

# SELWAY-BITTERROOT AND FRANK CHURCH-RIVER OF NO RETURN WILDERNESS FIRE SCIENCE



## Workshop Summary 4 | June 2023

The Selway-Bitterroot Wilderness and Frank Church-River of No Return Wilderness Fire Science Workshop addressed issues including post-fire effects, prescribed fire, aquatic systems, fire messaging, and the social issues around fire in the wilderness. Day one of the workshop consisted of speaker presentations, breakout group discussions, and prioritizing research needs. Over 40 participants then traveled out to the historic Magruder Ranger Station for a soggy cookout and night of camping. The second day field trip allowed participants to explore recent wilderness burns and included lively discussions about fire effects and the barriers and opportunities for wilderness fire management. Video recordings of the presentations are available at the NRFSN [event page](#) (full address at bottom of page).

## Speaker Presentations

- *Wilderness, fire, and science!* - Sean Parks, Aldo Leopold Wilderness Research Institute
- *Recent wilderness fire in SBW-FCRNRW* - David Fox, District Fuels Specialist, West Fork Ranger District, Bitterroot NF
- *Fire effects on aquatic systems* - Lisa Eby, University of Montana
- *Post-fire tree regeneration under a changing climate* - Kimberly Davis, USFS Missoula Fire Lab
- *How does post-fire climate impact long-term forest development?* - Mark Krieder, University of Montana
- *Could prescribed fire untrammel wilderness? Barriers and opportunities for an era of change* - Jonathan Coop, Western Colorado University

Event webpage: <https://www.nrfirescience.org/event/selway-bitterroot-wilderness-and-frank-church-river-no-return-wilderness-fire-science>



## Breakout Group Discussion Points

### Wilderness fire decision making:

- Managed fire for resource benefit is pre-decisional- i.e. we don't know the outcome.
- Asking before acting, why should we put this fire out? Or, why suppress/protect?
- Messaging and terminology are difficult, terms like "monitor" or "resource benefit" might have unwanted connotations.
- Need to infuse early career fire personnel with a sense of fire management and grounding in fire ecology, get away from the culture of fire fighting.

### Cultural burning in wilderness:

- Challenges include building trust, creating partnerships and collaboration, and addressing legal questions or limitations on implementation.
- Openness to learning and changing perspectives (within agencies) can be limited.
- Training or professional development can help moving forward.
- Include the public early in the process and encourage public engagement to build support.
- Foster open conversation and collaboration with tribes from the start.

### Fire effects on terrestrial & aquatic systems:

- Is it possible to have too much fire and will frequent fire push things over the edge?
- Multi-layered issues including climate change, invasive species, type conversion, etc.
- Different areas can be managed in different ways and explicitly laying out values will help guide priorities.
- Both a social and scientific problem that requires more research and evaluating social need.

### Wilderness fire messaging:

- Wildfire is promoted as a disaster/crisis, it is difficult to come up with appropriate descriptions and terminology.
- Aim to define terms for the public, when we say “monitor,” what does that actually mean?
- Need more bottom-up input in the system, there is a messaging breakdown between the Washington office and forest level.
- Lack of staffing capacity makes adequately addressing public and communicating about each fire more challenging.
- Fostering relationships at a local level and engaging one-on-one is effective.
- Focus more on educating the public on progress and impacts of managed fire.
- Capitalize on the window of opportunity for messaging after a recent fire event, the public is more receptive then.

### Prescribed fire in wilderness:

- Hard to get approval for prescribed fire in wilderness and public only wants suppression.
- Perception is that Rx fire is prohibited in wilderness and introducing it will be “trammeling.”
- Difficult to know where and how to prioritize for wilderness Rx fire.
- Strong risk aversion in agency administration can only be overcome through experience.
- More education, training and experience with Rx fire and decision-making in the wilderness is important.
- Communicate success and shift ideas around the philosophy of burning in wilderness.

### Wilderness fire & climate change:

- Increasing intensity and severity makes managing wilderness fires more challenging.
- Administration and policy can impede fires from being allowed to burn in wilderness.
- Public perception of agencies, smoke and fires can be negative.
- Focus on proactive messaging and communication catered to the general public.
- Allow more fires to burn in moderate weather years.
- Wilderness is great place to study effects of climate change.





