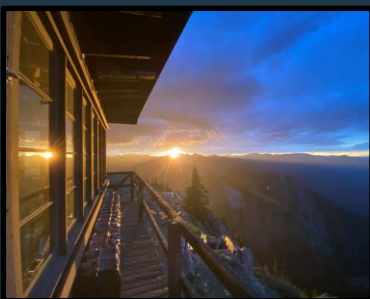


# Bob Marshall Wilderness Complex

## 2024 Newsletter

VOLUME 33



### INVITATION from your Lead Ranger

*Mike Muñoz (Rocky Mountain Ranger District)*

We look forward to visiting with you at our annual Limits of Acceptable Change (LAC) public meeting and information-share this spring! This year, the meeting will take place in person at the Hungry Horse Ranger Station, located at **10 Hungry Horse Drive, Hungry Horse, Montana**. The meeting will be held **Saturday, April 6<sup>th</sup>** from **9:00am to 3:00pm**. I hope you can join us to share news and exchange ideas. We value your continued engagement in managing this wonderful resource.

**SATURDAY, April 6th**

**9:00 a.m. — 3:00 p.m.**

**Hungry Horse Ranger Station**

# BMWC 2024 Newsletter: An Introduction

## BMWC Chairperson and Ranger, Mike Muñoz

In a mere 6 months following the Bob Marshall Wilderness Complex (BMWC) Spring Newsletter, the 60th anniversary of the 1964 Wilderness Act will spring upon us on September 3. A total of 54 areas were designated initially, including the Bob Marshall. The original 'Bob' was nearly 1/10<sup>th</sup> of the 9.1 million acres designated that year. Did you know proponents originally sought 60 million acres for initial designation?

The idea of wilderness or naturalness was a long time coming. Administratively in the 1920's, the USDA Forest Service first designated Primitive Areas, in what is known as the L-20 Regulations; later designated as wilderness by the Agency as the U-1 Regulations, through Bob Marshall's Forest Service leadership in 1939.



The early inspiration of The Wilderness Society, along with other citizens, was also led by Forest Service employees, notably Aldo Leopold, Bob Marshall, and Arthur Carhart. Today, Forest Service employees have the privilege of stewarding an incredible place like the BMWC; with additional designations of the Scapegoat in 1972 (the First Citizens Wilderness) and the Great Bear in 1978, which also included the Birch Creek Addition to the 'Bob' (60k acres) on the Rocky Mountain Front. This places the 'Bob's' acreage at over 1 million acres. The Rocky Mountain Front Heritage Act of 2014 added another combined 67k acres to the Scapegoat and Bob, bringing the BMWC's designated wilderness to more than 1.6 million acres.

In Section 1 of the Act, the short title for the 1964 designation is the 'Wilderness Act'. The Act's longer title, "To establish a National Wilderness Preservation System for the permanent good of the *whole people*, and for other purposes".

The whole people. Today, the Americas are still inhabited by indigenous peoples. And according to more recent research were far more numerous in their habitation of the landscape than prior history recorded, and indigenous people incorporated far more land management practices than acknowledged. As for the BMWC, it encompasses the traditional lands of the Salish (Selis), Kootenai (Ktunaxa), Pend d'Oreille (Qlipse) and Blackfeet (Niitsitapi); lands traveled that are of cultural significance immemorial to these Tribes. Indigenous people's presence along the 'Backbone of the World', still relies heavily on the land's biodiversity, water, and cultural connection. They are not alone as many people now have connections to the lands which are now designated wilderness.

*(Continued on next page...)*



# Introduction *continued...*

The 1964 Act, according to Section 2(a), set out, “...to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States...”, and furthermore, “...to secure for the *American people* of present and future generations the benefits of an enduring resource of wilderness....”

In recent campaigns for additional wilderness designations throughout Montana, Montana Wild, formerly the Montana Wilderness Association, often used a slogan, “People need wilderness. And wilderness needs People”. The high likelihood that the earth can certainly continue to turn and orbit without us humans might readily be applied to wilderness. However, so long as we humans are fortunate to remain present and hopeful of future generations to follow, given the complexities we seem to enamor in our human existence, we’ll need to manage our connections biologically, socially, culturally, economically, politically, and most certainly spiritually. Montana Wild’s slogan captured well our mutual, symbiotic relationship with wildlands. We have the capability to apply conservation practices that care for the land and lessen our impacts.

At Saturday’s public meeting where we typically share information regarding Limits of Acceptable Change (LAC), we’ll share a five-year review of information gathered on physical resources and social encounters involving human activity. We’ll provide an update of the analysis for Outfitter/Guide Special Use Permits considered for reauthorization. And discuss other areas of interest or concern the public brings forward that we can address.

The presence of outfitter/guides was well established prior to 1964 and the passage of the Wilderness Act certainly did not eliminate such commercial endeavors, so long as properly permitted. To address what was somewhat left undone, the BMWC managers back then created policy to address existing human activities, recognizing that we humans most certainly have an impact on the land and water. Nevertheless, we’re as much a part of the larger scheme of things as not. In recognition of human visitations likely resulting in trammeling, BMWC managers with assistance from other wilderness managers established LAC monitoring methods and protocols, now going on 40 years of data collection, analysis and use in guiding management decisions. I’d also note that other policies adopted and becoming Forest Orders across the entirety of the BMWC following 1964 were suggested by outfitters. These include the limit on the number of head of stock (maximum of 35), as well as the maximum party size of 15 people on a trip when traveling and camping in the Complex.

*(Continued on next page...)*

# Introduction *continued...*

Additionally, BMWC managers set a limit on permitted service days available throughout the entire BMWC, based on a high-year average of permitted use between 1978-1980. Today, 44 years later, that limit remains at 30,000 service days. Not more. Not less. And it may well be exactly where needs be, as visitors desire wilderness experiences as much as ever. We're attempting to determine if the current individual outfitter-guides should continue having the privilege to provide commercial services to the American Public that requires those services. We consider this through the reauthorization analysis process and in accordance with special use permit requirements. We administer permits year-in and year-out, every year, not simply in year 10, when the permits are set to expire.

President Johnson acknowledged the awareness of wild places in providing for future generations when signing the Act into law, saying, "If future generations are to remember us with gratitude rather than contempt, we must leave them something more than the miracles of technology. We must leave them a glimpse of the world as it was in the beginning, not just after we got through with it."

The BMWC managers continue to focus on maintaining people's connection to wild places throughout the BMWC. We also continue striving to help people recognize impacts we have as humans interacting with the landscape and how we can reciprocate our commitment to this place – *a legacy from the past which we have received as a gift in the present to pass on as a treasure to future generations.*

To that unending endeavor, my colleagues and I look forward to interacting with you in Hungry Horse during our annual spring Public LAC meeting. Lastly, hats off to my former colleague and retired Ranger, Scott Snelson. Thanks for carrying the BMWC managers through and around the other end of the pandemic.

***Good day, all day, every day....Ranger Muñoz***



***View of Scapegoat Mountain from the Scapegoat Plateau***



# Meet Your New BMWC Managers

## Flathead National Forest

### **Anthony Botello** *Forest Supervisor*



Anthony Botello started as the new Forest Supervisor of the Flathead National Forest this January. Anthony began his Forest Service career in 1988 on the Sierra National Forest as a Wilderness Ranger and soon became a backcountry Animal Packer on the Rogue River National Forest. He was a Snow Ranger and permit administrator, spent several years as an active firefighter, experienced sawyer, helicopter crew member, and wildland fire crew boss.

Anthony has been in leadership roles for almost half of his 35-year career, spending the majority of his time with the Forest Service in central Idaho. He has also held positions in California, Oregon, Utah, and Montana. Anthony graduated from California State University, Chico with a BS in Natural Resources Management – Recreation Management.

Anthony shared with his new community, "I am honored to be joining the Flathead National Forest! The thought of helping steward the world class resources and landscapes on the Flathead and working with community and Tribal partners here is incredibly exciting. My family and I are eager to spend time in the Forest and join the Flathead Valley community!" He looks forward to exploring Northwest Montana's hunting, fishing, and outdoor opportunities.

# Managers continued ...

## Spotted Bear Ranger District

### **Adam LaDell** *District Ranger*

Adam LaDell has joined the Flathead National Forest as the Spotted Bear District Ranger. Adam is coming to the Flathead from the Carson National Forest in New Mexico where he served as the Questa District Ranger since 2021.

Adam has experience in recreation management and has a passion for wilderness and our national forest resources. While Adam is originally from Wisconsin, he started his career with the Forest Service as a Wilderness Ranger on the Inyo National Forest in California and over the course of the last 15 years has held positions in Wyoming, Arizona, and most recently New Mexico.



Adam is excited to join the Flathead National Forest and get acquainted with the Spotted Bear Ranger District. "I am looking forward to connecting with the rich history of the Spotted Bear Ranger District and supporting the Spotted Bear employees and our partners in all their great work. I started my career as a Wilderness Ranger and am honored to continue serving in places like the Bob Marshall Wilderness Complex." said Adam about his new role on the Flathead National Forest.

Adam graduated from Stevens Point, WI, with a BS in Wildlife and Ecology. He served as a Sergeant in the Marine Corps, is an avid hunter, fisherman, and enjoys spending his free time exploring the outdoors.





