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## **Research Brief for Resource Managers**

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# **Community Conversations: Applying Traditional Knowledge to Fire Management and Research**

*Lake, Frank K., Vita Wright, Penelope Morgan, Mary McFadzen, Dave McWethy, and Camille Stevens-Rumann. 2017. Returning Fire to the Land: Celebrating Traditional Knowledge and Fire. Journal of Forestry 115(5):343-353. <https://doi.org/10.5849/jof.2016-043R2>*

In many ecosystems worldwide, fire plays a critical role as a natural disturbance that influences landscape pattern and function. The effects of fire disturbances at landscape levels are central to many tribal cultures in North America, and tribes extensively used fire to enhance valued resources and habitats. The implementation of cultural burns occurred for a variety of reasons at different locations, different frequencies, and in different seasons. Cultural fire regimes historically varied across North America and differed from natural fire regimes, as people influenced when, where, and how fires burned.

Today, many tribes wish to use traditional knowledge (TK) and cultural burns in a contemporary setting to address issues of wildland fire and fuel management that have risen as a result of fire suppression policies. Here, the term TK is used in place of “TEK”, or traditional ecological knowledge, as TK is a more inclusive term that covers all aspects of how a tribe interacts with specific ecosystems. A variety of constraints prevent TK from being used. In a series of two workshops held in Montana in 2012 and 2014, discussions among a diverse

### **Management Implications**

- Both traditional knowledge (TK) and western knowledge (WK) should be viewed as valuable resources when making management decisions about wildland fire and fuel management.
- Tribal burning partnerships can be used in a modern context to achieve multiple resource objectives.
- To facilitate collaboration between TK and WK, there must be a focus on improved communication and relationships among tribal and non-tribal land managers and researchers.
- Communication should be culturally sensitive and respectful to traditions and the sensitivity of information shared.

community of tribal and nontribal managers, scientists, and students explored some of these constraints. The authors use this paper to highlight some challenges and solutions in applying TK and western knowledge (WK) to current approaches of wildland fire, fuels, and natural and cultural resource management.

## Workshop Results and Discussion

TK and WK both have opportunities to be used collaboratively in order to inform a more holistic approach to fire management practices and goals. These opportunities include: reducing hazardous fuels, reintroducing fire to landscapes in a culturally-sensitive way, mitigating effects of climate change, maintaining research objectives, and preserving cultural landscapes. Land managers may also wish to work with tribal governments and communities to protect designated culturally-significant sites, restore heterogeneity increase forest resilience, and achieve sociocultural objectives.

### *Collaborative Work*

Many workshop attendees emphasized the importance of including tribal members in the development or creation of collaborative management plans. To truly create a collaborative plan, a more inclusive process that goes beyond the requirements of a federally-mandated consultation is needed. To facilitate collaboration between land managers, workshop participants emphasized the importance of increasing and improving communication between:

1. Tribes and federal agencies
2. Disciplines within agencies
3. Tribal land managers and tribal members

It was stated that effective communication can be enhanced through:

1. Active listening
2. Transparency
3. Accountability
4. Trust
5. An understanding of the culture and goals of those affected by management decisions and actions

Of the above factors, fostering an understanding of how to work within TK may be the most novel for many WK users. For example, sharing information within TK can come with additional responsibilities and restrictions. It should be understood that project goals may need to adapt to changes in cultural importance within localized sites. Using GIS mapping software can increase the ability to share general area information without disclosing sensitive locations of cultural resources.

### *Fuels Reduction Strategies*

Residential communities are often areas of focus for fuel treatments. Workshop participants emphasized the need to consider ways that cultural resources, such as plants and habitats, can be promoted by fuel reduction strategies.

### *Wildland Fire Management*

To meet wildfire and local land management objectives across all jurisdictions, the authors recommended increasing communication, planning, education, and funding for wildland fire management.

Increasing communication should emphasize the importance of protecting particular cultural values or at-risk resources when managing wildland fires. Communication about TK should focus on both the establishment of relationships and the use of TK in ways that are respectful to, and inclusive of, tribal traditions and cultures.

Increasing education about TK in regards to fire can be done by engaging tribal youth in discussions about TK and encouraging youth to enter professional natural resource positions. A need to improve community awareness and education about fire-related issues was also emphasized. Finally, desire for more funding to support culturally prescribed fire was expressed by many workshop participants.

### *TK and WK in Research*

When there is a basis of mutual trust and respect built on open communication, collaboration between researchers and tribes can be both an effective and rewarding way of exchanging information. To achieve this, there must be inclusion of all relevant stakeholders and disclosure of the implications of the research on a site. Issues of data ownership and access must also be discussed, as it is important to ensure that the intellectual property rights of the tribes are respected when using TK.

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