Advertising or Accountability?

A Critical Review of Canada's State of the Forests Report

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Executive Summary

Canada is one of 12 member countries of the *Montreal Process Working Group*, a coalition responsible for 90 percent of the world's temperate and boreal forests and half of global roundwood production. Seven criteria and 54 indicators were developed under the Montreal Process to help member nations describe, monitor, assess, and report on the state of forests in their country, specifically, the management of boreal and temperate forests. Through its membership, Canada has committed to track and disclose progress towards sustainable forestry goals by reporting on the Montreal Process criteria and indicators. It purports to do so through the annual State of Canada's Forests (SOF) report.

However, Canada's SOF reports on only a handful of the Montreal Process indicators: the ones that tend to put Canada's forestry practices in a good light. These include indicators that focus on metrics related to the forestry sector's economic performance, and, year after year, emphasize the area of forest impacted by natural disturbances, which downplays how industrial development changes forests in Canada, and disregards cumulative impacts. The SOF also uses "feel-good" stories of forest-related initiatives across Canada, such as woodlots producing maple syrup and the progressive practices of small-scale forestry operations, to uncritically convey that forest management across Canada is beyond reproach.

Despite assurances in Canada's SOF that all is well, significant challenges in forests across Canada continue. In Quebec and Ontario, the government is failing to effectively protect critical caribou habitat, violating the federal Species at Risk Act. Ontario remains unwilling to support Indigenous-led protected areas, has exempted the forestry sector from the province's Endangered Species Act (ESA), and has recently approved legislation to replace the ESA entirely with a much weaker law. In British Columbia (B.C.), unsustainable logging has severely diminished old-growth ecosystems, contributed to wood shortages and mill closures, and likely exacerbated the impacts of extreme flooding on communities. In Alberta, logging is expanding further into the ranges of highly imperiled caribou herds. In Quebec, the government is exploring creating zones in which few environmental safeguards apply. In Acadian forests in eastern Canada, logging has shifted forest composition outside of the natural range of variability, resulting in significant decreases in bird populations.

The dramatic increase in severe wildfires across Canada is exacerbating the impacts of industrial development activities, and calls into question how the cumulative effects of these activities negatively impact forest resilience and ecological integrity.

This report critiques Canada's annual "State of Canada's Forests: Annual Report" as a means of reporting to the Montreal Process Working Group regarding sustainable forest management. It provides an overview of the Montreal Process criteria and indicators, shining a light on indicators that are overlooked and giving voice to stories of forest degradation: from loss of biodiversity to deteriorating human health to impaired climate resilience. It questions who has the most say in forestry laws, who benefits most, and who is being impacted. It also emphasizes that the SOF falls short of meeting Canada's international commitments to report on sustainability metrics.

Additionally, this report shows how the Montreal Process indicators alone are insufficient to meet the needs and expectations of Canadians for transparent reporting, as they do not address the challenges facing Indigenous-led conservation within the managed forest, land conflicts rooted in inadequate consultation with Indigenous communities, failure to uphold Canada's commitment to obtain Free, Prior and Informed Consent prior to development activities and/or conflicts that arise when First Nations do not support the industrial forestry model due to the negative impacts from it they have experienced within their traditional territories.

Building upon the 2024 publication *The State of the Forest in Canada: Seeing Through the Spin*, this report aims to expose Canada's misleading and unsupported claims of sustainable forest management, expose its failure to uphold reporting commitments under the Montreal Process, and advance the honest dialogue needed to drive improvements in forest management. This report recommends more comprehensive and transparent reporting, particularly on ecological, social, and Indigenous concerns.

The recommendations section of this report outlines the information the SOF should report on to meet Canada's obligations under the Montreal Process, along with the criteria and indicators that require those disclosures. As the federal government reports both qualitatively and quantitatively in the SOF, and as some data for assessing the state of the forests in Canada are more readily available than others, this report's recommendations for improved reporting are broken down into quantitative and qualitative categories. These two categories ensure that the federal government can report on critical issues even when there are currently incomplete data sets for which to do so quantitatively.

An abbreviated overview of the recommendations in this report is provided below:

Criterion 1

(Conservation of Biological Diversity):
Report on age class distribution; percentage of Indigenous-held forest tenure by province; the area/percentage of the industrial footprint; and changes in populations of species-at-risk/species dependent on mature and old forest; barriers and opportunities for Indigenous Protected and Conserved Areas; and scientific findings comparing industrially logged areas with natural benchmarks.

Criterion 2

(Productive Capacity of Forest Ecosystems):
Report on the annual harvest of non-wood forest products, with particular attention to those produced by Indigenous communities; forestry practices impacting the production of non-wood forest products, including glyphosate spraying; and policies/alternative practices that may enhance the sustainable harvest of non-wood forest products.

Criterion 3

(Forest Ecosystem Health and Vitality):
Report on the role industrial logging can have in exacerbating climate change impacts (e.g., wildfires and flooding); and the cumulative role that forest management combined with natural disturbance is having on forest resilience to wildfire, floods, insects, and disease.

Criterion 4

(Conservation of Soil and Water Resources):
Report on examples of soil degradation; lessons learned/best practices in soil and water conservation; and downstream community impacts from wood processing and mill effluent.

Criterion 5

(Forest Contribution to Global Carbon Cycles):
Report on the emissions associated with industrial logging separate from the natural sequestration of carbon absorbed by post-fire regrowth in primary, old-growth and mature forests; recent Life Cycle Analysis research highlighting the loss of forest carbon associated with soil disturbance; the conversion of old-growth and primary forests into planted forests; and a relevant analysis of Canada's current forest carbon policy approaches, including critiques by the CESD challenging the carbon and ecological benefits of Canada's 2 Billion Trees program and Canada's approach to forest carbon accounting.

Criterion 6

(***Socio-economic Benefits):***
Report on estimates of the revenue from forest-based ecosystem services; the recovery or recycling of forest products as a percentage of total forest products consumption; the average wage rates and annual income of different categories of forest workers compared to the average annual income to other sectors of employment in Canada; the distribution of revenues derived from forest services to international stockholders and ownership interests, Canadian stockholders and ownership interests, corporate management, forest workers and communities; the full value of non-wood products produced or collected, with an emphasis on those which support Indigenous economies and cultural practices; the extent to which Indigenous rights and responsibilities are integrated into provincial forest management planning, including their manuals; and policy developments at the provincial and federal levels that may impact the protection of cultural, social, and spiritual values of forests.

Criterion 7

(Framework for Forest Conservation and Sustainable Management):
Report on recent and current conflicts relating to how forests are managed across Canada; and current legal challenges to forest management regimes and forest product facilities (e.g., pulp mills) across Canada, particularly in relation to Indigenous Peoples and their inherent and Treaty rights.

Canada should also conduct public and Indigenous consultation to identify additional indicators for use in SOF assessments.

Transparent reporting on the state of forests in Canada is needed to bolster public confidence that forests are sustainably managed, and that issues relating to lack of sustainability are being reported on and addressed.

