

Economic Impacts & Implications of Catastrophic Fire

POLIS Wildfire Resilience Project – Lightning Explainer Series

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For more info, visit poliswildfireproject.org

Introduction

The rising trend of catastrophic wildfires in B.C. is concerning. Economic impact is one aspect that is not well understood — but that has huge implications for everyone in the province.

Why Now?

Wildfire scientists are predicting more frequent catastrophic wildfire years in the coming decades.¹ As a result, it can be expected that economic consequences will worsen. The economic impacts of wildfires in B.C. are widespread, vary in intensity and length, and affect individuals, businesses, industry, and governments.² The consequences are stark:

- Structural damage since 2017 is significant, amounting to more than \$1 billion in insured losses.^{3 4}
- Important economic sectors, like tourism, were affected by poor air quality, diminished wilderness values, and road closures to the tune of tens of millions of dollars in lost revenue.^{5 6 7}
- Slow downs, curtailments, and loss of productivity in other sectors, such as forestry, agriculture, construction, and energy, have negative impacts on GDP and workers' earnings.⁸

Context

Economic impacts can be direct or indirect. For example, direct impacts can be caused by displacement and destruction due to wildfire threat, while indirect impacts, such as prolonged smoke events, can occur away from actual fires. The following graphic illustrates these impacts using a selection of examples from B.C. since 2017. It should be noted that many similar examples can be found across the province, not just in the regions and locations indicated.

Published By:



POLIS Project on Ecological Governance | UNIVERSITY OF VICTORIA
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About

Building on research in *Learning to Live with Fire: State of Wildfire in B.C.—Policy, Programs & Priorities* (May 2024), our Lightning Explainer series explores critical and emerging issues and topics concerning wildfire resilience. Our goal is to increase understanding and stimulate discussion and dialogue that support landscape and wildfire resilience.



Photo: BC Wildfire Service (2023). Copyright Province of British Columbia. All rights reserved. Reproduced with permission of the Province of British Columbia.

¹ <https://www.nature.com/articles/s41467-024-51154-7>

² This *Lightning Explainer* focuses on impacts to the B.C. economy and not direct fiscal impacts to B.C. government budgets, such as wildfire management

³ <https://www.irc.ca/news-insights/news/okanagan-and-shuswap-area-wildfires-cause-over-720-million-in-insured-damage>

⁴ <https://www.cbc.ca/news/canada/climate-change-insurance-fires-1.6863796>

⁵ <https://industrylandwithoutlimits.com/resources/uploads/2018/03/CCCTA-Wildfire-Impacts-Report-FINAL-6-March.pdf>

⁶ <https://www.krtourism.ca/wp-content/uploads/2018/10/Wildfire-Recovery-Survey-2018.pdf>

⁷ <https://www.ubcm.ca/sites/default/files/2023-09/UBCM%202023%20Policy%20Book%201.pdf> pg. 13

⁸ https://policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2022/11/ccpa-bc_Climate-Reckoning_web.pdf?utm_source=north%20shore%20news&utm_campaign=north%20shore%20news%3A%20outbound&utm_medium=referral



**STRUCTURAL:
HOMES + BUSINESSES**

- Estimated \$720 million in insured losses (2023)
- \$100 million+ in insurance claims (2021)
- Mortgage insurance rates up 33% since 2018 with wildfire cited as a major factor



ENERGY PRODUCTION

- More than 60 BC energy companies reported impacts and 18 natural gas well sites evacuated personnel or temporarily shut down (2023)



AGRICULTURE

- Ranching communities in Cariboo-Chilcotin & Nechako forced to relocate cattle herds (2017, 2018)
- Grape harvests in Okanagan impacted by smoke taint (2018)



**TOURISM
(3.5% TO 4% OF
B.C.'S GDP)**

- Wildfires caused direct revenue loss \$55 million in Caribou-Chilcotin-Coast (2017)
- 2017 wildfires cause loss of \$34 million in sales revenue in Kootenay-Rockies (2017)



