August 23, 2024

Ontario Ministry of Natural Resources

Re. Proposal to modernize wildland fire management in Ontario

To whom it may concern,

We thank you for the opportunity to provide input on the discussion paper Modernizing Wildland Fire Management in Ontario posted July 15, 2024 on the environmental registry.

We provide these comments in our capacities as Wildlife Conservation Society (WCS) Canada scientists, leading research and policy development related to species and ecosystems to inform conservation decisions. Our expertise relevant to wildfire management is in conservation and scientific research focused on biodiversity, ecological integrity, forests and peatlands, cumulative impacts, and climate change. We are affiliated with global WCS programs in more than 60 countries and active at the science-policy interface in Canada and internationally.

We welcome the release of this discussion paper to modernize Ontario's approach to wildfire management which is urgently needed at this time of increasing risk of climate-induced wildfire events and associated impacts to communities, infrastructure, forest ecosystems and wildlife. We are, however, greatly concerned that several key elements are absent that are critical for an effective and forward-looking approach to mitigate increasing wildfire events linked to climate change and the related crisis of increasing biodiversity loss. We outline these concerns below with our recommendations for how to enhance the proposal.

1. **We support the inclusion of the section "Expand Prevention and Mitigation of Wildland Fire" and potential changes to the Forest Fires Prevention Act to address these. However, there is a lack of explicit focus on climate change and biodiversity, and the role of forests and peatlands in wildfire prevention and mitigation, including through the mitigation of climate change.**

i) Forests and peatlands: Since climate change is a major driver of wildfire, an explicit focus on approaches to mitigate climate change is essential to reduce wildfire risk. This must include a key focus on boreal forests and peatlands that cover a large portion of northern Ontario. These ecosystems provide crucial carbon storage functions for the mitigation of climate change, especially in locations that contain large areas of peatlands. Carbon stores in peatlands are threatened by the compound but related effects of climate change and increased disturbance from wildfire[1]. Recent research shows that peatlands in the boreal region, notably those that are treed, can promote fire refugia – both within the peatlands

WCS CANADA
Ontario Northern Boreal Program
10 Cumberland St N, Thunder Bay, ON P7A 4K9
PHONE: 807-285-9125
WWW.WCSCANADA.ORG

themselves and in neighbouring upland forest[2]. Fire refugia are important in sustaining patches of intact boreal forest to act as habitat refugia and as seed sources for future forest regeneration. It is therefore critical to maintain intact peatland systems in the face of climate change and their protection must be a key element of a modernized approach to wildfire management.

Enhancing forest management strategies to include new silviculture practices that aim to reduce wildfire risk in boreal forests should consider increasing the intolerant hardwood component (e.g., aspen and birch) at the landscape level to reduce flammability (once trees reach leaf out) in comparison to conifer species[3]. Forest resilience to wildfire may also be enhanced by higher retention of early maturing boreal conifer species, such as jack pine, which provide an earlier natural seed source for regeneration following wildfire[3.]

An enhanced forest management strategy to reduce wildfire risk should also include "precautionary wood reserves" contain adequate amounts of mature forest stands at the landscape level[3]. These should include old-growth forests that also provide high-quality habitat for wildlife species, including caribou and wolverine. Such an approach could provide co-benefits to the forestry sector by improving long-term predictability of timber supply.

ii) Wildlife conservation: Wildfire management approaches, including potential increased timber harvest and/or altered silvicultural practices, must carefully consider impacts to wildlife. In the boreal forest, this includes species-at-risk such as boreal caribou and wolverine.

