

REIMAGINING TRAIL MANAGEMENT:
ANALYZING THE LANDSCAPE OF CHALLENGES AND OPPORTUNITIES OF
COLLABORATIVE MANAGEMENT AT THE COLLEGE M IN BOZEMAN, MONTANA

by

Elise Szokolay Cranmer

A thesis submitted in partial fulfillment
of the requirements for the degree

of

Master of Science

in

Earth Sciences

MONTANA STATE UNIVERSITY
Bozeman, Montana

May 2025

©COPYRIGHT

by

Elise Szokolay Cranmer

2025

All Rights Reserved

DEDICATION

For my grandmother, Olga Vallay Szokolay.

ACKNOWLEDGEMENTS

This thesis would not have been made possible without the enduring support of my advisor, Dr. Sarah Church. Thank you, Sarah, for providing a space to learn, grow, and laugh. To my committee members, Dr. Beth Nelson, and Dr. Megan Lawson, thank you for your invaluable input and for taking the time out of your busy lives to provide feedback and support.

This research was made possible with funding from the Collaborative Research Grant and the support of the History and Subculture Committee for the Reimagining the M Project at Montana State University. Writing about collaboration is complex, but it is made easier when such a good example is provided to me day in and day out. Most importantly, thank you to the 16 interviewees who sat down and shared delightful conversations and stories with me. Your words will stick with me long after the ink has dried, and I have thoroughly enjoyed practicing seeing the world through your eyes.

Thank you to my friends and family who listened to me talk ceaselessly about trails and land management, but also helped remind me to stop writing about them on occasion to go out and enjoy them. An extra special thank you to those friends who have joined me on trails to walk, bike, run, or stop to sniff the pines and admire the balsamroot. To my parents, Brian and Sylvia Cranmer, thank you for supporting me through every trial and tribulation life has thrown at me and for infusing me with a love and curiosity of the world. My peers in the Earth Sciences Department made this work meaningful and fun, and deserve the biggest of thank yous. Erin Bjorklund, Sale Rhodes, Madison Boone, Brennan Radulski, Elizabeth Lee, and Erich Schrier are just the beginning of the list. Finally, to my dog, Daisy Pickles, and my partner, Will, thank you both for your stability and unconditional love. Happy trails to all.

TABLE OF CONTENTS

1. INTRODUCTION	1
History/ Context.....	2
Research Questions	5
Overview.....	6
2. LITERATURE REVIEW	7
Collaborative Management.....	7
Collaboration and Trust Building.....	7
Why is Collaboration Good?	8
Challenges to Collaboration.....	9
Public Involvement Improves Trust.....	10
Infusing Stakeholder Voice into Collaborative Management	11
3. DATA COLLECTION AND ANALYSIS.....	15
Interviews.....	15
Analysis.....	17
4. RESULTS.....	20
Collaboration is Happening	21
Challenges.....	23
Challenges to Collaboration.....	23
Roles	24
Communication.....	26
Engaging MSU Faculty, Staff and Students	26
Public Engagement/ Feedback.....	27
Managing Expectations- Trade-Offs and Compromises.....	29
Opportunities.....	32
Opportunities to Collaborate with Managers	33
Opportunities to Involve and Consult with Managers	33
Empowering Agencies to Improve Public Engagement	34
Involve	35
The Reality Filter – Where the Ultimate Decision Lands.....	37
Discussion	39
Challenges.....	40
Building Trust	41
Infusing Stakeholder Voices.....	42
5. CONCLUSION AND RECOMMENDATIONS	45

TABLE OF CONTENTS CONTINUED

Recommendations.....	46
REFERENCES CITED.....	49
APPENDICES	53
APPENDIX A: INTERVIEW GUIDE.....	54
APPENDIX B: U.S. FOREST SERVICE SPECIAL USE PERMIT	60
APPENDIX C: CODEBOOK.....	78

LIST OF TABLES

Table	Page
1. Table 1 Summary of the number of interviewees, by organization type.	16
2. Table 2 Summarized list of engagement codes with definitions and example quotes	18
3. Table 3 Matrix of engagement used with different organizations and groups, sorted by the four categories of interviewee organization type	22

LIST OF FIGURES

Figure	Page
1. Figure 1 Map of the M trail area and its proximity to Bozeman, MT	3
2. Figure 2 Count of interviewees who mentioned specific challenges to each engagement type	23
3. Figure 3 Count of interviewees who mentioned opportunities for each engagement type	32

LIST OF ACRONYMS

GVLTL- Gallatin Valley Land Trust

IAP2- International Association for Public Participation

IRB- Institutional Review Board

MDT- Montana Department of Transportation

MOU- Memorandum of Understanding

MSU- Montana State University

NGO- Non-Governmental Organization

USFS- United States Forest Service

USFWS- United States Fish and Wildlife Service

ABSTRACT

In recent years, National Forest policy rules and plans have repeatedly mentioned the need for agencies to engage in collaborative management to meet forest management objectives. Previous research on the theory of collaborative management supports this emphasis and shows that collaboration is necessary and effective in addressing ecological challenges, even more so when the public is involved. This study examines the Bozeman, Montana's College M trail and the surrounding area in the Custer Gallatin National Forest. This is a high-use and multijurisdictional area, that provides an exemplary case study for grounding theories of collaborative management in real-world applications. Through semi-structured interviews with 16 people involved in the management of the College M area, this research sought to understand how land managers currently engage with each other and with the public to make decisions about the area. My results revealed the nuances of the challenges and opportunities of collaborative management for the College M area. Moreover, my research shows the practical relevance of collaborative management while providing recommendations for continued collaborative management successes in the College M area and similar settings.

CHAPTER ONE

INTRODUCTION

National Forest policy rules and plans in recent years have repeatedly mentioned the need for agencies to engage in collaborative management to meet forest management objectives (U.S. Department of Agriculture, Forest Service, 2009; U.S. Department of Agriculture, Forest Service, 2012). Previous research on the theory of collaborative management has shown that collaboration is necessary and effective in meeting management goals (Innes & Booher, 2004; Ansel & Gash, 2008; Prokopy & Floress, 2011). However, examining the theory in a multijurisdictional and high-use place- like the Custer Gallatin National Forest- could lend it more salience and help ground theories of collaborative management in real-world applications.

A process of participation that involves dynamic, multi-way interactions where all parties—citizens, government, and stakeholders— can actively engage in shaping decisions is what researchers suggest collaborative management should be (Booher & Innes, 2002; Margerum, 2008). Building institutional trust and fostering authentic dialogue among stakeholders is crucial for effective collaboration and meaningful public involvement (Innes & Booher, 2004). Moreover, public participation should extend beyond mere feedback to encourage open and informed exchanges, thereby avoiding tokenism and disempowering the public voice (De'Arman, 2020). Trust, clear communication, and inclusive processes are essential for successful collaborative management.

This project utilizes the International Association for Public Participation's spectrum of engagement- a commonly used framework to describe varying levels of public participation

(International Association for Public Participation, n.d)- to shed light on the dynamics of collaboration and compromise in public land management.

This research explores the collaboration involved in managing and maintaining the M and its associated trail. The College M project — hereafter referred to as the M project — is an exemplary scenario to examine how trail managers in the area collaborate with each other and the public when considering changes, improvements, and alterations to the M and trail. Through this analysis, the collaboration involved in managing and maintaining the M and its associated trail will be explored, and future implications of the results will be discussed.

History/ Context

On a clear day, the M is visible from almost any point in Montana's Gallatin Valley. Comprised of a mass of white painted rocks, the large white letter lays at a 30-degree slope on the southern end of the Bridger Mountain Range. It starkly contrasts its natural surroundings—the terrain of the montane forest and the rocky outcroppings on Mount Baldy, one of the tallest peaks in the range. Built in 1916 by Montana State University (MSU) students as a celebration of the school, the M has since been part of an annual series of incoming student events at the university where students have the opportunity to engage in a 'rock the M' event each fall, where they carry up new rocks and repaint the rocks, dirt, and wood frame, with white paint.

More than just a letter on a hillside, the M is a popular hiking destination with a trailhead that provides access to roughly 135 miles worth of trails in the Bridger Mountain Range – almost all on Forest Service land. Three multi-use and bi-directional main trails originate at one trailhead, allowing users to hike the 820-foot ascent as a steep 0.4 climb or more gradual 0.9 or

1.32-mile climbs (Stone, 2011). The trailhead is located 4.5 miles from Main Street in Bozeman — a nine-minute drive down Highway 86 — and is also accessed by a multi-use paved pathway that runs from town to the trailhead parking lot. The trail has the heaviest use in the area (USDA, 2022; Lawson, 2021), and the parking lot is often busy and almost always nearly full. Because of its location and ease of access, the M is a popular and high-profile area in the Bozeman community and due to the high traffic volume and the slope's angle, the trail often needs maintenance, as does the M itself, as its rocks are slowly shifting downslope. See Figure 1 for a map of the area:

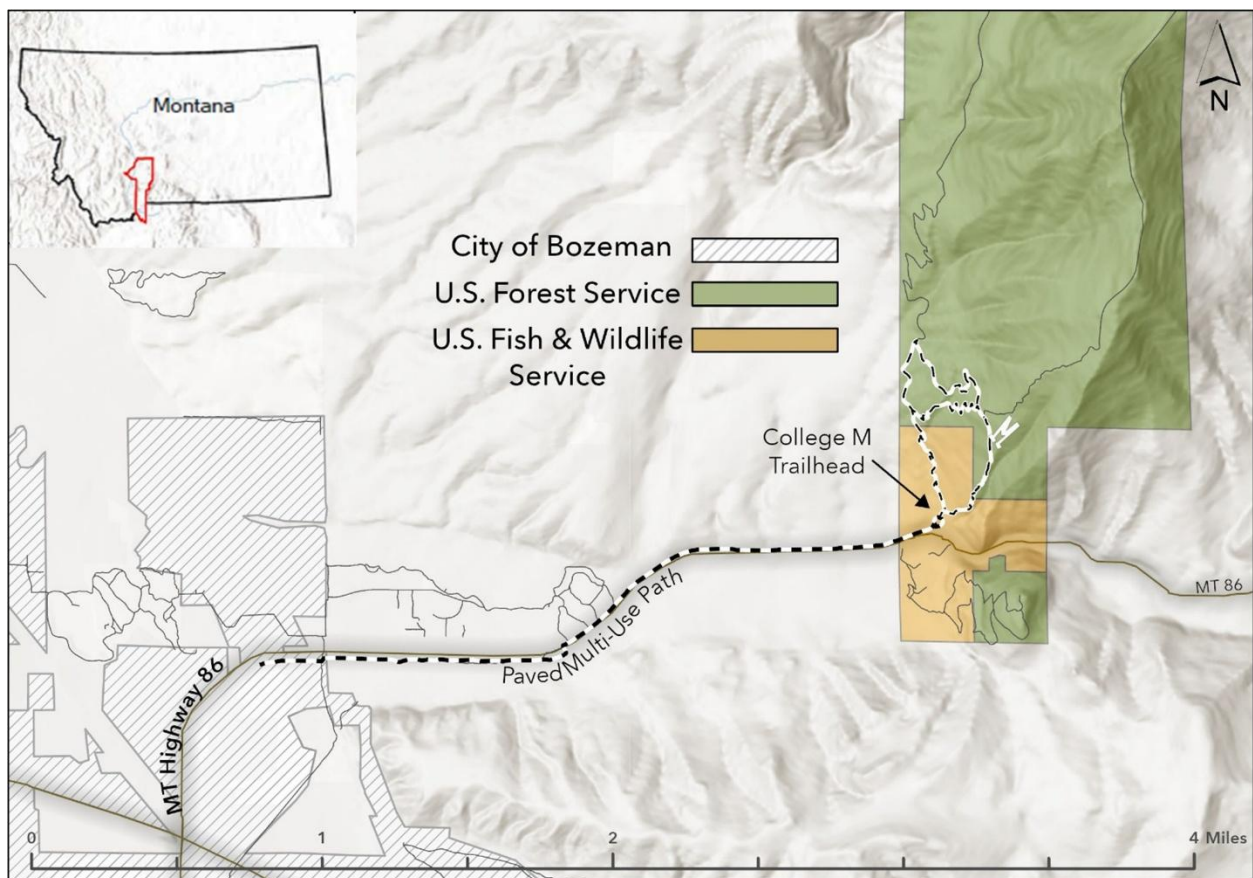


Figure 1 Map of the M trail area and its proximity to Bozeman, MT

In the spring of 2022, MSU initiated an effort to reimagine and make improvements to the M and the associated trail. A steering committee for the project was created with several subcommittees, including one focused on engineering, one on history and subculture, and others focused on topics like trails and funding. The appointed subcommittees were tasked with solving various issues with both the hillside letter and the surrounding area, including erosion, dog waste, invasive weeds, and increased usage of the parking lot. My research is a subset of the history and subculture team, which, alongside other efforts in other departments, worked to address questions of community connection to place and public perception of land change. This research was undertaken through funding from the MSU Research Collaborative Grant Program- Nature, Culture, and People: The “M” as a Lens into the Past, Present, and Future of the Gallatin Valley.

The M is maintained and managed by MSU through the Dean of Students’ office under a recurring ten-year special use permit from the U.S. Forest Service (USFS) (Appendix B). While the Forest Service manages the trail and parking lot, the U.S. Fish and Wildlife Service (USFWS) owns the land where the parking lot sits as well as the first hundred feet or so of the trail (Figure 1). A Memorandum of Understanding (MOU) facilitates coordination between the federal agencies, with volunteer groups like the Gallatin Valley Land Trust (GVLT) and local organizations supporting maintenance efforts. Other stakeholders, including the City of Bozeman, Gallatin County, and the Montana Department of Transportation (MDT), also help maintain access points such as the multi-use path and highway.

In 2019, the multi-use path from town to the M was developed through a partnership with the MDT, City of Bozeman, GVLT, landowners, and local advocacy groups. This two-part

project aimed first to build the multi-use trail and an underpass to connect the neighboring Drinking Horse Mountain trailhead parking lot, with the second half meant to focus on the redesign and construction of a new parking lot at the M trailhead. Unfortunately, the second phase- which planned to expand and upgrade the parking lot in addition to adding a second underpass and a turning lane off the highway- lost momentum when changes to federal grants prevented all parties from being able to sign on at the same time to sustain the project and its funding. The path provides access to the trailhead in such a significant way that the area is all seen as one big package. Indeed, I consider the multi-use path, the parking lot, and the trailhead, together, as part of the M area.

Research Questions

My research examines collaborative management in a high-use and multijurisdictional recreational area and the various implications this has on the future of the M and its management. Because several entities, agencies, and individuals are involved and hold varying degrees of ownership in this localized space, the following research questions attempt to understand and map how collaboration occurs between management agencies and the public in the area. My questions also attempt to analyze the nuances of the challenges and opportunities for collaboration in land management practices.

RQ1: How do trail managers engage in collaboration with each other to make decisions about the College M and the associated trail?

RQ2: How do trail managers engage in collaboration with the public to make decisions about the College M and the associated trail?

Overview

Following this introduction, Chapter 2 contains a literature review focusing on collaborative management as it relates to the above research questions. Chapter 3 discusses methods as they pertain to interview guide development and the data analysis process behind this research. Chapter 4 concludes with results and discussion of this research as it pertains to the challenges and opportunities of collaborative management in the area. Finally, I summarize the key findings of this research with conclusions of major themes and recommendations for how they may be applied both in real-world applications and the greater academic discussion of collaborative management.

CHAPTER TWO

LITERATURE REVIEW

Collaborative Management

Collaborative management is a multi-party political process that can involve shared decision-making, organizational power, and consensus-building. This process typically revolves around managing a specific area or set of resources (Bozdağ & İnam, 2021; Senecah, 2024; Margerum, 2011; Berkes, 2009; Ansell & Gash, 2008; Davenport et al., 2007). At its core, collaborative management is a cooperative effort involving a network of parties aimed at achieving various objectives: enhancing knowledge and value, promoting power sharing, facilitating mutual learning, sharing information, and fostering meaningful citizen participation within the framework of governance (Hopkinson et al., 2017; Bozdağ & İnam, 2021; Faehnle & Tyrväinen, 2013; Brisbois & De Loë, 2016). To this last point, various authors emphasize the critical role of public participation in collaborative management. Previous research highlights the importance of collaborative management in bringing together public and private stakeholders in collective forums with public agencies to foster consensus-oriented decision-making. This research contends that a network of stakeholders ensures a successful and inclusive management approach (Senecah, 2024; Davenport et al., 2007; Brisbois & De Loë, 2016).