# Managers continued ...

## Bob Marshall Wilderness Foundation

### Cliff Kipp *Executive Director*

**Where did you grow up?** Colorado Springs, CO is my hometown, but I spent significant portions of my youth on cattle ranches in SE Colorado, and Northern New Mexico.

**When did you start your career with the FS and in what capacity?** At the age of 16, I volunteered for the San Juan NF working on completing the southern terminus of the Colorado Trail near Durango. It took me another decade to realize I could make a livelihood doing that sort of work. Despite having never formally worked for the USDA Forest Service, my two decades serving as the Regional Director for the Conservation Corps' Northern Rockies operations provided me with ample opportunity to work alongside professional resource managers across several disciplines and several Forests in Region 1 and Region 4. I've maintained a personal affinity for trails and Wilderness recreation, but I'd suggest that workforce development has been central to my professional roles.

**What drew you to the FS?** Being a part of a cadre of professionals dedicated to responsible management of natural/cultural resources, Wilderness, recreational opportunities, and open space. I wanted to be a part of that team, on the inside, working on behalf of "something bigger", the land and its people.

**What is one thing you find most challenging about your work?** I'm grateful to have joined a qualified and capable staff working for a well-established organization, but I have yet to run the full cycle of a year, so there remains a lot that initially seems challenging. Specifically, I'd say our most significant challenge is effectively articulating to a broader audience the value of our contributions to the stewardship of the BMWC.



**What is the most rewarding?** Hearing stories of wonder and excitement from our volunteers, first and foremost, followed closely by making plans with FS district partners for the upcoming season. I also really like the feeling of opening an email indicating we've been successful with a particular application for grant funding.

**What message would you like to give to folks who come to the forest?** A sense of the value of Wilderness and public lands, along with an understanding for how these lands came to be established, and an appreciation for the complexity of "managing" natural resources.

**What is one piece of advice you have for employees just starting out in their career of Wilderness work?** Hold your opinions lightly, be patient, maintain respect for those who've come before you, and take every opportunity to get to know the resource, whether through personal experience, or research or listening to the experts.

# Lincoln Ranger District Update

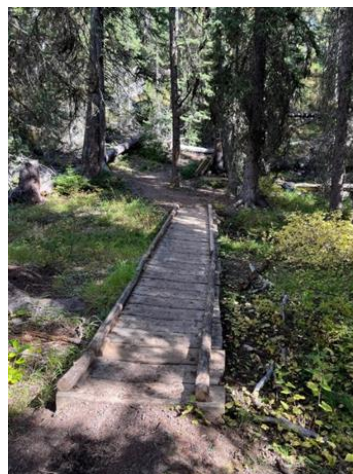
*By Madeline Rubida*

A heck of a lot was accomplished by the Trail Crew on the Lincoln Ranger District during the 2023 field season! Although I was away from a good portion of it on a detail to Spotted Bear RD, I am here to give a quick overview of the happenings as I know them.

Deferred maintenance work was continued on the Landers Fork Trail #438 in 2023. A Montana Conservation Corps Crew along with a Forest Service Liaison worked on the remaining 2 miles of a 5-mile total project, doing large amounts of brushing, retread, and drainage work. The Forest Service trail crew and MCC crew also built a 30' structure on this section of trail at a wet seep spot.



On the Heart Lake Trail #424 in the Scapegoat Wilderness, the trail crew replaced an old rotting puncheon with a new 25' puncheon. Deferred maintenance on the Mineral Creek Trail #484 was addressed by the BMWF Wilderness Conservation Corps crew. They ripped out 3 dilapidated and unsafe puncheons on the upper stretch of the trail, in addition to accomplishing some much-needed re-tread and cutbacks.



**Old Puncheon**



**New Puncheon**

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# Lincoln Update *continued...*

Developing safe horsemanship skills has been a large focus for the crew and stock program the last few seasons in Lincoln. We have retired or re-homed many critters and have added 4 new saddle horses to our program (in addition to 4 new mules!). Our herd is currently 13 animals strong.

## **WELCOME TO THE BOB:**



*Pinocchio*



*Wootang*



*Syd*



*Wifi*

*(Continued on next page...)*

# Lincoln Update *continued...*

Looking forward to the 2024 field season we will have a crew of about 9 trails folks. This includes Forest Service employees and hopefully two Student Conservation Association interns. About five of these positions will be filled with new perm positions from the recent conversion event. We were fortunate to hire some of the existing trail crew into these positions, as well as get some new-to-us folks.

***Here's to a great season ahead of us all!***

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## ***Lincoln Trail Crew at Webb Lake Cabin***

(Claire Williams, Jeremy Smith,  
Matt Garrison, Abigale Gans)





# Rocky Mountain Ranger District in 2023 – Highlights from the Field Season

By Ellie Fitzpatrick

A relatively small number of trees fell on trails between the fall of 2022 and the spring of 2023, affording RMRD some time to dedicate to other backcountry projects last field season. Some tasks had been planned out, whereas others were identified in May and June on initial backcountry hitches while clearing mainline trails. Here's a synopsis of the work that was accomplished.

After initial clearing efforts, RMRD backcountry crews found themselves spread out between Indian Point and Pretty Prairie in the West Fork/South Fork of the Sun corridors for almost the entire month of July. Tasks to be completed included retread on several sections of Trail # 202 in the West Fork drainage, as well as retread on Tr # 202 at the confluence of the West Fork and the South Fork. To accomplish this, crews removed rock and cut back down trees and the subsequent regen from the 2007 Ahorn fire to prep for the trail plow to come through. Collectively, the retread crew completed a whopping three miles of corridor maintenance and cutbacks,  $\frac{3}{4}$  mile of tread restoration, and  $\frac{1}{4}$  mile tread realignment in the West Fork. They also accomplished  $\frac{1}{2}$  mile of much needed retread and scree removal on the exposed rocky hillside above the confluence of the West Fork and South Fork of the Sun. The fresh tread and easy travel conditions on that hillside instills comfort in those accompanied by stock who have a wary eye for bright-colored watercraft meandering their way on the water below the trail, let me tell you!



*Romeo and crew on the retread project, West Fork of the Sun, July 2023.*

Along with the retread work in the West Fork and South Fork drainages in July, we also partnered with a tenacious and dedicated BMWF crew to chip away at campsite restoration and invasive species mechanical treatments in the Pretty Prairie area. Campsite rehab tasks involved removing debris (tin foil, trash, nails, etc.) from fire rings and downsizing/removing rings strategically depending on current use patterns. One particularly impacted campsite was home to a latrine located between the main campsite and the South Fork of the Sun and was roughly 25 feet from the water's edge. To decommission the latrine and deter future use, residual toilet paper and wet wipes were disposed of, toilet seat supports were removed, and a snag was felled over the hole after dirt and gravel were hauled to fill it in. Mechanical treatment of knapweed and houndstongue was focused on the old Pretty Prairie airstrip as well as at several spots off Trail # 265.

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## Rocky Mountain RD Update *continued...*



*Left: A latrine at a campsite near Pretty Prairie that was decommissioned with the help of an incredible BMWF crew. Right: The crew and a FS employee at the Pretty Prairie Admin site.*

August was dominated by repairs to, or replacement of, structures in areas including Wrong Creek, Lick Creek, Spruce Creek (North Fork of the Sun), Furman Creek (lower North Fork of the Sun), and Park Creek (Straight Creek). Deferred maintenance of trail structures is no easy thing to keep up with, but time was on our side this year with the lack of blowdown, or recurring blowdown, and crews persistently tackled project after project. In some instances, deteriorating structures were identified early in the season, and underwent temporary fixes until the repairs could be completed in full. Thanks to extensive local knowledge possessed by RMRD leadership and the ability to prioritize projects, time was maximized this season to remedy as much deferred maintenance as possible.



*From left to right: the Park Creek bridge on Trail # 212 before, during and after repairs.*

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## Rocky Mountain RD Update *continued...*

Other projects did not involve structures, but rather a whole bunch of brushing. Crews spent a very long, rainy hitch on the Big George Trail # 251, off Gibson Reservoir, to address some of the deferred maintenance on our front country trails. Despite the inclement weather, they accomplished three miles of removing everything from Douglas fir regen to aspens to willows to reestablish and/or improve the Big George corridor.

Looking to next season, managers and district staff are patiently awaiting the results of the most recent hiring efforts to bring on employees for next season. These “temporary” employees, as they are formerly known, facilitate the continuation of public service and the provision for outstanding wilderness character throughout the Complex. The most recent hiring efforts as part of the Permanent-Seasonal Employee (PSE) conversion will undoubtedly come up in other articles in this newsletter, but the acknowledgement of the hard work and logistics that go into getting employees to the remote communities surrounding the Bob needs to be reiterated. Our permanent seasonal and seasonal workforce would be without jobs except for the tenacity of district hiring managers. If you see any of these folks out in the Bob this summer, whether they are managers or employees, perhaps acknowledging their work, or even just a friendly hello and a tip of your hat, is warranted.



