First Nations' Cultural Burning in British Columbia

Perspective

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Abstract

The Indigenous peoples of British Columbia (BC) have a long and deep tradition of cultural burning. It was an important component of many of BC's ecosystems until colonial authorities systematically discouraged the practice from the 1870s onwards. Eventually the beneficial role of fire was recognized, particularly in dry interior (NDT 4) ecosystems. To help validate those traditional practices, this article draws on settler and Indigenous accounts of First Nations cultural burning in BC.

Introduction

Indigenous peoples in the Pacific Northwest historically used fire to manage a variety of plants, reduce fuels near habitations, or alter the composition and structure of ecosystems. Studies of First Nations burning in BC have focused on the management of food and medicinal plants, wildlife habitats, and foraging. Burning was done at specific times under certain weather conditions and required special knowledge of fire behaviour and ecosystem responses.

First Nations have identified many species of plants that respond well to traditional cultural burning. This is done to reduce plant competition, increase recycling of nutrients, encourage spring growth, select annual or ephemeral growth habits, synchronize fruiting, maintain successional stages, and create openings (Turner 1999).

Colonial rulers prohibited traditional First Nations burning practices and, by doing so, reduced the incidence of wildfires in some areas. However, many wildfires in the late 1800s and early 1900s were caused by exploration, resource development, and settlement, resulting in further prohibitions on burning. More recently, First Nations have recaptured traditional knowledge about cultural burning and restored historic practices in some locations.

Fire and culture

Since the early 1900s, researchers have examined the role of fire as an integral part of human culture. Mankind used fire from prehistoric times for warmth, cooking, hunting, making tools, and cultural rites and ceremonies (Hough 1926). Stewart (1956) considers some activities to be ubiquitous. "Whenever possible, [people] set fire to thick woods in

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order to 'open them up.' Widely spaced trees and clear meadows and plains offer better and safer hunting" (p. 119).

Using prescribed fire to manage vegetation and habitats is of primary interest in forest and grassland fire history and ecology. Grassland types share several features such as periodic droughts, frequent fires, level to gently rolling landscapes, and grazing animals (Anderson 2006). Indigenous populations in the Americas often used fire to extend the prairies, prevent encroachment of woody shrub or tree species into grasslands, hunt, control insects, and facilitate travel.

Indigenous burning for resource management

James Hatter, a former chief game biologist, called the First peoples of BC "the province's first game managers" due to their use of prescribed fire to influence wildlife habitat (Hatter 1961): "At some point in their history the Indians learned that hunting grounds could be created by the use of fire. The burned areas, rich in second growth, attracted deer and so provided better hunting. The practice of burning to benefit not only deer, but also moose, continued for many years after the advent of the white man" (p. 226). However, the scenario became more complex with time:

> Historical sources documenting the burning practices of Native peoples are sparse and difficult to interpret. Most were written in the late 19th and early 20th centuries, long after smallpox had passed through the interior in 1862 and at time [sic] when native land use practices were being curtailed and confined to small areas. Still, Native burning did not disappear. (Thistle, 2009, p. 77)

After spending the summer of 1894 doing fieldwork for the Geological Survey of Canada near Kamloops, James McEvoy remarked on Indigenous burning:

> They do not set out the fires carelessly, but purposely, with the object of making hunting easier and better. After strips of forest are burned down, the burned country in a year or two becomes covered with a growth of grass, and the large game leave the thick forests and congregate about the grass meadows, where a greater quantity of food can be obtained. The Indians thus find it easier to get the game. (*Canada Lumberman,* 1894, p. 9)

In 1895, the BC Department of Agriculture requested responses from their settler correspondents to the following question: "Opinions are wanted as to the best means of preventing destructive summer fires. Have you formed any opinion from your experience as to the commonest origin of fires, whether caused by accident, carelessness or intention? Have you any suggestions to offer as to the provisions of the Bush Fires Act, 1896?" (Anderson 1897, p. 1154). The department received 38 replies, seven of which noted First Nations as being responsible for the fires.

Discontinuation of traditional burning

J.R. Anderson, who was the Deputy Minister of Agriculture in 1895, recognized that First Nations were more careful with fire than they were given credit for. Consequently, educational campaigns to reduce losses from wildfire would yield greater results if directed at European inhabitants:

> Until the advent of the whites in any numbers, destructive forest fires were comparatively unknown, [which] points to the conclusion that the native

> races, following their natural instincts, did not by their methods destroy the forests, any more than by their methods were the rivers depleted of fish nor the land of game. Nevertheless, that they are partly responsible for some of the fires is undeniable, but I believe that in the majority of instances the origin of fires must be assigned to other causes. It seems, therefore, it is to our own people that we must attribute most of the losses occurring to our forest wealth; and since they can be reached by the agencies previously mentioned, probably a vigorous educational campaign would be the best means of inculcating careful habits on their part and in a less degree on the part of the natives. (Anderson 1903, p. 219)