Collaboration and Trust Building

At its essence, collaborative management depends on and builds the coordination and flow of trust and information sharing among multiple parties. Collaboration is particularly important in engaging a diverse group of participants including public and private citizens,

interest groups, and public agencies. Effective collaboration invites these groups to interact with each other, fostering two-way communication that bridges learning and action (Innes & Booher, 2004). Research suggests that the invitation of two-way communication, specifically with private citizens and interest group stakeholders, taps into the social capital and information networks of a community, furthering the interconnected flow of information and learning, which research contends is required for successful collaboration and network development (Mackinnon et al., 2013; Innes & Booher, 2004; Margerum, 2008; Prokopy & Floress, 2011). Other scholars identify trust as a cornerstone of the collaborative process and that it can only be cultivated through sustained or repeated interactions between parties (Senecah, 2024; Davenport et al., 2007).

Why is Collaboration Good?

Stakeholders across various sectors recognize the value of collaborative management and are actively engaging in it (Bozdağ & İnam, 2021; Faehnle & Tyrväinen, 2013; Hopkinson et al., 2017; Predmore, 2011; Moore & Koontz, 2003). As it relates to ecological challenges, collaborative management is especially well-suited because, jurisdictional management boundaries do not always align with ecosystem boundaries so crossover is inherent (Floress, 2018). The importance of collaborative management was formally acknowledged by the Forest Service in the 2009 Forest Restoration Act, which in an effort to encourage cross-sector collaboration and increase shared responsibility among a diverse spread of economies, mandated the use of collaboration in national forest management (U.S. Department of Agriculture, Forest Service, 2009). The need for collaboration in National Forest management was reiterated in the 2012 Forest Planning Rule, which further emphasized collaboration in forest management. The

rule included reasoning for increased collaboration being necessary because successful management occurs when planning processes includes and involves those who are affected by the outcomes (U.S. Department of Agriculture, Forest Service, 2012). When considering real-world implications of collaborative management, Walker (2007) and Floress (2018) share that there is a valuable and desirable convergence between participatory communication amongst stakeholders and participation in environmental planning because when people can engage in dialogue that educates them on environmental issues, it will inform their decision making, establish a sense of ownership, and encourage collaborative action.

Challenges to Collaboration

Barriers to collaboration are numerous and frequently include budgetary constraints, lack of coordination, and strained relationships between stakeholders and managers, which are often exacerbated by conflicting timelines, agendas, and policy requirements (Butler & Koontz, 2005). While the intent of collaborative management is to bring groups together in collective forums to engage in consensus-driven decision-making, researchers argue that the largest challenge to collaboration is that only half of the necessary collaborative network is truly at the table (i.e., the public) (Innes & Booher, 2004). Not only do researchers argue that that the public is unrepresented in collaborative processes, they also argue that performative measures to include the public in true collaboration only worsens the challenges associated with collaborative management because public input is often seen as too broad and shallow and as a result is frequently overlooked (O'Faircheallaigh, 2010; Olson, 1965).

Lack of meaningful engagement and free-flowing information sharing between agents leads to a lack of trust, and this may be the biggest barrier to collaborative management (Innes &

Booher, 2004). The performative levels of engagement- reflected in the lower rungs of Arnstein's (1969) ladder of participation- only reproduce entrenched power structures and lead to the disempowerment of the public (Brisbois & De Loë, 2016; De'Arman, 2020). When public concerns appear secondary to preexisting laws or institutional goals, public trust is lost, and collaboration becomes ineffective (Innes & Booher, 2004; De'Arman, 2020; Olson, 1965; Brisbois & De Loë, 2016; Kallis et al., 2009).

Public Involvement Improves Trust

Improving how stakeholders are involved in planning processes, particularly that of the public—can improve trust and communication (Predmore, 2011), establish a common language among managers (Hopkinson et al., 2017), refine the scope of projects (Jung et al., 2015; Faehnle & Tyrvaenen, 2013; Predmore, 2011) and increase the short- and long-term success of projects (Prokopy & Floress, 2011). As it relates to environmental projects, improving stakeholder involvement can improve the understanding of local challenges (Mackinnon et al., 2013; Moore & Koontz, 2003; Cantrill, 2011), develop management strategies which are tailored to local conditions and issues, and significantly contribute to the implementation of ecosystem management objectives (Butler & Koontz, 2005).

Overall, public involvement in collaborative efforts is essential to the 'who, how, and where' of any collaborative process (Ansel & Gash, 2008), and without it, projects will fail to address people's needs. Public participation in collaborative management is valuable for long-term success even if short-term outcomes are lessened or hampered by the process (Prokopy & Floress, 2011). To this last point, research emphasizes that even if short-term success of a project is not realized, long-term success will still be achieved because a foundation of trust and

communication has been built; and trust, as we have come to learn, is the cornerstone of successful collaboration (e.g., Prokopy & Floress, 2011).

Infusing Stakeholder Voice into Collaborative Management

Public involvement plays an integral role in the development and implementation of land use planning (Floress, 2018). Thus, collaborative management that infuses public opinion can overcome gaps and obstacles so parties can work towards their shared and individual goals (Butler & Koontz, 2005; Prokopy & Floress, 2011; Cantrill, 2011). But how can this be achieved?

Two influential frameworks that have been put forth regarding the different ways the public may be involved in a collaborative process are useful in clarifying the varying degrees at which public engagement can occur. In 1965, Arnstein laid out the ladder of public participation. Arnstein (1965) highlighted that activities like delegation and partnership on the higher rungs of the ladder are more in conjunction with greater citizen power, and activities like consultation and informing on the lower rungs are more tokenistic and non-participatory. The spectrum of engagement from the IAP2 shows a similar range of ways agencies may involve citizens. This framework includes five ‘levels’ of engagement where lower levels of engagement have a lower influence on a process or decision and higher levels have a greater effect. The lowest level of engagement on the IAP2 spectrum is ‘Inform’, where agencies provide the public with information; the next level is ‘Consult’, which is understood as public feedback mechanisms where people may provide feedback on plans at a specific point in a process. The third and middle level of engagement is identified as ‘Involve’, which the creators of the spectrum define as agencies working with the public continuously through the process to receive feedback and

ensure their needs are met. The next level of engagement on the spectrum is ‘Collaborate’, where agencies work alongside the public to develop solutions and aim to incorporate their preferences and recommendations as much as possible. The final level is ‘Empower’, where the final decision-making lands in the hands of the public and agencies agree to implement what the public decides (International Association for Public Participation, n.d.).

Davenport et al. (2007) suggests that finding a way to promote and foster institutional trust in management processes is necessary and is essential for the collaborative process to thrive and meaningfully respond to the voices of the public. Booher and Innes (2002) also stress this and emphasize that dialogue among stakeholders is crucial for establishing this trust. Not just dialogue, but authentic dialogue —where all participants are allowed to openly and informatively discuss their interests and perspectives —is necessary. Authors claim that public participation that is similar to consulting or informing on the IAP2 spectrum, centered solely on the public providing feedback to agencies but receiving no feedback back from those agencies, is performative and unhelpful in the planning process, thus risking feelings of disempowerment, lack of trust, and tokenism among the public, which can doom the process from the outset (Arnstein, 1969; De’Arman, 2020; Brisbois & De Loë, 2016; Innes and Booher, 2004; Olson, 1965; International Association for Public Participation, n.d.). Participants should be able to engage in meaningful two-way communication to justify their opinions and explain their reasoning while also receiving feedback from managers about how and why their input was used or not, similar to the IAP2 levels of engagement of ‘Involve’ and ‘Collaborate’, to avoid the pitfalls of one-sided and ineffective collaboration (Booher & Innes, 2002; Arnstein, 1969; International Association for Public Participation, n.d.).

In contrast to a traditional, formal view of participation as a one-way interaction between the public and government, a more effective approach sees participation as a multi-way interaction where planning and policy professionals can play a key role in a self-organizing process of information flow, trust building, equal representation, and meaningful action (Innes & Booher, 2004). In this model, citizens, government, and other stakeholders can engage in both formal and informal ways to influence governmental action. The importance of building trust and establishing effective communication channels, as well as developing collaborative processes that foster networks that are infused with public opinion, is repeatedly emphasized as important in collaborative management literature.

In addition to enhanced communication, research suggests that front-loading a process to be more collaborative enhances equity and transparency in decision-making (Predmore, 2011; Senecah, 2024). Indeed, approaching collaboration early on in projects, has been seen to further enhance the success of collaboration, avoiding pitfalls of performative and tokenistic participation, which can lead to a lack of trust, feelings of neglect, manipulation, and powerlessness by stakeholders (Armstein, 1969; Predmore, 2011). Involving the public early in the planning process can enhance public buy-in and allow stakeholders to influence the content of plans, thereby achieving more long-term success with context-appropriate solutions (Predmore, 2011; Butler & Koontz, 2005; Faehnle & Tyrväinen, 2013). As planning processes improve, management bodies can utilize collaboration to its fullest extent when they start examining how and when they can better engage with citizens in land planning and implementation processes to create long-term, sustainable management solutions that “wed local

identities to conservation plans in the context of local community initiatives” (Cantrill, 2011, p. 80).

CHAPTER THREE

DATA COLLECTION AND ANALYSIS

Interviews

The first step in understanding the broader system in which the M project exists is to examine the current practices, motives, and goals of key management bodies involved in the M area. This research was intended to gather baseline data on the extent of collaboration between managers and with the public. To address my research questions, I interviewed sixteen people who were either identified by MSU as members of a steering committee, had a distinct background in working with the M and associated trail due to their job title, or had general backgrounds in planning and collaborative management in the Gallatin Valley. This diverse group comprises historians, engineers, U.S. Forest Service employees, U.S. Fish & Wildlife Service employees, city planners, social scientists, tribal members, and community leaders. While not all interviewees are land managers, they were identified as representatives of their respective organizations, and their insights are considered when making decisions related to the M trail project. Four distinct groups of interviewees were created based on where they work: Academic Institutions, Federal Agencies, Local Governments, or Non-Governmental Organizations (NGOs). A table of the breakdown of interviewees by organization type can be seen below.

Type of Organization	Count of Interviewees
Academic Institution	6
Federal Agency	3
Local Government	4
Non-Governmental Organization	3
Total Count:	16

Table 1 Summary of the number of interviewees, by organization type.

I used interviews for data collection because interviews can provide perspective on the broad structural and organizational aspects while providing details of the nuances of situations or scenarios they encounter in this work (Silverman and Patterson, 2015). Interviewees were contacted by publicly available email addresses, with one follow-up email and one follow-up phone call, if necessary. The interviews, each approximately one hour in length, asked participants about their professional connection with the M trail, to what extent they engage in inter-agency collaboration to achieve their goals, and how, if at all, they engage with the public to do so. I also asked about their personal and professional perceptions of the M, their involvement with the trail, and their perceptions of proposed changes and alterations to the trail, facilities, and signage (see Appendix A for the interview guide). All interviews were recorded, with permission, and transcribed with OtterAI before being uploaded into the NVivo software for coding and analysis. Initial interviews commenced in the Summer of 2024 following the completion of interview guides and Institutional Review Board (IRB) approval (MSU IRB #2024-1588-exempt). Interviews and their preliminary analysis were completed by the end of

Fall 2024, and a codebook for analysis was developed concurrently with the analysis (Appendix C).

Analysis

Each interview transcript was examined line by line to code major trends and themes (see Appendix C for the full codebook). Deductive coding was used for collaboration types using the framework of the International Association for Public Participation (IAP2) Spectrum of Public Participation (International Association for Public Participation, n.d)- a commonly used framework to describe varying levels of public participation. In a multijurisdictional area, the application of the spectrum of engagement, specifically within collaborative management contexts, can help shed light on the dynamics of collaboration and compromise in public land management. One additional code for ‘funding’ was added as a type of engagement due to a high frequency of interviewees mentioning working together strictly for the purpose of funding. A table of the different categories of engagement with example quotes is below:

Type of Engagement	Code Description	Example Quote
Funding	At least a part of the relationship is dependent on a stream of funding.	“Our... funding is restricted by how it comes from Congress. So that's why we wouldn't be able to have anything if it wasn't for the Forest Service maintaining this or GVLIT.” (Federal Agency Employee)
Inform	News briefs, informational material dispersal.	“When the project gets into the nitty gritty design, the public involvement. And we're criticized a lot for this. It's not really

		involvement, it's public notification. Here's what's happening on this project..." (Local Government Employee)
Consult	Developed structures for feedback, focus groups. Decisions and plans are primarily made by one party.	"We need public feedback. It will help us make better, more informed, more effective decisions." (Federal Agency Employee)
Involve	Volunteers, design charettes, two-way communication. Decisions and plans are largely made by one party.	"We have a lot of volunteers that do a ton of work... they're out clearing trails for us, doing maintenance projects when we can. So partners are huge." (Federal Agency Employee)
Collaborate	Shared decision making and ideation powers. One party still has superior veto power.	"It's pretty difficult to get a (land) easement across state land for a nonprofit. It's much easier for the county.... worked in collaboration with GVLТ to make that happen." (Local Government Employee)
Empower	Delegated leadership and authority amongst multiple parties. Veto power is shared.	"It's all National Forest System land. We are the responsible entity for managing it. But we have delegated some of that authority to Montana State University through a special use permit." (Federal Agency employee)

Table 2 Summarized list of engagement codes with definitions and example quotes

An inductive coding process was used to identify challenges and opportunities related to specific types of engagement that the interviewees identified. Coding deductively was useful for organizing the data and establishing a clear roadmap, while inductive coding helped identify

emergent themes within that structure (Linneberg & Korrsgaard, 2019). Before coding was completed, an additional researcher reviewed the codebook and added recommendations for changes or additional codes. The codebook was then revised and used to fully code two interview transcripts which were cross-validated by another researcher to ensure consistency and accuracy. Once validated, I applied the finalized codebook to all sixteen transcripts.

I coded for organization type alongside which types of people or group interviewees engaged with. For example, if a manager mentioned engaging in a ‘consulting’ type of collaboration, the codebook directed the coder to code with whom they engaged in consulting. Using this method created a relationship web to visualize the existing relationships and current flow of engagement amongst managers. The same method was used for coding how interviewees engaged with the public, which were grouped into either ‘individuals’ (i.e., engaging with the public in general) or ‘groups’ (i.e., engaging with groups with a specific affiliation like MSU students or other interest groups). I created an additional category called ‘Considerations and Realities’ to capture general blanket statements about preexisting policies or practices, like land ownership or legal jurisdiction, that interviewees mentioned must be considered when contemplating challenges to and opportunities for different types of engagement. The following results share the major themes that emerged from this process and help describe how managers can identify and overcome obstacles to engagement with both other managers and the public.

CHAPTER FOUR

RESULTS

I sought to understand how land managers engage with other managers and with the public to make decisions about the M and associated trail. Each interviewee was asked specifically how they engage with other managers and the public to make decisions regarding the M area or part of the trail they work on.

Conversations with interviewees centered around different events and efforts- multiple interviewees talked about past collaborative events, including the development and implementation of the multi-use path, as an example of previous success and challenges. Other comments from interviewees included broader, sweeping comments about engagement in general. Interviewee comments related to the previous multi-use path project were included in these results because the proposed second half of the project, which was meant to improve further trailhead access, is strikingly similar to the new plans other MSU subcommittees have proposed as part of the greater Reimagining the M project. The results that follow contain quotes that describe how interviewees have engaged and currently engage in collaboration, who they engage with, what challenges they encounter, who they encounter them with, and the opportunities they see to improve collaboration efforts with both other managers and the public.

Collaboration is Happening

“We regard it as only a good thing - to get to know as many external partners as possible.” (Academic Institution Employee)

The most common form of engagement interviewees used across all groups was “collaborate”; every interviewee mentioned that they currently engage or have engaged in collaboration with other agencies (see Table 3 below for an overview of who interviewees currently engage with and which types of engagement they utilize with each group). This is reflected in the various mentions from multiple interviewees when recounting their previous involvement in the development and maintenance of the multi-use path, as well as recent collaborative weed spraying efforts in the area coordinated between multiple groups. It is important to note that multiple interviewees mentioned State Agencies, specifically MDT, when talking about past collaboration, but no employees at MDT were available for interviews at the time of this research, therefore they are included as a group that other agencies talked about engaging with, but not as its own organization type. The most common type of engagement interviewees used to engage with the public was “consult”, with 14 of the 16 interviewees mentioning consulting with the public. “Involve” was the second most common form of engagement for managers to engage with the public.