*View of Red Mountain in the Scapegoat Wilderness*



# Looking back on another beautiful year in the Bob with the Bob Marshall Wilderness Foundation

*by Allison Siems, Operations Director*

2023 was a year of evolution and growth for the Bob Marshall Wilderness Foundation. We started the year without an Executive Director, with Program Director Rebecca Powell and Operations Director Allison Siems sharing the duties in the interim. In May, we were very happy to welcome Clifford Kipp as our new fearless leader – see his interview on page 7 to learn more!

Throughout this major transition, we pulled off our busiest field season yet, with a record 81 projects in the Bob Marshall Wilderness Complex. We had 422 volunteers, 12 partner groups, 11 interns, and two Packer Apprentices join us in the field to give back to their public lands while learning outdoor skills and connecting with the landscape. Our crews maintained 587 miles of trail, including clearing 3,567 trees and improving 3,380 yards of tread. We treated 67.5 acres of invasive weeds and mapped an additional 339 acres of weeds for future work.



**Volunteers from Glacier High School  
clearing the Hodag Ridge Trail**



**BMWF Volunteers working up  
Blacktail Creek**

Our Educational Programming also grew by leaps and bounds. Led by Education & Partnership Specialist Erynn Castellanos and Invasive Species Coordinator Zack Schlanger, BMWF expanded our educational outreach into classrooms, field trips, and fireside chats for students K-12.

We hosted or participated in 23 educational lessons and events that engaged 8,000+ people in a range of subjects, from Wilderness character to Leave No Trace. One favorite group was the first graders from Longfellow Elementary in Great Falls, who were super enthusiastic and excited to get to know Smokey Bear, do the Wilderness Benefits dance, and learn about invasive weeds.

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## BMWF Update *continued...*

In November, we hosted our first-annual BobFest celebration and fundraiser (previously known as Voices of the Wilderness), with our biggest turnout yet! Thank you to all who joined us to meet the mules, pull on a crosscut, eat a baked potato, and bid on the auction to support our work.

In 2024, we're looking forward to another strong field season. In addition to our Volunteer Adventures, Wilderness Conservation Crew (WCC) and Wilderness Stewardship Internships (WSI), we'll have a new type of crew called the Wilderness Invasives and Restoration Crew (WIRC). Like the WCC, the WIRC will be staffed by four interns and one Crew Leader, but their work will focus on treating and surveying invasive plants in the BMWC. We're excited to continue to improve our invasive species work and provide additional field-based training opportunities with this new crew.



***Two interns with BMWF's 2024 Wilderness Conservation Crew improving tread up Falls Point***



***2024 Packer Apprentice Nate Jones loads up at the trailhead with Master Packer Frank Vitale***

We're also thrilled to expand our Packer Apprenticeship program this summer with the addition of a paid Journeyman Packer Internship. We envision this as a next step in the apprenticeship, providing a higher level of training for aspiring professional packers to gain the skills needed to work for the US Forest Service, a professional outfitter, or do their own independent contract packing. We're grateful to our partners at the US Forest Service for funding both the Packer Internship and Packer Apprenticeship program, to help us pass down this essential Wilderness skill to future generations.

Coming up this March, we're hosting our annual five-city tour circling the Bob with stunning outdoor films from the Mountainfilm festival in Telluride, CO. With stops in Missoula, Helena, Great Falls, Whitefish, and Bigfork, we hope you'll join us to celebrate the power of wild places and gear up for another incredible summer in the Bob. Learn more and get your tickets at [bmwf.org/mountainfilm](https://bmwf.org/mountainfilm)

And if you're looking for a unique way to experience and give back to the Bob, please check out our list of Volunteer Adventures! Projects will be published for preview on March 4<sup>th</sup>, and open for registration on March 11<sup>th</sup>. Learn more at [bmwf.org/volunteer](https://bmwf.org/volunteer)



# BMWC's Limits of Acceptable Change and You

By Ellie Fitzpatrick, *Rocky Mountain Ranger District*

Chances are if you find yourself reading this article in this newsletter, you're an avid proponent of the Bob. But maybe not; maybe your curiosity has simply been sparked by an internet search that led you to YouTube videos of stunning scenery while you were planning a summer backcountry trip. It's possible you've only heard tales of adventures in the Bob from friends but have yet to experience its wildness for yourself. Whatever your current involvement with or knowledge of this area, consider this a call to action; a culmination of data collection and reporting has taken place within the Complex, and managers need your input.

The folks involved in managing this expansive, diverse area are tasked with disseminating information to the public every five years in a meeting that takes place in one of the communities bordering the Complex. 2024 happens to be a year in which a public meeting will occur, so please mark **Saturday, April 6<sup>th</sup> in Hungry Horse, MT** on your calendars. Disseminating information is a vague description, so you're probably wondering what facts and figures will be discussed at the meeting, and why it involves you. This warrants a bit of background and history of wilderness management within the Bob, as well an explanation of the Limits of Acceptable Change (LAC).

In response to increasing recreational demands on the Complex and changing legislative guidelines on land management practices in the early-to-mid 1980's, wilderness managers, scientists, representatives of different user groups, and citizens came together to review the effectiveness of management practices in the Bob. At the time, a 'carrying capacity' approach to managing wilderness areas, likened to range and wildlife management protocols, had been the standard. A wilderness area was deemed at capacity when use levels resulted in a specific amount of environmental deterioration and unsatisfactory recreational experiences per this method. This was an effective management strategy in theory, but for those of us who spend time in the Bob recreating, working, volunteering, or all the above, we know the relationship between impacts and use isn't that black and white. For instance, grazing stock in a subalpine meadow will have drastically different implications than grazing stock in an area dominated by heartier vegetation and a longer growing season. The people you see while traveling through the Bob could affect your wilderness experience depending on where the encounters take place, and the way folks act when you see them. With this variability in the use-impact relationship, managers shifted from trying to quantify how much is too much use, and instead started to focus on what conditions were desirable within the BMWC. That shift in wilderness management practice is the core of the LAC protocol we use in the Complex today.

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## LAC and You *continued...*

LAC recognizes that environmental and social changes are inevitable with recreational use of wilderness areas and sets the standards for change that is acceptable. In the BMWC, managers strive to provide diverse wilderness experiences for all user groups, while still maintaining acceptable environmental conditions, as directed by the process. An advisory council tasked with quantifying the parameters of these goals agreed upon and published the 1987 BMWC Management Directive, which identified different 'Opportunity Classes' (OC) that dictate where, and to what extent, change will be allowed to happen. Each of the four Opportunity Classes in the BMWC have standards that address both the environmental and social aspects of wilderness and their respective levels of acceptability. For instance, in OC I, you can expect outstanding opportunities for solitude, unconfined recreation and pristine environmental conditions, and in OC IV, you are more likely to see multiple parties per day on well-traveled mainline trail corridors and at established backcountry campsites.

For the last five field seasons, backcountry crew members and wilderness rangers have been busy collecting data in each of the four Opportunity Classes within the BMWC. They inventoried campsites, looking at environmental conditions and determining if the conditions on the ground fit within LAC. They recorded the number of people and pack stock they meet when traveling trail corridors and the number of floaters on rivers. They hunkered down in the fall and winter to enter data and produce reports that summarize the changes they see on the ground. These reports, along with their time spent interacting with the recreating public and witnessing use patterns in the field, are used to advise wilderness managers on current conditions and any actions necessary to maintain acceptable change. They are also used to inform scientists, outfitter and guide groups, and citizens on the nitty gritty of the use-impact relationships in the Bob.

Now, this is where you come in. All the data, observations, reports, and decisions will be highlighted at the meeting in Hungry Horse on April 6<sup>th</sup>. This is a great opportunity to get involved with your local Bob wilderness staff and to share your own observations from the field. Assessments of acceptable conditions require the input of everyone, and your engagement on behalf of this special place is integral in management decisions moving forward.

### *Literature Cited:*

Stankey, George H., McCool, Stephen F. and Stokes, Gerald L. *Limits of Acceptable Change: A New Framework for Managing the Bob Marshall Wilderness Complex*. 1984. *Western Wildlands*. 10(3): 33-37.

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# Temporary to Permanent Staffing Changes in the Forest Service

By Colter Pence and MJ Crandall, *Hungry Horse-Glacier View Ranger District*

**The Forest Service is initiating a collective “Temp to Perm” hiring strategy to transition our business model from a temporary workforce to a permanent seasonal one as we seek to create greater stability within our workforce, allowing us to better face the challenges ahead.**

- *The Forest Service currently employs 31,800+ permanent employees and over the past several years has hired, on average, 9,000+ additional seasonals each year.*
- *Agency leadership has expressed its intent to shift from non-fire 1039 temporary seasonals to more permanent seasonals (non-fire) over the next three years to build capacity to achieve short and long-term workforce needs to sustain a diverse, equitable and inclusive organization that values all employees.*
- *Increasing the rate of external hires will enrich our agency and infuse new perspectives.*

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Historically the Forest Service has relied on many “temporary employees” to staff seasonally needed entry level positions, positions like trail crew members, wilderness and river rangers, packers, and recreation technicians (GS3/4/5/6/7s). Nationally over 9,000 such employees are hired, onboarded, trained, employed for up to 6 months and then terminated; many of the same positions completing this cycle year after year after year or even decades. Relying on temporary employees was strategic, with uncertain budgets and there was a want to retain flexibility on long term personnel commitments, also there was an abundant applicant pool seeking such temporary jobs for a year or two and then move on to other employment/adventures.

