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Research Brief

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Wildfire Mitigation in the Island Lake Region

The worldwide trend for wildfires is that they are getting bigger, occurring more often, and causing larger impacts than ever before. Annually, and as recently as 2024, wildfires in Manitoba have burned close to and threatened remote First Nations such as those in the Island Lake Region, or ILR (Hobson, 2021; Kemp, 2022; Sinclair, 2024; Ringos, 2024). The threats of wildfires have necessitated evacuations, compromised supply of power, damaged homes, destroyed the environment, and threatened people's lives. Wildfires disproportionately affect First Nations communities because of their remoteness, isolation in fire-prone areas, and limited access to emergency response services (Mihychuk, 2018; Hoffman et al., 2022; Zahara, 2020). Consequently, this research answers the questions: *For the First Nations in the ILR, what mitigation opportunities can interested parties take to increase resilience of the Nations against wildfires while balancing traditional wildfire mitigation techniques with post-colonial wildfire mitigation techniques to increase resilience to wildfires and what challenges might they face when doing so?*

Successfully achieving wildfire resilience for the First Nations in the ILR will result in less impacts from wildfires, reduced likelihood of fires travelling into the community, and less likelihood for evacuations being required. Attaining wildfire resilience will require a systems-based approach which has social, environmental, economic, and structural components. This research focuses on built and natural world wildfire mitigation, and because of the uniqueness of the region, the challenges involved in attaining resilience, and the interested parties that would be required to meet those challenges. A critical appraisal was conducted of available secondary data such as industry and government reports, academic research, and research from sources such as media reporting for potential solutions or components of solutions.

This research resulted in identification of wildfire mitigation options to both the built and natural worlds in and around the First Nations. Those options include fireproofing of homes, vegetation management in and around the First Nations, the need for the Nations to re-establish Indigenous Fire Stewardship (IFS) in their and safeguard their communities against wildfires and the need for ongoing maintenance, lest advances in resiliency atrophy. To attain resilience, engagement of a diverse group of interested parties ranging from the citizens of the ILR First Nations (ILRFNs), to their leadership, to both the Governments of Manitoba and Canada as well. Research also identified challenges that could be encountered by the First Nations in the ILR in their journey to wildfire resilience.

Ultimately, this research provided clear insight into how the ILR First Nations could approach becoming resilient to wildfires but also the challenges they may encounter while doing so.

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Structured Abstract

Introduction: For remote First Nations, wildfires can result in damaged or destroyed homes, outages to critical infrastructure including power and telecommunications, and require evacuations which have their own negative consequences such as trauma, being the target of racism, domestic violence, or even suicide (Asfaw et al., 2019; McGee, 2021; Office of the Auditor General of Canada [OAG], 2022; Public Health Agency of Canada [PHAC], 2024). With this in mind, the following research is a review of mitigation methods, that when implemented, would increase wildfire resilience for the First Nations in the ILR and associated challenges with implementation. Mitigation methods and options were evaluated in their current form with current constraints to recommend a course of action that the ILR First Nations, and applicable parties, must take to implement mitigation options and achieve wildfire resilience.

Methods: This research used a chain-referral strategy which resulted in a critical appraisal of secondary data to explore what mitigation measures were available to remote First Nations and challenges they may encounter when implementing these measures. Sources came from multiple sources such as industry or agency grey literature (31%), peer-reviewed academic articles (29%), context specific information for the Island Lake First Nations (27%) and the remainder (13%) which was from other sources such as general or media information.

Results/Findings: The research found a number of mitigation measures must be arrayed in a layered, overlapping, approach in and around the First Nations to increase wildfire resilience. That layered approach included mitigation to both the built and natural worlds. The built world is everything that humans have created such as homes. The natural world includes items as plants, trees, and forests the surround the First Nations. The research also uncovered awareness that with respect to wildfire mitigation, the ILR First Nations are operating under a set of incredibly rigid constraints. Those constraints include a short window of practical physical access that could be used to transport in wildfire mitigation materials over a winter road, and a bureaucratic framework that makes mitigation project execution difficult, especially with the tight physical access window. The journey to wildfire resilience requires a diverse group of interested parties such as the citizens, First Nations' leadership and involvement by all levels of government working together closely to make it so.

This research found that the following was required to attain wildfire resilience in the region:

- The built world, primarily housing, in the First Nations requires a large initial effort in fireproofing and improving general maintenance of structures to lower the risk that wildfires pose to those structures and attain wildfire resilience. These initial efforts will reduce the likelihood that structures could be ignited by ember transmission from wildfires in the area;
- The natural world, such as forests, trees, and grasses in and around the Nations requires a large initial vegetation management effort remove and control vegetation in the region. This initial effort will reduce available fuel for a potential wildfire and lower associated wildfire risk for the Nations;
- Both the built and natural worlds will require ongoing maintenance to keep wildfire risk low and maintain the resilience earned by initial built and natural world mitigation efforts;

- A myriad of constraints exists for the Island Lakes First Nations in attaining wildfire resilience. They include bureaucracy issues, lack of autonomy issues, and logistical challenges stemming from the Nations being in a remote location. Combined, the constraints are nearly insurmountable.
- A task force approach is required because of the sheer number of different interested parties and jurisdictions involved in and around the region.
- The Nations themselves must reestablish the practice of IFS and execute it for their areas. Given their remote location and difficulty this brings to conventional large-scale vegetation management practices and transporting heavy equipment required to do so, IFS is the only practical large-scale means to manage vegetation in the region. It can achieve what other methods are unable to because of the constraints introduced by the remoteness of the ILR; and
- Establish strong relationships between the Nations and with interested parties such as the Manitoba wildfire service. This is required because executing the practice of IFS must be done with a high degree of coordination involving multiple jurisdictions present ILR.

Discussion:

Wildfire resilience on the Island Lake First Nations is important. By becoming resilient to wildfires, there is less likelihood that the Nations would be impacted by wildfires in the area. This means a reduced need for evacuation, a reduced potential for damage to the Nations from wildfires, and a reduced chance that citizens of the ILR would be exposed to the traumatic effects of evacuation. Wildfire mitigation is the pathway to wildfire resilience for the ILR First Nations. Because mitigation extends to housing by way of maintenance and upgrades, a cross-over benefit is realized to general housing on First Nations thereby helping to alleviate a broader housing concern that is currently plaguing those nations (OAG, 2020; OAG, 2024).

Practical Applications:

This research project found that potential mitigation solutions that could be generalizable to many similar remote First Nations, that is, those that do not have year-round access to the community such as roads or highways. Implementing layered and overlapping built and natural world wildfire mitigation solutions would result in additional communities increasing their levels of wildfire resilience in a practical and sustainable manner and reducing the risks that wildfire pose to their communities. This makes wildfire mitigation doubly important as it not only reduces risk but improves people's lives overall.

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