		Federal Agency n=3	Inform	Consult	Involve	Collaborate	Empower	Funding	Other
Management Organizations	Federal Agency	0	0	3	2	3		2	1
	Academic Institution	0	1	3	2	2		1	1
	Local Government	0	0	2	1	1		0	1
	NGO	0	1	3	3	2		2	1
	State Agency	0	0	0	1	0		0	0
	Other Managers	1	1	1	2	0		0	1
Public	Individuals	2	3	2	0	0		0	0
	Groups	1	2	3	1	0		0	0
	Other Public	0	2	1	0	0		0	1

		Academic Institution n=6	Inform	Consult	Involve	Collaborate	Empower	Funding	Other
Management Organizations	Federal Agency	1	1	3	4	2		2	0
	Academic Institution	0	1	2	2	1		2	0
	Local Government	0	1	1	2	1		1	0
	NGO	0	0	3	4	1		2	0
	State Agency	0	0	0	1	1		1	0
	Other Managers	0	4	4	3	1		1	0
Public	Individuals	1	4	2	0	1		1	2
	Groups	0	2	3	0	2		0	0
	Other Public	0	3	3	0	1		0	0

		Local Government n=4	Inform	Consult	Involve	Collaborate	Empower	Funding	Other
Management Organizations	Federal Agency	0	0	1	3	1		1	1
	Academic Institution	0	0	3	4	2		2	1
	Local Government	0	0	3	4	2		1	1
	NGO	1	0	3	4	2		2	1
	State Agency	0	0	1	1	1		1	0
	Other Managers	0	0	0	2	0		2	1
Public	Individuals	3	4	3	1	0		0	1
	Groups	0	1	4	0	2		1	0
	Other Public	0	0	0	0	1		0	0

		NGO n=3	Inform	Consult	Involve	Collaborate	Empower	Funding	Other
Management Organizations	Federal Agency	1	1	3	2	3		1	1
	Academic Institution	1	0	1	2	2		2	0
	Local Government	1	0	1	2	2		0	1
	NGO	0	0	2	2	3		2	1
	State Agency	0	0	1	1	0		0	0
	Other Managers	0	0	0	0	0		0	0
Public	Individuals	3	1	2	1	0		1	1
	Groups	1	1	3	2	1		0	1
	Other Public	0	0	0	0	0		0	0

Table 3 Matrix of engagement used with different organizations and groups, sorted by the four categories of interviewee organization type. Each table represents interviewee perspectives from each organizational type. The counts in each cell indicate the number of interviewees in each organization type (e.g., Local Government, NGO, etc.) who discussed different levels of engagement with different management organizations and the public. The closer each cell number is to that organization's n value, the darker the shade of yellow. n=total number of interviewees per organization type.

Challenges

I also sought to understand how satisfied or dissatisfied interviewees were with engagement processes and how they might change them. When interviewees were asked about their dissatisfaction with current engagement efforts, several themes emerged (visualized in Figure 2). The most significant challenge identified was related to collaboration among managers. Collaboration, in this context, was defined as a process where two parties share brainstorming and decision-making power, but one retains superior veto authority.

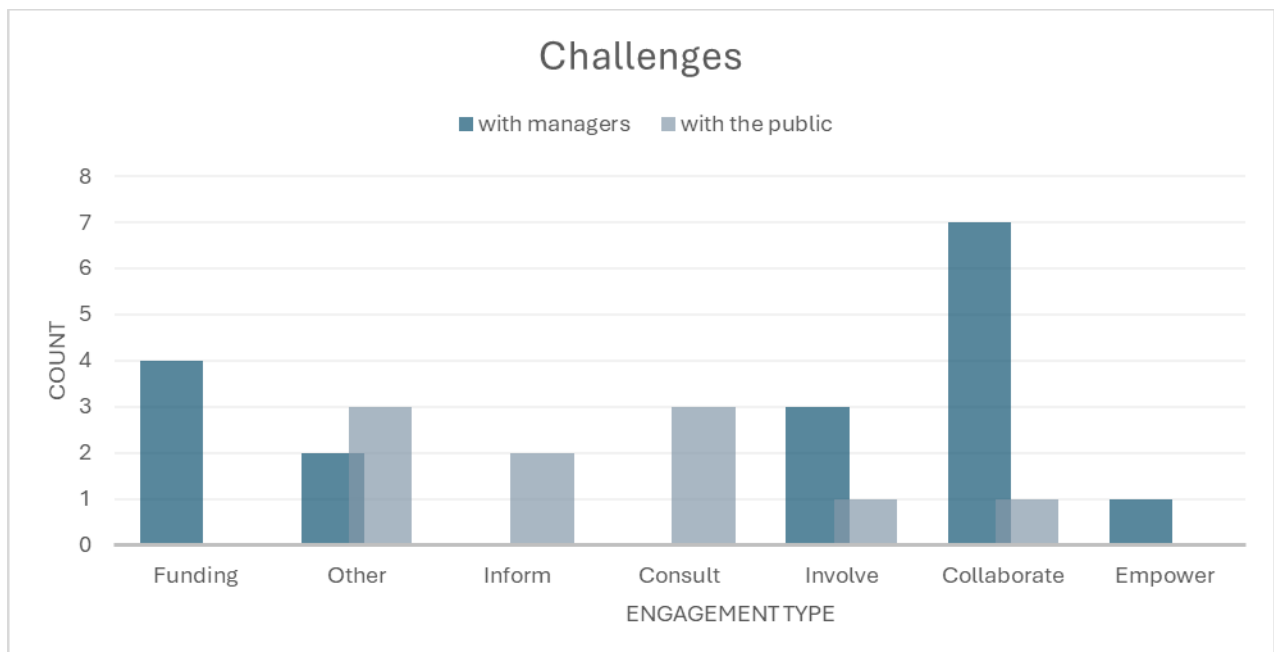


Figure 2 Count of interviewees who mentioned specific challenges to each engagement type

Challenges to Collaboration

The second most common challenge interviewees mentioned amongst managers was a lack of underlying funding and resources, as explained by one NGO employee:

“Trails work is getting more complicated than it used to be because land is expensive and people are less likely to put trails on their property... so public land

is also more limited. Public land agencies are also more limited in what they can do. Their hands are kind of tied for services. Especially in this region, [public land agencies] have so much on their plate” (NGO Employee).

When it came to engaging with the public, the most frequently mentioned difficulties fell under the categories of "other," "consult," and “involve.” The "other" category for public engagement encompassed issues related to time constraints and challenges in relationship-building.

“Time is the most limiting factor, and relationships take time, you know. And sometimes it's not just something that you can be a quick phone call overnight... in order to really to get to a positive end result for the greater good, it's going to take time” (Federal Agency Employee)

When asked about specific challenges to collaboration between managers, the Montana Department of Transportation (MDT) was identified by some interviewees as the hardest group to collaborate with. This was because MDT was seen as the one party that could not match the funding required for the road portion of the second phase of the multi-use path project, and thus was the reason the project did not receive federal funding. Other identified challenges to collaboration by interviewees spanned a variety of reasons, with most related to collaborative roles, resources, and communication, as described next.

Roles

Historically, organizations in the Bozeman area have worked together based on a division of labor, with each organization contributing according to its strengths and roles. Interviewees shared that, from their perspective, GVLТ provides fundraising and public relations expertise, the Forest Service manages permissions and project direction, MSU offers energy and human power, and the City of Bozeman contributes technical planning expertise. When each organization

adheres to its role and area of expertise, interviewees shared that the collaborative process runs more efficiently.

“The Forest Service might not have enough people to handle that, right? They might be short on their human resource component.... And then you have the city, which already has a small staff, and you have MSU, which is really focused on academics and research.” (Local Government Employee)

Many of the interviewees who identified challenges to collaboration mentioned how the roles organizations play in the collaboration process can help or hurt collaboration. For example, one interviewee said, when talking about the value in and complexities involved in sharing the history of the M,

“... the Forest Service is a land manager. They're not a communicator; they're not going to tell that story. It's not their job. They don't have the capacity.” (NGO Employee)

However, they continued that with help from other partners, more aspirational goals can be achieved and gaps filled in:

“If MSU can play a role in telling the tradition and the story, to not only their students but to the community, I think it would be really well embraced.” (NGO Employee).

This sentiment regarding utilizing each organization's strengths was echoed by another interviewee when talking about the previous acquisition of land easements along the multi-use path during its development:

“Those of us working on it from the City and from WTI [Western Transportation Institute], MSU, I think, hoped that GVLТ would have been involved in the land acquisition portion of the path. It didn't go as smoothly as some of us feel it might have if GVLТ had been the one working with the one particular property owner.” (Local Government Employee)

Communication

Communication challenges in collaborative management between managers were consistently highlighted by interviewees, who identified difficulties related to contacting and engaging with other land managers. Some interviewees pointed to communication barriers with specific organizations, while others made broader claims. For example, one interviewee, when talking about MSU, remarked, "*Who would we engage with?*" (Local Government Employee), while a federal employee, when speaking more broadly about engagement, said that they only hear things from certain groups.

Engaging MSU Faculty, Staff and Students

A key struggle mentioned by some of the interviewees was gaining access to MSU employees with whom to work and engage. When making broad statements about working with MSU employees on a variety of projects, land planning or otherwise, interviewees shared how they struggled to find the right point of contact for collaboration within the university. In other cases, interviewees could contact professors for specific projects, but harnessing the full power and resources of the institution was never realized because they were only able to work with that one person. This message was reflected by another local government employee who emphasized that while there is great potential for collaboration with MSU, it is difficult because the "*...professors on a one-to-one basis in the departments, they're all super engaged, but not as an organization and their operations*" (Local Government Employee).

The university's complex structure and multiple departments often hindered collaboration. One local government employee noted, "*Who would we engage with at MSU?... who to reach out to for different things is a little bit more challenging to figure out... there's a*

disconnect there about knowing who and how” (Local Government Employee). The broader institutional engagement required for large-scale projects, they claimed, is hindered by departmental communication silos within the university. Individual faculty members may be engaged, but this interview data suggests systemic coordination among departments and outreach remains lacking.

Despite challenges in inter-university coordination, one interviewee noted that the Forest Service has made strides in engaging MSU students by tabling at events like Catapalooza- a two-day engagement fair on campus for freshmen to learn about campus clubs or job opportunities. However, other interviewees felt MSU could improve outreach efforts by proactively connecting with managers rather than waiting for them to initiate contact, especially since many reported struggling to identify the correct contacts. Overall, my results suggest unclear communication and a lack of engagement among agencies can lead to fragmented and ineffective collaboration.

However, communication problems extend beyond collaborations with MSU. As one federal agency employee said,

“I don't hear anything unless the Forest Service reaches out or GVLTL, but I don't know what's going on, or when we should be involved.... I know we're not going to contribute to everything, but we might be missing opportunities and vice versa.” (Federal Agency Employee).

Public Engagement/ Feedback

The importance of clear communication to ensure that all relevant stakeholders are informed and included in discussions was a message shared broadly by most interviewees. This sentiment was discussed not just when talking about other land managers but about the public as well. When asked how they engage with the public and if they are satisfied or dissatisfied with the process, interviewees shared what they see as the pros and cons of public engagement. On the

one hand, engagement is largely seen as a positive thing because, as one local government employee shared,

“...there's reasons to engage the public. Do we expect that they're going to have the solutions.... probably not, but that being said, there's always a reason to ask it because there may be a viewpoint you didn't know before.” (Local Government Employee).

On the other hand, achieving diverse public input while also managing conflicting opinions, can make the process difficult because:

“You have one user group that wants A and the other user group wants Z. And neither one of them is wrong.” (Federal Agency Employee)

My results indicate the difficulty of achieving inclusive, representative public participation stems from two main struggles. First, interviewees expressed dissatisfaction with how to contact members of the public. Multiple interviewees shared constant critiques they receive from the public about reaching people across multiple communication channels and missing others – managers may put something on Facebook but not on Instagram, or they put it on multiple social media platforms, but they did not put it in the newspaper, overlooking the subset of the population who only reads the newspaper. In addition to access, interviewees faced challenges ensuring that public participation represents a broad, diverse cross-section of the community. Several interviewees expressed concern that engagement often favors those with the time and resources to participate, leaving out less privileged groups who may have important information to contribute.

“You tend to get the group of people who are constant, who are those who have a lot of time and interest and energy to be involved in public engagement.... It's a small amount of the population and, and I will be blunt, it's also a privileged portion of our population.... you shouldn't say, ‘I'm not listening to you because you're too privileged’ ...it's not that their voice doesn't matter.. It does. It just matters, the same as the 50,000 other people that live here that we don't hear from.” (Local Government Employee).

Multiple interviewees mentioned the value of differing perspectives of various land users. They stressed the necessity of involving multiple parties in addressing planning decisions, as various stakeholders bring important considerations to the table. They shared that by fostering cooperation and transparent dialogue between agencies and the public, land managers can better navigate the complexity of competing interests.

Managing Expectations- Trade-Offs and Compromises

“Everyone has different views. Everyone wants us to do something, but then when we do, they get upset with what we're doing, or how we're doing it, or where we're doing it. We can't please everyone.” (Federal Agency Employee)

The concept of trade-offs was introduced by multiple interviewees, who shared that while there are competing desires, not all can be addressed simultaneously. Once public input is received, land managers must navigate the inherent difficulties of balancing differing viewpoints. One local government employee pointed out that during public meetings, there is often an expectation by members of the public that all their concerns will be addressed.

“If I'm just the public and I'm coming to a meeting- I expect, I just naturally, humanly expect that whatever I ask for is going to happen. That isn't going to happen.... And in other cases, it has to just happen because it's life and safety issues... it's good and it's bad. It can be really nasty; it can be really amazing. And then sometimes it's just in the middle, and that's where you really get things done. Everyone has to compromise.” (Local Government Employee)

This expectation that any problem will be solved at any time in the planning process underscores the challenge of managing public expectations as a project progresses. When asked how they might address such challenges, interviewees suggested that a more structured, transparent approach to engagement is necessary to involve and balance diverse viewpoints. Additionally, interviewees spoke about setting clear expectations early in the process to help

ensure a manageable flow of input with minimal confusion, and feedback can be collected that is both actionable and meaningful.

“Any project that is public facing is difficult because you have so many opinions, and everybody's opinion is right for them. It's their perspective and ... there are a lot of tradeoffs. That's the other part... Being clear and pointing out the tradeoffs. Okay, we hear that this is what you want. Here's what these folks want. Do you see that you can't do both?’ And both are very valid.” (Local Government Employee)

The inherent tensions that arise in the public process between ideal outcomes and practical limitations were a recurring theme in interviews and, as indicated, compromises between the two are necessary. One local government employee suggested that these challenges can be abated by:

“...being extremely clear about what we're looking for input on and what we're not, and why we're not, right and, not to put that stake in the ground and never move it, but to come out with a community engagement plan that says, ‘here's what we're looking for, here's when you can engage and where you can engage in and here's how we're going to use that information’ And then the other part is looping back around and saying, ‘here's what we heard, and here's how it impacted the project.’” (Local Government Employee).

This sentiment was echoed by a federal agency employee who, when talking about how to best approach the challenge of managing tradeoffs between groups, said that they bring their differing groups together to work together to build consensus:

“A lot of them don't agree with each other on lots of things... we want you all to come help us figure out how to move forward with this. Ultimately, it's still our decision, and we're going to meet our purpose of need, but we want you all to be together trying to understand trade-offs and pros and cons...” (Federal Agency Employee)

My results suggest that it is through compromise that projects can move forward. Additionally, the delicate balance managers must strike in managing public expectations is between ensuring that feedback is appropriately formatted and received throughout the project while also preparing the public for the inevitable trade-offs and compromises inherent in the

planning process. One local government employee shared that receiving public feedback earlier in the planning process is helpful because “...*you're looking for general themes, general areas of concern, or whatever that you're trying to address through this project, and kind of validation of some notions you might have about what those are.*” (Local Government Employee) and receiving feedback later is less helpful. When broad feedback becomes less valuable, it is because a general theme wasn’t identified as of high enough importance. They continued to share: “...*as the project progresses, you're generally looking for more specific, targeted feedback...*”. Thus, this person suggested decision-makers should continue to ask for public comment and feedback, but in a different form and at a different point in the project.

Overall, the challenges of how and when to receive public feedback are difficult for all managers because, like one federal agency employee said,

“...we are managing this landscape for the greater good of ecological function and resiliency, at the same time balancing it for customer service with our community. For the public users that do use it, who own it - this is their public land. It's that holistic kind of umbrella approach of managing public lands. It's challenging at times because you have one user group that wants A and the other user group wants Z. And neither one of them are wrong.... They have their own goals and objectives. And then, as a public land manager... we're trying to find that common ground... to provide some response to our interest groups, while still managing the landscape.” (Federal Agency Employee)

Opportunities

Though difficulties were discussed, more interviewees expressed optimism about opportunities for further collaboration with other managers and with the public on every level of the spectrum of engagement than those who indicated challenges. A table of the dispersal of opportunities along the spectrum of engagement can be seen below.



Figure 3 Count of interviewees who mentioned opportunities for each engagement type

Interviewees frequently mentioned the desire for opportunities to facilitate more manager-to-manager engagement as well as manager-to-public engagement. Most interviewees started getting excited when talking about specific ways to engage with the public, particularly through the ‘involve’ and ‘consult’ areas of the engagement spectrum. One interviewee shared that, “...this kind of project [the M’ project] has a lot of different entry points for people... where people can feel like they can have a buy-in in a place.” (Academic Institution Employee). They went on to share,

“...I find that when people recognize that we have a big table and there's a lot of chairs around the table, they're very open to having people come in and sit there...letting organizations and people know that the opportunities are there and that it is a collaborative effort and for organizations and individuals, it's a good opportunity to work in consort toward a common goal.” (Academic Institution Employee).