Several factors affecting this dynamic have changed in the last few years. The Forest Service has recently moved to a more centralized budget planning process. Working with bigger, more stable pots of money has made it easier for the agency to commit to more permanent employees. There is also an increasing understanding that filling the same positions with temporary employees over and over is inefficient, redundant and unfair to the those who have committed to the agency long term without the long-term benefits. As more prospective applicants are seeking the benefits of permanent employment, the hiring market has become more competitive – fewer people are interested in temporary positions. At the same time, the annual rhythm of recruiting, hiring, onboarding, training, and offboarding seems to take more time and effort every year. In the end, the financial flexibility of temporary employees just does not seem to be worth it anymore and in some ways is holding us back. We expect that permanent entry level employees will help form a more stable workforce that can be trained to higher skill levels making for a higher yield investment to individual units and the agency.

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## Staffing Changes continued...

A real-world wilderness example of this employment dynamic is in crosscut saw training. Training a new crop of temporary employees to skillfully use crosscut saws every year with no certainty that those temporary employees will return to that unit to use that skill the next year is a significant investment with an uncertain yield. Transitioning from uncertain temporary employees to more permanent employees means those staff will more likely return to that unit each year, that initial crosscut saw training workload will be reduced, and that employee will be able to grow their skill even further to benefit those wilderness trails because they have a long-term career employment commitment from the Forest Service. The permanent employees will also receive the benefits they deserve doing this highly valuable wilderness work year after year, in service to wilderness visitors.



We believe that transitioning the employment model from a primarily temporary workforce to a more balanced permanent seasonal one will create greater stability within our workforce, allowing the Forest Service to better face the challenges ahead by sustaining a diverse, equitable and inclusive workforce that values all employees. Currently the Forest Service nationwide is working through selecting which positions are best suited to move from temporary staffing to permanent staffing. It is anticipated that it will take up to 3 years for things to level out. There are plans for several waves of collective hiring events and recruitment opportunities; get in touch with local Forest Service offices to see what employment opportunities are around the bend. ***It is an exciting time for people who want to work for the Forest Service as a career job!***





# Perspectives on a Year of Permanent-Seasonal Employment

Emily Stadvec (Spotted Bear/Schafer Meadows Ranger) and Ben Turcea (Hungry Horse/Wilderness Ranger)

When we got the chance to become permanent employees, we were excited to take the next step in our land management careers. Besides the more long-term benefits of permanent federal employment, we were eager to enter more fully the leadership of management of the Bob Marshall Wilderness Complex. We both began our service in the BMWC as Montana Conservation Corps crew leaders; we continued our service as force account crew members, crew leaders, and packers in the Middle Fork of the Flathead. When the opportunity arose to make a big jump into permanent federal service, we decided to rededicate ourselves to public service and to the Bob!

Becoming a permanent employee was nerve-racking in some ways. Onboarding and learning all the systems has been a challenge and we're still learning many of the nuances. A notably large personal hurdle for us was the transition into supervising our former peers; we were worried about not being taken seriously as supervisors, and concurrently worried about being taken far too seriously. Fortunately, we didn't take into account our years of on-the-ground experience as crew members or leaders. This foundation has allowed us to relate to our employees immediately, empathetically, and professionally.

One huge advantage to our recent permanent appointments (and an advantage that we expect to be able to carry over to our new PSE workforce) is an emphasis on the interdependence of the workforce. With the extended shoulder seasons, we hope to take advantage of more opportunities for cross-training with other disciplines, expanding our teamwork with other crews, and learning more

about the agency as a whole. Moreover, there are still ways to take advantage of the seasonal lifestyle in the 13/13 and 18/8 appointments.

We hope that our federal service can be a small part of the conservation effort that we all undertake in the BMWC. We're fortunate enough to have been called to serve in this effort in a fuller way when we were offered permanent jobs, and we relish the opportunity almost every day! Though we have our concerns about some of the ramifications of the PSE event (including smaller crew sizes), we're hoping that bringing more entry-level permanent employees into the agency will continue to advance our efforts of conservation across the complex.



# 2023 South Fork Flathead River: Bull Trout Redd Counts

By Leo Rosenthal-Fisheries Biologist MT FWP



*Bull trout redds (spawning nests) in the South Fork Flathead River.*

The South Fork Flathead River is home to one of Montana's largest populations of bull trout, a species listed as threatened under the Endangered Species Act. While many other bull trout populations throughout the western United States have declined, the bull trout populations in Hungry Horse Reservoir and the South Fork Flathead River continue to thrive. Bull trout populations remain robust enough to allow catch and release fishing in the South Fork and actually allow anglers to harvest two bull trout annually from Hungry Horse Reservoir after obtaining a valid catch card. The opportunity to pursue these large fish in a remote wilderness setting is truly a unique experience.

Adult bull trout numbers are monitored by counting redds (depressions left in the stream after bull trout have spawned) in direct tributaries to Hungry Horse Reservoir as well as

in wilderness tributaries to the South Fork Flathead River. Because of the time and effort necessary to conduct the backcountry counts, these surveys are typically conducted every 3-5 years. The 2023 wilderness survey represents the 13<sup>th</sup> time it has been conducted since the survey began in 1993. Two crews of fisheries personnel covered many miles by trail and stream to complete this survey in late September/early October 2023. Individual surveyors counted all available spawning habitat in the Youngs, Gordon, White River, and Little Salmon drainages. Annual redd counts in reservoir tributaries were also conducted. In addition to surveying the Hungry Horse/South Fork bull trout, a crew also surveyed Big Salmon Creek to monitor the Big Salmon Lake bull trout population.

*(Continued on next page...)*





## Redd Counts continued...

Redd counts in 2023 revealed lower than average numbers in wilderness tributaries. The wilderness total of 141 redds in 2023 is the lowest observed since the beginning of this survey. However, reservoir tributaries produced good numbers, and the combined total of 240 redds is similar to the counts throughout the 1990's. Reasons for the decline in 2023 are unknown, however, the summer of 2023 had the lowest flows observed throughout the period of record. Biologists noted numerous channel-spanning beaver dams that were likely larger obstacles when combined with the low flows. Barriers to upstream migration may have affected the number of redds in individual streams. Montana Fish, Wildlife & Parks (FWP) plans to repeat the survey in 2024 to determine if the trend is real, or if low flows influenced counts in 2023.

The recreational bull trout fishery for the South Fork Flathead River and Hungry Horse Reservoir continues to provide anglers a quality experience. This fishery is closely monitored through the bull trout catch card and angler survey system established in 2004. This system requires bull trout anglers to acquire a catch card through FWP and report their annual catch data through a mail survey. The survey provides managers with annual bull trout catch and harvest data,

and allows for comparisons of angler use and potential impacts to this sensitive fish species. Results of the survey from 2004-2023 reveal more anglers participating in the fishery each year. This growth in participation is largely in the South Fork Flathead River, where anglers caught and released an estimated 545 bull trout in 2023. Estimated harvest from Hungry Horse Reservoir continues to be low, with <30 fish estimated in 2023. While the number of anglers and number of fish being caught is increasing, the numbers are within the parameters established under the permit with the US Fish and Wildlife Service. The bull trout populations will continue to be monitored in subsequent years to detect any trends related to overall numbers and any potential impacts of the recreational fishery.

# Up Against the Wall: A Soil Survey of the Bob Marshall Wilderness Complex

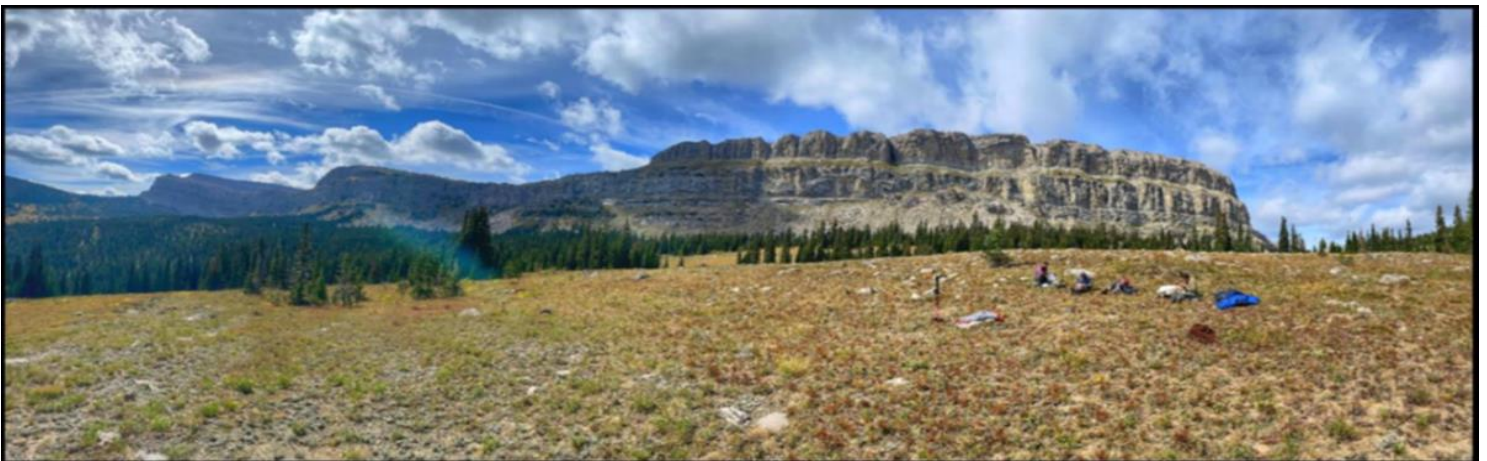
By: Patrick O'Connell, Jay Skovlin, and Benjamin Moore  
(Natural Resource Conservation Service)

Over the past 5 years, the NRCS in partnership with the Forest Service has worked to conduct a soil survey of the Bob Marshall Wilderness Complex (BMWC). The Missoula MLRA SSO and other NRCS staff made seven pack-supported trips into the backcountry and spent time working from Spotted Bear Ranger Station to complete the field sampling within the BMWC. Several more trips were planned, but they were cancelled due to the pandemic and wilderness fire activity.

