

Investigating opportunities for UBC to support cultural burning as a community-led climate solution in the Okanagan Valley, British Columbia

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Summary

This research project for the Solutions Scholars Climate Collective was conducted as a supplement to my existing PhD research that investigates the impact of prescribed fire on biological soil crust and microbial communities in the Okanagan Valley, British Columbia. Intentional use of controlled low-intensity fire is widely accepted as an important tool for reducing the risk of catastrophic wildfires, and their subsequent carbon emissions, especially in fire-adapted ecosystems such as the Okanagan Valley of British Columbia. Prescribed fire is the settler use of intentional fire for land management objectives, whereas cultural burning is the Indigenous cultural practice of intentional fire for cultural values in addition to land management objectives, which includes for traditional plants, medicines, animal habitat, and overall ecosystem restoration. Both prescribed fire and cultural burning can be considered climate solutions as they reduce the risk of wildfire and the impacts of climate change and can also be carried out at a local scale, directly impacting the climate resilience of rural and Indigenous communities. This research project sought to investigate the barriers that a specific community in the Okanagan Valley faces to implementing cultural burning for cultural revitalization, ecological restoration, and climate resilience within government-managed protected areas that have historically had limited collaboration with First Nations. The second aim of this research project was to initiate a collaboration between UBC and the community, which includes both Indigenous and settler members, to understand how UBC can support community-led initiatives for ecosystem restoration, cultural revitalization, and climate resilience through long-term research partnerships.

Introduction

Catastrophic wildfires have become increasingly prevalent in recent years, especially in Southeastern British Columbia where increase fire activity has been observed due to lightning and an observed fire deficit compared to pre-colonial fire regimes (Baron et al. 2022). This region has been characterized in pre-colonial times by low to mixed-severity fire at a moderate to high frequency (McKinney 2019), both from natural lightning ignitions and from Indigenous fire stewardship and cultural burning (Daniels 2014; Lake and Christianson 2019; Hoffman et al. 2022; Baron et al. 2022). Fire is an integral part of these ecosystems, and is considered to be an active agent and being in the world by many Indigenous peoples (Cruikshank 2007, Baker 2021; Cardinal Christianson et al. 2022). However, after Indigenous burning was outlawed in British Columbia with the Indian Act, colonial fire suppression and subsequent forest expansion in density and cover converted many grasslands and open woodlands into more dense forest cover, resulting in conditions that sustain more intense crown fires over less intense surface fires that have characterized these ecosystems historically (Taylor et al. 2008; Daniels 2014; Heyerdahl et al. 2012; Marcoux et al. 2013; Dickson-Hoyle 2022). For this reason, cultural burning as a climate solution has potential to both improve fire resilience and climate resilience for these fire-prone communities, but also to restore habitat through revitalization of cultural practices and connection to place. This project involved collaborations with one community in the Okanagan Valley to understand how UBC can support community-led initiatives for climate resilience.

Approach

This project was started as a complement to my existing PhD research, which analyzes the effects of prescribed fire on soil microbial communities and biological soil crust in the Okanagan Valley, BC. The project sought to answer the following questions:

- What are the barriers to cultural burning in the Okanagan Valley?
- What are the community priorities in terms of ecological management and fire resilience?
- What kinds of policies are needed to implement cultural burning as a community-led climate solution?
- How can UBC support community priorities and initiatives?

The research approach began with informal communications with existing connections of the PI with a few key community members around areas of potential interest for research collaborations. I also attended workshops, community gatherings, other community events, and informal dinners to begin the relationship-building process and hear about key concerns in the community. This has been the first step in establishing research partnerships with community members and this is an ongoing process that focuses on building collaborative networks for mutually-beneficial research between UBC and communities in the Okanagan Valley. The intention of this research was to be process-oriented rather than results-oriented to allow for the collaborative process to unfold organically without pressure for participation or collaboration and to ensure all research efforts have the best interests of the community in mind with co-created, mutually-beneficial research objectives. Understanding community research priorities is essential for building long-term research collaborations and providing pathways for future students to be involved in meaningful research in this area.

Results

The results of this project are part of a larger ongoing collaborative research process. Even so, many barriers to cultural burning as a climate solution, and collaborative management in general, have been elucidated. These include lack of trust between First Nations and government agencies, lack of capacity among Nations to be involved in the many projects where their participation is requested, and significant policy barriers, which has been well-documented by previous research as well (Hoffman et al., 2022). Throughout this process, I also learned about specific knowledge gaps established by the community that can inform future research with potential to provide valuable information for the success of future ecological restoration efforts and provide necessary resources to support cultural burning practices for restoration of these fire-adapted ecosystems. There is limited information about how this particular ecosystem, which is the red-listed antelopebrush and needle-and-thread grass ecosystem, responds to fire (Iverson, 2012). This provides the foundation for guidance for a direction for my future research, in addition to future projects that can be conducted at UBC. The next step is a literature review to investigate the effects of fire at varying severities on antelopebrush ecosystems, which can provide important information to land managers when managing for health of antelopebrush ecosystems and for climate resilience for their communities.

Conclusions

A primary objective of this research project was to assess what the barriers are to Indigenous involvement in prescribed and cultural burning at conservation areas in the Okanagan Valley, which appear to be similar to barriers to Indigenous engagement and meaningful collaboration in land management more

generally across the province. This includes institutional barriers around engagement, limited capacity among Nations to be involved, differences in land management objectives and worldviews, resistance to devolution of agency to First Nations regarding natural resource management, and a need for building trust and meaningful long-term collaborations from project conception. The results of this project have elucidated some of the barriers to collaborative management and decolonization of forest management, which are mainly institutional and epistemic. These barriers are fundamental to and implicit in colonial knowledge systems and institutions and need to be addressed at multiple levels. Valuing Indigenous knowledge systems and meaningful inclusion of this knowledge in decision-making processes is imperative for future success of reconciliation and decolonization efforts, as well as the success of climate solution initiatives at a local scale to provide benefits to the people who are most impacted by climate change.

Implications

The implications of these findings are that decision-making processes regarding land management and climate solutions must be inclusive of local communities and knowledge systems to be both effective and sustainable. A conservation partnership organization in the Okanagan has documented priorities for research in this area and suggestions for meaningful engagement and incorporation of Indigenous worldviews into conservation projects, which can be applied to climate solutions as well, especially in the context of cultural burning for ecological restoration and fire resilience. One Indigenous participant in the survey conducted by this organization articulated the challenge of incorporating Indigenous worldviews succinctly: “The way you make decisions based on Indigenous world view is quite different – in western law: humans get to dictate, but in Indigenous law: animals/land make the rules and humans follow. The biggest challenge in reconciliation is deeply understanding that the origin of the laws is almost reversed” (Tapestry, 2022). This ties into the significance of climate justice for these communities, which encompasses addressing unequal impacts and building resilience for human and non-human members of the ecosystem (Tapestry, 2022). For climate solutions to be effective at a local scale, they must necessarily be community-led and promote equity for human and non-human beings.

Recommendations

- First Nations communities should be more involved in land management decision-making processes, that go beyond consultation but rather in significant and meaningful ways according to their desire and capacity for involvement.
- Community-established protocols for engagement and collaboration between First Nations communities in the Okanagan and government, academic, private, and non-governmental agencies is recommended as appropriate for each community
- Understanding community priorities and objectives is recommended for future projects so that research can align with community interests from project conception in the case of limited capacity for direct involvement
- Decentralization of land management from governmental agencies to local organizations in partnership with First Nations communities can support equitable and inclusive management policies, revitalization of cultural practices and connection to place, and more successful climate solutions that will be sustainable in the long-term

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