Photo: Rob Matthews

CULTURAL BURNING PROJECT

A collaboration between Gitxsan Laxyip Management Office and B.C. Wildfire Service.

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Useful Links:

Cultural Burning & Prescribed Fire:
https://prescribedfire.ca/

Cultural Prescribed Fires:
https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/prescribed-burning

Climate Change and Wildfire

2023 was Canada's and British Columbia's most devastating year for area burned by wildfire ever with 17.3 million hectares (CIFFC, 2024) and 2.84 million hectares respectively (BC Wildfire, 2024). In BC, 5 of the top 10 years for area burned occurred in the last decade (2023, 2018, 2017, 2021, 2014) (BC Wildfire, 2024) and 2023 was more than 2 times higher than the next highest year (2018, 1.35 million ha)

The increase in fires can be closely correlated to an increase in temperatures related to climate change. Globally, 2023 was the hottest year on record with 2024 on pace to be even hotter (World Meteorological Organization, 2024). Canada is warming twice as fast as the global average (Government of Canada, 2019) and these hotter and drier conditions are making fire seasons last longer, fires start and spread more easily and burn more frequently and severely.

Utilizing controlled fire during planned conditions is one tool in mitigating these impacts of climate change and wildfire. Planned fires remove accumulations of forest fuels instead of contributing to natural forest fires. First Nations are leading the way forward by restoring cultural fire stewardship.

Forest Policy, Practices and Regulations

Since the beginning of colonial governance in BC, the role of fire for traditional purposes, contemporary purposes and natural fire occurrence has changed through various forest policies, practices and laws (Fig. 1).

Fig. 1

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How Indigenous 'cultural burns' can replenish our forests (article). https://www.cbc.ca/news/science/what-on-earth-indigenous-fire-forests-1.6194999

https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/temperature-change.html

Coexisting with Fire: A Future for Cultural Burning

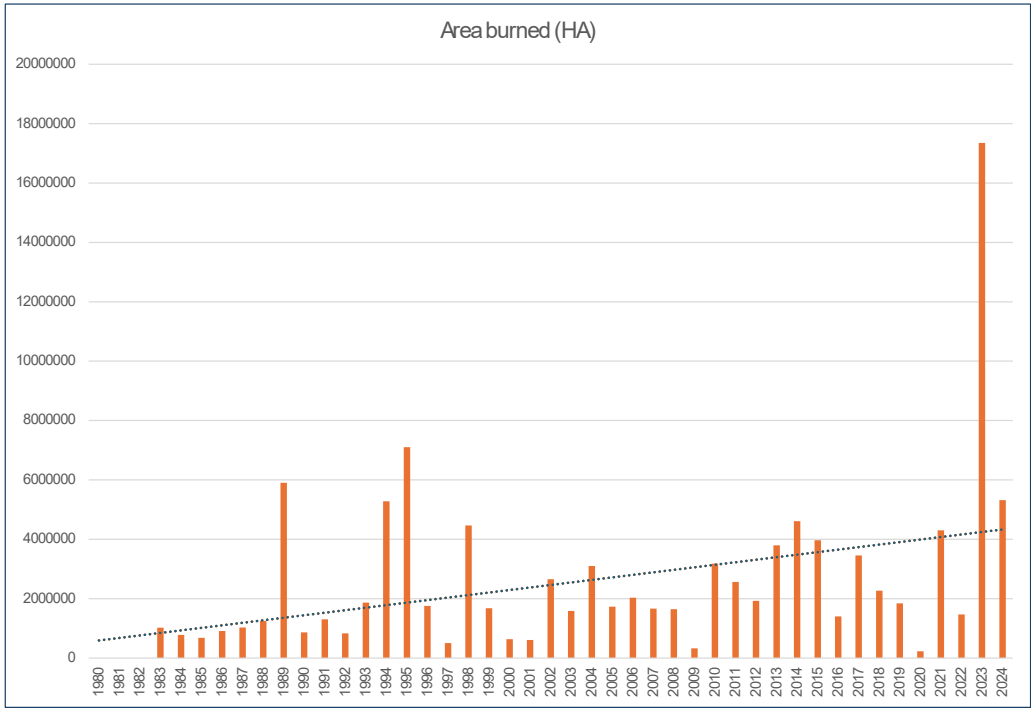
Stewardship of the land using fire was a traditional practice of the Gitxsan for millenia and cultural burning is seen as an important tool to be used in cultural restoration and fire mitigation. Some of the potential benefits:

- Maintain and increase the quality and quantity of current berry sites or enhance berry sites that are no longer productive.
- Restore important cultural sites by removing vegetation growth that has encroached on historic sites to make them visible, accessible and productive again.
- Maintain or enhance wildlife habitat by minimizing encroachment of trees into meadows, kill diseased trees and promote browse food sources by increasing hay quality and grassland for wildlife.
- Reduces fuel loads near important areas to minimize the impact of wildfire and help provide natural fire barriers.
- Reduces pest infestations like ticks & bark beetles.
- Promotes growth of medicinal plants.
- Brings back one of the cultural activities that was practiced before they were stopped due to colonization.