Glaciers once flowed out of the high country of the BMWC and out onto the plains as massive piedmont lobes of ice, and during the last glaciation, much of the BMWC was covered by an ice cap. From its highest promontories, like Scapegoat Mountain, to some of its lowest valleys, the landscape of the BMWC has been heavily reshaped by glacial activities, and soils that have been directly or indirectly influenced by glacial deposits dominate this landscape.

Parent material is a major property of soil development and refers to the medium from which a soil derives. The BMWC can be split into four distinct geographic zones based on these soil parent materials: west of the Continental Divide, along the Divide, east of the Divide in the Sun River Valley, and the eastern most Rocky Mountain Front.

West of the Continental Divide, soil parent materials are predominantly formed from the weathering of hard, erosion resistant and visually colorful meta-sedimentary Precambrian argillite, quartzite and siltite known collectively as the Belt Supergroup, and, to a lesser extent, younger Cambrian Limestone. Generally, these soils are characterized by very gravelly to cobbly loam, sandy loam and loamy sand soil textures. At higher elevations, particularly on northerly aspects where slopes are sheltered from direct sunlight, the soil often has a surface-cap of Mazama ash, which fell on the area roughly 6,700 years ago following the catastrophic volcanic eruption of what today is known as Crater Lake in Oregon.



**NRCS personnel documenting soils and vegetation on the east side of the Continental Divide, below the Chinese Wall.**

(Continued on next page...)



## Soil Survey continued...



***An example of a volcanic ash capped soil. The brightly colored ash can be seen in the horizon between 15–50 cm***

Soils along the Continental Divide are dominantly formed from younger, weathered Paleozoic Limestone that is most prominently represented by the imposing Chinese Wall. Moving further east, the topography drops into the Sun River Valley where soils are commonly derived from softer, much younger, and more easily weathered Cretaceous shale, mudstone, and siltstone. These soils tend to have more silty and clayey soil textures than soils in other parts of the BMWC, support more extensive grasslands, and have thick, dark surface horizons reflecting increases in soil organic carbon that typify productive grassland ecosystems.

The Rocky Mountain Front consists of young and highly calcareous limestone that has been tipped up vertically through geologic uplift to form this iconic landscape. Soils along these upturned “Reefs” generally have calcium carbonate very near the surface and favor plant species, such as limber pine and creeping juniper, that can tolerate higher pH of calcareous soils.



***NRCS soil scientist Jay Skovlin describing a site near Cabin Creek cabin along the north fork of the Sun River***



***Packers transporting equipment in the Danaher Meadows, an important headwaters wetland in the BMWC.***

# Moths and Grizzlies on the Rocky Mountain and Lincoln RD's

David Kemp, Wildlife Biologist

Rocky Mountain and Lincoln Ranger Districts/Helena-Lewis and Clark National Forest /Rocky Mountain Ranger Station

## Moth Congregation Sites

Army cutworm moth (*Euxoa auxiliaris*) congregation sites are known and suspected to occur across the Rocky Mountain and Lincoln (Figure 1) Ranger Districts, both in and out of the Scapegoat and Bob Marshall Wilderness Areas. Agency monitoring and surveys of known sites, work to identify previously unreported sites, and information on how grizzlies use known sites appears somewhat limited. While unknown, future climate scenarios may affect how grizzly bears and cutworm moths use these high elevation habitats. For example, existing research and other work on moth congregation sites in Montana and Wyoming (Kendall, 1981; Nunlist, 2020; Petersen, 2022; White, 1996; White et al., 1999) indicates both grizzly bears and moths time deliberate movements to and from sites in response to climatic conditions and physiological requirements, both of which would be responsive to change under differing future climate scenarios.

Army cutworm moths that migrate to the Wilderness Complex likely originate from the plains of the East Front and other locations across the Great Plains, where they overwinter, progress through instars, pupate in spring and early summer, and return in the fall to breed and lay eggs. Adult migration from the plains to high elevation areas occurs across the summer months. Stable isotope analyses of cutworms gathered in other high elevation congregation sites and across the Great Plains (Dittemore et al., 2023), along with energetic costs calculations of flying animals (in White, 1996 from Schmidt-Nielsen, 1972), indicate cutworm moths can migrate considerable distances (140 km - 1,800 km). Since the Rocky Mountain and Lincoln Ranger Districts combined span approximately 186 km north to south and over 1 million acres, with known and suspected congregation sites at both the northerly and southerly reaches of this area, cutworm moths and grizzlies across this landscape have the potential to undertake broad spatial movements to arrive at these sites.



Figure 1. Foreground: a grizzly bear foraging at an army cutworm moth congregation site. Background: a moth congregation site in the Scapegoat Wilderness of the Lincoln Ranger District, MT, 2023.

(Continued on next page...)



## Moths and Grizzlies continued...

To characterize moth congregation sites on both Ranger Districts, I want to generally know when grizzlies arrive and depart on at least two spatially dissimilar congregation sites, bear behavior on site, physical site characteristics and associations, and localized climatic conditions at the site and on the East Front. Also, whether we could detect the presence of backcountry recreation or other disturbances on or near the sites during our surveys. I also want to develop a spatial model using existing congregation site research, combined with data collected during our initial survey periods, to remotely identify potential congregation sites across my area of interest. After, I want to test the model with subsequent field work to correlate site probability with site occupancy and use by moths and bears. Such a model would be useful for several reasons, to include site identification prior to entering the field since considerable effort is needed to conduct surveys in these remote areas. The model would also be useful in evaluating forest management and recreation proposals with locations that have the potential to overlap with moth congregation sites.

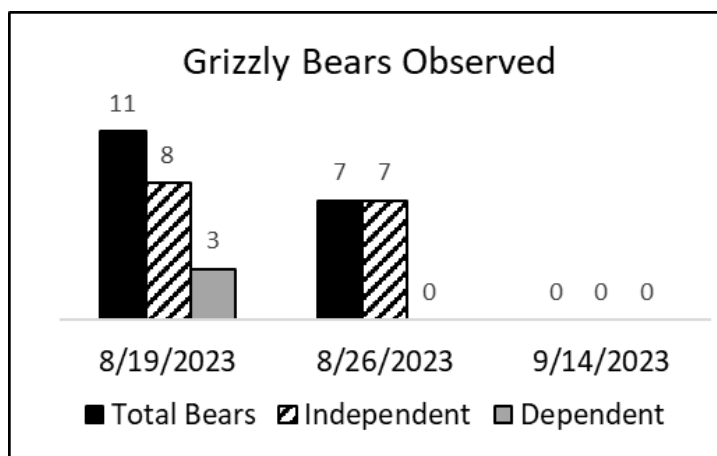


Figure 2. Grizzly bears observed at an army cutworm moth congregation site in the Scapegoat Wilderness of the Lincoln Ranger District, MT, 2023.

### 2023 Data

Surveys of the Scapegoat Wilderness moth congregation site occurred on August 19, August 26, and September 14. We counted a total of 18 grizzly bears across all surveys occurring on or in the immediate vicinity of the congregation site, with 11 bears observed on the first survey period (Figure 2). Since it was difficult to identify and track individual bears across the total survey period using our pilot methods, it is possible both unique and identical individuals comprised those observed across all periods. We classified bears as dependent or independent based on behavior, size, and spatial tolerance. Independent bears comprised the majority of counted individuals. Dependent bears (those under the care of their mother) were present on the first survey, but those bears departed sometime thereafter. We also observed an individual wolverine and thirty-one mountain goats during the survey periods. We did not detect any backcountry recreation at or near the site. There are no designated trails or routes in the vicinity, so any person at the site would need to bushwhack a considerable distance to arrive there.