Boreal caribou rely on large expanses of undisturbed and old growth conifer forest. Wildfires and human-caused habitat disturbance that produce open and fragmented forests negatively affect boreal caribou by increasing their predation risk[4,5]. Negative impacts from human-caused disturbance such as timber harvest and associated roads are primary drivers of population declines[5,6], the effects of which are substantially greater than those associated with wildfires[7]. Nonetheless, wildfires and preventative measures add to the overall cumulative landscape disturbance that is widely recognized to reduce boreal caribou population sustainability and forms the basis of the 35% habitat disturbance threshold for their management across Canada[3,6]

[2] Kuntzemann et al. (2022). Peatlands promote fire refugia in boreal forests of northern Alberta, Canada. DOI: 10.1002/ecs2.4510
[3] Boulanger et al. (2024). The 2023 wildfire season in Québec: an overview of extreme conditions, impacts, lessons learned and considerations for the future. Can. J. For. Res. https://doi.org/10.1139/cjfr-2023-0298
[4] DeMars et al. (2023). Incorporating mechanism into conservation action in an age of multiple and emerging threats: The case of boreal caribou. Ecosphere. https://doi.org/10.1002/ecs2.4627
[5] Environment and Climate Change Canada. (2024). Scientific Assessment of the Federal and Provincial Frameworks for the Conservation of Boreal Caribou in Ontario. Expert Scientific Advice Section - WLSD-STB. Sci. Assess. Rep. 2024/001.
[6] Environment and Climate Change Canada. (2020). Amended Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal Population, in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. https://doi.org/10.1002/ecs2.4627 xiii + 143pp.
[7] Johnson et al. (2020). Science to inform policy: Linking population dynamics to habitat for a threatened species in Canada. J. Appl. Ecol. https://doi.org/10.1111/1365-2664.13637

WCS CANADA
Ontario Northern Boreal Program
10 Cumberland St N, Thunder Bay, ON P7A 4K9 PHONE: 807-285-9125

A notable difference between wildfire suppression and timber harvest effects on the landscape is road construction. Roads negatively impact wildlife in several ways. They increase predation risk by facilitating the movement of predators[8]. Humans also use roads for trapping which can cause incidental wolverine harvest. Any enhanced use of timber harvest to manage wildfire risk must minimize road building, or at a minimum include plans to effectively decommission roads.

Given the omission of implications of measures included in the proposal to wildlife conservation, we are concerned that increased timber harvest will not adequately consider impacts to wildlife habitat and populations. Extensive road building and habitat disturbance in boreal caribou and wolverine ranges, combined with increased wildfires due to climate change and potential increased timber harvest as suggested, could increase disturbance levels far beyond what boreal species can sustain.

We strongly recommend considering the cumulative effects of wildfires and forest management measures on boreal caribou in the modernized wildland fire management approach. It will be critical to investigate the impacts of enhanced vegetation and fuel management, such as increased timber harvest and/or thinning, on boreal caribou and wolverine population sustainability. Furthermore, additional timber harvest opportunities must still follow existing Dynamic Caribou Habitat Schedules and policies meant to ensure suitable habitat over short and long terms.

2. **We are pleased to see that Indigenous Knowledge and cultural burning will be considered as elements in the section to Strengthen Collective Responsibility for Wildland Fire Management. However, we are concerned about the language "strive to better integrate" these critical elements and that any potential new structure such as a wildfire advisory committee will be only just that – advisory in nature – without any actual decision-making authority.**

   While we support potential changes to the Forest Fire Prevention Act to enable agreements with First Nations (and others) in wildland fire management, we encourage a much stronger approach that moves beyond "integration" of knowledge and "advisory" approaches to enable new governance structures that provide genuine decision-making ability for Indigenous peoples. This is a critical part of advancing reconciliation and to support the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples*.

[8] Dickie et al. (2017). Evaluating functional recovery of habitat for threatened woodland caribou. Ecosphere. https://doi.org/10.1002/ecs2.1936

WCS CANADA
Ontario Northern Boreal Program
10 Cumberland St N, Thunder Bay, ON P7A 4K9 PHONE: 807-285-9125

We strongly urge the consideration of the concerns we have outlined and our recommendations for important enhancements to modernizing wildland fire management in Ontario.

We welcome further opportunities to discuss this important topic.

Sincerely,

Lynn Palmer, Ph.D., Forests and Regional Policy Specialist – Ontario Northern Boreal Program & Forests, Peatlands, and Climate Change Program
Jenilee Gobin, Ph.D., Caribou Associate – Ontario Northern Boreal Program
Matthew Scrafford, Ph.D., Conservation Scientist – Ontario Northern Boreal Program