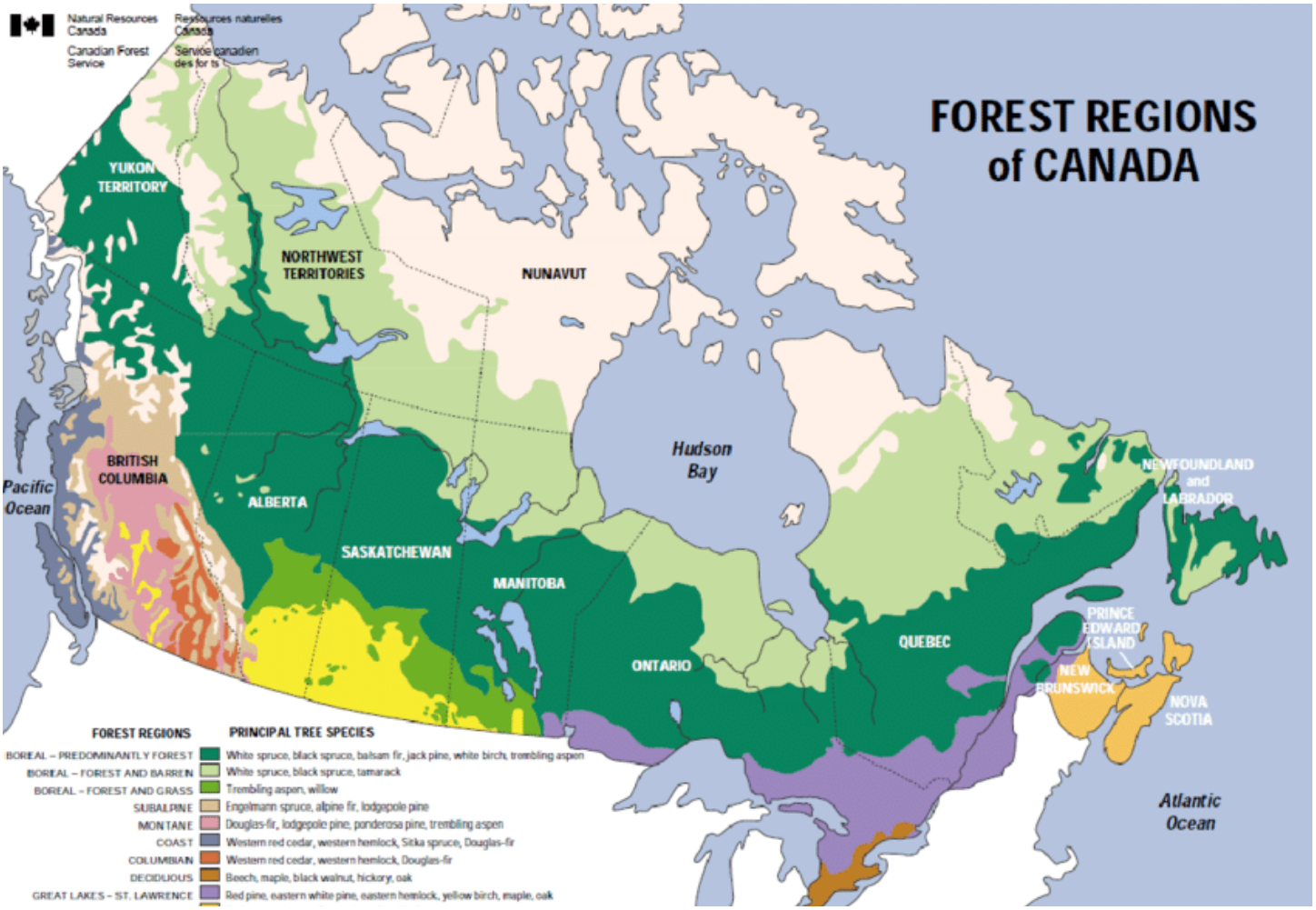
Introduction

Forests are an essential part of Canada's environmental, economic, and cultural fabric. Ecologically, they regulate the climate, absorb carbon dioxide, purify the air, and support Canada's rich biodiversity by providing habitat for countless species. They also help protect water systems by filtering and storing freshwater, improving water quality, and preventing erosion. Economically, they sustain the forestry sector, which generates jobs and produces essential materials like paper and lumber. They also boost local economies through tourism, drawing millions of tourists each year. Culturally, forests are deeply connected to the knowledge, language, subsistence, and spiritual practices of many Indigenous nations, contributing to cultural legacies by providing resources for food, medicine, and shelter. For outdoor enthusiasts, forests in Canada offer a natural sanctuary—ideal for hiking, camping, and wildlife observation.

Roughly 94 percent of Canada's forests are considered publicly owned, placing their management largely in the hands of federal, provincial, and territorial governments.[1] These governments are responsible for enacting and enforcing laws and policies that reflect Canada's commitment to sustainable forest management.

The primary tool for reporting on progress toward these goals is the federal *State of Canada's Forests: Annual Report* (SOF), published annually. According to the SOF, Canada's forestry regime is highly regulated and sustainably managed, ensuring that environmental, social, cultural, and economic benefits "are maintained for both present and future generations."[2]

However, independent research tells a different story—it points to ongoing degradation of forest



ecosystems, with serious consequences for biodiversity, climate resilience, and the recognition of Indigenous rights and responsibilities.[3]

At the root of this disconnect is the ambiguous definition of sustainability itself—and how it is measured. While sustainability is widely understood to include the 'three pillars' of long-term economic growth, social justice, and environmental health, it is ultimately a social construct. Its meaning depends on the goals established, the indicators chosen, and the timelines and data used to assess progress. In Canada, metrics used to evaluate sustainable forest management remain grounded in a sustained yield paradigm, which prioritizes the steady supply of wood to mills. As a result, the protection of ecosystem services—such as clean water, carbon storage, and biodiversity—is often framed as a cost to industry rather than a central objective.[4]

It is important to recognize that forest management policies are not crafted by objective experts, but are heavily influenced by the very industry they are meant to regulate.[5] Consequently, despite claiming to be a "trusted and authoritative source" on the state of Canadian forests,"[6] the SOF often distorts, downplays, or omits the true extent of industrial impacts on forest ecosystems—with real-world consequences.

In Quebec and Ontario, the government has failed to protect critical caribou habitat, violating the federal Species at Risk Act.[7] Ontario remains unwilling to support Indigenous-led protected areas, has exempted the forestry sector from the province's Endangered Species Act (ESA), and has approved legislation to replace the ESA entirely with the much weaker Species Conservation Act. [8] In British Columbia (B.C.), unsustainable logging has contributed to wood shortages and mill closures.[9] Meanwhile, the SOF has yet to report on Canada's international commitments to halt and reverse forest degradation by 2030, including those made under the 2021 Glasgow Leaders Declaration on Forests and Land Use and the 2024 United Nations Framework Convention on Climate Change Global Stocktake.[10] Critically, the SOF also fails to adequately address Canada's obligations under the Montreal Process, which outlines globally agreed-upon criteria for the conservation and sustainable management of temperature and boreal forests.

The dismissal—and often outright erasure—of critical perspectives on Canadian forest management has led many scientists, environmentalists, Indigenous Peoples, and even forester managers to conclude that governments are neither credibly nor comprehensively reporting on the state of forests in Canada. This concern is compounded by the mandate of Natural Resources Canada (NRCan)—the agency responsible for publishing the report—which includes the active promotion of the forestry sector. Its dual role creates an inherent conflict of interest, compromising the objectivity needed to accurately assess the actual state of forests in Canada. The result is evasive reporting that downplays or omits the industry's shortcomings, undermines the credibility of government claims about forest sustainability, and leaves Canadians with an incomplete picture of forest health and governance.

This report presents findings omitted by the federal government, unpacks misleading narratives, and provides essential context to NRCan's claims. Like the SOF, it uses a "featured stories" approach—but instead it highlights examples of Canadian forestry failing to meet Montreal Process indicators. It also demonstrates that, even if all of the framework's indicators were fully reported, they remain insufficient for addressing the long-term sustainability challenges facing forests in Canada. To help bridge this gap, this report proposes additional indicators that could be used to evaluate sustainability based on the expectations of a broader cross-section of Canadians and align more closely with the country's international commitments.

A more sustainable future for forests across Canada is possible, but it requires increased transparency, accountability, and a willingness to confront the serious challenges facing forests and the communities that depend on them.

The Montreal Process and *The State of Canada's Forests: Annual Report*

As one of the 12 member countries of the Montreal Process Working Group—which includes the United States, Russia, and Australia—Canada is part of a coalition responsible for 90 percent of the world's temperate and boreal forests and half of global roundwood production. [11] The Montreal Process has established internationally agreed-upon benchmarks to provide a common language and metrics through which member countries could measure, monitor, and report on the status and trends affecting their forests, including seven criteria, currently accompanied by 54 associated indicators (Figure 1). By adopting this framework, Canada committed to track and disclose its progress toward sustainable forest management. [12]

1 **Criterion 1: Conservation of Biological Diversity**
- Biophysical Characteristics of Forests
- 9 Indicators
- Flora, Fauna, Conservation Efforts

2 **Criterion 2: Maintenance of Productive Capacity**
- Production and Capacity of Physical Outputs
- 5 Indicators
- Wood Products, Nonwood Forest Products

3 **Criterion 3: Maintenance of Ecosystem Health and Vitality**
- Forest Disturbances Processes
- 2 Indicators
- Biotic (Insects, Invasive Species), Abiotic (eg. fire, weather)

4 **Criterion 4: Conservation of Soil and Water Resources**
- Characteristics and quality of forest soils and water
- 5 Indicators
- Soil and water condition, Conservation, Maintenance

5 **Criterion 5: Maintenance of Forest Contribution to Global Carbon Cycles**
- Sequestered carbon and flux in forests
- 3 Indicators
- Forests, Wood Products, Energy

6 **Criterion 6: Socioeconomic Benefits**
- Broad Array of socioeconomic conditions and output
- 20 Indicators
- Production and Consumption, Investment, Jobs, Recreation

7 **Criterion 7: Legal, Institutional, and Economic Framework**
- Capacity to support sustainable management
- 10 Indicators
- Laws and Regulations, Data and Information, Policies

Figure 1: The Montreal Process is a voluntary international framework that provides a set of criteria and indicators designed to assess and promote the sustainable management of temperate and boreal forests. The Montreal Process is built on 7 criteria and 54 indicators.[13]

Often portraying itself as a global leader in sustainable forestry, Canada submits its annual SOF to the Montreal Process Working Group as evidence of its progress—even citing the framework as its "inspiration." [14] However, as we show in this report, its highly selective approach to reporting on Montreal Process indicators, and its consistent failure to comprehensively address many of the agreed-upon criteria, reveal a lack of objective scrutiny.

Rather than providing a full accounting of Canada's obligations—including key indicators such as species diversity, soil health, water quality, the status of at-risk species, carbon storage, and forest fragmentation—the SOF focuses on a surprisingly narrow selection of indicators (Figure 2). These focus primarily on quantitative metrics related to the forestry sector's economic performance. It also only reports on indicators that cast the industry in a positive light, such as the number of trees planted, the amount of forests logged across all forests in Canada each year, and, in the case of the most recent report (2023), the importance of maple syrup harvested (Figure 3). [15] "Feature stories" further promote favorable narratives about the sector, while not considering any failures, challenges or opposition to forest management practices.[16]

