

SFM Network
Research Note Series
No. 37**Pikangikum First Nation and
Forest Fire Management:
old and new knowledge of fire****Highlights**

- Many Canadian First Nations historically employed controlled fire to manage important resources within their landscapes.
- Sophisticated knowledge of fire behaviour and ecology persists within some First Nation communities.
- While resource managers increasingly recognize the need to include fire as a regulator of ecosystem processes, little attention has been given to what First Nation peoples think about fire in a contemporary context.
- Pikangikum First Nation residents in northwestern Ontario have concerns about their continuing role in fire management within their traditional territories – concerns they are likely to share with other First Nations in Canada.

Canadian boreal forest landscapes are characterized by periodic stand-replacing fires that can reach hundreds of thousands of hectares in size. The resulting landscapes are composed of a mosaic of fire-adapted plant species in varying states of ecological succession. Indigenous peoples of the boreal forest have developed technologies that make use of and adapt to fire in order to manage important resources within their landscapes. These technologies include controlled burning to manage berry production, improve habitat for prey species, maintain travel corridors, and create garden plots. The intimate association between people and fire has resulted in a sophisticated knowledge of fire ecology, behaviour and management.

The arrival of European settlers brought with it a significant decline of indigenous populations, their access to land and resources, and their use of fire as an ecosystem management tool. In Ontario, fire management policy has historically focussed on fire suppression to control threats to life, property, merchantable timber and other values. Increasingly, however, resource managers are now seeking to work with fire in order to enhance forest management. Some managers have also recognized the

importance of historic burning practices of indigenous peoples in contributing to the achievement of management objectives. At the same time, little is known about what indigenous peoples think about fire in a contemporary context.

This note summarizes the results of research with Pikangikum First Nation elders to learn about their perspectives and knowledge of fire in their traditional area. Research was conducted through interviews, field trips with elders to areas impacted by fire, and meetings between Pikangikum First Nation residents and Ontario Ministry of Natural Resources (OMNR) representatives. This research supports forest management in Pikangikum First Nation people's traditional area.

Since 1996, Pikangikum First Nation in northwestern Ontario has engaged with the OMNR to complete a land use strategy for the Whitefeather Forest, 1.3 million hectares of Pikangikum traditional territory (Figure 1). The Whitefeather Forest land use strategy reflects the community elders' goal of creating

forestry-based community economic opportunities for Pikangikum youth, while maintaining customary uses and stewardship responsibilities within their territory (see www.whitefeatherforest.com).