# Moths and Grizzlies continued...

## Closing

I plan on modifying the methods to better account for the possibility of double-counting bears over multiple surveys and to capture initial site arrival and subsequent departure timings. We plan to survey another moth congregation site in the Bob Marshall Wilderness during the summer of 2024. MFWP bear management specialist C. White and I have discussed coordinating summer 2024 survey efforts due to shared interests and to increase capacity and site sample size. I have intentionally redacted exact site locations to detract attention to them, with the intent of limiting disturbances to bears on the sites from recreation and viewing. Such impacts have been reported elsewhere at known moth congregation sites where hiking and bear viewing activities are concurrent with site use by grizzlies. Based on calculations provided by White (1996) in his study area, a single day of lost moth foraging by displacement may cost a bear upwards of 20,000 kcal in years moths are abundant. Determining potential adjustments in arrival and departure times by bears may require long term monitoring, so present plans are to continue this work annually, although that may be contingent on funding and personnel availability. A more detailed annual report is forthcoming and will be stored at the Rocky Mountain Ranger Station. I thank MFWP bear management specialists J. Jonkel and C. White, along with L. Bouma, for their invaluable information and assistance. Lastly, I thank USFS wildlife technician K. Varga for her tireless efforts counting bears and other critters for me.

For more information about this effort, or if you're interested in assisting with field work, please contact David Kemp at the Rocky Mountain Ranger Station at [david.kemp@usda.gov](mailto:david.kemp@usda.gov) or (406) 466-5341 ext. 555-1122.

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**\*\*Much work transpired to understand the complex life history and ecology of army cutworm moths. I wish to not summarize this body of knowledge with only a few sentences in this report, so I recommend the budding entomologist further explore the following cutworm works:**

- Cooley, R. (1916). Observations on the life history of the army cutworm, *Chorizagrotis auxiliaris*. Journal of Agricultural Research 6:871-881.
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- Pepper, T. (1932). Observations on a unidirectional flight of army cutworm moths and their possible bearing on aestivation. The Canadian Entomologist 64:241-242.
- Pruess, K. and Pruess, N. (1971). Telescopic observation of the moon as a means for observing migration of the army cutworm, *Chorizagrotis auxiliaris*, (Lepidoptera: Noctuidae). Ecology 52:999-1007.



# In Case You Missed It...

## BMWF: 2022 National Wilderness Award

2022 was the 25th Anniversary of the Bob Marshall Wilderness Foundation (BMWF) (founded in 1996). To honor this anniversary and to acknowledge the work that the foundation has done over the last 25 years this nomination provides that recognition.

Although the organization was officially formed to help with trail maintenance the work that they do today spans across all aspects of wilderness stewardship to include public education, invasive species treatment, horse packing and wilderness rangers among other things.

The first volunteer projects took place in the summer of 1997, with volunteers working 2600 service days, more than doubling the season's goals and expectations.

The BMWF works to create the next generation of conservation leaders. The crews learn Leave No Trace principles and skills to become better backcountry users and take ownership of their public lands through active stewardship.

The BMWF fosters "active wilderness stewardship" by offering a range of programs to engage a diverse group of volunteers, youth, and partners, helping them to become competent backcountry users and develop a strong wilderness ethic.

GREAT EXAMPLE of DEI: In 2021, the Bob Marshall Wilderness Foundation embarked on a new type of backcountry adventure – an introductory Wilderness 101 trip for an affinity group, with the goal of improving access and building belonging in The Bob. The trip brought



*Cliff Kipp accepting the award on behalf of the BMWF*

eight BIPOC (Black, Indigenous, and People of Color) individuals into the Great Bear Wilderness where they learned the history of the area, practiced setting up a backcountry camp and hiked to the Middle Fork of the Flathead River.

Adding Affinity trips along with the other volunteer programming, like the girls on trail programs and packer apprentice program, helps to ensure access and support to communities whose members historically lack adequate access to outdoor education, recreation and/or other stewardship opportunities.



*2022 National Wilderness Award*

# In Case You Missed It...

## Flathead Rivers Alliance: National Wild and Scenic Award

Flathead Rivers Alliance is dedicated to protecting the outstanding 3 Forks of the Flathead Wild & Scenic Rivers, and has made tangible, rippling impacts in its work within the 3 years of its start up. FRA partners with the Flathead National Forest around our common mission to provide education to river visitors and stakeholders, advance stewardship initiatives, and to convene and build community around protecting the river system. Highlights include standing up a River Ambassador volunteer program offering “pop-up information stations” attuned to changing visitor use patterns and is now being replicated by other WSRs in the country; developing a WSR education plan, locally articulated Leave No Trace concepts and materials, and a Recreate Responsibly gap analysis to inform where future investments in education need to focus. FRA enabled the forest to meet its long-time goal to host a Big Sky Watershed Corps member by partnering to offer a well rounded Americorps sponsored program. FRA has also led in convening stakeholders around improving accessibility of the rivers by facilitating an accessibility evaluation/inventory and building out an action plan for future development work.

Formed by community members energized by the forest’s work on Comprehensive River Management Planning, FRA focus has been to align with the Forest Service, Glacier National Park, Montana Fish, Wildlife, and Parks, and other watershed stakeholders to steward the 3 Forks of the Flathead WSR. As an emerging leader both in river stewardship in Montana and as a model Forest Service partnership organization, FRA is an Outstanding Wild & Scenic Rivers Steward.



2023 Flathead Waters Cleanup on the North Fork of Flathead River (Glacier Rim)



2023 River Ranger Rendezvous Float Ford to Polebridge



# Updated Food Storage Order

On February 28<sup>th</sup>, 2023 Leanne Marten (Regional Forester) signed a new, updated **Food/Wildlife Attractant Storage Order** for the Northern Continental Divide Ecosystem Area. As stated in the order, the purpose is “to reduce the likelihood of a human-to-bear conflict, compromising the safety for both humans and bears.”.

Some highlights from this new order:

- The order will be in effect from March 1<sup>st</sup> to December 31<sup>st</sup> through 2028.
- “During nighttime hours, all attractants, including human, pet, and livestock food (except baled or cubed hay without additives) and garbage shall be stored in a bear resistant manner unless it is in immediate control, being prepared for eating, being eaten, being transported, or being prepared for storage, as defined herein.”
- **Attendee:** At least one adult person (attendee) is physically present within 100 feet who is awake and alert and in immediate control of attractants.
- **Attractant:** Food as defined below and garbage from human, livestock, or pet foods. Also includes items such as soft drinks, alcoholic beverages, personal hygiene products, and empty food and beverage containers.

**Take away message:** you must either have your bear attractants stored in a bear-proof manner OR be awake, alert, and in immediate control of those attractants.

**You can find the full order on the Flathead National Forest Webpage:**

<https://www.fs.usda.gov/alerts/flathead/alerts-notice/?aid=67576>





# Strong Position Based on Past Decisions

*Submitted by Mike Muñoz*

Forest Service staff from Region 1 (ALWRI & BMWC) participated in a wilderness and fire workshop hosted by the Center for Public Lands in December 2022. A Synthesis Paper regarding Prescribed Fire and Wilderness resulted and released in September 2023.

A February 2024 summary of the Synthesis Paper follows below from the Rocky Mountain Research Station's publication 'Science You Can Use' (in 5 minutes). Thanks to Clare Boerigter, Wilderness Fire Research Fellow, ALWRI RMRS for the publication.

Fortunately, the BMWC managers have long practiced working with lightning-caused fires for benefit of the landscape. As a result of our past decisions, the BMWC landscape is in a strong position to continue positive management of long-term fire and prescribed fire events in current and, hopefully, future climate conditions.

In reference to the publication, the South Fork Sun River Prescribed Fire in the Scapegoat Wilderness benefited more than the 16,000 acres treated with ignition. The prescribed fire provided the opportunity to manage lightning caused fire events that followed in the Scapegoat, including 2007, 2012 and 2021. Besides benefits to the larger landscape resulting from subsequent fire events, exposure of personnel to unnecessary risk was greatly reduced, demonstrated costs were far less, and the opportunity for useful strategies were enhanced for future decisions in the Scapegoat Wilderness.

***See the next two pages for:***

## **Prescribed Fire and Wilderness: Barriers and Opportunities in a Time of Change**





# Rocky Mountain Research Station Science You Can Use *(in 5 minutes)*

FEBRUARY 2024

## Prescribed Fire and Wilderness: Barriers and Opportunities in a Time of Change

The first fire on Earth ignited 420 million years ago. Today, our planet remains the only one that we know of where oxygen, fuels, and ignition sources—including humans—come together to spark flames. As fire historian Stephen Pyne writes, “We are uniquely fire creatures on a unique fire planet.”

Yet today, many landscapes are adversely affected by the wildfire paradox: widespread fire suppression and exclusion over the last century has increased the likelihood of high-intensity and high-severity wildfires. Many of America’s wilderness areas have been impacted by the legacy of fire suppression.

In some cases, formerly fire-adapted wilderness ecosystems are experiencing changes in forest composition and structure—more fire-intolerant tree species and small trees— and an overall increase in fuels. When fires of increased intensity and severity do inevitably burn, they are more likely to convert forests to shrublands or other vegetation types that do not resemble prefire conditions.

In December 2022, experts from land management agencies, Tribes, and organizations from across the country convened at the Wilderness and Fire Workshop in Gunnison, Colorado, to consider the dilemma posed by managing and prescribing fire within wilderness.