**CONSTRUCTION:
INTENSE SMOKE/
PROLONGED EXPOSURE
IMPACTS PRODUCTIVITY**

- Air quality alerts, some for extended periods (2018, 2021)⁹



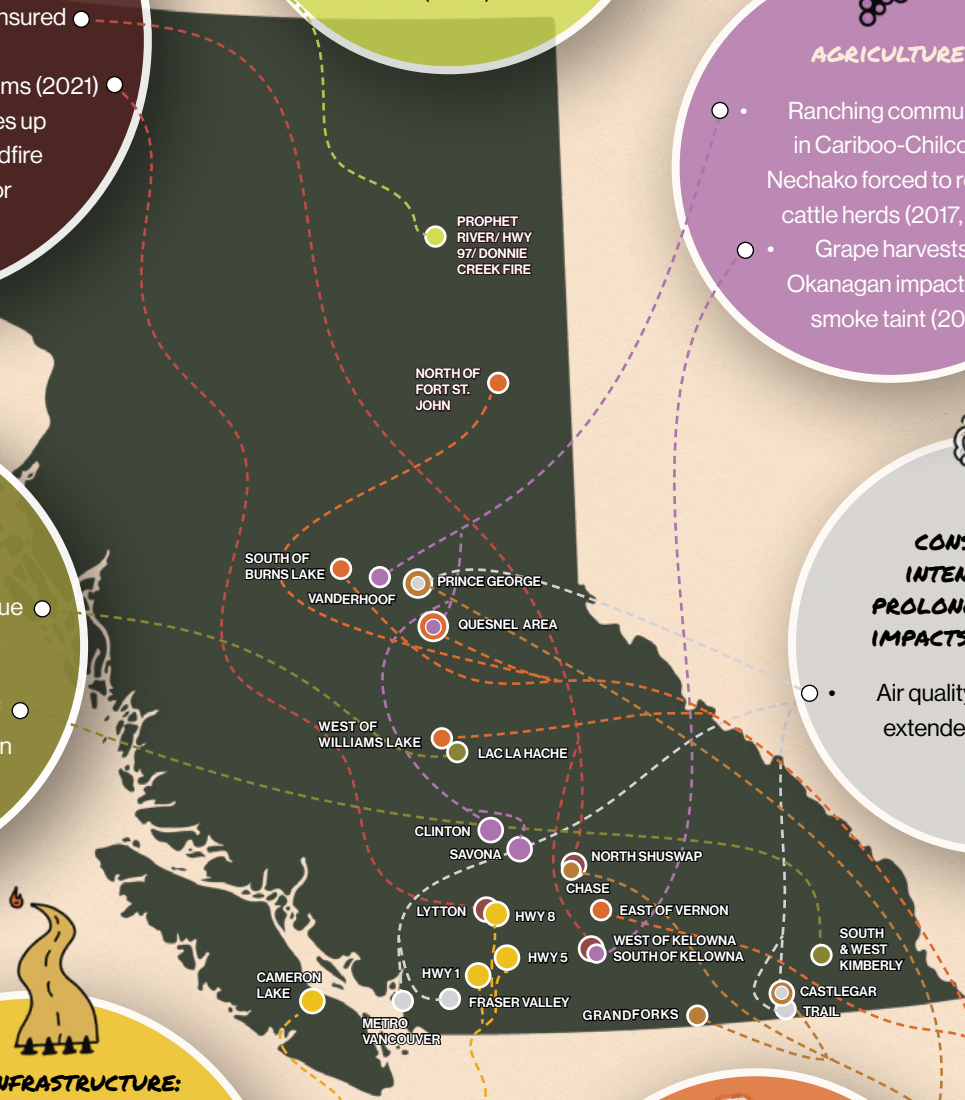
**PUBLIC INFRASTRUCTURE:
SUPPLY CHAIN +
ECONOMIC ACTIVITY IMPACTS**

- Hwy 4 closed to 2-way traffic for 2.5 months during peak tourism season (2023)
- Hwy 1, 5, and 8 closures due to wildfire-related debris flows, with an estimated \$5 billion in repair costs (2023)



FORESTRY

- Temporary sawmill curtailments 2021
- Stoppage and slowdown of timber harvesting activities and timber supply impacts (2017, 2018, 2021, 2023)



Implications & Opportunities

It is apparent that wildfires have serious and detrimental effects on B.C.'s economy. To more fully understand the significance of these economic impacts and assist in supporting policies and programs to ameliorate the effects, further investigation is needed. In particular, we need to explore the fuller financial consequences of wildfires on workers, businesses, industry, and civil society organizations across numerous sectors, such as tourism, agriculture, forestry, construction, and energy production.