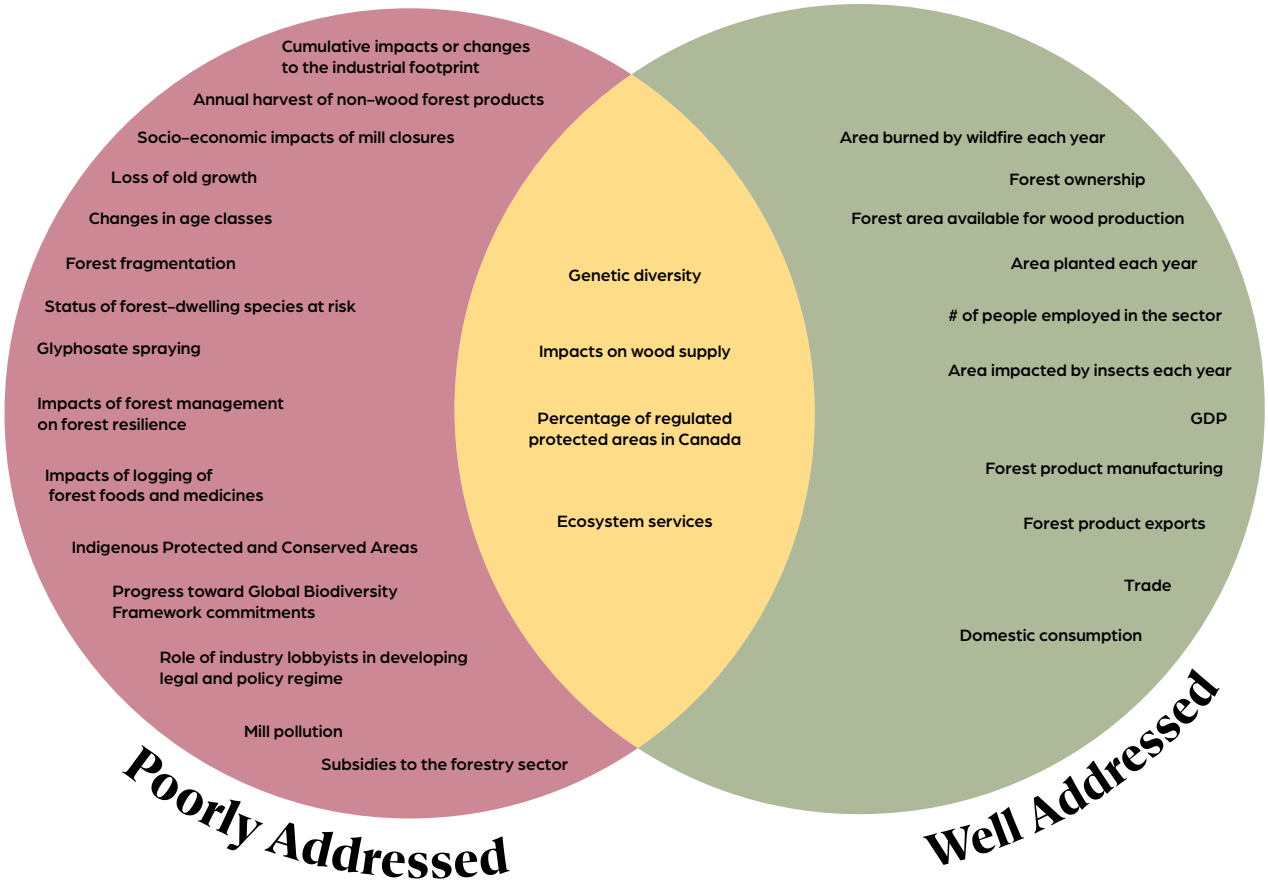
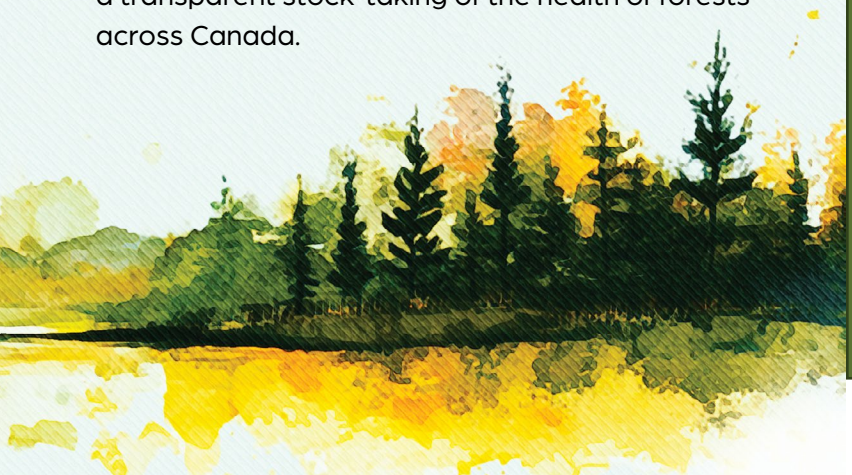


Figure 2: Canada's State of the Forest report not only falls short of meeting Canada's commitment to the international community under the Montreal Process but also fails to provide the critical information needed to ensure comprehensive scrutiny of forest management practices (also see Appendix 1).

As a result, Canada's SOF not only falls short of meeting Canada's commitment to reporting to the international community under the Montreal Process but also fails to provide the critical information needed to ensure comprehensive scrutiny of forest management practices. As an academic review of Canada's 2009 SOF noted, the report functions more as a primer on Canadian forests with gaps in the indicators that are used for reporting.[17] Little has changed in the years since, with the report's primary purpose appearing to be a call for increased public confidence in forest management rather than a transparent stock-taking of the health of forests across Canada.



While the Montreal Process requires countries to report data on forest ecosystem type, age, and location, Canada reports primarily on total forest area—land that currently has forest cover or is expected to have forest cover in the future.[18]

Canada uses the United Nations Food and Agriculture Organization's definition of forest area, which includes land that is not primarily used for agriculture or urban purposes, is larger than 0.5 hectare, has trees taller than five meters, and more than 10 percent tree canopy cover—or could meet these requirements naturally over time.[19]

As a result, old-growth stands and recent clearcuts can be categorized and reported in the same way—simply as "forest"—despite their significant ecological differences.

While the Montreal Process indicators are not without limitations—for example, they do not fully reflect the latest international discourse on Indigenous rights or forest carbon—they nonetheless cover a broad range of criteria and corresponding data, and together establish a baseline standard for reporting on progress toward sustainable forest management. Appendix 1 provides a brief overview of how effectively the SOF addresses these indicators.

Figure 3: Despite claims that sustainable forest management rests on three pillars—economic, social and environmental—Canada's SOF exhibits a clear bias towards the economic considerations related to wood products.

Overlooked and Underreported: Feature Stories on Forest Degradation and Indigenous Rights

The SOF underrepresents environmental degradation, the ecological impacts of forest management practices, and the complex realities of Crown–Indigenous relations—particularly in the context of reconciliation and Indigenous stewardship. It also fails to acknowledge the role of industrial forestry in the erosion of climate resilience, even as wildfires and floods become more frequent and severe. These omissions result in a partial and misleading picture of Canada's forests.

This report seeks to provide a more complete picture. Using the Montreal Process's seven criteria as a framework, it presents qualitative feature stories that shed light on how well the SOF addresses each criterion—contrasting its claims with evidence from communities, scientists, and frontline observers. Below is an overview of each criterion. Appendix A details the accordant indicators for each criterion and the degree to which they are addressed in the SOF.

Criterion 1: Conservation of Biological Diversity

Conserving biodiversity is essential for maintaining the functionality, productivity, and resilience of forest ecosystems. Under natural conditions, forests evolve through successional stages and typically within expected boundaries of variation. Changes in tree species and age classes generally occur in somewhat predictable patterns that sustain a wide range of habitats for forest-dependent species over time. Industrial resource extraction activities negatively impact biodiversity by altering and fragmenting habitats, introducing invasive species, and reducing species populations and ranges.[20] For example, many studies have shown that decades of industrial logging have changed forest composition and/or lead to landscapes dominated by younger forests. Industrial development activities also introduce networks of roads, for which there are no ecological parallels. These changes have been shown to weaken forest resilience and diminish structure and function.

The first criterion of the Montreal Process assesses the conservation of biological diversity through several indicators, including the degree of forest fragmentation, the amount of forest in protected areas and under tenure agreements, and the distribution of forests by ecosystem type, successional stage, and age class. It also calls for reporting on the number and status of native forest-associated species at risk, as well as the genetic diversity of forest ecosystems.[21]

The 2023 SOF report includes a section titled *Managing for diversity: How sustainable forest management conserves and protects Canada's diverse forest values*. It outlines various federal and provincial forest management processes, commitments, laws, and regulations. However, the report either omits or insufficiently addresses key Montreal Process biodiversity criteria—those needed to evaluate the effectiveness of these frameworks (see Appendix A). Notably absent are quantitative data on pre-industrial versus current levels of old-growth or primary forests, the extent of forest fragmentation, shifts in overall forest composition and age class distribution, and the status of at-risk species such as boreal caribou. For example, while the report claims that "old-growth forests are increasingly being protected and conserved" and cites two initiatives intended to support that claim, it does not specify how much old-growth forest is actually protected in Canada—either in terms of total area or as a percentage of overall forest cover.

The absence of such reporting is not due to a lack of available data. These metrics have been extensively researched across Canadian forests, and if reported, would likely reveal troubling trends of forest degradation.[22] While sound regulatory frameworks are essential for sustainable forest management, they must be accompanied by transparent, outcome-based reporting. Without measurable evidence of progress on biodiversity indicators, it is impossible to determine whether current management practices are effectively conserving Canada's forest ecosystems.

The feature stories in this section explain how the decimation of old growth in British Columbia has significantly degraded forest structure and function; how provincial resistance, particularly in Ontario, is failing to implement new protected and conserved areas led by Indigenous nations; how Quebec, Ontario and Alberta have failed to integrate caribou habitat protections into forest management planning, which is driving the imperilment of caribou populations; and how the ongoing political upheaval regarding forestry in Quebec has sidelined science and Indigenous rights.

The Race to Save Old-growth Forests in British Columbia

Old-growth forests are among the most ecologically valuable and culturally significant ecosystems in British Columbia (B.C.), yet they have been systematically logged for decades and replaced with younger aged stands at a landscape scale. While often portrayed as abundant, the remaining old-growth stands in the province are at risk due, in part, to poor implementation of old-growth strategies.[23]

Certified as sustainable: logging some of the last big-tree old growth in B.C. in Caycuse watershed. (Photo credit TJ Watt).

In September 2020, B.C. published its Old Growth Strategic Review (OGSR), which included 14 recommendations outlining a paradigm shift in forest stewardship. It identified biodiversity as a priority and called for immediate action to protect at-risk old-growth forests. In response, the B.C. government pledged to implement the recommendations—marking the first time it formally acknowledged, after decades of downplaying scientific evidence and shifting public values, that the loss of old-growth forests cannot be mitigated under the current logging regime.