Opportunities to Collaborate with Managers

Most interviewees' sentiment was that collaboration amongst managers can only be seen as a good thing. Because so many agencies are stressed for time, money, or resources, interviewees suggested allowing other agencies and stakeholders to share brainstorming and decision-making powers to lessen the burden on any one organization. The M project was identified by multiple interviewees as an opportunity for MSU to “...*invite the community to the things they're already doing, or to share the history a little bit more widely.*” (NGO Employee).

Opportunities to Involve and Consult with Managers

Almost half of interviewees mentioned opportunities to increase and improve involvement among agencies. Interviewees expressed that the value of institutional involvement, specifically with MSU and GVL, would help projects gain broader legitimacy and resources, which could contribute to the M project's prioritization and success. As one NGO employee said,

“I think the Forest Service is like, someone like GVL should step up and do it. So, I get excited when I hear... all these leaders at MSU going ‘we're really excited about this M project,’ right?” (NGO Employee).

Consult

In addition to increased involvement, interviewees saw increased consultation as another valuable opportunity for engagement. One interviewee shared that managers could create a more robust development and management plan when they “...*engage the constituents and the people*

impacted by that project, and solicit their opinions or their concerns, and then the best design project is one that best reflects those concerns.” (Academic Institution Employee) This sentiment was reflected by another MSU employee who shared:

“We should be gathering community feedback. Let's make sure we know where the hot spots are, so that we don't have to go through challenging public moments where people are upset. We should be able to ask folks to tell us about your concerns ahead of time... so we know what's coming.” (Academic Institution Employee).

In addition to receiving feedback on broad sweeping project objectives, interviewees expressed that consulting with a broader swath of the public can create a more representative and sensitive plan that respects as many perspectives as possible, especially that of the indigenous peoples who reside in the Gallatin Valley.

“I would hope, that through this process, that we recognize that there are multiple perspectives and multiple stories and that it's easy to ignore one in the excitement of the other. But we also like to remind people that the native presence in the valley is contemporary as well as in the past.. And so that gives us, I think, an opportunity to meet with a number of different constituents... one could name a number of different agencies and groups that might find a place in the discussions.” (Academic Institution Employee).

Different voices, these interviewees shared, as well as different types of engagement, are important for the M project's success. As it pertained to student voice, one academic institution employee stated,

“...it is important to have the students come up with those kinds of things, and at some point in time, we have to turn it over to professionals.” (Academic Institution Employee).

Empowering Agencies to Improve Public Engagement

When asked how they currently engage with other managers and the public to manage the M, interviewees frequently mentioned that the empowerment of various agencies and

organizations is crucial to generate the momentum of public involvement. The interconnectedness of institutional leadership and community support, as it relates to the success of projects, became apparent the more interviewees talked about how agencies can play a role in owning the ability to engage with their stakeholder bases.

“I think having MSU have some ownership over that site is amazing and super special. I think MSU does a good job, and will continue to do a good job of trying to be part of the community and bridge those gaps between Bozeman and campus, and there's no better example of that than the M. When people learn about the history of a place, it connects them to place. And when people are connected to a place, they take care of the place. So, building that story and that connection will make people treat that place better, that trail better.” (NGO Employee).

This sentiment was echoed by others who highlighted the critical role of community support and institutional collaboration in moving projects forward:

“The more partnership, community support, and engagement we get will help prioritize and elevate the importance of trying to get this project done. So, I think the community engagement and the support with MSU is super helpful.” (Federal Agency Employee).

These perspectives underscore the value of building partnerships and creating a shared sense of ownership and responsibility, which not only strengthens community ties but also ensures long-term success and care of the project.

Involve

“We're going to be more intentional, moving forward, on how we engage and what kind of groups we engage. We want to provide an opportunity for people to volunteer.” (NGO Employee).

Increased public involvement was mentioned as a crucial engagement opportunity between land managers and the public. I coded involvement as any time an interviewee discussed ‘volunteer opportunities’ or ‘two-way communication’. Many interviewees saw the

MSU student body as a large group of potential volunteers that MSU administrators could tap into. GVLT was also identified by interviewees as having leverage, as this organization has the power and reach to acquire and harness a strong volunteer body. Because some of the challenges interviewees identified with involvement were due to a shortage of available workers, it makes sense that opportunities to engage further would be focused on getting more bodies on the trail to engage and involve with each other and the landscape, in a more meaningful way. For example:

“The hope would be that the more students get involved, they develop a sense of place, but also become invested somewhere; put a little time and energy in, see what the impacts of recreation are and can be in the problems they create. And then that can help inform their recreational decisions in the future.” (Federal Agency Employee)

When talking about further agency collaboration and involvement, a local government employee proposed how different organizations could begin to do this:

“...if you guys [MSU] could partner with other organizations to spread the burden... having some community events would be really fun, because right now I don't see that happening as much as it should, and we could take more of a community stake in it.” (Local Government Employee).

Overall, interviewees discussed the need for greater engagement among managers and with the public to ensure the success of the M project. Many interviewees highlighted that empowering agencies and organizations can help share the workload and bring broader legitimacy to the project. Capitalizing on the opportunities for manager-to-manager collaboration was seen as essential, especially given the resource constraints many agencies face. Public engagement, through involvement and consulting, was also seen as critical, with MSU and GVLT identified as key players in mobilizing community involvement. Interviewees emphasized that consulting with the community, particularly with underrepresented groups, ensures that

multiple perspectives are considered, helping to create more inclusive and effective plans.

Ultimately, my data suggest the success of the M hinges on leveraging the right types of engagement at the right times and balancing community involvement with expert input to ensure the project accurately reflects community perspective and organizational goals.

The Reality Filter – Where the Ultimate Decision Lands

“If it is a Forest Service project on Forest Service land, (National Forest land), it is ultimately a Forest Service decision. And so yes, we'll collaborate with a group, and we'll seek feedback from that group, and we'll bounce ideas off with that local group. But at the end of the day, it's our decision.” (Federal Agency Employee).

For the structure of the College M, MSU is on the hook, as long as they maintain some design criteria which is outlined in their special use permit with the Forest Service (Appendix B). For every other change regarding the trail, trailhead, or parking lot, the ultimate decision-making authority lies with the Forest Service. Because of the hierarchy of ownership in the area, interviewees shared that MSU can be invited to make decisions and share decision-making power, but ultimately, the land the project sits on is still owned by the federal government and:

“...there are certain things I can't just, wave my wand and make happen. And also we have to, filter through, is that practical? Is there a reason? What's the purpose and need? Why are we doing this? And then you start looking at the effects. And then you, go into some level of NEPA [National Environmental Policy Act], whatever that might be.” (Federal Agency Employee).

Ultimately, any decision made on public land is subject to the Forest Services' ability to manage it:

“it really just comes down to prioritization of our capacity and whether we have the time and the money and the resources” (Federal Agency Employee).

Regardless of the political structure, balancing the unpredictable and uncontrollable nature of humans means that managers must also strike a balance and compromise on the issues they see as dominating the area. When talking about the potential of closing certain paths in the area to reduce erosion and improve trail quality, one interviewee shared:

“Guess what's going to happen? Everybody's just going to give us the double middle finger and do it anyways...I don't think that's anybody's fault. The Forest Service, with the resources they have, have zero ability to manage that. Even if they had all the staff in the world, they would have to have somebody there all the time, and they would face a massive public backlash. I guess I see the writing on the wall there, and I know they're doing their best, and I think they're doing a good job for what they have going on.” (Academic Institution Employee).

This quote starts to hint at a greater theme many interviewees saw – that sometimes managers face challenges they have no control over. Even if managers know what an area needs to thrive from both a people and environmental perspective, if they don’t have the people power to implement their vision, their ideas for improvement remain just that – ideas. My results suggest that practical limitations make collaboration inherently tied to compromise, and true collaboration always takes time.

Despite the challenges, opportunities are abundant, particularly due to the region's and people's recreation preferences. Sentiments about the collaboration of the M area and land in general were positive. Most interviewees mentioned, when pressed about what they think they can do better in terms of collaboration, they can always do more. However, overall, they are doing the best with the resources they have, and they are proud of the work they have achieved thus far, despite their limited capacities. These feelings were best summed up by one federal agency employee:

“We're really fortunate. We have an incredible community..., because they get to enjoy public access. They enjoy recreation, whether it's skiing or hunting, camping, hiking- You name it. We have just about every form of recreation around the Bozeman Ranger District, and so we have a really engaged community, and we had a lot of support with that community....we want people to give us calls. We want people to work with us. We want people to tell us what they're seeing or some of their ideas. And it's something we welcome as public servants managing public lands. It's the community's public lands. We're here to manage the landscape and serve the community. That's part of our mission... It's probably one of the most exciting parts of my job from a day-to-day perspective, just managing relationships and trying to build relationships and partnerships. In general, yes, we're very satisfied. We have some great, great partnerships that are ongoing. We have some really great collaborative work that's ongoing. There's always room for improvement. There are always things that that we could try to engage more, be more inclusive with, but in general, from a day-to-day perspective, I think we do well working with our community and building relationships.” (Federal Agency Employee).

Discussion

The primary goal of this research was to understand how land managers engage in collaboration with each other and with the public to make decisions about the College M and associated trail. Through the interview process, challenges to and opportunities for collaboration began to emerge. In the following pages, I discuss the implications of these findings, including potential collaborative process improvements.

These results demonstrate that managers recognize the value of public participation and strive to utilize it to promote power-sharing (Davenport et al., 2007), share information (Innes & Booher, 2004), and encourage citizen participation within structured governance frameworks (Bozdag and Inam, 2021).

Challenges

My results show that certain challenges between managers mirrored broader challenges described in public engagement literature—communication between managers is often fragmented and communication with the public is often insufficiently targeted (O'Faircheallaigh, 2010). Previous research shows that this disconnect makes it difficult for stakeholders to stay informed or contribute meaningfully (Hopkinson et al., 2017). Communication is vital for effective collaborative management (Senecah, 2024). My results show that transparent and consistent communication, especially early on in a project, work well to abate the challenges of communication and coordination, which is another congruence with previous research (Predmore, et al. 2011; Senecah, 2024). Issues related to budgeting and resources were also common among interviewees, especially when talking about the previous funding efforts related to the multi-use path. These findings are consistent with previous literature. For example, Butler and Koontz (2005) and Floress (2018) found that budgeting limitations and funding sources were a common barrier to success in ecosystem management.

Most importantly, previous research has shown that mere communication in the form of consultation is insufficient in striving for improved collaboration. Previous research shows that for communication to be effective and to help the collaborative process, it must be meaningful two-way communication where members of the public can justify their opinions, explain their reasoning, and receive feedback on why or why not their opinions or solutions are implemented (Innes & Booher, 2004; Butler & Koontz, 2005). This process enhances overall project success, boosts public buy-in, improves equity and transparency, and improves trust (Butler & Koontz, 2005). My interviews show that land managers in the M area strive to improve their

communication with each other and with the public and that they see the value in meaningful dialogue such as inviting conflicting groups to the table to discuss and understand tradeoffs or encouraging students to design solutions to problems with the area.

Building Trust

Within the greater academic discussion of collaborative management, my results begin to point at how the strategies land managers are using around the M area to overcome challenges are similar to the strategies posed in previous literature. Moreover, my results show how the strategies interviewees use are falling short of what the literature proffers as a solution to these challenges. As Innes and Booher (2004) and De'Arman (2020) have found, limited public participation leads to a lack of trust, which only further hampers authentic and effective public participation. My results show that managers are tasked with navigating a difficult challenge of balancing ideal outcomes and practical limitations, but they do not shy away from the challenge. Instead, these results show that managers are working to foster an environment of trust and collaboration between stakeholders, bringing different interest groups together and inviting them to the table to problem-solve together. Inviting the public to engage in meaningful two-way communication, like volunteering or design charettes, can help create a sense of place and sense of ownership among the public to build further trust (Innes and Booher, 2024; Arnstein, 1969) and avoid the pitfalls of tokenistic participation like informing and consulting, which has been cautioned against in the past (Olson 1965; Arnstein, 1969). My results show that managers see opportunities to engage with the public meaningfully along the spectrum of engagement through volunteer efforts and increased two-way communication during public comment periods. Indeed, interviewees implied that any future work they do may look toward specific opportunities for

public involvement like community-wide cleanup efforts or more frequent meetings between managers. These interviewees want to improve ways to involve the public in decision-making and problem-solving efforts related to the identified issues of dog waste and trail congestion. Where consulting is merely a chance for agencies to hear public opinion, involving is an opportunity for two-way communication where agencies can both hear public opinion, and provide feedback back to the public on why certain opinions or solutions are preferred over others. These interviewees express seeing the value in public involvement and want to engage with different members of the public through events like student engagement fairs or community volunteer events.

Infusing Stakeholder Voices

Finally, my analysis of challenges and opportunities associated with different types of engagement amongst land managers and the public would be incomplete without the consideration of the underlying political structure of collaborative management and how it can both help and hinder collaboration. Previous research has shown that preference for public involvement varies by office in the Forest Service (Predmore, 2011), and when public stakeholder voices are not meaningfully engaged or valued, the risk of institutional goals overshadowing those of the public is high (Walker, 2007; Innes and Booher, 2004). My research shows that the Custer Gallatin Ranger District, which the M project sits within, is eager to engage with as many people, including other organizations, as much as possible. Much like Prokopy and Floress (2011) and Jung et al. (2015) have shown, engagement with other organizations broaden organizations' ability to get work done and prioritize their seemingly never-ending list of to-dos. In interviews discussing the roles of various organizations, the Forest

Service was characterized as a land manager, GVLТ as a volunteer-based organization, and MSU as a research institution. When these organizations collaborate, the Forest Service can leverage the research expertise of MSU and the volunteer workforce of GVLТ to conduct research or perform maintenance tasks that would otherwise be beyond their capacity. Not only can engaging with the public help overcome these structural barriers, but it can also further improve relationships with the public. This is because when the public feels their opinions and voices will not be trumped or drowned out by the preexisting power structures, trust grows and network pathways strengthen, further improving the collaborative process (Innes and Booher, 2004; De'Arman, 2020, Brisbois & De Loë, 2016; Kallis et al., 2009; Olson, 1965).

Essentially, these results show that by empowering managers to take ownership in the area by organizing events and designing solutions, the public can become more involved. If each agency were to lean further into participatory and collaborative processes with the various stakeholder groups they work with, they can overcome their identified challenges of communication, compromise, and lack of resources, as previous research suggests (Floress, 2008; Butler & Koontz, 2005; Predmore, 2011). For example, MSU interviewees expressed wanting to do more with the College M area and using their student population to plan, design, and implement projects. Non-MSU interviewees appear to welcome this opportunity because they see MSU as having significant power over their student body, and therefore, having the ability to engage in meaningful and transparent dialogue, which both educates and empowers their students. From a practical aspect, federal agency interviewees also noted they welcome opportunities to share the burden of managing a complex and incredibly busy area because they have such a limited capacity to do work. If organizations like GLVT or MSU- who have strong

communication networks with their stakeholder groups- want to step in to help offer human power, these interviewees see this as a good thing because there is a connection between participatory communication and environmental participation (Walker, 2007). Essentially, interviewees suggest the more people become involved in and talk about an area, the more they will care about and take care of the area, and the more they will want to continue being involved in the area and engage with each other in a more meaningful way, which aligns with previous research (Cantrill, 2011; Predmore, 2011; Booher & Innes, 2002).

CHAPTER FOUR

CONCLUSION AND RECOMMENDATIONS

Through this semi-structured interview and analysis process, my results show that both challenges and opportunities can coexist and that managers in the area have been able to identify these challenges and even overcome some. These interviews aimed to answer questions about collaborative management at the College M and the surrounding area, understanding both the relationships between different management agencies, as well as the relationships between managers and the public. Challenges to different types of engagement identified in these interviews mirror challenges identified in previous literature. However, more interestingly, opportunities identified by interviewees to improve specific types of engagement, share similarities with previous research that expresses the need for certain types of engagement such as early and meaningful two-way communication. To examine previous research and these results side by side, land managers can begin to wed theories of collaborative management with their day-to-day practices to achieve on-the-ground results. By doing this, these managers can not only overcome obstacles of budgeting, resource limitations, communication problems, and competing interests, but also build trust amongst each other and with the public, while responding to local needs appropriately.

However, we are left with lingering questions: How do land managers access more people and achieve a truly representative sample of the population to receive feedback from? How can public lands be managed effectively to respond to public needs in a way that does not tokenize or take up too much time? Whose job is it to organize events where meaningful involvement and two-way communication can happen? This research, paired with previous

literature, suggests that several identified challenges to collaboration can be improved by infusing stakeholder voice into every aspect of the design and implementation process.