Despite the significant knowledge gaps, the old adage that an ounce of prevention is worth a pound of cure has relevance. Increased investment in wildfire prevention and mitigation will lead to decreased economic losses,¹⁰ especially in the context of worsening wildfire seasons.

Where to Start & What Needs to Change

A thorough sector-by-sector regional analysis of the economic impacts of wildfires will assist in decision-making regarding how best to target preventative and mitigation actions. This analysis could begin in regions where some relevant economic data already exists and where wildfire impacts are prominent, such as in the North Central, Northeast, Cariboo, Okanagan, and East Kootenays.

The economic costs of wildfires identified in this explainer are borne across society, from individuals to industry to government. It will be important to undertake a sector-by-sector analysis and apply it across policies that inhibit or enable prevention and mitigation activities and thus assist in priority-setting for these activities. Government forest management policies and insurance industry wildfire policies are two priority topic areas for this type of investigation of economic implications.

Recommendations

There is no need to wait for further economic studies to support the decision to increase prevention and mitigation activities. At present, 39 million hectares of public land in B.C. are at high or extreme threat of wildfire, with one million of those hectares in the wildland-urban interface, where economic consequences can be most severe. Approximately 10,000 hectares of land undergo wildfire prevention and mitigation measures each year in B.C. From an economic loss reduction lens, investment in efforts such as **fuel management and prescribed and cultural burning need to be significantly scaled up immediately.**¹¹

In addition to expanding our knowledge of economic impacts, **more work is needed to understand the role that different**

policies or programs have on the economic costs of wildfire.

A good example is wildfire home hardening.¹² Research indicates that a new home using FireSmart¹³ construction techniques costs about the same to build as a non-FireSmart home,¹⁴ making wildfire home hardening construction a very inexpensive method to reduce catastrophic losses. Further economic analysis could provide useful information for future government and insurance industry policies by, for example, providing insights into the efficacy of building code changes or potential targeted incentives and grants programs. Some research facilities at B.C. universities are well placed to conduct this type of work, such as the University of Northern British Columbia's Community Development Institute.

Another recommended step is to **establish a dedicated cross-ministry team within the provincial government to undertake a focused policy review to identify the most important enabling policies and eliminate inhibiting ones.** Work on a wildfire economic impact evaluation tool, including indices such as wage, days-of-work and revenue losses, and insurance claims, could also be a valuable product to assess the effectiveness of targeted programs and policies.

Conclusion

The reduction of economic loss from wildfires in B.C. is a growing concern, but the impacts to individuals, businesses, industry, and governments has yet to be examined in depth. The sooner this knowledge gap is addressed and targeted programs and policies are implemented, the sooner we will have increased economic resilience in future catastrophic wildfire.

Moving forward, key questions that we will explore and invite broader discussion and dialogue around include:

- **What are the specific economic costs of wildfires to individuals, businesses, industry, and government in such sectors as home insurance, tourism, forestry, construction, agriculture, and public infrastructure, both regionally and provincially?**
- **What existing government and industry policies require adjustment, and what needs to be created, to reduce the negative economic impacts caused by catastrophic wildfires?**

⁹ Impacts on productivity of poor air quality from wildfires in BC extrapolated from US studies. <https://news.illinois.edu/view/6367/1610532712>

¹⁰ Every dollar spent on prevention and mitigation saves \$5 to \$15 spent on fighting wildfires, estimates Dr. Mike Flannigan, BC Innovation Research Chair in Predictive Services, Emergency Management and Fire Science, Thompson Rivers University. <https://theprovince.com/opinion/op-ed/christine-gelowitz-time-for-a-proactive-approach-to-wildfire-we-know-the-solutions-and-we-have-the-expertise>

¹¹ The POLIS report *Learning to Live with Fire: State of Wildfire in B.C. - Policy, Programs & Priorities* (May 2024) further explores these terms on pg. 24 https://poliswildfireproject.org/wp-content/uploads/2024/03/State-of-Play_WebCopy.pdf

¹² <https://www.fire.ca.gov/home-hardening>

¹³ <https://firesmartcanada.ca/homeowners/home-construction/>

¹⁴ <https://headwaterseconomics.org/wildfire/homes-risk/building-costs-codes/>