

The Burning Question: What Wildfire Adaptation Planning Lessons Can British Columbia, Canada Learn from Other Jurisdictions?

Report Summary

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Preface: Inspiration and the Beginnings of the Project

I lived at the south end of Winnipeg in 2021 while studying at the University of Manitoba in the Master of City Planning program. Just outside my condo, I could look down Pembina Highway, one of the city's multilane arterial boulevards, and see for kilometres down the straight, wide street. That changed during my first summer in the city when the smoke came. For the first time, I was living in a city for which the weather forecast included warnings for smoke. When I went outside the first day there was a noticeable amount of it in the air, things looked a little off. Colours were less vibrant and there was

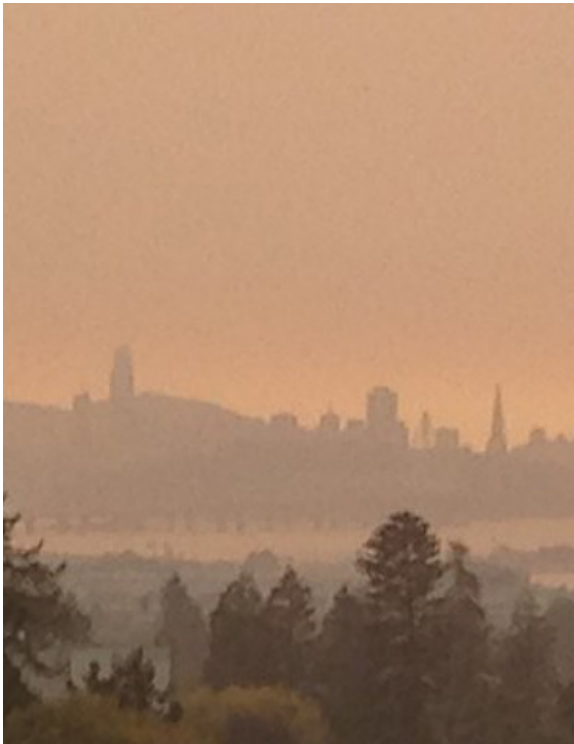


Figure 1: Looking Towards San Francisco Under Smoky Sky

less light permeating the landscape than usual. It looked like a cloud of fog, but the air was hot and dry. The smell was the most intense indicator of what was happening. It smelled like everyone in the city was having a bonfire. The usual view down Pembina Highway was obscured to nothing further than 50 metres. A few minutes out riding my bike was enough for my body to notice the smoke as well. A bit of breathing trouble convinced me this smoke was restricting more than people's visibility.

This is the type of lived experience that often awakens us to the harrowing reality of our situation. For me, it was this experience living day-to-day with wildfire smoke that led to the conception of this report. The smoke Winnipeg hosted in early July came from fires burning hundreds of kilometres away in Ontario (CBC, 2021). If fires burning that far from a city can fill its streets with smoke, fires burning much closer could have immeasurably worse impacts on human health and daily life. Indeed, the primary concern of people faced with the risks of wildfires is to protect human health. Also important are to conserve ecosystems

and to prevent damage and losses to built environments. To accomplish these protective measures in the face of increasing wildfire activity in Canada and around the world, the research indicates that adaptation planning is paramount and ambitious, detailed wildfire adaptation plans and legislation are needed. Governments must adopt a more active role in preventing devastating wildfire damages and losses, and intergovernmental collaboration is key, as different levels of government can inform others of needs and opportunities. These measures will help bring municipalities, regions and nations into a future in which prevention and preparedness supersede reaction and devastation.

Background: Relevance of the Topic

Wildfires are threatening countries globally like never before (Weston, 2022). In Canada, many provinces have been facing catastrophic wildfire events in recent years. British Columbia was among the hardest hit provinces in the summer of 2021, enduring its third worst fire season on record with 8,700 square kilometres of land scorched and many communities evacuated (Kulkarni, 2021). BC experienced unprecedented heat waves in 2021 as well, which included the hottest temperatures ever recorded in Canada. These temperatures occurred sequentially over the course of just three days in the town of Lytton, which was entirely consumed in a wildfire days later (Lindsay, 2021). Extreme heat and drought spawned a perfect storm of conditions conducive to wildfires in the province, and since BC is already prone to drought, the risk of wildfire is further increased (Boothby, 2021).

The Argument

Given these recent events, it is clear that taking a primarily reactionary approach to wildfires is not enough to protect against the dangers they pose to human life, ecosystems and built environments. Further, it is not an appropriate response to the threat of increasingly catastrophic wildfires to cast a future goal of reducing climate change while maintaining “business as usual” presently. Strategic adaptation is needed because the dangers of wildfires are present now.