Both Arnstein's ladder and the spectrum of engagement include the words "Inform" and "Consult" on the lower 'rungs' of their ladders, highlighting a very important fact that consulting and communicating are not the same thing. Meaningful two-way communication, which many authors have discussed before, therefore cannot mean consulting, but rather something more involved and more participatory. Previous research has shown that early two-way communication is the most effective way to engage with the public meaningfully (Butler & Koontz, 2005) and participatory communication increases stakeholder buy-in and encourages collaborative action (Walker, 2007).

Recommendations

These interviews show, above all else, that if managers can empower other managers and share responsibility of the M area, they can share the burden of managing the area and improve their ability to engage with their constituent groups meaningfully. Such an approach to sharing work according to organizational strengths could have a positive influence to get work done on the ground in a way that involves the public and responds to both public and environmental needs, while building trust with the public, and enhancing overall project success.

Each management organization listed in these results brings a unique set of strengths to the table- GVLТ offers fundraising and public relations expertise, the Forest Service oversees permissions and project direction, MSU provides energy and volunteer capacity, and the City of Bozeman contributes technical planning expertise. These groups can build stronger relationships

with their constituents and deliver more impactful outcomes when they operate within their core competencies. Building from this research, I present three recommendations each organization could utilize to facilitate a shared work structure for the M area:

1. Volunteers: MSU could launch a student club that hosts and organizes one to two M-focused events per year and GLVT could work concurrently to organize volunteer efforts within the community, bringing the two groups together.
2. Technical Assistance: In parallel, the Forest Service and City of Bozeman could provide the technical guidance and project oversight needed to align these grassroots efforts with broader planning frameworks and legal mandates.
3. Communication: Regular inter-agency meetings and more internal communication will further streamline coordinate and ensure clear and consistent communication with the public.

Ultimately, a well-organized and collaborative approach that centers each partner's strengths and keeps the public involved will build trust, facilitate the flow of information, and turn shared management into shared success.

Future research may look towards how these organizations can tap into community values and needs more than a narrow look at frequency of trail use. Additionally, a baseline understanding of the types of ways the area is used may be beneficial in understanding specific trail needs to understand what user groups may be affected by change in different ways. To continue to study the M area as a case study for collaborative management in natural areas can also inform the greater body of literature on multijurisdictional management of high use recreation areas. Continued study could help other areas facing similar challenges understand the

challenges and opportunities of collaboration management as recreation demand continues to grow and management resources continue to be limited.

REFERENCES CITED

- Ansell, C., & Gash, A. (2008). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571.
<https://doi.org/10.1093/jopart/mum032>
- Arnstein, S. R. (1969). A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, 35(4), 216–224. <https://doi.org/10.1080/01944366908977225>
- Berkes, F. (2009). Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, 90(5), 1692–1702. <https://doi.org/10.1016/j.jenvman.2008.12.001>
- Booher, D. E., & Innes, J. E. (2002). Network Power in Collaborative Planning. *Journal of Planning Education and Research*, 21(3), 221–236.
- Bozdağ, A., & İNam, Ş. (2021). COLLABORATIVE LAND USE PLANNING IN URBAN RENEWAL. *Journal of Urban and Regional Analysis*, 13(2).
<https://doi.org/10.37043/JURA.2021.13.2.7>
- Brisbois, M. C., & De Loë, R. C. (2016). State roles and motivations in collaborative approaches to water governance: A power theory-based analysis. *Geoforum*, 74, 202–212.
<https://doi.org/10.1016/j.geoforum.2016.06.012>
- Butler, K., & Koontz, T. M. (2005). Theory into Practice: Implementing Ecosystem Management Objectives in the USDA Forest Service. *Environmental Management*, 35(2), 138–150.
- Cantrill, J. (2011). The Role of a Sense of Self-in-Place and Risk Amplification in Promoting the Conservation of Wildlife. *Human Dimensions of Wildlife*, 16(2), 73–86.
- Davenport, M. A., Leahy, J. E., Anderson, D. H., & Jakes, P. J. (2007). Building Trust in Natural Resource Management Within Local Communities: A Case Study of the Midewin National Tallgrass Prairie. *Environmental Management*, 39(3), 353–368.
<https://doi.org/10.1007/s00267-006-0016-1>
- 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>
- Faehnle, M., & Tyrväinen, L. (2013). A framework for evaluating and designing collaborative planning. *Land Use Policy*, 34, 332–341.
<https://doi.org/10.1016/j.landusepol.2013.04.006>
- Floress, K. (2018). Implementing Landscape Scale Conservation across Organizational Boundaries: Lessons from the Central Appalachian Region, United States. *Environmental Management*, 62, 845–857.

- Hopkinson, P., Huber, A., Saah, D. S., & Battles, J. J. (2017). A Word to the Wise: Advice for Scientists Engaged in Collaborative Adaptive Management. *Environmental Management*, 59(5), 752–761. <https://doi.org/10.1007/s00267-017-0825-4>
- Innes, J. E., & Booher, D. E. (2004). Reframing public participation: Strategies for the 21st century. *Planning Theory & Practice*, 5(4), 419–436. <https://doi.org/10.1080/1464935042000293170>
- International Association for Public Participation. (n.d.). *IAP2 core values, ethics, and spectrum*. IAP2 USA. <https://www.iap2usa.org/cvs>
- Jung, T. H., Lee, J., Yap, M. H. T., & Ineson, E. M. (2015). The role of stakeholder collaboration in culture-led urban regeneration: A case study of the Gwangju project, Korea. *Cities*, 44, 29–39. <https://doi.org/10.1016/j.cities.2014.12.003>
- Kallis, G., Kiparsky, M., & Norgaard, R. (2009). Collaborative governance and adaptive management: Lessons from California’s CALFED Water Program. *Environmental Science & Policy*, 12(6), 631–643. <https://doi.org/10.1016/j.envsci.2009.07.002>
- Lawson, M. (2021). *Innovative New Ways to Count Outdoor Recreation: Using data from cell phones, fitness trackers, social media, and other novel data sources*. Headwaters Economics.
- MacKinnon, D., Kempton, L., O’Brien, P., Ormerod, E., Pike, A., & Tomaney, J. (2022a). Reframing urban and regional ‘development’ for ‘left behind’ places. *Cambridge Journal of Regions, Economy and Society*, 15(1), 39–56. <https://doi.org/10.1093/cjres/rsab034>
- Margerum, R. D. (2008). A Typology of Collaboration Efforts in Environmental Management. *Environmental Management*, 41(4), 487–500. <https://doi.org/10.1007/s00267-008-9067-9>
- Moore, E. A., & Koontz, T. M. (2003). Research Note A Typology of Collaborative Watershed Groups: Citizen-Based, Agency-Based, and Mixed Partnerships. *Society & Natural Resources*, 16(5), 451–460. <https://doi.org/10.1080/08941920309182>
- O’Faircheallaigh, C. (2010). Public participation and environmental impact assessment: Purposes, implications, and lessons for public policy making. *Environmental Impact Assessment Review*, 30(1), 19–27. <https://doi.org/10.1016/j.eiar.2009.05.001>
- Olson, M. (1971). *The logic of collective action: Public goods and the theory of groups*. Harvard University Press.
- Predmore, S. A., Stern, M. J., Mortimer, M. J., & Seesholtz, D. N. (2011). Perceptions of Legally Mandated Public Involvement Processes in the U.S. Forest Service. *Society & Natural Resources*, 24(12), 1286–1303. <https://doi.org/10.1080/08941920.2011.559617>

- Prokopy, L. S., & Floress, K. (2011). Measuring the Citizen Effect: What Does Good Citizen Involvement Look Like? In L. Wright Morton & S. S. Brown (Eds.), *Pathways for Getting to Better Water Quality: The Citizen Effect* (pp. 83–93). Springer New York. https://doi.org/10.1007/978-1-4419-7282-8_7
- Senecah, S. L. (2024). The Trinity of Voice: A framework to improve trust and ground decision making in participatory processes. *Journal of Environmental Planning and Management*, 67(9), 2091–2115. <https://doi.org/10.1080/09640568.2023.2238126>
- Silverman, R. M., & Patterson, K. L. (2015). *Qualitative research methods for community development* (1 Edition). Routledge.
- Skjott Linneberg, M., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative Research Journal*, 19(3), 259–270. <https://doi.org/10.1108/QRJ-12-2018-0012>
- Stone, R. (2011). *Day hikes around Bozeman Montana: Including the Gallatin Canyon and Paradise Valley* (4th ed). Day Hike Books.
- Walker, G. B. (2007). Public Participation as Participatory Communication in Environmental Policy Decision-Making: From Concepts to Structured Conversations. *Environmental Communication*, 1(1), 99–110. <https://doi.org/10.1080/17524030701334342>

APPENDICES

APPENDIX A

INTERVIEW GUIDE

Opening

Thank you for talking with me today! We are interested in learning more about how the design of the parking lot, signage, trails, and the “M” can be redesigned to meet the needs of MSU students, current and future generations of community members, visitors, and other “M” users. Additionally, we want to hear from you about your perceptions of the trail and your organization’s management goals. Overall, we seek to aid decisions that revolve around sustainability of the “M” and trail, from student engagement and community use, to reducing invasive weeds, restoring native vegetation, and ensuring the “M” and trail are preserved into the future.

Results from these interviews will be shared with you and other members of the project to help inform how management may be bolstered and improved upon for this project and those that are similar. They may also be published in public reports and peer reviewed publications, however, all data will be de-identified.

Your participation in this interview is voluntary and your responses are confidential. You are welcome to pause or stop the interview at any time. You may also skip any questions you do not want to answer, and if you do not know or do not have an answer for a question I ask, you can tell me. By proceeding with this interview, you indicate your consent to participate. Recording this interview helps me to reduce note taking and focus on your responses. It also ensures that I will accurately capture what you say for our reporting using direct quotes. May I record?

[Start recording]

Connection

1. How, if at all, do you engage with the College M Trail?
 - a. Prompt for more information with their response
 - b. How, if at all, are you involved with the Reimagining the M Project initiated by MSU?
 - c. To what degree do you feel a sense of ownership or responsibility over the trail?
 - i. Tell me about why you feel this way (personal/professional)

Collaboration

2. Regarding the aspects of the 'M' trail you work on, how, if at all, do you engage in collaboration with other agencies and/or organizations?
 - a. If no, why not?
3. Regarding the aspects of the 'M' trail you work on, how, if at all, do you engage with the public?
 - a. If no, why not?
4. Are you satisfied with how these aspects are currently managed?
5. How are you dissatisfied?
 - a. How, if at all, would you change the process?

Public engagement

6. How, if at all, have you worked with other trail users/community groups to take care of the M?
7. How, if at all, does your organization utilize public input to influence management? (why or why not?)
 - a. How do you view public input as helpful?

- b. How do you view public input as unhelpful?
- c. (what is your opinion about the utility of public input in trail management)

Reimagining the “M”

I would like to talk now about the Reimagining the “M” project specifically. One of the goals of the project is to work on updating the trail and infrastructure for transformed uses, a larger population, and a new approach to campus traditions, and to deal with invasive weeds in some way.

- 8. What types of changes would you like to see (and why)? In your opinion, what changes would be a no-go (and why)? (prompt from capstone ideas if needed)
- 9. How, if at all, do you think MSU campus traditions and student engagement with the “M” should change?
 - a. How should they stay the same? (prompt with things students do currently)
- 10. What, if any, historical and/or cultural aspects of the “M” or “M” trail that we should be aware of that we might want to acknowledge or not change

Other Trails

Let's talk about other trails:

- 11. Tell me about your connection with trails in Bozeman in general
 - a. Any trails in particular?
 - b. To what degree do you feel a sense of ownership or responsibility over trails in Bozeman?
 - i. Tell me about why you feel this way

- c. How, if at all, do you make decisions about or contribute to trail management decisions [related to the trail(s) just mentioned]
- d. How does this differ, if at all, with the M?

Collaboration (other trails)

- 12. Regarding the aspects of the [insert trail name here], how, if at all, do you engage in collaboration with other agencies and/or organizations?
 - a. If no, why not?
- 13. Regarding the aspects of the trail you work on, how, if at all, do you engage with the public?
 - a. If no, why not?
- 14. Are you satisfied with how these aspects are currently managed?
 - a. Are you dissatisfied?
 - b. How, if at all, would you change the process?

Reflections

- 15. Is there any other information you would like to share with me today?
- 16. Are there any other people you think I should talk with about the M or other trails in the valley?

Closing

Thank you so much for talking with me today! I appreciate your time and willingness to share your thoughts and perspectives with me about trail management in the Bozeman area. As I mentioned, results from these interviews will be shared with you and other members of the project. If you have any questions moving forward, please don't hesitate to contact me at

elisecranmer@montana.edu. If you have any questions about the MSU IRB, you may reach out to irb@montana.edu.

APPENDIX B

U.S. FOREST SERVICE SPECIAL USE PERMIT

Authorization ID: **BOZ90**
 Contact Name: MONTANA STATE UNIVERSITY
 Expiration Date: 12/31/2027
 Use Code: 332
 Issue Date: 05/21/2018

FS-2700-4 (VER. 03/17)
 OMB 0596-0082

**U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE**

SPECIAL USE PERMIT

Authority: ORGANIC ADMINISTRATION ACT June 4, 1897

MONTANA STATE UNIVERSITY, P.O. BOX 172760, BOZEMAN, MT 59717 (hereinafter "the holder") is authorized to use or occupy National Forest System lands in the CUSTER GALLATIN NATIONAL FOREST, Bozeman Ranger District, subject to the terms and conditions of this special use permit (the permit).

This permit covers 1 acre in T. 1 S., R. 6 E., section 27, SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ Principal Meridian, Montana, ("the permit area"), as shown on the map attached as Appendix A. This and any other appendices to this permit are hereby incorporated into this permit.

This permit issued for the purpose of:

Maintaining the "M" monument, located off Trail #513, near where it intersects with Trail #512.

Appendix B – Operation and Maintenance Plan, and Appendix C – Custer Gallatin National Forest Food Storage Order (Occupancy and Use Order #01-14-11-00-2) are also attached.

TERMS AND CONDITIONS

I. GENERAL TERMS

A. AUTHORITY. This permit is issued pursuant to the Organic Administration Act June 4, 1897 and 36 CFR Part 251, Subpart B, as amended, and is subject to their provisions.

B. AUTHORIZED OFFICER. The authorized officer is the Forest or Grassland Supervisor or a subordinate officer with delegated authority.

C. TERM. This permit shall expire at midnight on **12/31/2027**, ten years from the date of issuance.

D. CONTINUATION OF USE AND OCCUPANCY. This permit is not renewable. Prior to expiration of this permit, the holder may apply for a new permit for the use and occupancy authorized by this permit. Applications for a new permit must be submitted at least 6 months prior to expiration of this permit. Issuance of a new permit is at the sole discretion of the authorized officer. At a minimum, before issuing a new permit, the authorized officer shall ensure that (1) the use and occupancy to be authorized by the new permit is consistent with the standards and guidelines in the applicable land management plan; (2) the type of use and occupancy to be authorized by the new permit is the same as the type of use and occupancy authorized by this permit; and (3) the holder is in compliance with all the terms of this permit. The authorized officer may prescribe new terms and conditions when a new permit is issued.

E. AMENDMENT. This permit may be amended in whole or in part by the Forest Service when, at the discretion of the authorized officer, such action is deemed necessary or desirable to incorporate new terms that may be required by law, regulation, directive, the applicable forest land and resource management plan, or projects and activities implementing a land management plan pursuant to 36 CFR Part 215.

F. COMPLIANCE WITH LAWS, REGULATIONS, AND OTHER LEGAL REQUIREMENTS. In exercising the rights and privileges granted by this permit, the holder shall comply with all present and future federal laws and regulations and all present and future state, county, and municipal laws, regulations, and other legal requirements that apply to the permit

area, to the extent they do not conflict with federal law, regulation, or policy. The Forest Service assumes no responsibility for enforcing laws, regulations, and other legal requirements that fall under the jurisdiction of other governmental entities.

G. NON-EXCLUSIVE USE. The use or occupancy authorized by this permit is not exclusive. The Forest Service reserves the right of access to the permit area, including a continuing right of physical entry to the permit area for inspection, monitoring, or any other purpose consistent with any right or obligation of the United States under any law or regulation. The Forest Service reserves the right to allow others to use the permit area in any way that is not inconsistent with the holder's rights and privileges under this permit, after consultation with all parties involved. Except for any restrictions that the holder and the authorized officer agree are necessary to protect the installation and operation of authorized temporary improvements, the lands and waters covered by this permit shall remain open to the public for all lawful purposes.