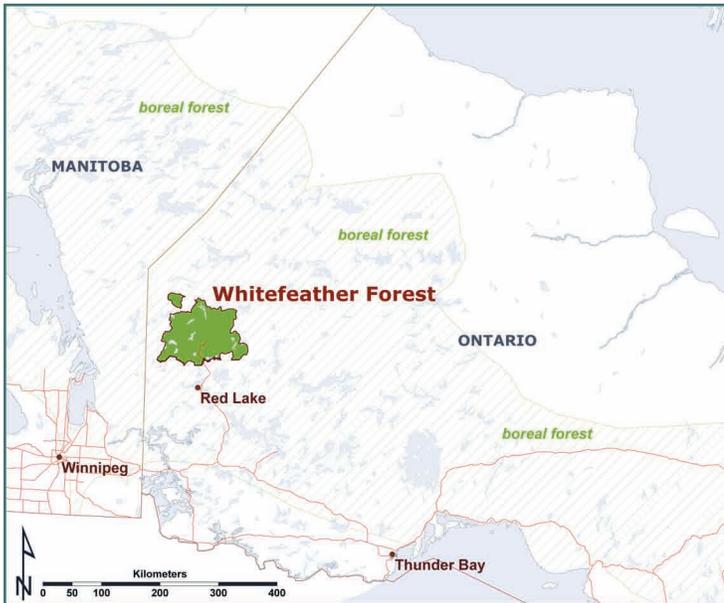


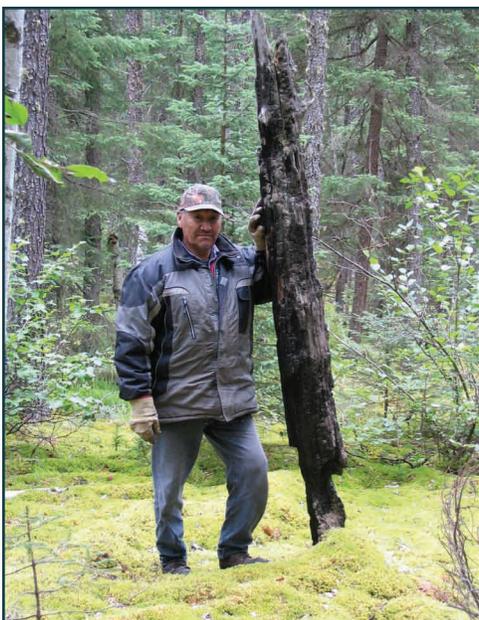
Figure 1. The Whitefeather Forest

The planning process for the Whitefeather Forest has been careful to consider habitat needs for provincially and federally threatened woodland caribou (*Rangifer tarandus caribou*) (see SFM Network Research Note #27). Fire is important for maintaining caribou habitat. Current forestry practices in other parts of the province have been linked to the loss of caribou habitat in part because of the difficulty of regenerating woodland caribou habitat following logging. In consideration of the Whitefeather Forest having a high degree of remoteness, few private property dispositions, and no current forestry operations, the OMNR sees the potential of allowing fire to take a larger role in maintaining caribou habitat within the Whitefeather Forest and the adjoining Woodland Caribou Provincial Park.

Pikangikum knowledge and beliefs of fire

“The Creator has a match and that match is the Thunderbird. He brings that match to the land when the forest gets too old and can’t grow anymore ... After the forest is burnt, new growth starts. Animals get tired of eating old food. Just like you and me. The Creator knows that animals need new food. After the fire there is fresh food to eat.”

(Whitehead Moose - July 20, 2006 -- all quotations have been translated from the Anishinaabe language)



The late elder Jake Kejick with evidence of historic forest fire.
Photo courtesy of Lee Gerrish, OMNR.

Pikangikum elders have a sophisticated understanding of fire behaviour and ecology, based both on traditional teachings and on personal observation. They explain that fire is a source of life and a gift from the Creator, in particular the fire that is started by lightning and is known as Thunderbird fire (*beenaysee eshkotay*). The elders explain how fire plays an important role in maintaining the productivity of plants and the trophic interactions between organisms. Pikangikum elders also describe how fire can pose a threat to life and the resources that make life on the land possible.

“Fire is used for a means of survival. If you respect fire, the fire will be good to you. It will keep you warm on cold days. But you also have to have respect and be careful with the fire. You have to use it wisely. If you use it wisely it will keep you. If not it will burn all of your possessions. If you do not have understanding it will become your enemy.”

(Solomon Turtle - April 17, 2007)

Teachings about fire stress the importance of showing respect for fire by exercising rules for the safe use of fire that are based on an understanding of how fire behaves under different conditions. Pikangikum elders provided teachings about fire safety including proper selection of fuels and selection of sites for campfires based on season and forest humidity. Elders also detailed a set of site characteristics, including topography, soils and fire severity, which influence how a site recovers from fire.

This knowledge of fire behaviour has been developed, in part, through a long history of utilizing fire as a tool to improve the abundance of resources and other landscape values. Thus, in addition to the role of Thunderbird fire in renewing the land, Pikangikum people have used fire, Anishinaabe fire, to enhance the productivity of certain sites. Fires traditionally were set in the early spring or late fall in grassy margins around streams and lakes, garden sites, cabin areas, travel corridors, peninsulas and islands. Fires were set when weather conditions indicated that burning would result in low fire intensity with a minimal risk of escape.

"We must understand this process. It is only to burn grass. Not to burn the soil. ... When things started to grow on the land in the late spring, these burnt areas tend to grow much faster... Other animals wouldn't like it immediately, but eventually these areas would be very good homes for many little animals...Ducks and muskrats were very abundant here. We got a lot of food from these areas."

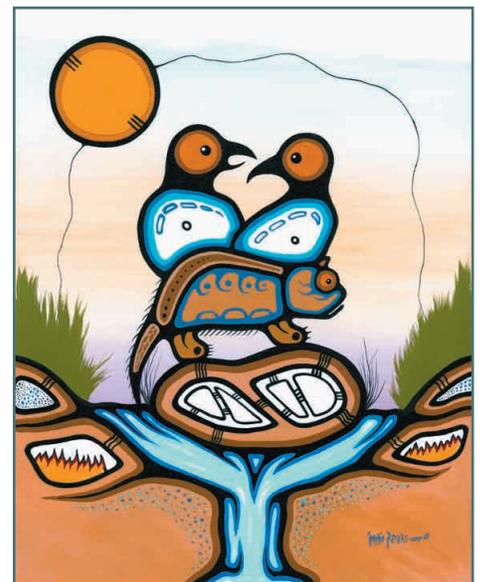
(Charlie Peters - Oct 5, 2006)

Since the 1950s Pikangikum elders have further developed their knowledge of fire, albeit in a different context, through their employment as provincial seasonal fire fighters. Many elders today have at least 30 years of experience fighting fires and some directed crews of up to 30 men. Elders brought to fire fighting their traditional knowledge of fire, such as maintaining an awareness of the closest body of water, being aware of signs of increasing fire activity, and knowing the impact of terrain on fire behaviour. They improved the effectiveness of fire suppression by checking for smouldering fires underground, using the kinds of soils that are effective in suppressing fire, and checking on suppressed fires several days after they were presumed out. Not only was fighting fires an important source of seasonal income for Pikangikum people, it was a source of pride because their knowledge was valued and brought to the fore.