Figure 2: Wildfire in BC

Research Methods: Amassing the Data

This report uses relevant literature and precedents to develop an understanding of what constitutes an effective response to the increasing severity of wildfires. The research is then applied comparatively to the response seen in BC. Specific attention is given to how different levels of government and non-governmental entities collaborate to address current and forecast issues, as the literature reveals unequivocally that intergovernmental and stakeholder stewardship is essential to successful adaptation planning. The Metro Vancouver Region is examined as the regional context for the report, as it has two recent regional growth strategy plans, Metro 2040 and its updated counterpart, Metro 2050.


A significant objective of my research was to ascertain whether these plans – specifically the more recent Metro 2050 – indicate acknowledgement of wildfire risks and strategies to appropriately address them. Attention is given to whether these plans contain strategies congruent to the literature and successes of the precedent areas studied. The report provides insight as to how municipalities, the Metro Region, the Province and the Federal government can take heed of the literature and precedents. It asks questions to probe the information and decision making within the regional plans, or lack thereof, and to advance the discourse on the extremely pertinent and evolving issue of wildfires.

The research includes a literature review and a precedent study. While the precedent study examines adaptation planning work accomplished in regions outside Canada, the literature review encompasses texts that examine needs and strategies for adaptation planning and wildfire risk mitigation. The literature review is intended to provide a foundation of research to inform the Metro Vancouver Region in BC's transition to a better prepared and protected region in the face of increasing wildfire risks. The literature reveals adaptation measures for areas in direct line of contact with wildfires, such as home defensibility, and measures for areas within proximity of wildfires, such as protection against poor air quality. Also important to ensure is the involvement of all stakeholders in the adaptation planning process, from governmental to private. Governments need to know the challenges municipalities and private entities face so they can administer support and resources accordingly and make accommodations for efficient adaptation measures, such as evacuation route planning and expediated timber harvesting on private land.

The precedent study provides a window into the operations of two regions stricken with intense and catastrophic wildfires, similar to many Canadian provinces. These regions are the State of New South Wales, Australia and the State of California, USA. Specifically, the precedent study examines policy documents from these regions and determines how the operations of smaller regions within each precedent state correspond to their respective regional plans. In observing strategies already in place, this research provides opportunities for the Province of BC and the Metro Vancouver Region to learn from the successes and shortcomings of these precedents, using the policies and recommendations in ways that make most sense withing the context of the region.



Figure 3: Scorched Ground Post-Bush Fire in New South Wales, Australia



The regions examined for the precedent study have each experienced catastrophic wildfires in recent years at the time of writing the report, making them suitable for comparison with BC. Eleven of California’s 20 largest wildfires burned within the five years preceding the writing of the report (Government of California, 2022). Similarly, New South Wales’s worst wildfire season ever recorded – nicknamed “the Black Summer” – was the summer of 2019-2020 (AIDR, 2020). It is important to note that the precedent regions both have planning documents dedicated to recommending wildfire adaptation measures. These plans are recognized and referenced by governments, and information in these documents is frequently required by law to be considered in various relevant activities and procedures.

Research Questions: Guiding the Process

The following three questions guide the research informing the report.

- a) How are regions outside Canada – particularly in other developed nations such as the United States and Australia – already tackling the issue of living with elevated wildfire risk?
- b) To what extent do existing planning policies applicable to the Metro Vancouver region’s Metro 2040 plan and Draft Metro 2050 plan currently address wildfire risk?
- c) Given that the risks of climate change are present and worsening, how does planning policy need to evolve and change to maintain quality of life in BC and the Metro Vancouver Region?

While these questions orient the research and precedent analysis and do receive answers throughout the report, these answers are not comprehensive. The discourse surrounding The Metro Vancouver Region’s, Province of BC’s and Canada’s responses to climate change and its effects on wildfires can and should continue to keep these regions safe and healthy.

Findings: What Does the Research Tell Us?

The findings of the research include strategies and recommendations applicable to regions globally seeking to adapt to increasing wildfire risks, and ways in which the Metro Vancouver Region and its parent province of British Columbia can use these general findings to their advantage in a more regional-specific context. General wildfire adaptation findings include:

1. Immediate Action is Needed

Attempting to preserve a “business as usual” environment within municipalities and regions is no longer feasible given current climate trends and recent extreme events, such as catastrophic wildfires. By the same token, focusing exclusively or primarily on preventative measures, such as greenhouse gas reductions is not an effective approach to addressing wildfire risks (Glavovic; Smith, 2014). Immediate action targeting wildfire stresses and risks, which can vary from region to region, is necessary.