At Vaseux Lake, in the bunchgrass and ponderosa pine biogeoclimatic zones, patterns of fire occurrence and land use suggest that before 1865, the fire regime was a function of First Nations prescribed burning. Fires were earlier, more frequent, and less synchronous on the landscape, corresponding with cultural burning practices, which were often small and conducted in the spring:

> Indigenous peoples have a tremendous amount of knowledge surrounding forest dynamics and fire use to contribute to modern management. The fire record and forest demography data at Vaseux show that this study area as we know it today is inextricably linked to the way the Syilx people stewarded it historically. (Pogue 2017, p. 38)

The Secwepemc (Shuswap) peoples used fire on the landscape to reduce forest encroachment onto grasslands, suppress invasions of sagebrush, and improve forage for ungulates. Their tradition ceased after the 1870s (Blackstock & McAllister 2004). Eventually, their cultural use of fire diminished until it was nearly lost.

In 1900, C.F. Cornwall (1901) reported on the state of forest fires in "the valley of the Thompson River from the south end of Kamloops Lake for some thirty miles [48 km] downstream" (p. 35):

> No forest fires in this district, such as there used to be in earlier times. Then they were, undoubtedly, purposely caused by the natives, with the object of burning off the old grass, which otherwise was not touched from year's end to year's end. In consequence, cottonwood and other deciduous trees have sprung up in many places where formerly there was nothing of the sort, so continuously was the ground burnt over. (p. 35)

According to BC's Chief Forester H.R. MacMillan (1914), "It is said that until a few years ago the Indians of the [Lillooet] region burned the forest every year 'to light the salmon up the Fraser River,' as well as to improve hunting" (p. D82).

The fire suppression policy of the BC Forest Branch, which was created in 1912, restricted traditional landscape burning as early as the 1920s. Assistant Ranger H.G. Reynolds surmised that if permits were required for cultural burning, the practice would decline (Reynolds 1922). In 1923, the forest ranger in Merritt, BC encouraged cooperation by convincing Chief Tom Peter to appoint one of his men—Couie Charlie, a good firefighter—as a volunteer fire warden in charge of firefighting on reserve land. The local forest ranger, provincial constable, and government agent cooperated in this endeavour and the chief of police wrote an oath of office for the new First Nations fire warden. He vowed to "protect the forest of His Majesty the King on the Nicola Mammette Reserve" (Little 1923, p. 9).

Noting that deer were plentiful around Lillooet in the late 1800s, Phair (1950) said:

> Another thing that may have helped the deer was that this part was not so heavily wooded, and the Indians made a practice of burning a lot of the country off each summer, to improve the berry crop, give new pasture to the deer and, they said, light the salmon up the river.
>
> Met an Indian a few days ago at Clinton, and he blames the whites for preserving the forests here. He says the pasture is gone for the deer, and that the deep woods protect the coyotes, wolves and cougars. (n.p.)

The government discouraged the Lil'Wat from conducting prescribed fires from the 1930s and 1940s. After community members performed a cultural burn to encourage growth of local berries and mushrooms, they were incarcerated. In Northwest BC, the last prescribed burning of berry patches also took place in the early 1930s or 1940s (Gottesfeld 1993). The successional and ecological changes resulting from decreased fire frequency at many low elevation sites have been masked by large-scale land clearing for agricultural development and forest harvesting.

One of Nancy Turner's contacts, Baptiste Ritchie, said in 1969:

> If you go to burn then you get into trouble because the white men want to grow trees. Because they changed our ways they do good for us and we eat the food that the white men use. Then we forget the good food of our earliest forefathers. … Now they have disappeared because the hills grew weedy and no-one seems to tend them, no-one clears there as our forefathers did so thoroughly. (Turner, 1999, p. 190)

Traditional burning in the Okanagan became increasingly confined to reserve lands and was maintained by Fire Keepers (Allison & Michel, 2004). The nearly total cessation of Indigenous burning, at least on grasslands, was just one of several major factors influencing Indigenous life (Harris 1997):

> Native peoples, most of who lived on reserves, no longer burned the range to control shrubs and encourage the plants they once gathered. Cattle occupying much the same ecological niche had replaced many of the deer and other animals they formerly hunted, but cattle were owned and wildlife were not.
>
> Native peoples could not hunt the herds that now occupied the range. The replacement of deer by cattle, and the protection of the latter by property law, dispossessed Native communities as effectively as did survey lines and fences. (n.p.)

Before effective fire suppression, some wildfires covered extensive areas and created or maintained large quantities of huckleberries. For example, a fire that started on August 2, 1931, burned from near Baynes through the Rocky Mountains near Flathead Pass and into the Alberta foothills. This fire contained many of the most productive huckleberry fields in the Flathead Valley but by the early 2000s they were declining (Hobby & Keefer 2010).