Current fire management

Elders report that by the 1940s their people began to be afraid of laws that threatened imprisonment or fines for using fire. Further, the low demand for furs and traditional foods do not justify the use of traditional burning to enhance the productivity of these resources. In the early 1990s, provincial policy downloaded fire fighter training to the private sector, imposing new certification requirements that made it difficult for Pikangikum people to obtain fire fighting jobs. The combination of the suppression of traditional, Anishinaabe burning practices and marginalisation from fire fighting jobs is a source of confusion and bitterness among many community elders.

Since planning for forest harvesting in the Whitefeather Forest began in 1996, fires have been more aggressively suppressed in the southern half of the Whitefeather Forest. However, community members express concern that decision-making about fire suppression does not serve community interests.



Peeshaskoosaywahseegay. Spring burning of river and lakeside grasses to improve duck and muskrat habitat. Drawing by Mario Peters 2007.

“Several years ago there was a fire ... that came right to our door step. ... Nobody came to airlift the community. Nobody came to assist us that time...I’m bewildered because we were not seen in the same way not as valuable as those others to the south...I worked out of here for many years... We were only allowed to put out fires south of here. And all these years I was trying to save all these people while I was neglecting all the people up here.”

(Oliver Hill - February 6, 2007)

Concerns expressed by Pikangikum elders regarding fire management stem from a situation where management decisions are being made for their territory without their participation and based on criteria outside of their understanding or value system. For example, it became apparent from comments made during a community meeting with the OMNR that the Whitefeather Forest is perceived as largely unencumbered by the values, including private property, human lives, and forestry interests, that in the south would trigger aggressive suppression and restrain prescribed burning. The Whitefeather Forest is considered an indigenous cultural landscape by Pikangikum people - one that has been heavily influenced over generations by interactions between land and people. It is the site of important customary resource uses that are dispersed across the landscape and enjoyed by extended family groups rather than single property owners.

Through this research, Pikangikum elders articulated an interest in applying their knowledge of fire ecology and behaviour to forest management in the Whitefeather Forest, including reclaiming traditional controlled burning practices. Pikangikum elders regard their responsibility to care for the Creator’s gifts as a sacred obligation and if it becomes clear to them that the health of the land would be maintained by resuming burning practices, they wish to be able to do so.

The acceptance of fire in forest management is particularly important in avoiding stand conversion from conifer to hardwood stands following commercial timber harvests. Pikangikum elders point to several important differences between the ecological outcomes of forestry practices they see to the south

Management Implications

1. Pikangikum First Nation has expressed a desire to re-establish their engagement with fire management within their territory. Pikangikum Elders have clearly stated their desire for fire management planning for the Whitefeather Forest to reflect their experience, teachings and values. They wish to teach their youth about fire and traditional fire values, gain recognition of the customary process of using fire for land management within the Whitefeather Forest, explore the adaptation of their knowledge of fire behaviour and ecology to forest restoration following silviculture, and regain access to employment as fire fighters.
2. Further dialogue between the provinces and First Nation communities is necessary to achieve culturally sensitive policies, planning and operations of fire management. Fire management policies influence which segments of society benefit from decisions about fire suppression; these policies also influence the acceptability of fire as a tool in forest renewal, including renewal of woodland caribou habitat. Currently, Canadian First Nations are taking an increasing role in resource management within their territories and likely wish to be involved in the decisions made regarding policies, planning and operations of fire management. Cross-cultural dialogue will be necessary to achieve mutual understanding and respect between Aboriginal and non-Aboriginal governments.
3. Further collaborative research on First Nation historic interactions, knowledge and values associated with fire is required. A large literature, including this research, suggests that many First Nation groups within Canada have geographically specific knowledge of using and coexisting with fire. Further cooperative research opportunities with other First Nations should be pursued to bring forward this wealth of knowledge and experience in fire management policy, planning and operations.

of them, and the results of burning. Minimizing these differences, including through the use of fire as a silvicultural tool, is one of the key challenges for sustainable forest management if woodland caribou habitat is to be maintained in the Whitefeather Forest. Mature conifer forests provide an open environment that enables easier detection and avoidance of predators; in upland areas, they are also associated with the growth of key winter forage such as lichens (*Cladina spp.*). Managing the Whitefeather Forest for woodland caribou habitat may require more deliberate use of fire within the Whitefeather Forest. If this is the case, it is apparent that further dialogue is needed between provincial forestry and fire managers, the Whitefeather Forest Management Corporation of Pikangikum First Nation, and community elders and residents.

Further reading

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