### Wilderness fire effects on recreation:

- Wilderness fire can impact the recreation economy (e.g. outfitters and tourism).
- Prioritize frequent and proactive communication about fire with outfitters and other user groups.
- Post-fire trail clearing and repair is a long-term challenge.
- Explore opportunities to use funding sources like Burned Area Emergency Response (BAER) to fund trail clearing for longer time periods.
- Tailor messaging so recreation impacts from fire don't perpetuate the "fire is bad" paradigm.

### Field Trip Discussion Points

- Managers have invested over 50 years into wilderness fire in the FCRNRW and SBW and that progress needs to be carried forward.
- The 2013 Gold Pan fire was thought of as a crisis and catastrophe by some at the time, but it has bought time and space for managing fires in the area since 2013.
- Workforce development and recruitment within the Forest Service is an ongoing challenge, especially as it relates to retaining and building experience managing wilderness fire.
- Risk, seasonality, and timing of ignition are just a few of the complexities fire staff think about when managing wilderness fire.
- Managers are seeing both desirable and undesirable effects from reburns in wilderness: changes in landscape heterogeneity, reduced

future fire behavior and spread, and conversion from forest to shrub or grassland (and non-native species) in some reburns or in hot and dry settings.

- Post-fire trail reconstruction, clearing, and maintenance are long-term issues that require increased staffing and/or assistance from technically skilled partners.
- Overall, there has been success in restoring fire regimes in the FCRNRW, SBW, and other large wilderness areas. These stories need to be shared.

### Additional Reading and Viewing

Berkey, J.K., C. Miller, A.J. Larson. 2021. **A history of wilderness fire management in the Northern Rockies**. RMRS-GTR-428. Fort Collins, CO: <https://doi.org/10.2737/RMRS-GTR-428>

Jaffe, M.R., M.R. Kreider, D.L.R. Affleck, P.E. Higuera, C.A. Seielstad, S.A. Parks, A.J. Larson. 2023. **Mesic mixed-conifer forests are resilient to both historical high-severity fire and contemporary reburns in the US Northern Rocky Mountains**. *Forest Ecology and Management* 545: <https://doi.org/10.1016/j.foreco.2023.121283>

Kreider, M.R., M. Jaffe, J. Berkey, S.A. Parks, A.J. Larson. 2023. **The scientific value of fire in wilderness**. *Fire Ecology* 19:36. <https://link.springer.com/article/10.1186/s42408-023-00195-2>

Mahlum, S.K., L.A. Eby, M.K. Young, C.G. Clancy, M. Jakober. 2011. **Effects of wildfire on stream temperatures in the Bitterroot River Basin, Montana**. *Internl. Journ. of Wildland Fire*. 20(2): 240-247. <https://doi.org/10.1071/WF09132>

Video: **Evolution of Wilderness Fire in the Northern Rockies: From Fire Control to Fire Management**: <https://www.nrfirescience.org/resource/23922>

Video: **The Benefits of Hard Decisions: Applying Lessons from Wilderness Fire**: <https://www.nrfirescience.org/resource/21557>

Editors: Ella Hall and Cory Davis, University of Montana



## Research Priorities

An initial set of research priorities were posted around the room on the first morning, divided into six categories: 1. Barriers to wilderness fire management; 2. Role of prescribed fire in wilderness; 3. Role of Indigenous burning in wilderness; 4. Climate change and fire; 5. Fire effects beyond vegetation; 6. Other research needs. Throughout the day, workshop participants were encouraged to generate needs or questions under these topics and add their own topics. At the end of the day, everyone was given five stickers to vote on their priorities. The ten questions or issues with the most votes are shown below (all other topics received fewer than five votes).

Topic	Votes
Social science research on public support/opposition for wilderness fire	22
When and where is prescribed fire [in wilderness] needed to restore natural fire cycles?	22
Fire messaging for social buy-in	18
How will climate change impact fire regimes/effects in wilderness?	17
How to build a cultural burn program in modern wilderness?	16
How to effectively and respectfully collaborate with tribes on cultural burns in wilderness	9
How to prioritize wilderness prescribed fire: in wilderness or closer to values at risk?	9
Possible ties of fire in wilderness to the wilderness experience	8
Barriers to wilderness fire in small wilderness or those without established wilderness fire programs	8
Research on frequency and timing of historical cultural burning	6



The Northern Rockies Fire Science Network (NRFSN) serves as a go-to resource for managers and scientists involved in fire and fuels management in the Northern Rockies. The NRFSN facilitates knowledge exchange by bringing people together to strengthen collaborations, synthesize science, and enhance science application around critical management issues.