contemporary revision processes, there are likely other tactics that can be considered when revising a plan and more innovative tactics arising. Public engagement is an evolving processes, especially as diversity and inclusion grow as an area of focus for federal agencies. What remains important though is that recommendations provided in this analysis are general and tactics used may not fit the context or meet the needs of another forest. Tactics chosen in any engagement process should be responsive to the interests of local stakeholders and evaluated for relevancy based on the characteristics of the community in which they are being implemented.

Conclusion

By analyzing the land management plan revision processes of six different national forests, this thesis highlights the range of outreach and engagement tactics the USFS uses to engage stakeholders in land management planning. I conclude by offering five main recommendations for future plan revision processes to be more equitable and intentional, especially when it concerns the inclusivity of underrepresented communities.

The responsibility to lead an efficient, effective, and equitable public engagement process should be the designated duty of a specific USFS staff member within each national forest. Designating this responsibility to one individual ensures public engagement remains a priority throughout a plan revision. It also alleviates community frustrations commonly related to staff turnover and builds trust and confidence in relationships within the community. One individual becomes a recognizable point of contact for stakeholders.

Secondly, there are additional steps that need to be taken by the USFS to involve nontraditional stakeholders. The USFS has effectively increased the accessibility of plan revision process through a number of strategies. Yet, making a revision process more accessible did not correlate to increased diversity in engagement. More often, it provided greater space and opportunity for stakeholders already typically involved in land management planning. There needs to be an improvement on behalf of the USFS in reaching underrepresented stakeholders through direct engagement, partnership with organizations, and ensuring tactics conventionally offered feel welcoming and constructive.

As the USFS works to expand the number and variety of opportunities the public has to engage in land management planning, they should consider prioritizing tactics that are proven best practices for involving underrepresented groups. As a federally funded agency, the USFS

has been experiencing budget reductions and staffing cuts. This will continue to limit the number of staff hours and budget dollars the USFS can allocate to public engagement. Therefore, with limited resources, it is imperative the USFS chooses a set of engagement tactics that optimize resource constraints by making the revision process more accessible, but also attractive to nontraditional stakeholders. Building long-term relationships with coalition groups and outside organizations can provide numerous opportunities for the USFS to interface with sizeable, diverse groups without solely relying on internal organization and resources. Relationship building should be considered a key tactic to expand the diversity of stakeholders in land management planning. Although this tactic requires continual small investments over time, coalition building provides numerous lines of communication and builds trust with underrepresented groups. Relationships and community conversations should be prioritized by the USFS when undertaking land management planning.

The USFS should be careful not to exceedingly rely on web-based engagement. In this growing age of technology and remote communication, the USFS has turned to web-based tactics to make public engagement processes more accessible. Web-based tools allow people not just in close proximity, but anyone with an interest in the forest, to contribute to the revision of a forest plan. It also invites engagement without requiring additional investments from the public like travel time, childcare, or entering a space where one does not feel comfortable. Yet, engagement through web-based tools can also be limiting as it requires the public to have access to the Internet, perhaps even reliable access in order to stream meetings, and the technical know-how to use web-based mapping and commenting tools. To avoid only appealing to a select portion of the public that has reliable internet access and the skills to navigate web-based tools, the USFS must ensure they continue to provide a mixed portfolio of engagement opportunities

that offers sufficient opportunities for stakeholders to engage in person. This is especially important for engaging rural, elderly, and low-income populations.

Beyond ensuring public participation processes are accessible, intentional, and diversified to engage a broader set of stakeholders, the USFS ought to consider additional ways to honor tribal sovereignty in land management planning. The USFS only utilized a limited number of tactics beyond their legal requirement to formally consult tribes. The USFS not only has the ability to ensure more meaningful inclusion of tribes within existing engagement tactics, like interagency meetings and pre-revision communication plans, but should also pursue comanagement of public lands. Comanagement of public lands empowers tribes to lead stewardship efforts on federal lands and integrate traditional knowledge and practices into management techniques. It is time the USFS engages in conversation with Indigenous peoples to reimagine the future of land management and move forward with tribes and Indigenous leaders in positions of power.

In an age of policy increasingly legislating around diversity and inclusion, and the growing conversation around land back and Indigenous sovereignty, it is imperative the United States Forest Service goes beyond simply considering steps that will lead to greater diversity in public stakeholders actively involved in planning. The USFS must integrate specified tactics into planning process that prioritize equity and include underrepresented groups as valuable contributors to land management planning. Increasing equity in planning processes and prioritizing diversity will require the USFS to engage in intentional relationship building, a commitment to open and transparent communication, and a potential realigning of the entire value system of the USFS.