Among the OGSR's recommendations was a call for the government to better manage forests for their full range of values—not just wood products. One key recommendation called for the deferral of logging in old-growth forests where ecosystems face a very high and near-term risk of irreversible biodiversity loss. These deferrals were scheduled to take effect within months of the report's release and were meant to temporarily set aside at-risk old-growth forests from logging while discussions about permanent protections between First Nations and the provincial government took place. Unfortunately, the province continued to stall on taking action toward implementing the report.[27]

This lack of meaningful change further fueled protests and blockades against old-growth logging in the Fairy Creek watershed throughout 2020 and 2021— including the largest act of civil disobedience in Canadian history, with more than 1,100 arrested.[28]

The B.C. government responded by assembling a panel of experts to guide the identification and protection of the most at-risk old-growth forests in the province. In November 2021, this group—the Old Growth Technical Advisory Panel (OGTAP)—released a report identifying 2.6 million hectares of the most vulnerable old-growth forests and recommending their deferral from logging.[29] This area represented just under 5 percent of the total forested land in B.C. and accounted for only slightly more than half of the at-risk old-growth areas, leaving the remaining half without a clear path to protection (Figure 4). [30]

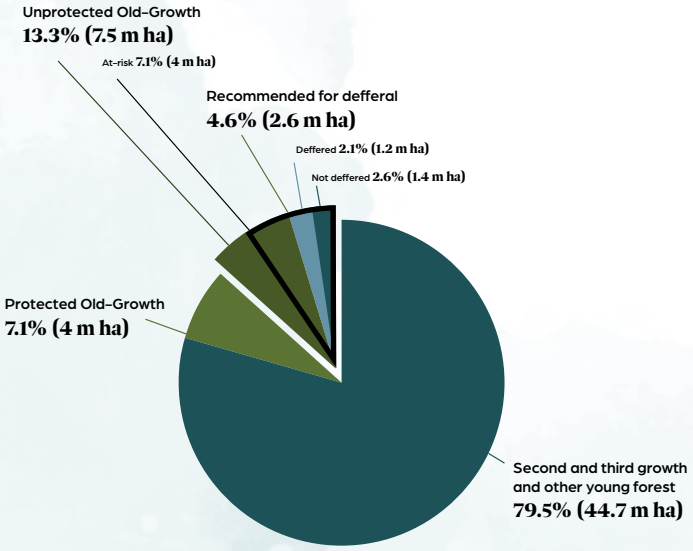


Figure 4: Remaining old-growth forest in B.C. compared to other forest age classes. Source: Wilderness Committee

> ***"Over 85% of productive forest sites have less than 30% of the amount of old [forest] expected naturally, and nearly half of these ecosystems have less than 1% of the old forest expected naturally. This current status puts biodiversity, ecological integrity, and resilience at high risk today."***[31]

Since the panel's report, only 1.2 million hectares have actually been deferred, with little transparency regarding their location, the duration of the deferrals, or whether discussions for permanent protection are underway.[32] Meanwhile, another 1.2 million hectares of old-growth forests—not recommended for deferral by OGTAP—have been deferred instead.[33] A leaked B.C. government map from early 2024 revealed that many of the most iconic old-growth forests in the province remain open to logging. [34]

This highlights two troubling realities. First, previous SOF reports should have already identified B.C.'s ongoing and historical failure to protect old-growth forests as part of its reporting on the Montreal Process criteria—and well before the B.C. government convened a panel to address the issue. Second, despite commitments to change, the province has allowed status quo logging of at-risk old-growth to continue, perpetuating the familiar "talk-and-log" approach and underscoring the opaque nature of B.C. forest management. Without more comprehensive and transparent reporting, the public will remain unaware of the true progress in protecting old-growth forests, the extent of what remains, and the amount logged every year.

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An independent study released in April 2025 found that protecting the most at-risk old-growth forests in just two large Timber Supply Areas (TSAs) in B.C. would result in $10.9 billion CAD worth of economic benefits for society over 100 years compared to business-as-usual logging. The study, titled The Economic Value of Old-growth Forests in BC, was conducted by environmental consulting firm ESSA Technologies and assessed old growth management scenarios in the Prince George TSA (Carrier-Sekani territory) and Okanagan TSA (Sylix, Secwepemc and Nlaka'pamux territories). The findings also reveal that fully protecting old-growth forests in these two TSAs would generate $43.1 billion in net economic benefits over the next century. Together, the two areas contain about 10 percent of B.C.'s total old-growth forests mapped in 2021. Carbon storage and sequestration is the largest factor, with additional benefits from tourism, recreation, and non-timber forest products. Many additional benefits of protecting old-growth forests like water quality and supply, flood mitigation, species habitat, cultural and educational values were not analyzed. Both the B.C. and the federal government have so far failed to undertake comprehensive analysis to compare the economic benefits of protecting intact forests with those from logging to inform forest management in the public interest.

Forest Protection: Commitments, Shortfalls, and the Promise of IPCAs

Protected areas are a crucial tool for maintaining and improving forest integrity.[35] As the Montreal Process states, "The level of formal protection given to forests is a reflection of the importance society places on their conservation." [36]

Under the Montreal Process (Indicator 1.1b), countries must report not only the area and percentage of forests in protected zones but also categorize them by ecosystem type, age class, and successional stage. It also requires identifying forest types most in need of protection. The purpose of this reporting is to identify conservation gaps and help guide nations in strengthening forest protections to meet biodiversity goals.

Although the SOF references protected areas—the 2023 report states, for example, "Nearly 10% of Canada's forests are protected (2022)"[37]—it provides no further analysis of the types of forests that fall under protection. Moreover, it neither acknowledges that Canada has missed key protected area targets nor offers a clear plan to address these shortcomings.

This is problematic, in part, because Canada has consistently fallen short of its international conservation commitments. In 2020, for example, Canada failed to meet an agreed-upon deadline to protect at least 17 percent of its land and inland waters—due in part to limited ambition and lack of commitment from several provinces. [38] Nevertheless, that same year, Canada joined the High Ambition Coalition for Nature and People, pledging to protect 30 percent of Earth's land and water by 2030 (a target known as "30x30"). This commitment was further reinforced in 2021 when Canada and other G7 nations approved the Nature Compact, identifying 30x30 as a key strategy to halt and reverse global biodiversity loss.[39]

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"Convention of Biological Diversity, Target 3: "Ensure and enable that by 2030 at least 30 percent of terrestrial and inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed ... recognizing and respecting the rights of Indigenous peoples and local communities, including over their traditional territories."[40]

Halfway through the decade, just over 13 percent land and freshwater in Canada is protected—far short of the goal.[41] More troubling, recent federal efforts appear focused on lowering the bar for what qualifies as "protection."[42] Further, while some jurisdictions—such as the Northwest Territories and Quebec—have made meaningful progress, others, including Ontario and Alberta, have actively obstructed conservation efforts. [43]

One area where progress is emerging—including in Canada's efforts to achieve its "30 by 30" conservation goal—is in Indigenous Protected and Conserved Areas (IPCAs). IPCAs, created and managed by Indigenous communities, not only contribute to biodiversity conservation but also uphold Indigenous rights, traditions, and governance. Examples include Thaidene Nëné and Edéhzhíe—both large expanses of protected areas in Canada under Indigenous leadership.

Other major initiatives include the Seal River Watershed in Manitoba, the Inuit-led national marine conservation area adjacent to northern Labrador's Torngat Mountains National Park, and a proposed Indigenous Conserved Area in the Eeyou Marine Region of northern Quebec.

However, the potential of IPCAs to deliver meaningful conservation outcomes is often hindered by jurisdictional barriers. Despite strong federal support, most IPCAs fall within provincial jurisdictions—where collaboration is frequently limited. Some provinces are not only failing to achieve their conservation targets (see Figure 5) but are also resisting efforts to engage First Nations in government-to-government processes to advance IPCAs and other Indigenous-led forest conservation initiatives (see Criterion 6).