Access roads and forest harvesting now provide huckleberry habitat, but wild berries often play a lesser role in personal nutrition because many First Nations people adopted the modern Canadian diet. Yet, the berries retain a high cultural value and are required at weddings, family gatherings, funerals, and totem pole raising celebrations.

With traditional ecological knowledge under threat, alternative approaches are necessary (Lepofsky & Lertzman, 2008). In recent times, productive huckleberry sites in the

East Kootenay were logged and then broadcast burned, but new forests establish so quickly that logging is an inadequate substitute for fire. When forest plantations attain canopy closure in 15 to 20 years, berry production will diminish.

Initiatives to restore First Nations' use of prescribed fire

Prescribed burning for site-specific treatments or ecosystem restoration that includes a First Nations perspective has been performed recently on small areas such as Tumbo Island in the Gulf Islands National Park Reserve and large areas such as the northern Rocky Mountain Foothills near Fort Nelson. The significant difference in scale shows how First Nations can think, plan, and work at different levels and visualize the finished product.

Decades of fire exclusion in fire-maintained ecosystems has resulted in tree encroachment onto grasslands, ingrowth of trees into open forests, loss of wildlife habitat and forage, and more frequent and intense wildfires. Ecosystem restoration in the Cariboo-Chilcotin region is mitigating some of these adverse effects. The work includes machine thinning of forests, hand slashing, removing trees, chipping, and prescribed burning (Cariboo-Chilcotin Ecosystem Restoration Committee, 2018).

Northeast of Williston Lake, First Nations employed prescribed fire for hundreds of years to enhance wildlife habitat. Moose are the major consideration now, but elk, deer, thinhorn sheep, and mountain goat also benefit from prescribed fire (Sittler et al. 2015). The Penticton Indian Band (PIB) is restoring deer and ungulate habitat in the Garnet Valley, north of Summerland. The deer population is declining, in part due to the cessation of a natural fire regime. Fire exclusion causes a decline in habitat quality due to a build-up of woody debris on the forest floor, which inhibits young vegetation preferred by ungulates (Kozuki 2019).

Restoration of wood bison habitat began by applying prescribed fire in their original range during the spring of 2013 (Leverkus et al. 2014). Many people with the required knowledge, skills, experience, and judgment developed and implemented prescribed burning plans, monitored vegetation presence pre- and post-fire, and provided expertise on fire ignition techniques and behaviour.

The First Nations' Emergency Services Society and the Shackan Indian Band, Xwisten (Bridge River) First Nation, and Yunesit'in National Government are exploring climate change impacts such as wildfires and drought in their communities (Hirtle 2020a, 2020b). Indigenous-informed qualitative research methods are being used to assess vulnerabilities. Indigenous cultural values and traditional burning knowledge are used to develop burning plans that will include non-Indigenous prescribed fire practices (First Nations' Emergency Services Society, 2020).

Concluding remarks

Lepofsky *et al*. (2005) described palaeoecological, dendroecological, archaeological, ethnographic, historical, vegetation ecology, and landscape ecology techniques that can be used to reveal the long-term influence of pre-contact Indigenous burning. Also:

> Early historical European records and First Nation oral traditions describe the setting of prescribed fires throughout the northwest. Such fires were set to maintain open ecosystems, to discourage the encroachment of less economically important plants, and sometimes to discourage pests on culturally important plants. There is evidence of indigenous peoples' use of prescribed fires across a broad range of ecosystem types, from dry ponderosa pine park-

> lands and grasslands to cold, snowy, subalpine coastal and interior forests. (Lepofsky & Lertzman 2008, p. 137)

Such activities were widespread, and the knowledge of plant uses and responses to fire was both intricate and comprehensive (Gottesfeld 1993; Turner 2014). However, while First Nations lived in Northern BC ecosystems that were significantly shaped by fire and some First Nations used prescribed fire to produce food, maintain trails, and communicate, more evidence is required to conclude that Indigenous burning was quite widespread and created the heterogeneous forests, which were encountered by non-Indigenous settlers during the nineteenth and early twentieth centuries (Lee 2012).

Hoffman's concluding remarks are worthy of emphasis (2018):

> By suppressing natural and cultural fires, not learning from elders or fire specialists, and not engaging in prescribed burning, British Columbia has created a reality where forest fires are large, intense, unpredictable, and often uncontrollable. There is also the added component of climate change, which is expected to lengthen the fire season and increase fire frequency and intensity. (p. 118)

Wildfires and fire seasons became major forces in the past decade. The near ubiquitous presence of humans in BC's extensive environments makes the protection of lives and properties even more of a priority. Given their long experience with fire ecology, cultural burning, and wildfire, First Nations can inform modern fire management activities.

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