The USFS will have to disentangle itself from power structures of colonialism and domination in order to see a future where public lands are managed alongside tribes and the principles of comanagement guide relationships between the United State Forest Service and sovereign Native nations.

References

Armatas, C., Borrie, W., & Watson, A. (2021). A Social Science Method for Public Engagement in the Context of Natural Resource Planning in the United States. *Society & Natural Resources, 35*(5), 506-526. doi:10.1080/08941920.2021.1996666

Bacon, J. M. (2018). Settler Colonialism as Eco-Social Structure and the Production of Colonial Ecological Violence. *Environmental Sociology*, *5*(1), 59–69. https://doi.org/10.1080/23251042.2018.1474725

Black, B. (2014). Energy Development on Public Land in the United States. *Reference Module in Earth Systems and Environmental Sciences*. doi:10.1016/b978-0-12-409548-9.09283-6

Bruña-García, X., & Marey-Pérez, M. (2014). Public Participation: A Need of Forest Planning. *Forest - Biogeosciences and Forestry*, *7*(4), 216–226. https://doi.org/10.3832/ifor0979-007

Center for Natural Resources and Environmental Policy. (2015). (publication). *Public Participation: Lessons Learned Implementing the 2012 US Forest Service Planning Rule*.

De'Arman, K. J. (2020). Is Public Participation Public Inclusion? The Role of Comments in US Forest Service Decision-Making. *Environmental Management*, *66*(1), 91–104. https://doi.org/10.1007/s00267-020-01278-5

Diver, S. (2016). Co-management as a Catalyst: Pathways to Post-colonial Forestry in the Klamath Basin, California. *Human Ecology*, *44*(5), 533–546. https://doi.org/10.1007/s10745-016-9851-8

Federal Advisory Committee on Implementation of the 2012 Land Management Planning Rule (2016). *A Citizens' Guide to National Forest Planning.* US Forest Service. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd509144.pdf

Finney, C. (2014). *Black faces, White Spaces: Reimagining the relationship of African Americans to the Great Outdoors*. The University of North Carolina Press.

Finney, C. (2021, November 04). Who Gets Left Out of the 'Great Outdoors' Story? *The New York Time.* https://www.nytimes.com/2021/11/04/style/black-outdoors-wilderness.html

Flores, D., Stone, L. (2020). Community Engagement in the Decisionmaking Process for Public Land Management in Northeastern California Chapter 5.4. In Dumroese, R. & Moser, W., eds. *Northeastern California Plateaus Bioregion Science Synthesis* (pp. 162-176). Gen. Tech. Rep. RMRS-GTR-409. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Forest Service, Public Engagement Reference Guide for Forest Service Employees (2019).

Godwin, H., Carson, S., Kentatchime, F., Nana, E., Njabo, K., & Cole, B. (2018). Indigenous Peoples' Concerns about Loss of Forest Knowledge: Implications for Forest Management. *Conservation and Society*, *16*(4), 431. https://doi.org/10.4103/cs.cs_17_105

Goodman, E. (2000). Protecting Habitat for Off-Reservation Tribal Hunting and Fishing Rights: Tribal Comanagement as a Reserved Right. *Environmental Law*, *30*(2), 279–361. http://www.jstor.org/stable/43266764

Grinspoon, E., Schaefers, J., Periman, R., Smalls, J., Manning, C., & Lo Porto, T. (2014). *Addressing Environmental Justice for Forest Service NEPA.* United States Department of Agriculture. https://www.resolutionmineeis.us/sites/default/files/references/grinspoon-et-al-2014.pdf

Haddaway, N., Kohl, C., Rebelo da Silva, N., Schiemann, J., Spök, A., Stewart, R., Sweet, J., & Wilhelm, R. (2017). A Framework for Stakeholder Engagement During Systematic Reviews and Maps in Environmental Management. *Environmental Evidence*, *6*(1). https://doi.org/10.1186/s13750-017-0089-8

Hays, S. P. (2009). *The American People & the National Forests: The First Century of the U.S. Forest Service*. University of Pittsburgh Press.

Hogan, J. P. (1995). The Legal Status of Land and Resource Management Plans for the National Forests: Paying the Price for Statutory Ambiguity. *Environmental Law*, 25(3), 865–895. http://www.jstor.org/stable/43266459

Jacoby, K. (2014). *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation*. University of California Press.