H. ASSIGNABILITY. This permit is not assignable or transferable.

I. TRANSFER OF TITLE TO THE IMPROVEMENTS.

1. **Notification of Transfer.** The holder shall notify the authorized officer when a transfer of title to all or part of the authorized improvements is planned.
2. **Transfer of Title.** Any transfer of title to the improvements covered by this permit shall result in termination of the permit. The party who acquires title to the improvements must submit an application for a permit. The Forest Service is not obligated to issue a new permit to the party who acquires title to the improvements. The authorized officer shall determine that the applicant meets requirements under applicable federal regulations.

II. IMPROVEMENTS

A. LIMITATIONS ON USE. Nothing in this permit gives or implies permission to build or maintain any structure or facility or to conduct any activity, unless specifically authorized by this permit. Any use not specifically authorized by this permit must be proposed in accordance with 36 CFR 251.54. Approval of such a proposal through issuance of a new permit or permit amendment is at the sole discretion of the authorized officer.

B. PLANS. All plans for development, layout, construction, reconstruction, or alteration of improvements in the permit area, as well as revisions to those plans must be prepared by a professional engineer, architect, landscape architect, or other qualified professional based on federal employment standards acceptable to the authorized officer. These plans and plan revisions must have written approval from the authorized officer before they are implemented. The authorized officer may require the holder to furnish as-built plans, maps, or surveys upon completion of the work.

C. CONSTRUCTION. Any construction authorized by this permit shall commence by N/A and shall be completed by N/A.

III. OPERATIONS.

A. PERIOD OF USE. Use or occupancy of the permit area shall be exercised at least 365 days each year.

B. CONDITION OF OPERATIONS. The holder shall maintain the authorized improvements and permit area to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the authorized officer and consistent with other provisions of this permit. Standards are subject to periodic change by the authorized officer when deemed necessary to meet statutory, regulatory, or policy requirements or to protect national forest resources. The holder shall comply with inspection requirements deemed appropriate by the authorized officer.

C. OPERATING PLAN. The holder shall prepare and revise as needed an operating plan. The operating plan shall be prepared in consultation with the authorized officer or the authorized officer's designated representative and shall cover all operations authorized by this permit. The operating plan shall outline steps the holder will take to protect public health and safety and the environment and shall include sufficient detail and standards to enable the Forest Service to monitor the holder's operations for compliance with the terms and conditions of this permit. The operating plan shall be submitted by the holder and approved by the authorized officer or the authorized officer's designated representative prior to commencement of operations and shall be attached to this permit as an appendix. The authorized officer may require an annual meeting with the holder to discuss the terms and conditions of the permit or operating plan, annual use reports, or other concerns either party may have.

D. MONITORING BY THE FOREST SERVICE. The Forest Service shall monitor the holder's operations and reserves the right to inspect the permit area and transmission facilities at any time for compliance with the terms of this permit. The holder shall comply with inspection requirements deemed appropriate by the authorized officer. The holder's obligations under this permit are not contingent upon any duty of the Forest Service to inspect the permit area or transmission facilities. A failure by the Forest Service or other governmental officials to inspect is not a justification for noncompliance with any of the terms and conditions of this permit.

IV. RIGHTS AND LIABILITIES

A. LEGAL EFFECT OF THE PERMIT. This permit, which is revocable and terminable, is not a contract or a lease, but rather a federal license. The benefits and requirements conferred by this authorization are reviewable solely under the procedures set forth in 36 CFR 251, Subpart C and 5 U.S.C. 704. This permit does not constitute a contract for purposes of the Contract Disputes Act, 41 U.S.C. 601. The permit is not real property, does not convey any interest in real property, and may not be used as collateral for a loan.

B. VALID EXISTING RIGHTS. This permit is subject to all valid existing rights. Valid existing rights include those derived under mining and mineral leasing laws of the United States. The United States is not liable to the holder for the exercise of any such right.

C. ABSENCE OF THIRD-PARTY BENEFICIARY RIGHTS. The parties to this permit do not intend to confer any rights on any third party as a beneficiary under this permit.

D. SERVICES NOT PROVIDED. This permit does not provide for the furnishing of road or trail maintenance, water, fire protection, search and rescue, or any other such service by a government agency, utility, association, or individual.

E. RISK OF LOSS. The holder assumes all risk of loss associated with use or occupancy of the permit area, including but not limited to theft, vandalism, fire and any fire-fighting activities (including prescribed burns), avalanches, rising waters, winds, falling limbs or trees, and other forces of nature. If authorized temporary improvements in the permit area are destroyed or substantially damaged, the authorized officer shall conduct an analysis to determine whether the improvements can be safely occupied in the future and whether rebuilding should be allowed. If rebuilding is not allowed, the permit shall terminate.

F. DAMAGE TO UNITED STATES PROPERTY. The holder has an affirmative duty to protect from damage the land, property, and other interests of the United States. Damage includes but is not limited to fire suppression costs and damage to government-owned improvements covered by this permit.

1. The holder shall be liable for all injury, loss, or damage, including fire suppression, prevention and control of the spread of invasive species, or other costs in connection with rehabilitation or restoration of natural resources resulting from the use or occupancy authorized by this permit. Compensation shall include but not be limited to the value of resources damaged or destroyed, the costs of restoration, cleanup, or other mitigation, fire suppression or other types of abatement costs, and all administrative, legal (including attorney's fees), and other costs. Such costs may be deducted from a performance bond required under clause IV.J.

2. The holder shall be liable for damage caused by use of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees to all roads and trails of the United States to the same extent as provided under clause IV.F.1, except that liability shall not include reasonable and ordinary wear and tear.

G. HEALTH AND SAFETY. The holder shall take all measures necessary to protect the health and safety of all persons affected by the use and occupancy authorized by this permit. The holder shall promptly abate as completely as possible and in compliance with all applicable laws and regulations any physical or mechanical procedure, activity, event, or condition existing or occurring in connection with the authorized use and occupancy during the term of this permit that causes or threatens to cause a hazard to the health or safety of the public or the holder's employees or agents. The holder shall as soon as practicable notify the authorized officer of all serious accidents that occur in connection with these procedures, activities, events, or conditions. The Forest Service has no duty under the terms of this permit to inspect the permit area or operations of the holder for hazardous conditions or compliance with health and safety standards.

H. ENVIRONMENTAL PROTECTION.

1. For purposes of clause IV.H and section V, "hazardous material" shall mean (a) any hazardous substance under section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601(14); (b) any pollutant or contaminant under section 101(33) of CERCLA, 42 U.S.C. 9601(33); (c) any petroleum product or its derivative, including fuel oil, and waste oils; and (d) any hazardous substance, extremely hazardous substance, toxic substance, hazardous waste, ignitable, reactive or corrosive materials, pollutant, contaminant, element, compound, mixture, solution or substance that may pose a present or potential hazard to human health or the environment under any applicable environmental laws.

2. The holder shall avoid damaging or contaminating the environment, including but not limited to the soil, vegetation (such as trees, shrubs, and grass), surface water, and groundwater, during the holder's use and occupancy of the permit area. Environmental damage includes but is not limited to all costs and damages associated with or resulting from the release or threatened release of a hazardous material occurring during or as a result of activities of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees on, or related to, the lands, property, and other interests covered by this permit. If the environment or any government property covered by this permit becomes damaged in connection with the holder's use and occupancy, the holder shall as soon as practicable repair the damage or replace the damaged items to the satisfaction of the authorized officer and at no expense to the United States.

3. The holder shall as soon as practicable, as completely as possible, and in compliance with all applicable laws and regulations abate any physical or mechanical procedure, activity, event, or condition existing or occurring in connection with the authorized use and occupancy during or after the term of this permit that causes or threatens to cause harm to the environment, including areas of vegetation or timber, fish or other wildlife populations, their habitats, or any other natural resources.

I. INDEMNIFICATION OF THE UNITED STATES. The holder shall indemnify, defend, and hold harmless the United States for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the holder in connection with the use or occupancy authorized by this permit. This indemnification provision includes but is not limited to acts and omissions of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees in connection with the use or occupancy authorized by this permit which result in (1) violations of any laws and regulations which are now or which may in the future become applicable; (2) judgments, claims, demands, penalties, or fees assessed against the United States; (3) costs, expenses, and damages incurred by the United States; or (4) the release or threatened release of any solid waste, hazardous waste, hazardous materials, pollutant, contaminant, oil in any form, or petroleum product into the environment. The authorized officer may prescribe terms that allow the holder to replace, repair, restore, or otherwise undertake necessary curative actions to mitigate damages in addition to or as an alternative to monetary indemnification.

J. BONDING. The authorized officer may require the holder to furnish a surety bond or other security for any of the obligations imposed by the terms and conditions of this permit or any applicable law, regulation, or order.

V. RESOURCE PROTECTION

A. COMPLIANCE WITH ENVIRONMENTAL LAWS. The holder shall in connection with the use or occupancy authorized by this permit comply with all applicable federal, state, and local environmental laws and regulations, including but not limited to those established pursuant to the Resource Conservation and Recovery Act, as amended, 42 U.S.C. 6901 et seq., the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., the Oil Pollution Act, as amended, 33 U.S.C. 2701 et seq., the Clean Air Act, as amended, 42 U.S.C. 7401 et seq., CERCLA, as amended, 42 U.S.C. 9601 et seq., the Toxic Substances Control Act, as amended, 15 U.S.C. 2601 et seq., the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 7 U.S.C. 136 et seq., and the Safe Drinking Water Act, as amended, 42 U.S.C. 300f et seq.

B. VANDALISM. The holder shall take reasonable measures to prevent and discourage vandalism and disorderly conduct and when necessary shall contact the appropriate law enforcement officer.

C. PESTICIDE USE.

1. Authorized Officer Concurrence. Pesticides may not be used outside of buildings in the permit area to control pests, including undesirable woody and herbaceous vegetation (including aquatic plants), insects, birds, rodents, or fish without prior written concurrence of the authorized officer. Only those products registered or otherwise authorized by

the U.S. Environmental Protection Agency and appropriate State authority for the specific purpose planned shall be authorized for use within areas on National Forest System lands.

2. Pesticide-Use Proposal. Requests for concurrence of any planned uses of pesticides shall be provided in advance using the Pesticide-Use Proposal (form FS-2100-2). Annually the holder shall, on the due date established by the authorized officer, submit requests for any new, or continued, pesticide usage. The Pesticide-Use Proposal shall cover a 12-month period of planned use. The Pesticide-Use Proposal shall be submitted at least 60 days in advance of pesticide application. Information essential for review shall be provided in the form specified. Exceptions to this schedule may be allowed, subject to emergency request and approval, only when unexpected outbreaks of pests require control measures which were not anticipated at the time a Pesticide-Use Proposal was submitted.

3. Labeling, Laws, and Regulations. Label instructions and all applicable laws and regulations shall be strictly followed in the application of pesticides and disposal of excess materials and containers. No pesticide waste, excess materials, or containers shall be disposed of in any area administered by the Forest Service.

D. ARCHAEOLOGICAL-PALEONTOLOGICAL DISCOVERIES. The holder shall immediately notify the authorized officer of all antiquities or other objects of historic or scientific interest, including but not limited to historic or prehistoric ruins, fossils, or artifacts discovered in connection with the use and occupancy authorized by this permit. The holder shall follow the applicable inadvertent discovery protocols for the undertaking provided in an agreement executed pursuant to section 106 of the National Historic Preservation Act, 54 U.S.C. 306108; if there are no such agreed-upon protocols, the holder shall leave these discoveries intact and in place until consultation has occurred, as informed, if applicable, by any programmatic agreement with tribes. Protective and mitigation measures developed under this clause shall be the responsibility of the holder. However, the holder shall give the authorized officer written notice before implementing these measures and shall coordinate with the authorized officer for proximate and contextual discoveries extending beyond the permit area.

E. NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (NAGPRA). In accordance with 25 U.S.C. 3002(d) and 43 CFR 10.4, if the holder inadvertently discovers human remains, funerary objects, sacred objects, or objects of cultural patrimony on National Forest System lands, the holder shall immediately cease work in the area of the discovery and shall make a reasonable effort to protect and secure the items. The holder shall follow the applicable NAGPRA protocols for the undertaking provided in the NAGPRA plan of action or the NAGPRA comprehensive agreement; if there are no such agreed-upon protocols, the holder shall as soon as practicable notify the authorized officer of the discovery and shall follow up with written confirmation of the discovery. The activity that resulted in the inadvertent discovery may not resume until 30 days after the forest archaeologist certifies receipt of the written confirmation, if resumption of the activity is otherwise lawful, or at any time if a binding written agreement has been executed between the Forest Service and the affiliated Indian tribes that adopts a recovery plan for the human remains and objects.

F. PROTECTION OF THREATENED AND ENDANGERED SPECIES, SENSITIVE SPECIES, AND SPECIES OF CONSERVATION CONCERN AND THEIR HABITAT.

1. Threatened and Endangered Species and Their Habitat. The location of sites within the permit area needing special measures for protection of plants or animals listed as threatened or endangered under the Endangered Species Act (ESA) of 1973, 16 U.S.C. 1531 et seq., as amended, or within designated critical habitat shall be shown on a map in an appendix to this permit and may be shown on the ground. The holder shall take any protective and mitigation measures specified by the authorized officer as necessary and appropriate to avoid or reduce effects on listed species or designated critical habitat affected by the authorized use and occupancy. Discovery by the holder or the Forest Service of other sites within the permit area containing threatened or endangered species or designated critical habitat not shown on the map in the appendix shall be promptly reported to the other party and shall be added to the map.

2. Sensitive Species and Species of Conservation Concern and Their Habitat. The location of sites within the permit area needing special measures for protection of plants or animals designated by the Regional Forester as sensitive species or as species of conservation concern pursuant to FSM 2670 shall be shown on a map in an appendix to this permit and may be shown on the ground. The holder shall take any protective and mitigation measures specified by the authorized officer as necessary and appropriate to avoid or reduce effects on sensitive species or species of conservation concern or their habitat affected by the authorized use and occupancy. Discovery by the holder or the Forest Service of other sites within the permit area containing sensitive species or species of conservation concern or

their habitat not shown on the map in the appendix shall be promptly reported to the other party and shall be added to the map.

H. CONSENT TO STORE HAZARDOUS MATERIALS. The holder shall not store any hazardous materials at the site without prior written approval from the authorized officer. This approval shall not be unreasonably withheld. If the authorized officer provides approval, this permit shall include, or in the case of approval provided after this permit is issued, shall be amended to include specific terms addressing the storage of hazardous materials, including the specific type of materials to be stored, the volume, the type of storage, and a spill plan. Such terms shall be proposed by the holder and are subject to approval by the authorized officer.

I. CLEANUP AND REMEDIATION.

1. The holder shall immediately notify all appropriate response authorities, including the National Response Center and the authorized officer or the authorized officer's designated representative, of any oil discharge or of the release of a hazardous material in the permit area in an amount greater than or equal to its reportable quantity, in accordance with 33 CFR Part 153, Subpart B, and 40 CFR Part 302. For the purposes of this requirement, "oil" is as defined by section 311(a)(1) of the Clean Water Act, 33 U.S.C. 1321(a)(1). The holder shall immediately notify the authorized officer or the authorized officer's designated representative of any release or threatened release of any hazardous material in or near the permit area which may be harmful to public health or welfare or which may adversely affect natural resources on federal lands.

2. Except with respect to any federally permitted release as that term is defined under Section 101(10) of CERCLA, 42 U.S.C. 9601(10), the holder shall clean up or otherwise remediate any release, threat of release, or discharge of hazardous materials that occurs either in the permit area or in connection with the holder's activities in the permit area, regardless of whether those activities are authorized under this permit. The holder shall perform cleanup or remediation immediately upon discovery of the release, threat of release, or discharge of hazardous materials. The holder shall perform the cleanup or remediation to the satisfaction of the authorized officer and at no expense to the United States. Upon revocation or termination of this permit, the holder shall deliver the site to the Forest Service free and clear of contamination.

VI. LAND USE FEE AND DEBT COLLECTION

A. LAND USE FEES. The use or occupancy authorized by this permit is exempt from a land use fee or the land use fee has been waived in full pursuant to 36 CFR 251.57 and Forest Service Handbook 2709.11, Chapter 30.

B. MODIFICATION OF THE LAND USE FEE. The land use fee may be revised whenever necessary to reflect the market value of the authorized use or occupancy or when the fee system used to calculate the land use fee is modified or replaced.

C. FEE PAYMENT ISSUES.

1. Crediting of Payments. Payments shall be credited on the date received by the deposit facility, except that if a payment is received on a non-workday, the payment shall not be credited until the next workday.

2. Disputed Fees. Fees are due and payable by the due date. Disputed fees must be paid in full. Adjustments will be made if dictated by an administrative appeal decision, a court decision, or settlement terms.

3. Late Payments

(a) Interest. Pursuant to 31 U.S.C. 3717 et seq., interest shall be charged on any fee amount not paid within 30 days from the date it became due. The rate of interest assessed shall be the higher of the Prompt Payment Act rate or the rate of the current value of funds to the United States Treasury (i.e., the Treasury tax and loan account rate), as prescribed and published annually or quarterly by the Secretary of the Treasury in the Federal Register and the Treasury Fiscal Requirements Manual Bulletins. Interest on the principal shall accrue from the date the fee amount is due.