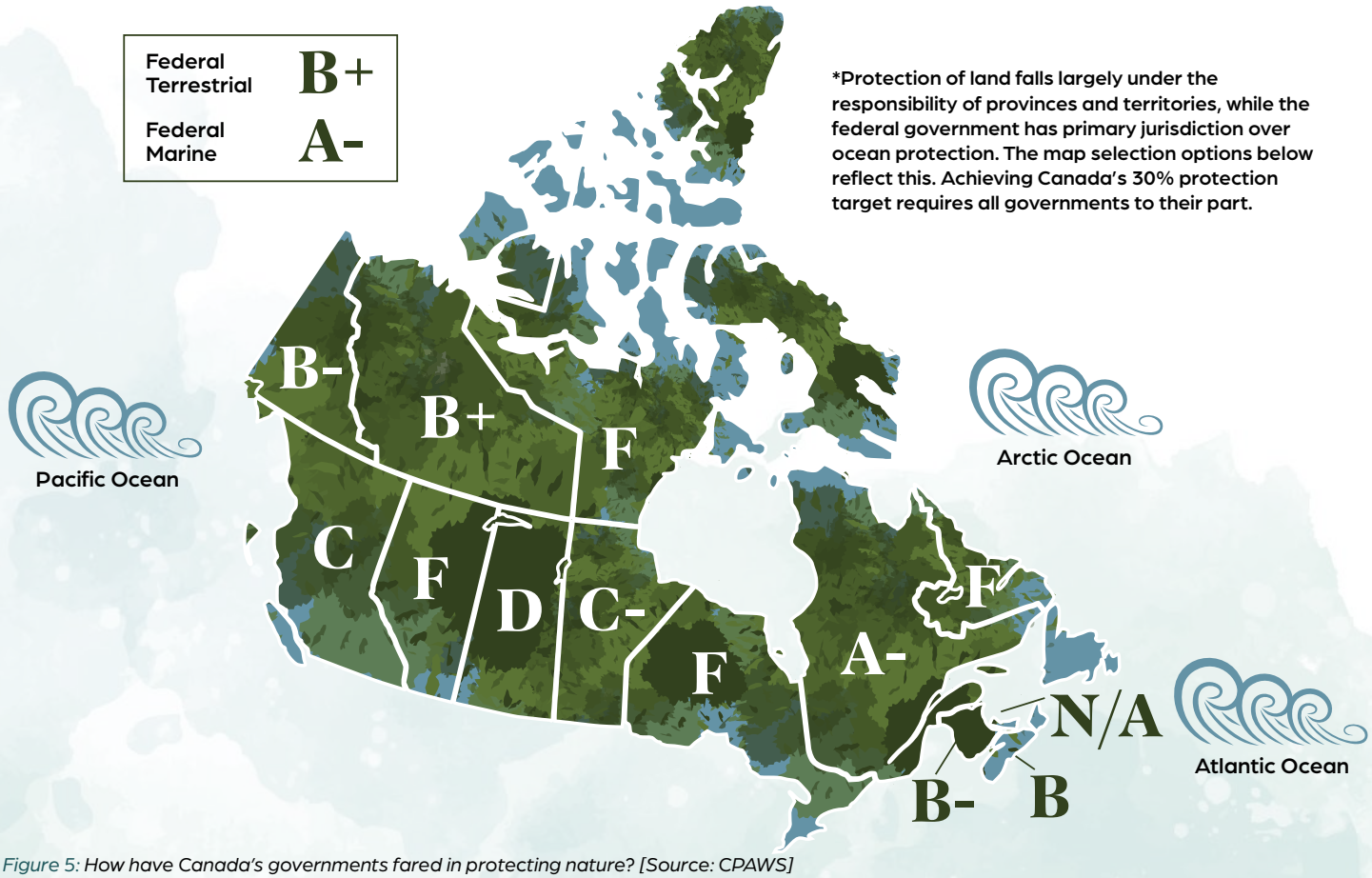


Figure 5: How have Canada's governments fared in protecting nature? [Source: CPAWS]

Quebec's Failure to Protect Boreal Caribou

As described by the Montreal Process, "The number of species at risk and their status is a measure of the health of forest ecosystems and their ability to support species diversity."[44] Monitoring and reporting on population trends is therefore essential for tracking habitat loss and evaluating whether changes in forest practices are effectively restoring ecosystems and supporting species recovery.

For species like boreal woodland caribou, habitat fragmentation—driven by forestry operations and infrastructure, such as logging roads—alters predator-prey dynamics and is a major driver of population decline.[45] Despite this, the 2023 SOF references caribou only once—and solely in relation to its negative impact on timber supply: "The sustainable wood supply will continue to decline over the next several years, since AACs [annual allowable cuts] in many jurisdictions are reduced in response to [...] measures that are being taken to protect woodland caribou habitat and old-growth forests."[46] The report fails to analyze population trends or levels of boreal caribou habitat disturbance, despite the existence of numerous government assessments documenting the status of herds and the efficacy/inefficacy of recovery measures.

This lack of transparency is especially concerning in provinces like Quebec, which is home to approximately 15 percent of boreal caribou in Canada and plays a vital role in the species' recovery. Despite the precipitous decline of the Val-d'Or, Charlevoix, and Pipmuacan herds—driven largely by industrial activities such as logging—the province has repeatedly failed to implement a credible boreal caribou conservation plan.[47] In 2016, Quebec committed to developing a habitat management plan under the federal government's Boreal Caribou Recovery Strategy but has since postponed issuing a comprehensive strategy. [48] The province also pledged to restore at least 65 percent of caribou habitat by range to an undisturbed state by 2023.[49] However, despite announcing pilot projects for two herds, no management plans have been published. Meanwhile, caribou populations continue to dwindle: the Pipmuacan herd now numbers fewer than 300 individuals, and the Val d'Or and Charlevoix herds are down to just 9 and 30 individuals, respectively. [50] For the Charlevoix herd, habitat disturbance remains at 92 percent—far above the 35 percent maximum threshold necessary for a healthy population.[51]

Figure 6: Resource extraction roads.

In 2024, caribou protection in Quebec came to a head when Steven Guilbeault, Minister of Environment and Climate Change Canada (ECCC) at the time, recommended invoking a federal emergency order under the Species at Risk Act to safeguard all three herds.[52] According to ECCC, the federal government's intervention would improve survival prospects for boreal caribou—as well as for up to 80 other species that share their habitat—by prohibiting industrial activities in key areas. These measures aim to address the herds' primary threat: predation linked to human-caused habitat disturbance, particularly logging and road building. Such activities degrade the unfragmented mature and old-growth forests that caribou rely on to avoid predators and create younger forest stands that attract moose and deer—prey species that, in turn, draw more predators into caribou habitat. As the government noted in its assessment for the emergency order, these activities have "contributed most to habitat disturbance". [53]

"The Quebec government has done everything in its power to break its promises by delaying the publication of a complete strategy for the protection of woodland and mountain caribou and the implementation of the recommendations of the independent commission." [54]

Ghislain Picard, Chief of the Assembly of First Nations Quebec–Labrador

The federal Cabinet approved the emergency order in June.[55] In 2025, the Government of Canada will consult with Quebec authorities, Indigenous nations, the public, and other stakeholders—including local communities and industries—on the boundaries for potential protection areas and the scope of proposed prohibitions before issuing its final emergency order if Quebec can't first convince the department that it has introduced regulatory measures to effectively protect caribou habitat.

Boreal caribou are facing threats from logging in Canada, specifically due to habitat fragmentation and loss. Logging activities, along with other human developments like road networks and oil and gas exploration, fragment caribou habitat, leading to increased predation and vulnerability to other factors like climate change. Credit: David Suzuki Foundation.

Support for the order is widespread among many Indigenous nations, for whom caribou are not only ecologically significant but also hold deep cultural and spiritual value. In particular, the Cree Nation Government (CNG) and the Assembly of First Nations Quebec–Labrador (AFNQL) have long advocated for stronger protections for boreal caribou and their habitat.[56] Both believe in the need for an approach that balances conservation with respect for the cultural importance of caribou.[57] For this reason, collaborative efforts and sustained partnerships between Indigenous nations and the federal government will be critical to the order's successful implementation. Recognizing this, the CNG and AFNQL have committed to working with the federal government to ensure the emergency order effectively protects boreal caribou in Quebec while upholding the rights and interests of First Nations.

> ***"We welcome this as an opportunity to work together with Quebec and Canada to determine the best outcome for the careful habitat management of the woodland caribou in Eeyou Istchee. The meaningful involvement of Indigenous nations is essential in this process, and the Cree Nation is ready to contribute the extensive work we have done on caribou management."***
>
> ***Former Grand Chief Mandy Gull-Masty, Cree Nation Government***

Cree Nation Government declaration in support of Minister Guilbeault's protection order for woodland caribou. Credit: Cree Nation Government.

Ontario's failure to protect caribou critical habitat

When Ontario's Endangered Species Act was brought into force in 2007, the forestry industry successfully lobbied to be exempt from prohibitions against habitat destruction by arguing that the Crown Forest Sustainability Act (CFSA) provided adequate caribou habitat protection measures. In reality, the CFSA, which oversees forest management planning, has failed to incorporate the threshold for industrial disturbance mandated in the federal boreal caribou Recovery Strategy[59] into the forest management planning process.

Despite this, exemptions against the prohibition to destroy habitat were granted on an annual basis to the forestry industry until a permanent exemption was included in an Omnibus budget bill titled Protect, Support and Recover from COVID–19 Act (Budget Measures), which passed in 2020.[60]

In 2021, Minister of Environment Johnathan Wilkinson assessed that the province was not effectively protecting caribou habitat and made a recommendation to Cabinet to invoke a safety net order, although Cabinet decided to grant the province more time to develop effective regulatory measures.[61]

In 2022, a Conservation Agreement for caribou was signed between the province and the federal government, with the aim of facilitating a cooperative relationship with respect to caribou recovery.[62]

In 2023, subsequent Minister of Environment Stephen Guilbeault assessed that the province was still failing to effectively protect caribou habitat,[63] and again made a recommendation to cabinet, but cabinet remained steadfast in opting for potential progress under the federal caribou Conservation Agreement.

A 2024 expert review of Ontario's progress under the Conservation Agreement concluded that "Experts were not provided clarity as to how the various provincial policies and regulations work together to inform caribou management and recovery and how it is intended to be implemented."[64]

In 2024, a federal report on the progress of the implementation of the boreal caribou recovery strategy was also released. It noted that Ontario's range management approach "Does not include range-level projected disturbance levels (that is if/how undisturbed habitat will be maintained in the future.)"[65]

In 2025, the failure of the forestry industry to comply with the Endangered Species Act became a moot point, as, under another omnibus bill titled the 'Protect Ontario by Unleashing our Economy Act' the provincial government replaced the ESA with the far weaker Species Conservation Act.[66] This weaker legislation has a fundamentally different definition of habitat that creates a significant inconsistency between provincial and federal species at risk legislation.

Forest Management in Alberta: A Growing Threat to Caribou Habitat

This feature story is written by Tara Russell, CPAWS Northern Alberta based on their report co-authored with the Alberta Chapter of the Wildlife Society, and the Alberta Wilderness Association. The full report is available here: Implications-of-the-Alberta-Government-Draft-Upper-Smoky-Sub-Regional-Plan.pdf.