2. Governments Need to Increase and Intensify Initiatives

The research indicates governments need to move from a data-collection approach to a strategizing and active approach. When governments focus on climate change warnings without prescribed action plans or specific initiatives, the result is a healthy knowledge bank of facts and data, but little or no action (IPCC, 2014). Governments should create clear, universally accessible strategic plans with timelines to maintain accountability for successful completion of initiatives within the plans.

3. All Involved Entities Need to Work Collaboratively and Transparently

Intergovernmental collaboration is key to eliminating deficiencies in data collection and resource allocation, but collaboration with non-governmental stakeholders is also vital. Collaboration across the board with all involved entities ensures needs, strategies and challenges are identified and shared efficiently so that adaptive and protective measures against wildfire risks can be administered as efficiently as possible.

The Province of BC and the Metro Vancouver Region can work towards improving adaptation measures by using the above strategies as they pertain to the regional and provincial contexts. For example, BC should create a provincial wildfire protection plan, like those of New South Wales and California. Such a plan would outline needs and strategies specific to the province and smaller regions within. The Province can also strengthen its intergovernmental collaboration efforts, especially by incorporating Indigenous traditional knowledge on wildfire adaptation. First Nations and other Indigenous communities are most knowledgeable about what they need to maintain safe environments, including the creation of evacuation strategies.

Conclusion: What Does It All Mean?

The report demonstrates there is strong evidence that immediate action must be taken to protect against severe damage and losses to human life, ecosystems and built environments. Such action must come in the form of adaptation with a strong focus on specific regional and municipal needs, and must involve government collaboration across all levels and with non-governmental stakeholders.

This report encompasses a sample of the extensive information available at the time it is written, but the discourse is ongoing. Just as the needs of regions across Canada are various in nature and continually evolving, so is the knowledge and best practices surrounding climate change and its effects on catastrophic wildfires.

Further research could include determining which sites within urban areas of the Metro Vancouver Region could be used for clean air shelters, as well as how residents in wildfire-prone areas can continue to access property insurance in the face of companies and governments that will no longer offer insurance.

Adaptation involves constant evaluation and re-evaluation, and as such, the work this report represents is never done.

List of Figures

Figure #1: Looking Towards San Francisco Under Smoky Sky., by M. Y. Stuart.

Stuart, M Y. (October, 2017). "Fires to the North - Bad Air to the South." Flickr. <https://www.flickr.com/photos/melystu/36934016484/in/photolist-YgJukE-9GQvPh-2jyQMp8-2jyQMeU-2mGcQbX-2bEraxE-YoXDGg-2jxYiLb-LcBehR-2mNnMc3-2hDDABE-28zBCFc-29XBpFv-2mkSglG-29TmoNy-29XBpEt-2cLUZkH-2mGg3td-2jEJmqx-flkIUnV-2jAxqNv-zxRbDQ-2jENAVf-2jAt88p-ecNhKD-2cNxy5H-2jEMPC5-YXPZDA-2j7TiKS-QFeV63-ZjdiFQ-2jyhFUj-VADYoe-U8xYBl-dATtdA-p4VgeW-2jKFEKH-33iGKK-28wzMS9-2cFTgrA-MuaiCh-2jNw8Fv-PgoGyc-2cX9aIE-27nsDd7-otaPiM-DiyWfe-27FwZln-2a8iMVg-2eA7MGx>.

Figure #2: Wildfire in BC

Province of British Columbia. (July, 2017). "Firefighting Personnel Battle Wildfire Across the Province." Flickr. <https://www.flickr.com/photos/bcgovphotos/35795301861/in/photolist-Wx7h9V-Wx7hB8-S3nDTX-ddK7ki-QKTqMA-Wx7iiZ-29bS72B-QKTr8L-S3nF9x-S3nEE6-2dSfCH6-2dSfzTZ-24DzUkP-DdrxYK-29K7ojc-SHYXXt-2dSfCti-T7WULC-HzfuLq-2dSfxFn-RuK SaR-kUE5p6-2dSfCeR-RuKRj2-2dSfxaT-2dSfxmK-2eadJcJ-RuKP jR-2fg7uBH-SwEffT-SHYXkM-kUEDcZ-RuKP2g-2eadK3m-RuKR4n-HBDSmR-Rrvry9-HzftLj-dSuBbn-yWnNGM-z535ig-yVAwUi-Rr vs5u-RrvsuN-E8vhrQ-DdryDc-yWnPmn-SkCzuE-fvMnNY-vEpWfT>.

Figure #3: Scorched Ground Post-Bush Fire in New South Wales, Australia.

Planning for Bush Fire Protection 2019. (2019). Untitled. Government of New South Wales. https://www.rfs.nsw.gov.au/_data/assets/pdf_file/0005/130667/Planning-for-Bush-Fire-Protection-2019.pdf.

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