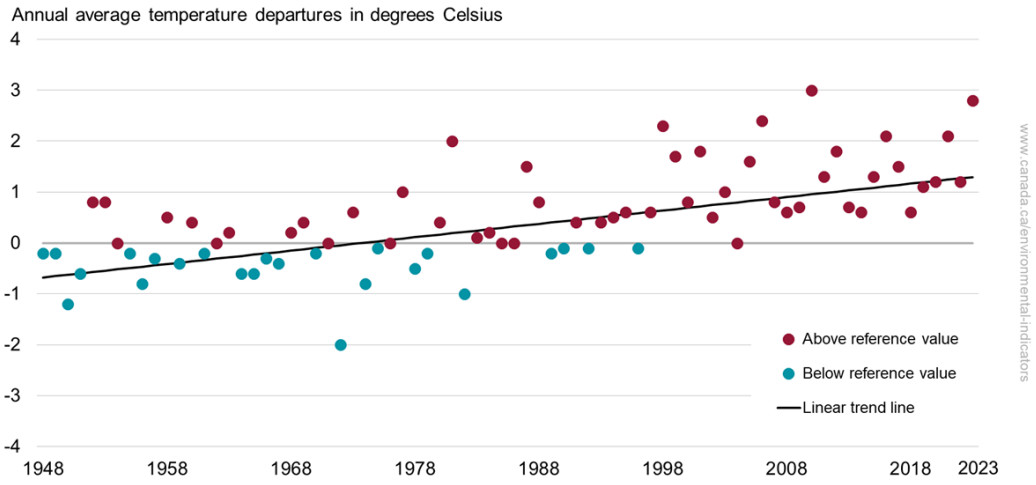
Photo: Gitanyow Laxyip Guardian Program

Photo: Rob Matthews

Annual Wildfire Burn Area Across Canada



National Annual Temperature Change

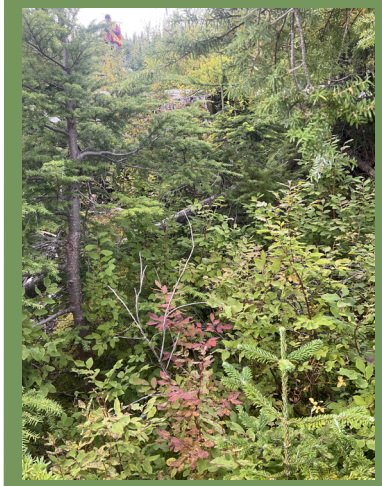


Key results

- In Canada, the national average temperature for the year 2023 was 2.8 degrees Celsius (°C) above the 1961 to 1990 reference value, making it the second warmest year since 1948.
- From 1948 to 2023, there is a trend in annual average temperature departures, showing 2.0°C of warming over that period.
- Annual average temperatures were consistently above or equal to the reference value from 1997 onward.

Traditional Use of Fire

It is well documented that many First Nations across western North America, including the Gitxsan, have used fire as a tool for vegetation management and berry production prior to European arrival. This use of fire can be described as Good Fire which provide significant benefits to fire-dependant ecosystems, wildlife, and human communities. Gitxsan anecdotal evidence indicates that planned fires were an essential aspect of berry patch management. Planned fires occurred in the fall for mid to high elevation berry management while low elevation burns were completed in the spring (Trusler, 2002).



Berry mangement

Huckleberry was and remains an important food source for the Gitxsan. It is estimated that before European contact, the potential scale of huckleberry harvest was roughly 200 litres/person for winter food source, feasts and trade purposes (Trusler, 2002). With the use of planned fire used continually to reinvigorate patches, the area under management for berry production would be several thousand hectares accounting for recovery from fire.

Maintaining openings for other purposes

Gitxsan used good fire for other purposes because of its effectiveness in land management. Clearing village sites for defensive purposes and to reduce summer fire hazard were two of many other traditional uses of good fire.