In Alberta, the state of forest management has taken a troubling turn regarding the recovery of Southern Mountain Caribou, a species listed as threatened at both the provincial and federal levels.[67] While the provincial government has been developing sub-regional land use plans with the stated goal of supporting caribou conservation and recovery,[68] actions outlined in its recently released draft of the Upper Smoky Sub-regional Plan will likely have the opposite effect.

Released for public comment in March 2025, the draft plan outlines proposed industrial activities, including logging and oil and gas development, within critical caribou habitat. An independent analysis of its implications for the Redrock-Prairie Creek and Narraway herds—two of the last three remaining Southern Mountain Caribou populations on provincial lands—raises serious concerns. [69] Under the draft plan's timber harvesting scenario, Weyerhaeuser Company, a U.S.-based corporation, would be permitted to clearcut nearly all of the old-growth winter range forests that are still used by these herds (Figure 7).

The first few years of harvesting alone would render their winter ranges unusable, stripping the caribou of the critical habitat they rely on for survival. Moreover, the plan fails to preserve enough old forest and undisturbed habitat from forestry and energy development to meet even the basic needs of these populations.

Alberta's Upper Smoky Sub-regional Plan is yet another example of ecological integrity being sacrificed for short-term economic gain.[70] In this case, the trade-off is especially misguided. While the draft plan claims to strike a balance, it is clear that no meaningful compromises were made—particularly regarding timber harvest levels. The pace at which trees will be removed from landscapes that have served as caribou habitat for centuries is unsustainable and emblematic of how little Alberta's decision-makers value environmental stewardship.[71] Without protecting the old-growth and intact habitats essential to caribou survival, the sub-regional plan will support neither the conservation nor recovery of the Redrock-Prairie Creek and Narraway herds. Instead, it will accelerate their decline and eventually lead to extirpation.[72]

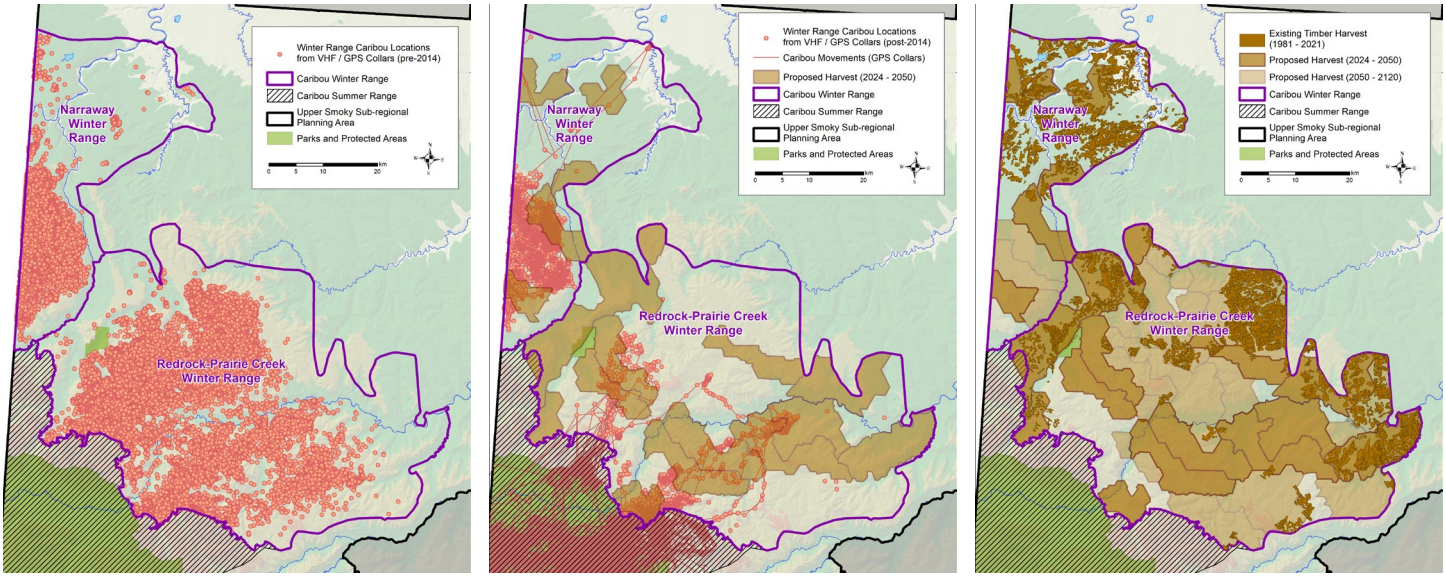


Figure 7: A) First three periods of the draft Upper Smoky Sub-Regional Plan timber harvesting on Redrock-Prairie Creek and Narraway southern mountain caribou winter ranges, in relation to the last remaining caribou occurrence and movements on their winter ranges. Caribou location points from radiotelemetry monitoring data from Alberta Environment and Protected Areas (2025). B) Redrock-Prairie Creek and Narraway Southern Mountain Caribou location points on winter ranges before (before 2014) and after (since 2014) caribou distribution decline associated with industrial developments on the winter ranges. Caribou location points from radio-telemetry monitoring data from Alberta Environment and Protected Areas (2025). C) Existing and planned timber cutting areas in the Redrock-Prairie Creek and Narraway southern mountain caribou winter ranges (1981 – 2120).

How Forest Management in Quebec Undermines Conservation Commitments

While, in recent decades, public forest management in Quebec has attempted to shift away from industry-led governance toward more ecosystem-based and integrated land management,[73] recent developments raise serious concerns about the province's ability and willingness to uphold its conservation and climate commitments.

In 2023, Quebec issued a public call for new protected areas to help reach the international 30x30 target.[74] Hundreds of proposals were submitted by civil society, Indigenous communities, and conservation groups, with many including high-value ecological landscapes such as old-growth boreal forests and caribou habitat.[75] Since then, however, no interim protection measures have been announced. The process remains in the consultation stage, and the government has made it clear that no moratorium on logging will be imposed in the meantime—even as some of the proposed areas are actively being logged.[76] This creates a troubling paradox: forests that could be legally protected by 2030 are being degraded today.

This lack of precautionary action undermines the credibility of Quebec's conservation process and puts critical ecosystem services, such as carbon storage and biodiversity maintenance, at risk, particularly in the boreal zone, where logging roads and fragmentation are known drivers of species decline, including for boreal caribou.[77]

Further weakening Quebec's forest governance is Bill 97, a major reform of the forest regime introduced by the province in April 2025.[78] While framed as a modernization, the bill includes changes that have raised concerns among First Nations, experts,civil society and so many other forest users. At time of writing, this bill prioritizes logging over long-term health of the ecosystem. Notably, it redefines ecosystem-based management by removing references to "natural forest conditions" and reduces the role of public consultation in various ways, including by abolishing regional integrated management tables.

It also introduces a new zoning framework that would prioritize timber production over biodiversity and recreation, directly contradicting the principles of ecosystem resilience. In these priority forest development zones, conservation measures would be explicitly prohibited.

These issues are compounded by the findings of a 2025 audit from Quebec's Sustainable Development Commissioner, who determined that the government has failed to adequately integrate climate change adaptation into forest planning. The audit highlights inconsistencies in the implementation of adaptive measures and raises serious questions about the province's readiness to address mounting ecological pressures.[79]

Although Quebec's forestry practices have improved somewhat in past decades, they are now at risk of regression. Without stronger protections and more transparent governance, the province could fall short of meeting its biodiversity and climate targets—despite the growing urgency to act.

Criterion 2: Maintenance of Productive Capacity of Forest Ecosystems

According to the Montreal Process's second criterion, sustainable forest management requires understanding how much can be extracted from forests without compromising ecosystem functions.[80] A decline in a forest's productive capacity can signal poor management. Key indicators include the area of available forest for wood production, growing stock, annual volume of wood harvested, and annual harvest of non-wood products.

> Many communities rely on forests for products and services, either directly or indirectly. Exceeding the productive capacity of a forest increases the risk of ecosystem decline and degradation.

Many communities rely on forests for products and services, either directly or indirectly. Exceeding the productive capacity of a forest increases the risk of ecosystem decline and degradation. Canada's SOF provides data on the net area of forest land available for wood production.

This figure includes both existing forests as well as recent clearcuts that are expected to regenerate for potential future harvest. However, it does not account for the quality or condition of these forests, including areas that have already been logged. While the SOF states that "forest area losses are a concern and closely monitored because forests provide habitat for biodiversity and many important ecosystem goods and services," this framing implicitly suggests that all forests contribute equally to biodiversity and ecosystem services—an assumption that overlooks critical differences in forest quality, structure, and function, particularly between logged and unlogged forests (Figure 8).[81] The report also tracks afforestation and deforestation to monitor annual changes in forest area. These changes, however, are typically small relative to the vast forested landscape in Canada—so minor, in fact, that no significant net change is reported. In addition to area, the SOF tracks wood volume, which has fluctuated between approximately 50,000 and 55,000 million cubic meters per year.[82]