(b) Administrative Costs. If the account becomes delinquent, administrative costs to cover processing and handling the delinquency shall be assessed.

(c) Penalties. A penalty of 6% per annum shall be assessed on the total amount that is more than 90 days delinquent and shall accrue from the same date on which interest charges begin to accrue.

(d) Termination for Nonpayment. This permit shall terminate without the necessity of prior notice and opportunity to comply when any permit fee payment is 90 calendar days from the due date in arrears. The holder shall remain responsible for the delinquent fees.

4. Administrative Offset and Credit Reporting. Delinquent fees and other charges associated with the permit shall be subject to all rights and remedies afforded the United States pursuant to 31 U.S.C. 3711 et seq. and common law. Delinquencies are subject to any or all of the following:

- (a) Administrative offset of payments due the holder from the Forest Service.
- (b) If in excess of 60 days, referral to the United States Department of the Treasury for appropriate collection action as provided by 31 U.S.C. 3711(g)(1).
- (c) Offset by the Secretary of the Treasury of any amount due the holder, as provided by 31 U.S.C. 3720 et seq.
- (d) Disclosure to consumer or commercial credit reporting agencies.

VII. REVOCATION, SUSPENSION, AND TERMINATION

A. REVOCATION AND SUSPENSION. The authorized officer may revoke or suspend this permit in whole or in part:

- 1. For noncompliance with federal, state, or local law.
- 2. For noncompliance with the terms of this permit.
- 3. For abandonment or other failure of the holder to exercise the privileges granted.
- 4. With the consent of the holder.
- 5. For specific and compelling reasons in the public interest.

Prior to revocation or suspension, other than immediate suspension under clause VII.B, the authorized officer shall give the holder written notice of the grounds for revocation or suspension and a reasonable period, typically not to exceed 90 days, to cure any noncompliance.

B. IMMEDIATE SUSPENSION. The authorized officer may immediately suspend this permit in whole or in part when necessary to protect public health or safety or the environment. The suspension decision shall be in writing. The holder may request an on-site review with the authorized officer's supervisor of the adverse conditions prompting the suspension. The authorized officer's supervisor shall grant this request within 48 hours. Following the on-site review, the authorized officer's supervisor shall promptly affirm, modify, or cancel the suspension.

C. APPEALS AND REMEDIES. Written decisions by the authorized officer relating to administration of this permit are subject to administrative appeal pursuant to 36 CFR Part 214, as amended. Revocation or suspension of this permit shall not give rise to any claim for damages by the holder against the Forest Service.

D. TERMINATION. This permit shall terminate when by its terms a fixed or agreed upon condition, event, or time occurs without any action by the authorized officer. Examples include but are not limited to expiration of the permit by its terms on a specified date and termination upon change of control of the business entity. Termination of this permit shall not require notice, a decision document, or any environmental analysis or other documentation. Termination of this permit is not subject to administrative appeal and shall not give rise to any claim for damages by the holder against the Forest Service.

E. RIGHTS AND RESPONSIBILITIES UPON REVOCATION OR TERMINATION WITHOUT ISSUANCE OF A NEW PERMIT. Upon revocation or termination of this permit without issuance of a new permit, the holder shall remove all structures and improvements, except those owned by the United States, within a reasonable period prescribed by the authorized officer and shall restore the site to the satisfaction of the authorized officer. If the holder fails to remove all structures and improvements within the prescribed period, they shall become the property of the United States and may

be sold, destroyed, or otherwise disposed of without any liability to the United States. However, the holder shall remain liable for all costs associated with their removal, including costs of sale and impoundment, cleanup, and restoration of the site.

VIII. MISCELLANEOUS PROVISIONS

A. MEMBERS OF CONGRESS. No member of or delegate to Congress or resident commissioner shall benefit from this permit either directly or indirectly, except to the extent the authorized use provides a general benefit to a corporation.

B. CURRENT ADDRESSES. The holder and the Forest Service shall keep each other informed of current mailing addresses, including those necessary for billing and payment of land use fees.

C. SUPERSEDED PERMIT. This permit supersedes a special use permit designated **MONTANA STATE UNIVERSITY, BOZ295208**, dated 12/27/2006.

D. SUPERIOR CLAUSES. If there is a conflict between any of the preceding printed clauses and any of the following clauses, the preceding printed clauses shall control.

E. Noxious Weed/Exotic Plant Prevention and Control (R1-D4). The holder shall be responsible for the prevention and control of noxious weeds and/or exotic plants of concern on the area authorized by this authorization and shall provide prevention and control measures prescribed by the Forest Service. Noxious weeds/exotic plants of concern are defined as those species recognized by Custer Gallatin National Forest in which the authorized use is located.

The holder shall also be responsible for prevention and control of noxious weed/exotic plant infestations which are not within the authorized area, but which are determined by the Forest Service to have originated with the authorized area.

When determined to be necessary by the authorized officer, the holder shall develop a site-specific plan for noxious weed/exotic plant prevention and control. Such plan shall be subject to Forest Service approval. Upon Forest service approval, the noxious weed/exotic plant prevention and control plan shall become a part of this authorization, and its provisions shall be enforceable under the terms of this authorization.

F. Grizzly Bear Protection (R1-X10). This special-use authorization includes land which is part of the habitat of the grizzly bear. Therefore, in compliance with Forest Service responsibilities under the Endangered Species Act of 1973, 16 U.S.C. 1531, the following conditions apply to this special-use authorization:

1. The authorized officer may order an immediate temporary suspension of all human activities permitted by this authorization and, if needed, suspend or revoke the special-use authorization when, in his/her judgment, such action is necessary in order to prevent confrontation or conflict between humans and grizzly bears. The holder shall immediately comply with such order. The United States shall not be liable for any consequences from such a suspension or revocation. Such suspension or revocation may be appealed to the next higher level as provided in 36 CFR 214.

2. The holder, his/her agents, employees, contractors and subcontractors will comply with the requirements of the attached Grizzly Bear Management and Protection Plan, Custer Gallatin National Forest Food Storage Order (Occupancy and Use Order #01-14-11-00-02), dated 09/19/2014, in the conduct of any and all activities authorized. The authorized officer may review and revise the plan as needed.

3. The holder assumes full responsibility and shall hold the United States harmless from any and all claims by him/her or by third parties for any damages to life or property arising from the activities authorized by this special-use authorization and encounters with grizzly bears, or from suspension, revocation, or termination of activities authorized by this special-use authorization.

4. Intentional or negligent acts by the holder, his/her agents, employees, contractors and subcontractors that result in injury or death of a grizzly bear will be cause for suspension or revocation of this authorization in whole or in part.

5. Failure to comply with provisions 1, 2 or 3 may result in suspension or revocation of this authorization in whole or in part, and may cause criminal action to be taken against the holder under provisions of the Endangered Species Act of 1973, as amended, or other applicable authority.

G. Forest Service Representative (R1-X16). The District Ranger, Bozeman Ranger District, Telephone No. 406-522-2520, is responsible for administering this special-use authorization. The holder should contact the District Ranger regarding any questions concerning the occupancy and use authorized and the provisions of this authorization.

H. Information From Holders (R1-X17). As a condition of this authorization, the holder is responsible for providing the authorized officer with any information in possession necessary for determining annual rental fees, ownership, or other matters concerning the administration of the authorized use by the Forest Service.

Regarding the submission of such information, the holder understands that it is a crime for any person to knowingly and willfully make false, fictitious, or fraudulent statements to matters under the jurisdiction of the United States Government (Title 18, U.S.C. Section 1001).

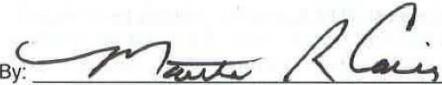
I. Herbicide and Pesticide Use (D-18). Herbicides and pesticides may not be used outside of buildings to control undesirable woody and herbaceous vegetation, aquatic plants, insects, rodents, or fish without the prior written approval of the Authorized Officer. A request for approval of planned uses of pesticides shall be submitted annually by the holder on the due date established by the Authorized Officer. The report shall cover a 12-month period of planned use beginning 3 months after the reporting date. Information essential for review shall be provided in the form specified. Exceptions to this schedule may be allowed, subject to emergency request and approval, only when unexpected outbreaks of pests require control measures which were not anticipated at the time an annual report was submitted. Only those materials registered by the U.S. Environmental Protection Agency for the specific purpose planned shall be authorized for use on National Forest System lands. Label instructions and all applicable laws and regulations shall be strictly followed in the application of pesticides and disposal of excess materials and containers.

THIS PERMIT IS ACCEPTED SUBJECT TO ALL ITS TERMS AND CONDITIONS.

BEFORE ANY PERMIT IS ISSUED TO AN ENTITY, DOCUMENTATION MUST BE PROVIDED TO THE AUTHORIZED OFFICER OF THE AUTHORITY OF THE SIGNATORY FOR THE ENTITY TO BIND IT TO THE TERMS AND CONDITIONS OF THE PERMIT.

ACCEPTED

MONTANA STATE UNIVERSITY

By:  5-17-18
MATTHEW CAIRES, Dean of Students DATE

APPROVED:

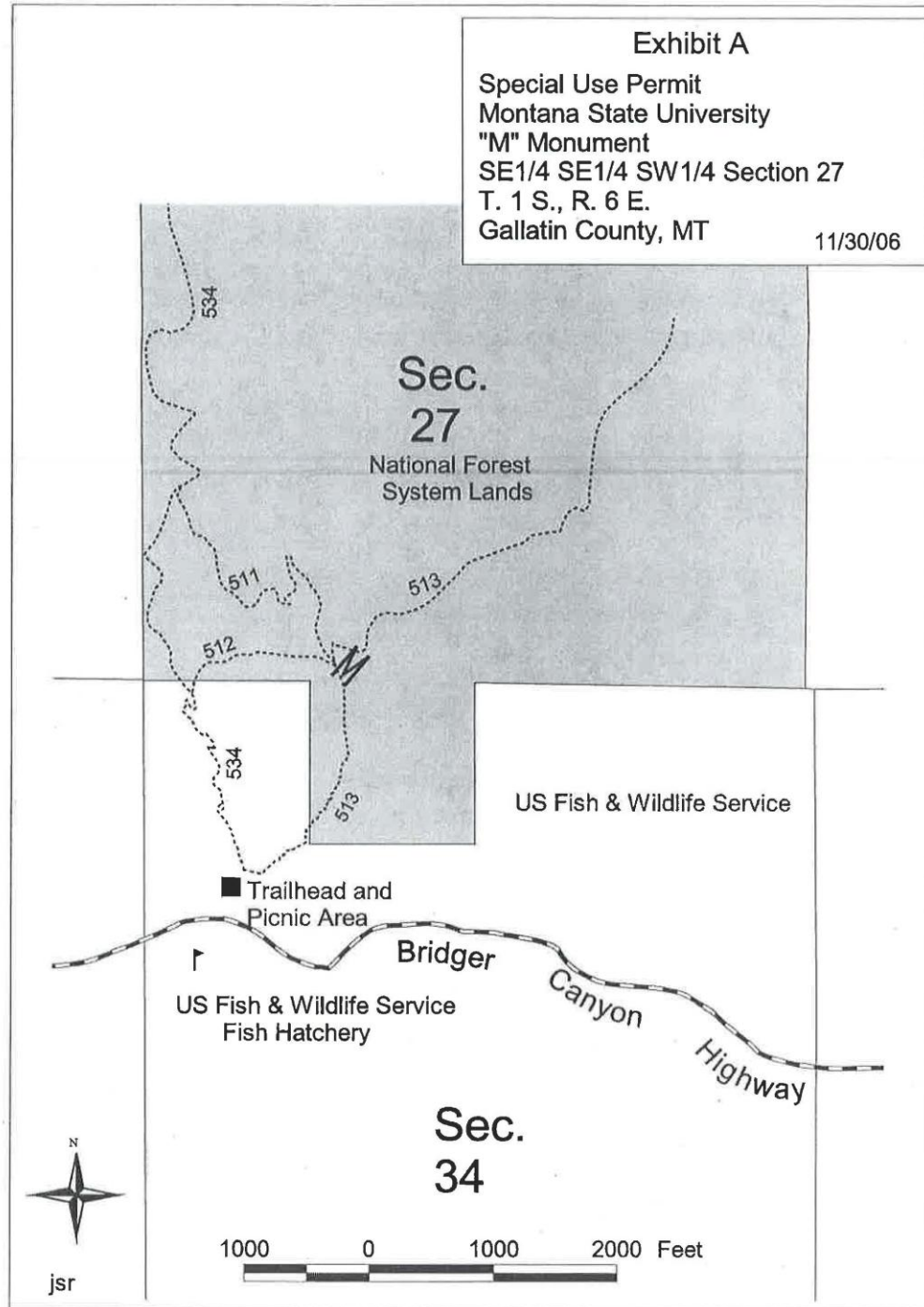
 5/21/2018
MARY C. ERICKSON DATE
FOREST SUPERVISOR

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average one hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and, where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.



APPENDIX B
Montana State University
"M" Permit
Operation and Maintenance Plan

INTRODUCTION

This Operation and Maintenance Plan is attached to and made part of the Special Use Permit issued to the Holder for maintenance of the "M" monument authorized on National Forest System (NFS) lands on the Bozeman Ranger District, Custer Gallatin National Forest (see map, Appendix A).

OPERATION & MAINTENANCE

The following are requirements:

- Authorization from the District Ranger is required prior to using any equipment for soil disturbance or for maintenance purposes.
- Authorization from the District Ranger is required prior to any and all changes on the ground.
- The Holder shall remove all trash and debris from National Forest lands after maintenance activities are conducted.
- Any change to the existing color of the "M" shall be approved by the Forest Service in advance.
- Maintenance work shall be coordinated with the Bozeman Ranger District a minimum of two weeks in advance of the scheduled work.

Contact for the Bozeman Ranger District is Corey Lewellen, District Ranger, 406-522-2520 clewellen@fs.fed.us

Appendix C

Occupancy and Use Order # 01-14-11-00-02

Montana State University
Special Use PermitUnited States Department of Agriculture
Forest Service

Custer Gallatin National Forest

Beartooth, Bozeman, Gardiner, Hebgen Lake, and Yellowstone Ranger Districts

OCCUPANCY AND USE RESTRICTIONS

Pursuant to Title 36 Code of Federal Regulations (CFR), 261.50 (a) and (b), the following acts are prohibited on the Beartooth, Bozeman, Gardiner, Hebgen Lake, and Yellowstone Ranger Districts of the Custer Gallatin National Forest. Definitions of terms used in support of the restrictions are also included as (Attachment A). The area affected is depicted on the attached map. (Attachment B) This Order is effective **March 1 through December 1**, annually, until rescinded.

1. Possessing or storing any food, refuse or other attractant, as specified in the Order (36 CFR 261.58 (cc)).
2. Possessing, storing, or transporting any bird, fish, or other animal, or parts thereof, as specified in the Order (36 CFR 261.58 (s)).
3. Camping as specified in the Order (36 CFR 261.58 (e)).

UNDER THIS ORDER IT IS REQUIRED THAT

1. All food, refuse or other attractants must be acceptably stored or acceptably possessed during daytime hours.
2. All food, refuse or other attractants must be acceptably stored during nighttime hours, unless it is being prepared for eating, being eaten, being transported, or being prepared for acceptable storage.
3. Any harvested animal carcass must be acceptably stored, unless the carcass is being field dressed, transported, being prepared for eating, or being prepared for acceptable storage.
4. Camping or sleeping areas must be established at least ½ mile from a known animal carcass or at least 100 yards from a known acceptably stored animal carcass.
5. The responsible party shall report the death and location of livestock to a Forest Service official within 24 hours of discovery. Any Forest user finding dead livestock should contact the Forest Service.
6. Burnable attractants that cannot be completely consumed by fire (i.e., no post burning residue) must be packed out.

Occupancy and Use Order # 01-14-11-00-02**EXEMPTIONS**

Pursuant to 36 CFR 261.50 (e) the following persons are exempt from this Order:

1. Persons with a permit issued by the Forest Supervisor specifically exempting them from this Order.
2. Any Federal or State officer placing baits to capture animals for research or management purposes as part of their official duties.

These restrictions are in addition to the general prohibitions in 36 CFR Part 261, Subpart A. This Order supersedes any previous Order prohibiting or restricting the same, or similar, acts in the above-described areas.

Done this day 19th of September, 2014.



MARY C. ERICKSON
Forest Supervisor
Custer Gallatin National Forests

Any violation of these prohibitions is punishable by a fine of not more than \$5,000.00 for an individual or \$10,000.00 for an organization, and/or imprisonment for not more than six (6) months, or both (Title 16 USC 551, Title 18 USC 3571 (b)(6), Title 18 USC 3581 (b)(7)).