*In 2011, during the third phase of a multiyear effort, the South Fork Sun River Prescribed Fire burned 11,000 acres on the Scapegoat Wilderness in the Helena-Lewis and Clark National Forest in Montana. In total, the project restored fire to 16,000 acres. Photo courtesy of Michael A. Muñoz, District Ranger, Helena-Lewis and Clark National Forest.*

The results of these discussions were recently published by Western Colorado University’s Center for Public Lands in collaboration with Rocky Mountain Research Station’s Aldo Leopold Wilderness Research Institute (ALWRI).

The [synthesis paper](#) presents the threats posed to wilderness by unprecedented fire deficits as well as opportunities identified by workshop participants to help overcome barriers to using prescribed fire in wilderness.

According to Sean Parks, research scientist and ALWRI principal investigator (PI), “Prescribed fire may be necessary to restore wilderness ecosystems that are increasingly degraded by over a century of fire exclusion and the unprecedented effects of today’s wildfires.”

As workshop participants discussed, prescribed fire might be the best option to restore healthier, more resilient wilderness ecosystem conditions under the Minimum Requirements Analysis Framework. As District Ranger Michael A. Muñoz shared during the workshop, a multiyear prescribed burning project in the Scapegoat Wilderness on the Helena-Lewis and Clark National Forest in Montana was able to successfully restore fire to 16,000 acres.

Participants also underscored the need for increased support for wilderness managers. This includes expanded access to training on prescribed fire in wilderness; consistent interagency guidance and messaging; clear leadership support; and budgetary and administrative changes, including a permanent full-time fire workforce supported by stable funding, improved compensation and career development opportunities, and increased diversity and inclusivity.

According to Jonathan Coop, a PI on the project from Western Colorado University, “Many wilderness ecosystems were historically shaped by fires ignited by lightning and Indigenous peoples. Deliberately restoring fire to avoid the negative outcomes of fuel buildup and climate change-enhanced extreme burning can increase the natural qualities of these places while honoring human relationships with the land that far preceded their designation as wilderness.”



*A prescribed fire burns during the spring of 2022 in the West Elk Mountains in the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forest in Colorado. Photo courtesy of Jonathan Coop, Professor, Western Colorado University.*

## Opportunities for Prescribed Fire in Wilderness Areas

Experts at the Wilderness and Fire Workshop discussed the dilemma of managing and prescribing fire in wilderness. They developed opportunities to help overcome barriers to the use of prescribed fire in wilderness, grouped under the following themes:

1. Acknowledge Indigenous cultural burning in wilderness
2. Develop messaging about the relationship between wilderness and fire
3. Expand and formalize collaboration
4. Initiate proactive and far-reaching public engagement
5. Increase access to training
6. Create comprehensive and consistent interagency guidance and messaging
7. Build leadership support
8. Implement budgetary and administrative change

## Further Reading

Miller, Carol. 2006. [Wilderness fire management in a changing world](#). International Journal of Wilderness.

Aplet, Gregory H. 2006. [Evolution of wilderness fire policy](#). International Journal of Wilderness.

[Prescribed Fire and U.S. Wilderness Areas: Barriers and Opportunities for Wilderness Fire Management in a Time of Change](#). Synthesis Report by Center for Public Lands: Western Colorado University and the Aldo Leopold Wilderness Institute. September 2023

## Scientists and Manager

**Sean Parks** is a research ecologist with the USDA Forest Service Rocky Mountain Research Station at the Aldo Leopold Wilderness Research Institute. His research interests include fire-climate relationships, altered fire regimes, and post-fire successional trajectories.

**Jonathan Coop** is professor of environment and sustainability at Western Colorado University.

**Michael A. Muñoz** is the Rocky Mountain district ranger for the Helena-Lewis and Clark National Forest.

The Rocky Mountain Research Station is one of seven units within USDA Forest Service Research & Development. RMRS maintains 14 field laboratories throughout a 12-state geography encompassing parts of the Great Basin, Southwest, Rocky Mountains, and the Great Plains. While anchored in the geography of the West, our research is global in scale. RMRS also administers and conducts research on 14 experimental forests, ranges and watersheds and maintains long-term research databases for these areas. Our science improves lives and landscapes. More information about Forest Service research in the Rocky Mountain Region can be found here: <https://www.fs.usda.gov/research/rmrs>.

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# Spotted Bear Ranger District: Sabado Cabin Restoration Project

By: Caleb Fosse, *Spotted Bear Ranger District*



## Sabado Cabin before (left) and after (right) 2023

*Disclaimer: This document is intended to be a brief synopsis of the work completed and not a technical manual for how to complete this type of work. Every cabin restoration project is different, and we did what we could given the location, materials available, and time constraints. For technical details regarding cabin restoration, I recommend finding a copy of the Region 1 Historic Preservation Crew's publication titled "Dovetails & Broadaxes: Hands-on Log Cabin Preservation."*

## Background

Sabado Cabin is located in the Bob Marshall Wilderness on the headwaters of the Middle Fork of the Flathead River. It is one of several administrative backcountry cabins on the Spotted Bear Ranger District of the Flathead National Forest. The cabin is primarily used by the trail crew based out of Schafer Meadows Work Station 21 miles to the west. In addition, it is occasionally utilized by Montana Fish, Wildlife, and Parks game wardens on patrols, fire crews, partners, and volunteers.

Sabado Cabin has an interesting history as it is the only cabin on the Spotted Bear Ranger District that was not built by the US Forest Service. To our knowledge, it was built by two brothers from the Choteau/Dupuyer, MT area who had a grazing lease in Big River Meadows just to the east of the cabin and the surrounding country. They built the cabin prior to the 1920s and had abandoned it by the 1930s. It was then used by various hunters and outfitters as shelter over the years before officially becoming an administrative cabin.

*(Continued on next page...)*



## Sabado Cabin Restoration *continued...*

### Planning & Pre-Construction

In August of 2022, two Spotted Bear Ranger District employees, Carlos Florey and Caleb Fossee, hiked in the 16 miles from Swift Dam to inspect the extent of the damage and begin a work-plan for the following summer. It was decided that the cabin would need at least five sill and spandrel logs replaced, likely all the floor joists for both the cabin and the porch, and new floors installed inside and out. The cabin would need to be jacked up and set back down on a more appropriate foundation to slow any future sinking and settling. In addition, the employees identified rotten purlin ends (roof rafters) and various other finishing work that would need to be completed.

Over the fall and winter of 2022-2023, the employees met with Flathead National Forest archaeologists and heritage team, and the Region 1 Historic Preservation Crew to discuss the scope of work and begin planning the best course of action. The Flathead National Forest heritage team was able to secure \$6,000 worth of funding for materials and tools. The two Spotted Bear employees would spearhead the bulk of the work with intermittent help from a Montana Conservation Corps (MCC) crew and the Schafer Meadows trail crew. Work at the cabin was to begin in the middle of July 2023 and ideally wrap up by the end of August. During the fall of 2022, the Schafer Meadows trail crew dropped several trees and peeled the logs so they could cure off the ground during the winter in anticipation of using them to replace the rotten logs the following year.

Prior to any construction beginning, intensive logistics for getting tools, material, food, and people deep in the woods had to be planned. Because of the remote location in a designated Wilderness Area, anything needed for this project had to be packed in on mules from either Swift Dam 16 miles to the east or Schafer Meadows Work Center 21 miles to the west. The district employed the help of the Ninemile Remount packstring to pack in the majority of the 44 bags of concrete needed and all the personal gear and food needed for the district employees and the MCC crew on 7/18/2023. Prior to that other tools and material were flown into Schafer Meadows and then packed 21 miles up-river from there to the cabin.

### Construction

On 7/19/2023 Carlos, Caleb, and the MCC crew began work. First, they stripped the cabin of all furnishings and set up a temporary shelter in a wall tent to keep everything safe from the elements and provide an "indoor" kitchen for the month and a half that the cabin would be under construction. Next, they ripped out the cabin and porch floor and floor joists (or what was left of them). Once the floor was removed they were able to start digging underneath the cabin walls and further inspect the amount of rot.

*(Continued on next page...)*



## Sabado Cabin Restoration continued...

Over the years, the cabin was slowly sinking further and further into the clay-like soil that it was constructed upon. This had caused major structural concerns as the bottom logs (called sills and spandrels) and floor joists rotted away. The rot had become so severe that floor was sitting directly on the soil in spots and was no longer solid. The porch suffered the same ailments and due to the shifting of the cabin floor and porch floor the door of the cabin had become nearly impossible to open. Although a new roof had been put on in the last 20 years, the cabin was in major need of some repairs from the ground up.



*Sabado Cabin's West side. First spandrel log is completely underground, second spandrel log is half buried.*



*Sabado Cabin's North side. First sill log was completely rotten, second sill log had enough dry rot to require replacing.*



*East side, showing porch floor completely below grade and rotten.*

*(Continued on next page...)*



## Sabado Cabin Restoration continued...

Once the extent of rot in the sill and spandrel logs had been identified, the crew began digging and leveling holes for jacking the cabin and pouring new footers for a foundation. In total there would be 12 new footers: one for each corner of the cabin & porch, one at each mid-span, and one in the center of the cabin for the floor joists. The footers were formed at 2'x2'x6" deep. To jack the cabin up off the ground, the walls were sandwiched between two 2x6s with  $\frac{3}{4}$ ' all-thread bolts ran between the logs at intervals. The 2x6 and all-thread combination are called "whalers." The screw jacks were then placed underneath the 2x6s and lifted the cabin at once. In total, 8 screw jacks and one handy-man jack were used. As the cabin went up, it was important to add blocking underneath the logs for more support.