Canada's estimated forest area, 1990-2022

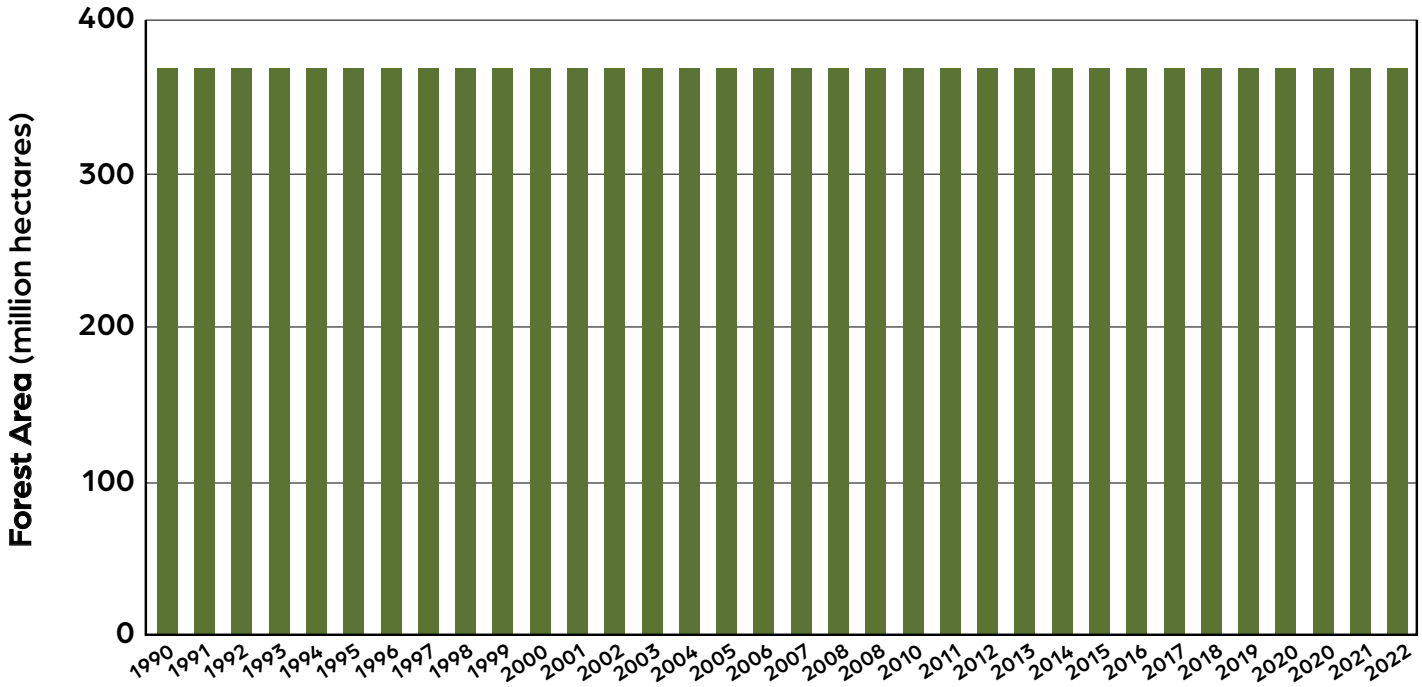


Figure 8: Canada's estimated forest area over time.

The feature story in this section explains how the less reported-upon value of non-timber forest products—traditional forest foods—is an overlooked component of maintaining the productive capacity of forest ecosystems, and the impacts that glyphosate spraying is having on forest foods.

The Impact of Glyphosate on Forest Harvesting and Food

Forests provide food for many people in Canada. In 2016, roughly 16 percent of Canadians who participated in outdoor activities reported foraging for food.[83] In many provinces, traditional forest foods—such as game, berries, and other wild plants—remain an important part of life for Indigenous communities. A First Nations Regional Health Survey found that more than 90 percent of children and teens, and almost all adults, had eaten traditional meals involving forest-derived foods in the past year.[84] Since the COVID-19 pandemic, interest in foraging and forest foods has only grown.[85]

Need original image

Glyphosate herbicide is applied to a logged area after seedlings are planted. Photo credit: Doug Pitt/Natural Resources Canada.

Despite the significance of edible forest products, glyphosate—an herbicide with links to numerous harms to people,[86] pollinators,[87] and ecosystems[88]—continues to be extensively applied[89] to promote the regrowth of pine and spruce stands, which are planted in abundance in many areas following clear cutting. According to 2023 SOF estimates, approximately 85 percent of harvested areas in Canada are clearcut. [90]

The practice of applying glyphosate based herbicides—currently, the most commonly used herbicides in forestry—has become central to forest management, given the forestry industry's reliance on clearcutting. After clearcutting, fast-growing broadleaf plants often take over a site, potentially impeding the rate of growth of conifer species for future harvests. To address this, glyphosate-based herbicides are applied to eliminate deciduous and broadleaf plant species.[91] This herbicide application directly eliminates flowering plants, needed to support strong pollinator communities, along with food plants such as saskatoon, salal, and salmon berries.

Along with directly reducing biodiversity, there are risks to health and ecosystems associated with glyphosate based herbicides. Recent research shows that glyphosate can persist in forest ecosystems far longer than previously believed. It can remain in shoots and roots for up to 12 years and in plants like blueberries and raspberries for up to three years, posing a potential risk to humans and animals.[92] Given the cultural, nutritional, and recreational value of forest foods and the extensive use of glyphosate (see Figure 9), the SOF should include data on this herbicide. Currently, it does not.

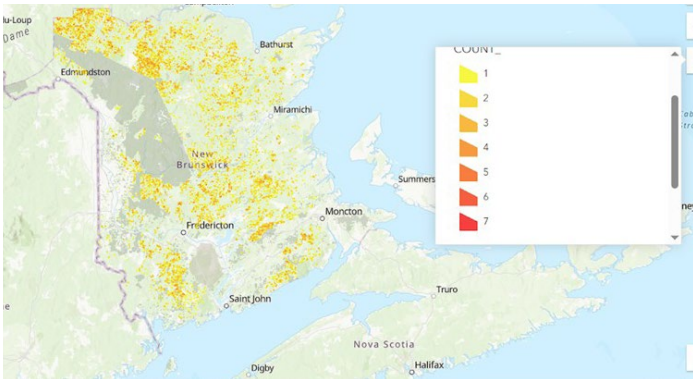


Figure 9: Research shows that pesticides are sprayed to forest cutblocks more frequently than once every 50 to 80 years. In New Brunswick (see map above) and British Columbia, applications occur more than twice or three times on numerous cutblocks throughout a 54-year period.[93]

> ***When I think about the spraying, it pains me to know that all of that traditional medicine is being destroyed. This practice is banned in Quebec, yet we're still spraying it here in B.C. There must be transparency about the true impacts of glyphosate because we're the ones that suffer when we're not consulted in good faith as First Nations people...It's time to stop stealing from ecosystems and start healing them."***[94]
>
> ***Gigame Mak'wala, Chief Rande Cook of Ma'amtagila First Nation***

> ***"Healthy lands for First Nation communities equate to areas where food can be harvested without the risk of contamination from chemicals like glyphosate. These food harvesting practices lead to good health, cultural wellness, and food sovereignty. Providing research to amplify Indigenous voices on issues of concerns supports reconciliation efforts."***
>
> ***Dr. Lisa Wood, Assistant Professor, Department of Ecosystem Science and Management, University of Northern British Columbia***[95]

Criterion 3: Maintenance of Forest Ecosystem Health and Vitality

As the Montreal Process's third criterion states, "The maintenance of forest health and vitality is dependent upon the ability of the ecosystem's functions and processes to recover from or adapt to disturbances."[96] While many disturbances—such as wildfire, insect outbreaks, and disease—are natural components of forest ecosystems, they can exceed a forest's capacity to recover, disrupting ecological processes and reducing overall ecosystem function. This, in turn, can have serious economic and ecological consequences for society, including the loss of forest benefits and a decline in environmental quality.[97] Indicators for this criterion include the area of forest affected by natural disturbances that exceed reference conditions.

The monitoring of natural disturbances is essential. These events have shaped forest ecosystems for thousands of years, play a vital role in maintaining ecological dynamics, and contribute to cumulative pressures—especially when combined with industrial activities.[98] However, their impacts are not equivalent to those of industrial disturbances like logging. Despite this, the SOF emphasizes the annual extent of natural disturbances like wildfire without adequately contextualizing how the impacts of natural disturbances differ from those of industrial activities. It downplays the role of logging in forest degradation, even though logging itself drives changes in forest structure and composition and can reduce a forests' resilience to climate change.[99]

Industrial logging practices can negatively impact forest ecosystem health and reduce forest resilience to climate change in several ways. They can: 1) make ecosystems more vulnerable to pests, disease, and extreme weather by replacing diversified forests with plantations of 1–2 species; 2) decrease soil moisture and water retention, increasing the risk of droughts and flooding; 3) fragment habitat, introduce invasive species and alter predator–prey dynamics as a result of extensive road networks used to access timber, and 4) make landscapes more prone to fire by altering the mix of tree species or removing certain species altogether.

The feature stories below explain how forest management, including clearcut logging, dense conifer plantings, and fire suppression, can contribute to increased wildfire risk.