Kim, E. (1998). "At Least You're Not Black": Asian Americans in U.S. Race Relations. *Social Justice*, *25*(3 (73)), 3–12. http://www.jstor.org/stable/29767082

LeMenager, S., & Weisiger, M. (2019). Revisiting the Radical Middle (What's Left of It). *Western American Literature,* 54(1), 1-18. doi:10.1353/wal.2019.0016.

Long, J. & Lake, F. (2018). Escaping Social-Ecological Traps through Tribal Stewardship on National Forest Lands in the Pacific Northwest, United States of America. *Ecology and Society*, *23*(2). https://www.jstor.org/stable/26799109

Mabee, H. & Hoberg, G. (2006). Equal Partners? Assessing Comanagement of Forest Resources in Clayoquot. *Society & Natural Resources*, *19*(10), 875–888. https://doi.org/10.1080/08941920600901668

Maier, & Abrams, J. B. (2018). Navigating Social Forestry – A Street-Level Perspective on National Forest Management in the US Pacific Northwest. *Land Use Policy*, 70, 432–441. https://doi.org/10.1016/j.landusepol.2017.11.031

Mistry, J., Berardi, A., Tschirhart, C., Bignante, E., Haynes, L., Benjamin, R., Albert, G., Xavier, R., Robertson, B., Davis, O., Jafferally, D., & de Ville, G. (2016). Community Owned Solutions: Identifying Local Best Practices for Social-Ecological Sustainability. *Ecology and Society*, *21*(2). https://doi.org/10.5751/es-08496-210242

Nie, M. (2008). The Use of Co-Management and Protected Land-Use Designations to Protect Tribal Cultural Resources and Reserved Treaty Rights on Federal Lands. *Natural Resources Journal*, *48*(3), 585–647. http://www.jstor.org/stable/24889146

Norgaard, K. (2019). *Salmon and Acorns Feed Our People: Colonialism, Nature, and Social Action*. Rutgers University Press.

Sheppard, S., & Meitner, M. (2005). Using Multi-Criteria Analysis and Visualisation for Sustainable Forest Management Planning with Stakeholder Groups. *Forest Ecology and Management*, *207*(1-2), 171–187. https://doi.org/10.1016/j.foreco.2004.10.032

Shindler, B. & Neburka, J. (1997). Public Participation in Forest Planning: 8 Attributes of Success. *Journal of Forestry*, 95(1).

Spence, M. D. (2000). *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks*. Oxford University Press.

Spies, T., Long, J., Charnley, S., Hessburg, P., Marcot, B., Reeves, G., Lesmeister, D., Reilly, M., Cerveny, L., Stine, P., & Raphael, M. G. (2019). Twenty-five Years of the Northwest Forest Plan: What Have we Learned? *Frontiers in Ecology and the Environment*, *17*(9), 511–520. https://doi.org/10.1002/fee.2101

Tanz, J., & Howard, A. (1991). Meaningful Public Participation in the Planning and Management of Publicly Owned Forests. *The Forestry Chronicle*, *67*(2), 125–130. https://doi.org/10.5558/tfc67125-2

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

United States, Department of Agriculture, Forest Service. (2019). *This Is Who We Are*. https://www.fs.usda.gov/sites/default/files/This-is-Who-We-Are.pdf

US Forest Service. (n.d.). *Forest management*. Retrieved March 3, 2023, from https://www.fs.usda.gov/managing-land/forest-management

USDA Forest Service. (n.d.). *FAQs on 2012 Planning Rule.* Retrieved March 3, 2023, from https://www.fs.usda.gov/detail/planningrule/faqs#2

USDA Forest Service. (n.d.). *FAQs on NOI.* Retrieved March 2, 2023, from https://www.fs.usda.gov/detail/planningrule/faqs/?cid=stelprdb5270279#:~:text=NFMA%20requires%20plans%20to%20be,are%20in%20need%20of%20revision

USDA Forest Service. (n.d.). *Planning Rule Overview Page.* Retrieved March 3, 2023, from https://www.fs.usda.gov/main/planningrule/home

Wald, S. (2022). Leisure over Labor: Latino Outdoors and the Production of a Latinx Outdoor Recreation Identity. *The Cambridge Companion to American Literature and the Environment*, 175–188. https://doi.org/10.1017/9781108895118.014

Walker, G., Senecah, S., & Daniels, S. (2006). From the Forest to the River: Citizens' Views of Stakeholder Engagement. *Human Ecology Review*, 13(2), 193–202.