*Holes for concrete footers and jacking locations are partially excavated.*



*Whalers for jacking the cabin are installed.*



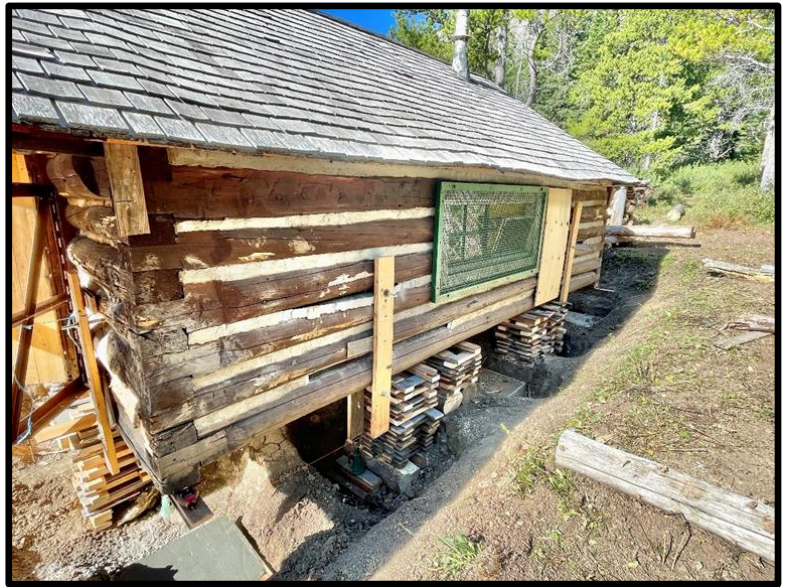
*Interior of cabin during jacking process showing new concrete footers poured.*

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## Sabado Cabin Restoration continued...

To get the cabin to the desired height above grade and level on all four corners, the following process was used. The crew measured down one foot from the eaves in all four corners. Then, using a laser level and detector, the crew measured the one foot mark and found which corner of the cabin was the highest. To start, they jacked the rest of the cabin up so that the other three corners were at the same height as the highest corner. Once the cabin was at this height, there was enough clearance to begin removing the rotten sills and spandrels. Next, the crew would begin shaping the joints on the new logs and installing them.



*Cabin is jacked up and leveled, and two rotten sill logs from the north side have been removed.*



*Two rotten spandrel logs removed from the west side of the cabin (left) and one rotten sill log removed from the south side (right). We would later determine there was enough rot in the second sill log on the south side to warrant complete replacement as well.*

*(Continued on next page...)*



## Sabado Cabin Restoration continued...



*Interior picture depicting two logs replaced on each the north and west sides.*

After all eight logs were replaced, the cabin was jacked up even more to get it further off the ground and allow plenty of space beneath for proper ventilation. During the excavation process large concrete blocks used as footers for the cabin were discovered in each corner. These were used on top of the freshly-poured footers to get the cabin even higher off the ground. Once the cabin was leveled and lowered on its new foundation, local rock was hauled and mortared into place to create a façade foundation.



*All sill and spandrel logs replaced and rock work begins.*



*View from northeast showing replaced logs and rock foundation installation in process.*

*(Continued on next page...)*



## Sabado Cabin Restoration continued...

After the foundation rock and vents were mortared into place, it was time to begin shaping and installing floor joists. The way this cabin's floor was constructed was by laying four logs around the perimeter of the cabin on the interior of the sills and spandrels. These "rim" joists were attached to the sills and spandrels and rested on the same footers. The rim joists and stringer joists to go between them were notched, fitted, and hewn flat on top in preparation for the subfloor.



*Floor joist construction.*

*(Continued on next page...)*

## Sabado Cabin Restoration continued...

While some employees worked on the cabin floor, others began excavating a series of ditches to help divert water away from the cabin and slow the sinking. Starting in the northwest corner - the high side - a ditch was dug to the east and south following the two natural fall lines of the landscape. Then a second ditch was dug around the entire cabin, again draining to southeast corner and following the natural fall-line. In this second ditch a 3" perforated drainpipe was installed, and then covered with gravel and filter cloth to create a French drain. All the gravel had to be collected about a half-mile away, loaded on to mules, then sifted and rinsed on site at the cabin before being put over the perforated pipe.



*This picture shows the 1<sup>st</sup> tier ditch, 2<sup>nd</sup> tier French drain, and porch joists all under construction.*



*Schafer Meadows trail crew members paint the interior of the cabin before the flooring is installed.*

Finally, the crew put some finishing touches on the cabin. The new tongue-and-groove flooring was installed and trimmed, the exterior of the cabin was stained and oiled, the daubing (sometimes called chinking) was completed, the windows and window grates were painted, a new door jamb and threshold were installed, porch posts were installed, a new kitchen counter was built with leftover flooring. Intermittently the crews worked on side projects, such as building a new woodshed, a new hitch rail, fixing the saw buck, building a new hearth for the wood stove, and digging a new outhouse hole. There is still some more gravel to be hauled to finish filling in the French drain, and we ran out of time to complete the work on the rotten purlins, but overall we a huge amount of work completed in six short weeks, and the final product looks great Unfortunately, the last night there was very rainy which made for some muddy final photos, but the French drain was observed in action and appeared to be working well.

*(Continued on next page...)*



## Sabado Cabin Restoration continued...

The following is a list of all the work completed. In total, this project required 104 mule loads and around 2,500 man hours over the course of 45 days.

- 8 rotten sills and spandrels replaced
- 12 new concrete footers poured
- 15 rotten floor joists and 9 rotten porch floor joists replaced
- Rock foundation with ventilation installed
- Subfloor and floor installed
- Porch floor installed
- Exterior daubing and interior chinking replaced
- Proper drainage installed
- New woodshed constructed
- New hitch rail constructed
- New outhouse hole dug
- New kitchen counter built
- Interior of cabin painted
- Windows and window grates painted
- Exterior of cabin stained and oiled
- New hearth constructed



*Caleb Fossee (left) & Carlos Florey (right) of Spotted Bear Ranger District pose in front of the finished project before hiking out on 8/31/2023.*

This project would not have been possible without all the hard work from the following individuals:

- Carlos Florey (temporary SBRD employee)
- Caleb Fossee (Backcountry Facilities Maintenance SBRD)
- Robin Connell & Aidan Kloetzel (Ninemile packers)
- Che Roussel (Schafer Meadows packer)
- Jeremy Rust (SBRD packing support)
- Boone Jones (volunteer packer)
- Grey Tettleton, Calvin Walter, Ben Brownell, Brayden Bybee, Jack Barta, Andrew Stewart (MCC Crew)
- Em Stadvec, Alexis Gioia, Maria Makman, Tara Brennan, Lauren Ulrich, Vic Winch, PJ Benson, Teppei Fujimoto, Danny Drummond, Grant Hillman, Adam Wood (Schafer Meadows Crew)
- Mike Reavis (packing support SBRD)
- Kevin Benevides (packing support SBRD)
- Andy Nelson (consulting & logistical support SBRD)
- Rich Owens (logistical support SBRD)
- Paul Donnellon (administrative support SBRD)
- Ryan Powell (Flathead National Forest archaeologist)
- Cathy Bickenhauser (Region 1 Historic Preservation Crew)



# Bob Marshall Wilderness Complex

## NATIONAL FORESTS

### Helena - Lewis and Clark NF

Helena, MT 59602  
(406) 449-5201  
Forest Supervisor: Emily Platt  
Deputy Forest Supervisor:  
Molly Ryan

### Flathead NF

Kalispell, MT  
(406) 758-5208  
Forest Supervisor:  
Anthony Botello  
Deputy Forest Supervisor:  
Tami Mackenzie

### Lolo NF

Missoula MT  
406-329-3750  
Forest Supervisor:  
Carolyn Upton  
Deputy Forest Supervisor:  
Jeremy Casterson

## DISTRICTS

### Rocky Mountain RD

(406) 466-5341  
District Ranger:  
Mike Munoz  
[michael.munoz@usda.gov](mailto:michael.munoz@usda.gov)

### Hungry Horse-Glacier View RD

(406) 387-3800  
District Ranger:  
Rob Davies  
[robert.davies@usda.gov](mailto:robert.davies@usda.gov)

### Seeley Lake RD

(406) 677-2233  
District Ranger:  
Quinn Carver  
[quinn.carver@usda.gov](mailto:quinn.carver@usda.gov)

### Lincoln RD

(406) 362-7000  
District Ranger:  
Jim Yarbrough  
[james.yarbrough@usda.gov](mailto:james.yarbrough@usda.gov)

### Spotted Bear RD

(406) 758-5376 (summer)  
(406) 387-3800 (winter)  
District Ranger:  
Adam LaDell  
[Adam.ladell@usda.gov](mailto:Adam.ladell@usda.gov)

## Website

<https://go.usa.gov/xd6pU>



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