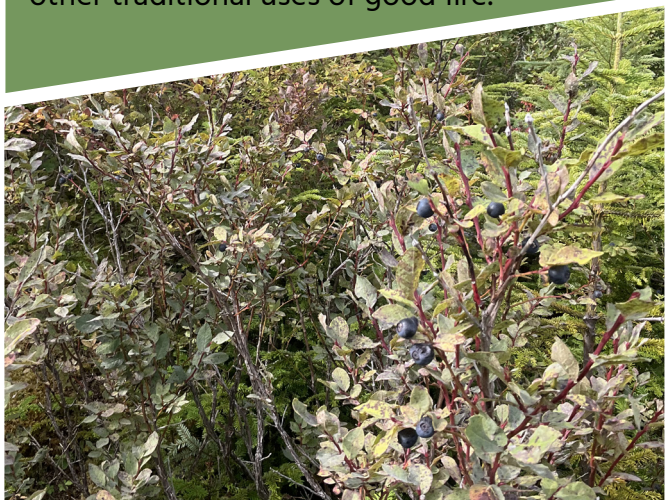
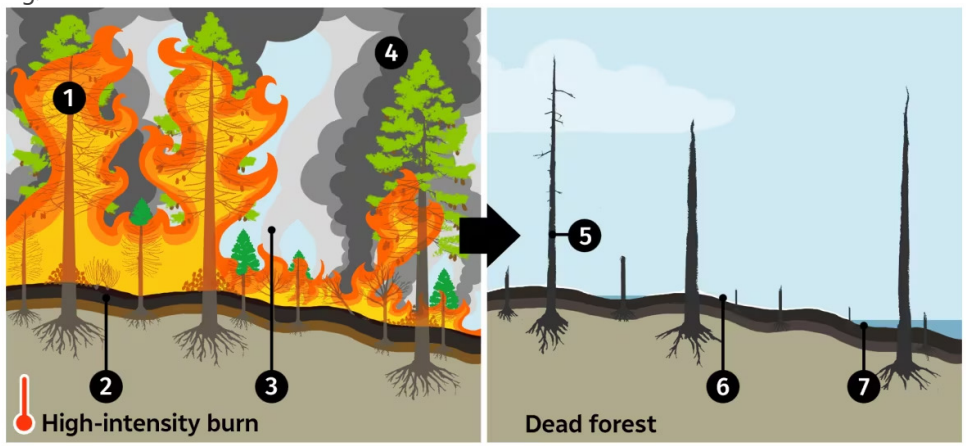


Fig. 2



High-intensity fire (Destructive Wildfire)

1. Canopy destroyed
2. Duff layer burned
3. Nutrients evaporate
4. CO^2 release
5. No CO^2 capture
6. Ash
7. Hydrophobic soil

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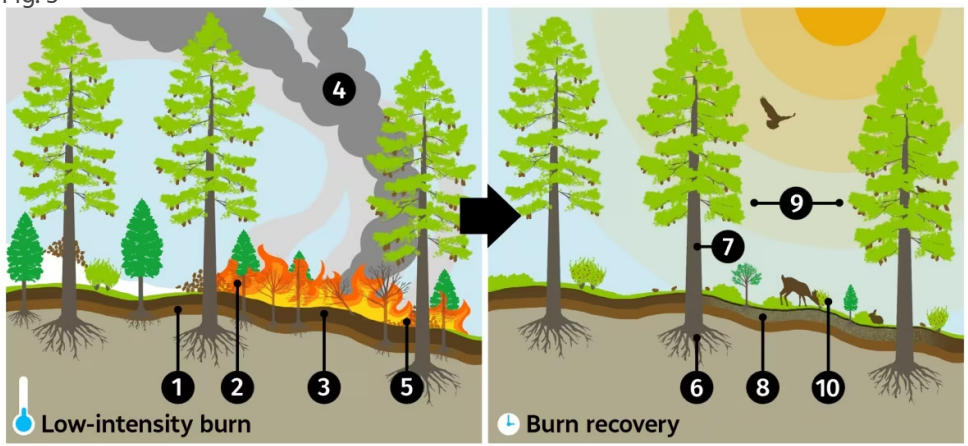
Fig. 3



Low-intensity fire (Good fire)

1. Mineral soil
2. Ladder fuels (e.g. branches)
3. Duff layer intact
4. CO^2 release
5. Fine fuels (e.g. twigs, dead leaves)
6. Carbon storage
7. Thicker bark
8. Nutrient-rich mineral soil
9. Fire break
10. New plants

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