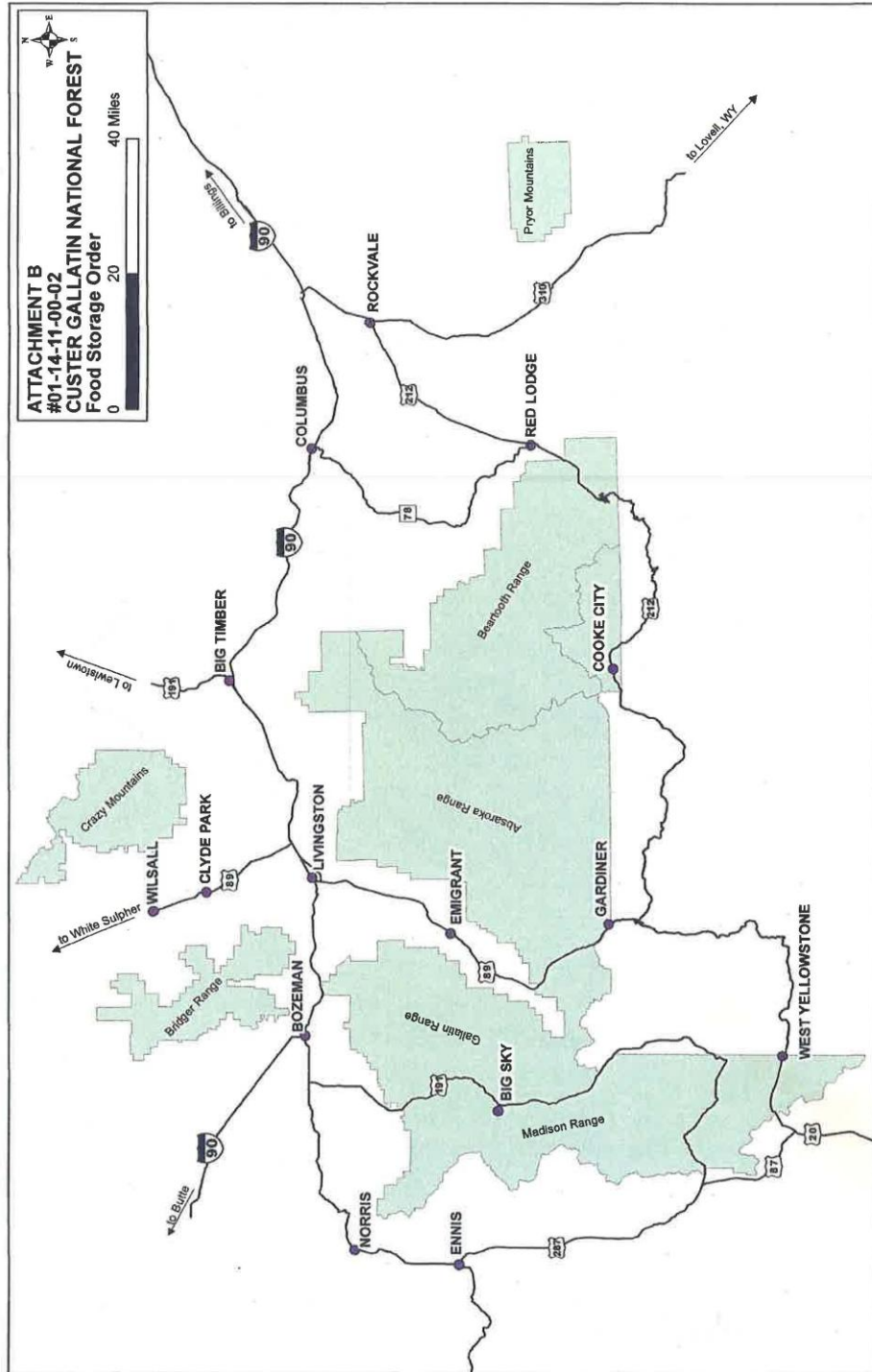
Occupancy and Use Order # 01-14-11-00-02

*Attachment A**Special Order—Food Storage and Sanitation**Definitions*

1. "Food, refuse and other attractants" means any substance, solid or liquid or refuse (excluding water, baled hay, or hay cubes without additives), which is or may be eaten or otherwise taken into the body to sustain health or life, provide energy, or promote growth of any person or animal. Also includes items such as soft drinks, alcoholic beverages, canned foods, pet foods, processed livestock feed and grains, personal hygiene products, and empty food and beverage containers.
2. "Animal carcass" means the dead body or parts thereof, of any harvested mammal, bird, or fish, including the head or skull plate with antlers or horns and hide or cape of big game animals and any domestic livestock that may be found in the restricted area. Packaged or prepared animal carcass products transported into the restricted area for consumption, game birds, small mammals, or fish harvested for consumption in the restricted area are considered food under the previous definition.
3. "Burnable attractants" include items such as food leftovers, waste products, food grease or residue, food saturated containers or other substances that will not be completely consumed by fire. To be completely consumed, there must be no residual attractant on the surface or in the soil. These items shall not be buried, discarded or burned in an open campfire, unless placed in a suitable container (i.e. tin can or fire pan) to prevent leaching into the ground, and burned over an open campfire. Any remaining attractants unconsumed by burning shall be placed with other garbage, acceptably stored and packed out.
4. "Acceptably stored" means:
 - a. Stored in bear-resistant container and/or utilizing a method listed on the most recent Interagency Grizzly Bear Committee Certified Bear Resistant Products List.
 - b. Stored in a closed vehicle, trailer or container where the storage compartment is constructed of solid, non-pliable material that, when secured, will have no openings, hinges, lids, or coverings that would allow a bear to gain entry by breaking, bending, tearing, biting, or pulling with its claws (any windows in the vehicle must be closed), or
 - c. Suspended at least 10 feet clear of the ground at all points and 4 feet horizontally from any supporting tree or pole, or
 - d. Stored within a hard-sided residence, building, or storage container subject to the terms and conditions of a special-use authorization or operating plan, or
 - e. Stored by other methods approved in a permit issued by the Forest Supervisor responsible for the area where the method is proposed for use.
 - f. Animal carcasses must be acceptably stored (a. through e. above) when located 100 yards to ½ mile of a camping or sleeping area or within 200 yards of a Forest Road or Trail.
 - g. Animal carcasses more than ½ mile from a camping area and more than 200 yards from a Forest Road or Trail may be left on the ground.

Occupancy and Use Order # 01-14-11-00-02

- h. Animal carcasses killed or harvested (and parts thereof) within ½ mile of any established camping area or sleeping area must be acceptably stored, possessed, or moved to a distance beyond ½ mile from any such camp or sleeping area by the party(-ies) responsible for killing or harvesting such animal.
- 5. "Acceptably possessed" means:
 - a. Possessed or attended during daytime by a person(s) that is physically present within 100 feet and direct sight of the accessible food, refuse or attractant or
 - b. Possessed or attended by such a person(s) for the purpose of field dressing lawfully taken animal carcasses, transporting any food or animal carcass, preparing any animal carcass or food for eating, or eating any food.
- 6. "Camping/sleeping area" means National Forest System Lands temporarily used for the purpose of overnight occupancy without a permanently fixed structure or lands temporarily occupied by unattended camping equipment.
- 7. "Daytime" means ½ hour before sunrise to ½ hour after sunset, Mountain Time.
- 8. "Night time" means ½ hour after sunset to ½ hour before sunrise, Mountain Time.
- 9. "Forest Road or Trail" means a road or trail wholly or partly within, or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.



APPENDIX C

CODEBOOK

	Parent Code	Child Code	Description	Includes
Demographics				
	Organization Type		not a standalone code- only aggregated from children. Describes the type of organization the interviewee works for.	
		Academic Institution	The interviewee's organization is an academic institution.	
		Federal Agency	The interviewee's organization is a federal agency.	
		Local Government	The interviewee's organization is within the city or the county.	
		NGO	The interviewees organization is a non-governmental organization research group.	
Attitudes and Perceptions				
	Opportunities		not a standalone code- only aggregated from children	
		Demonstration	The interviewee mentions the M as an opportunity to demonstrate MSUs involvement as well as demonstrate new practices.	
		Education	The interviewee mentions the M as an educational opportunity for history and trail etiquette.	
		Engagement	The interviewee mentions the M as an opportunity for engagement- both for MSU students and the local community to engage with each and for both groups to engage with the trail.	
		Improvement	The interviewee mentions the M as an opportunity for improvement- both for social relations and in physical improvements to the area.	
	What is the M		not a standalone code- only aggregated from children	
		Accessibility or Proximity	The interviewee mentions the M as close to town or easy to get to.	
		Connection or Interest	The interviewee mentions that the M is a point of interest or connection for people- also contains aggregated codes from children.	

	Parent Code	Child Code	Description	Includes
			The interviewee mentions the M is an icon or landmark in the town.	
			The interviewee mentions the M as a part of history or being historic itself.	lore, stories, or explicit mentions of historic events
		High Use	The interviewee mentions the M as a high use area- also contains aggregated codes from children.	
			The interviewee mentions the M as an urban trail.	
		M vs Trail	The interviewee mentions a difference between the M and the M Trail.	
		MSU Specific	The interviewee mentions the M in relation to Montana State University (MSU) specifically.	
		Natural	The interviewee mentions the M as an area for nature, wildlife, scenic views, or an outdoor experience.	
		Visitors and Tourists	The interviewee mentions that the M is good for and frequented by visitors and tourists.	
		Other	The interviewee mentions what the M is not in relation to visitors, natural space, MSU related, high use, an icon, historic, or accessible place.	
Campus Traditions				
	No's		How, if at all, do you think MSU campus traditions and student engagement with the “M” should change?	
	Yes's		How, if at all, do you think MSU campus traditions and student engagement with the “M” should stay the same?	
Changes				
	Considerations and Realities		The interviewee mentions considerations and realities of preset structures and policies are in regards to making	

	Parent Code	Child Code	Description	Includes
			changes at the M and surrounding area- blanket statements or broad considerations to think about in relation to any or all of the below codes.	
	Lighting		not a standalone code- only aggregated from children	As it pertains to adding lighting to the M intermittently on college game days as proposed by MSU in Spring of 2023.
		yes	The interviewee mentions adding lighting/ electricity as something they would like to see added to the M.	
		no	The interviewee mentions adding lighting/ electricity as something they would NOT like to see added to the M.	
	MSU Presence		not a standalone code- only aggregated from children	As it pertains to increasing MSU presence physically or in the form of storytelling and signage.
		yes	The interviewee mentions having more of an MSU presence at the M and trailhead.	
		no	The interviewee mentions NOT having more of an MSU presence at the M and trailhead.	
	Signage		not a standalone code- only aggregated from children	only signs, not benches, bathrooms, trashcans or other structures- anything non-signage related is 'facilities'
		yes	The interviewee mentions signage as something that they would like to see at the M.	
		no	The interviewee mentions signage as something they don't want to see at the M.	
		logos	The interviewee mentions organization/ partner logos on proposed signage at the M- may or may not be co-coded with yes/no codes.	
		location	The interviewee mentions where they would like to see signage- may or may not be co-coded with yes/no codes.	on the trail, at the trailhead, in the parking lot, at the M structure

	Parent Code	Child Code	Description	Includes
	Trail		not a standalone code- only aggregated from children	adding new trails, removing trails, adding switchbacks, paving the trail or changing the shape of the trail
		yes	The interviewee mentions changing the trail shape as a part of the management of the M and area.	
		no	The interviewee mentions NOT changing the trail shape as a part of the management of the M and area.	
	Environmental		not a standalone code- only aggregated from children	Weed mitigation, wildlife management
		yes	The interviewee mentions changes they would like to see as it related to environmental quality of the M and M area.	
		no	The interviewee mentions changes they would NOT like to see as it related to environmental quality of the M and M area.	
	M Structure		not a standalone code- only aggregated from children	either altering materials or altering the shape
		yes	The interviewee mentions changes they would like to see related to the M structure or footprint.	
		no	The interviewee mentions changes they would NOT like to see related to the M structure or footprint.	
	Parking		not a standalone code- only aggregated from children	change in parking lot, addition or removal of parking spaces, changes in entrance to the parking lot from the highway, other parking related structures or changes
		yes	The interviewee mentions changes to the parking lot at the M trailhead they would like to see.	
		no	The interviewee mentions changes to the parking lot at the M trailhead they would NOT like to see.	
		Multimodal Transportation	The interviewee mentions creating some form of multimodal transportation like a rideshare or shuttle	

	Parent Code	Child Code	Description	Includes
			service to the M trailhead- may or may not be co-coded with yes/no codes.	
	Policy		not a standalone code- only aggregated from children	limiting trail use to specific user groups or implementing time segregated trail use, historical designation, safety measures, etc.
		yes	The interviewee mentions a policy change or action they would like to see related to the M.	
		no	The interviewee mentions a policy change or action they would like to NOT see related to the M.	
	Facilities		not a standalone code- only aggregated from children	benches, fences, shade structures, trash cans, bathrooms, etc.
		yes	The interviewee mentions physical changes to facilities they would like to see at the M.	
		no	The interviewee mentions physical changes to facilities they would NOT like to see at the M.	
	Other		not a standalone code- only aggregated from children	
		yes		
		no		
Collaboration with Managers				
	Challenges* must be co-coded with type of collaboration and type of organization		The interviewee mentions previous or current challenges to collaborating with other organizations.	
	Opportunities* must be co-coded with type of collaboration		The interviewee mentions future opportunities to collaboration with other organizations.	

	Parent Code and type of organization	Child Code	Description	Includes
	Type of Organization* must be co-coded with type of collaboration		It is not a standalone code—it is only aggregated from children. The interviewee mentions which types of organizations they currently engage with.	
		Academic Institution	The interviewee mentions a history of and how they currently work with academic institutions in some way.	includes: Montana State University, Western Transportation Institute
		Federal Agency	The interviewee mentions a history of and how they currently work with federal agencies in some way.	Includes: U.S. Fish Wildlife Service, U.S. Forest Service
		Local Government	The interviewee mentions a history of and how they currently work with local governments in some way.	Includes: Gallatin County, City of Bozeman
		State Agency	The interviewee mentions a history of and how they currently work with state agencies in some way.	Includes: State of Montana, Montana Department of Transportation
		NGO	The interviewee mentions a history of and how they currently work with NGOs in some way.	Includes: Headwaters Economics, Gallatin Valley Land Trust, non-profit community groups
		Other	The interviewee mentions a history of and how they currently work with another type of organization in some way.	
	Type of Collaboration* must be co-coded with type of organization		not a standalone code- only aggregated from children. The interviewee mentions what level of collaboration they engage in when collaborating with other organizations, inform is the lowest level and empower is the highest.	
		Inform	News briefs, informational material dispersal.	
		Consult	Developed structures for feedback, focus groups, decisions and plans are largely made by one party.	
		Involve	Volunteers, design charettes, two-way communication- decisions and plans are largely made by one party.	

	Parent Code	Child Code	Description	Includes
		Collaborate	Share decision making and ideation powers- one party still has superior veto power.	
		Empower	Delegate leadership and authority to multiple parties.	
		Funding	At least a part of the relationship is dependent on a stream of funding	
		Other	The relationship is characterized by another form of engagement that is not Informing, Consulting, Involving, Collaborating, Empowering, or Funding.	
Collaboration with Public				
	Opportunities* must be co-coded with type of collaboration and type of public		The interviewee mentions future opportunities for collaboration with the public.	
	Challenges* must be co-coded with type of collaboration and type of public		The interviewee mentions previous or current challenges to collaborating with the public.	
	Type of Public* must be co-coded with type of collaboration		not a standalone code- only aggregated from children. The interviewee mentions which types of public entities they engage with in collaboration.	
		Groups	The interviewee mentions a history of and how they currently work with groups of public people in some way.	includes: working groups and the MSU student body population
		Individual	The interviewee mentions a history of and how they currently work with individuals community members in some way.	includes: individuals outside of groups

	Parent Code	Child Code	Description	Includes
		Other	The interviewee mentions a history of and how they currently work with other types of community members or groups in some way.	
	Type of Collaboration* must be co-coded with type of public		not a standalone code- only aggregated from children. The interviewee mentions what level of collaboration they engage in when collaborating with public entities, inform is the lowest level and empower is the highest.	
		Inform	News briefs, informational material dispersal.	
		Consult	Public comment periods, focus groups, decisions and plans are largely made by one party.	
		Involve	Volunteers, design charettes, two-way communication- decisions and plans are largely made by one party.	
		Collaborate	Shared decision making and ideation powers- one party still has superior veto power.	
		Empower	Delegate leadership and authority to multiple parties.	
		Funding	At least a part of the relationship is dependent on a stream of funding.	
		Other	The relationship is characterized by another form of engagement that is not Informing, Consulting, Involving, Collaborating, Empowering, or Funding.	