How Forest Management Can Heighten Wildfire Risk

There is significant evidence that climate change is likely exacerbating extreme fires worldwide, affecting public health, ecosystems, and livelihoods.[100] Fire seasons have also become longer and more severe, fire ignition patterns have shifted in response to rising temperatures and human activity, and extreme periods of fire-conducive weather have shortened fire intervals.[101] In Canada, both wildfire frequency and intensity have notably increased in recent decades, in part due to increases in fire weather (e.g., hot, dry, and windy weather).[102] Wildfires are expected to continue to increase in many boreal and temperate forests across Canada.[103]

The summer of 2023 saw unprecedented wildfires across Canada, with devastating consequences. The Internal Displacement Monitoring Centre documented a record 190,000 internal displacements, primarily due to wildfires.[104] At least four firefighters lost their lives battling the blazes,[105] and in B.C. alone, the cost of firefighting reached approximately $770 million.[106] These fires also released significant amounts of carbon into the atmosphere. A study published in Nature found that in 2023, only three large countries—China, India, and the United States—emitted more total carbon than wildfires in Canada that year (which were an estimated 570–727 TgC). [107]

Meanwhile, although forests in Canada have historically absorbed more carbon than they release—forests worldwide absorb an estimated 25 percent of human-caused emissions[108]—research has warned that increasing wildfire activity will reduce the capacity of these Canadian forests to act as a carbon sink.[109]

Claims that managed (logged) landscapes are less susceptible to wildfire than unmanaged ones are largely "an article of faith". There is scant empirical evidence to support the notion that logging per se makes forests inherently safer from fire.[110] In reality, many aspects of industrial forestry not only fail to lower wildfire risk but can actually create conditions that increase it. Activities such as clearcut logging and the protection of commercially valuable forest stands through fire suppression can significantly alter forest structure and composition. This, in turn, affects wildfire behavior, influencing intensity and spread.[111] Logging can also change forest composition by altering the species that are planted or that naturally regenerate after disturbance.[112] For example, industrial logging practices can lead to the replacement of native mixedwood forests with planted coniferous stands, which have been found to be more susceptible to frequent and intense fires.[113]

Even recently clearcut stands can burn. Photo credit: BC Wildfire Service

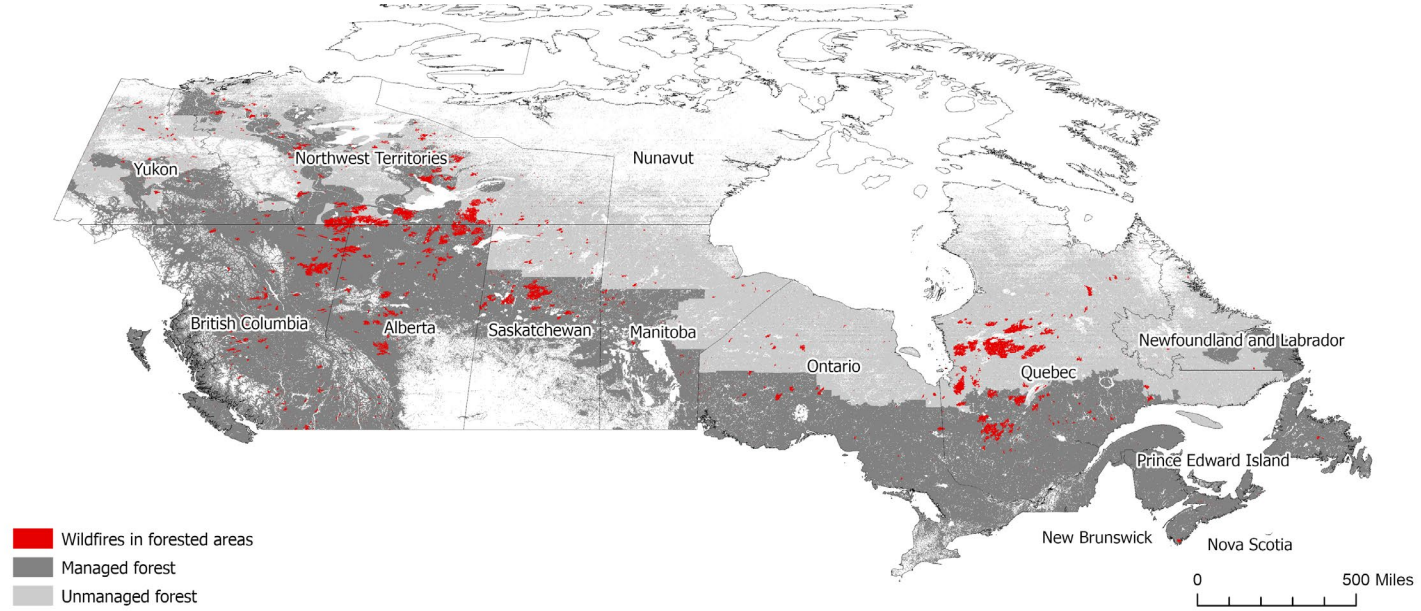
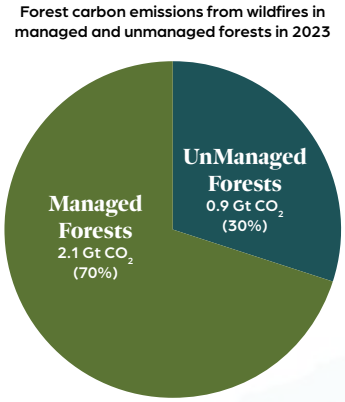


Figure 10: Percentage of total forest area affected by wildfire disturbance in managed (dark grey) and unmanaged (light grey) forests across Canada. Map and graph credit: World Resources Institute.[114]

Fire is relatively age independent; "forest type, and weather are of greater importance than age in determining rate of spread and fires".[115] Research in mixedwood boreal forests showed that forest harvesting and burning had opposite effects on subsequent fire initiation. Specifically, fire initiation increased in landscapes with more area harvested and decreased with area recently burned.[116] Logging also increases road density across forested landscapes, providing more potential ignition points from people and machinery.[117] Additionally, forests subjected to aggressive fire suppression, in part to protect commercially valuable forests, can accumulate large amounts of flammable fuel. [118]

> ***"A tendency for clearcut silviculture systems and reforestation to well-stocked, even-aged conifer plantations, the suppression of deciduous species, extensive salvage harvesting, and the elimination of post-harvest broadcast burning have all contributed to increased homogeneity of the landscape and continuity of forest fuels ... Large homogeneous patches of forest are more likely to lead to large and severe wildfires."***[119]
>
> ***B.C. Forest Practices Board, June 2023***



Some forest management practices can help reduce wildfire frequency, severity, and extent. For example, practices like thinning and prescribed or cultural burns have also been shown to reduce fuel loads and decrease wildfire frequency and spread.[120] Yet, public anxiety about increasing wildfire activity and appeals to community safety should not be used as a pretext to grant the forestry industry more influence over forest management decisions—especially when part of its proposed solutions, such as clearing more intact forests, spraying to kill competing deciduous vegetation, and continuing extensive wildfire suppression, are unlikely to meaningfully address the problem and may even worsen it.[121] The SOF must acknowledge the complexities of wildfires and honestly assess the risks and benefits of forest management practices most likely to mitigate—rather than exacerbate—those risks.

Criterion 4: Conservation and Maintenance of Soil and Water Resources

Forests play a critical role in regulating and maintaining the health of soil and water resources. As noted in the fourth criterion of the Montreal Process, forest degradation—such as from poor management practices—can significantly alter forest soils, water quality and quantity, and associated aquatic habitats.

> Industrial logging can result in soil compaction, erosion, loss of riparian buffers zones, increased sediment in streams, and damage to aquatic habitats. It can also disrupt water flow, increasing flood risks or reducing streamflow.

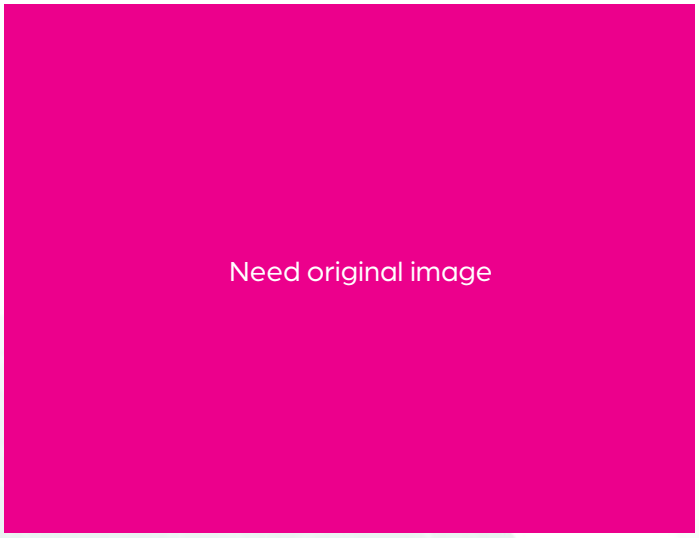
The SOF acknowledges that "forests play a key role in the water cycle,"[122] yet provides no context or assessment of how management practices, including industrial logging, affect this function—even though logging can significantly impact soil and water resources in several ways. For example, heavy machinery used in logging operations—sometimes weighing up to 80,000 pounds—compacts the soil, reducing its capacity to store carbon and hindering forest regeneration after disturbances.[123] Logging on steep slopes can also trigger flooding, carry sediments into waterways, erode topsoil, and negatively impact communities.[124] Despite these serious consequences, the SOF fails to address the ecological impacts of industrial logging on soil and water systems.

The feature story below explains how extensive clearcutting logging in watersheds in B.C. has increased the impacts of extreme flooding.

Extensive Clearcutting is Increasing Extreme Flooding Risk in B.C.

Flooding is one of climate change's most devastating impacts, in some places this is leading to more frequent and intense precipitation events over longer periods of time increasingly triggering major flood events.[125] The consequences for people are serious, and as climate change intensifies, the risks to communities will grow.[126]

As natural "managers" of precipitation and snowmelt, forests—especially older, more intricate forest ecosystems—help slow water flow and reduce the risk of severe flooding.[127] Leaves and needles soften the impact of rainfall, while the larger canopies of mature trees disperse precipitation. Conifer trees, in particular, help to slow snowmelt in spring by providing shade before the rest of the forest "greens up." Older trees and the vegetation in complex forest ecosystems also contribute to increased soil stability, with expansive root networks that anchor soil and absorb water.[128]



Forest clearcut on Vancouver Island. Experts say clearcut logging – where almost all trees are removed – on steep terrain can contribute to slope instability. Photo credit: TJ Watt

Tree removal reduces a watershed's ability to regulate water flow and snowmelt, impairing ecosystem function.[129] It can lead to faster runoff and more frequent spikes in water volume. A study of one B.C. watershed, for example, found that areas that had been at least 30 percent clearcut experienced higher annual and monthly water yields, as well as increased and earlier annual peak flows (the maximum stream or river flow from snowmelt and rainfall) compared to a similar unlogged watershed. [130] Another study found that logging increases the frequency of small, medium, and very large flood events, with flood sensitivity rising as both watershed size and harvest extent increased.[131] Meanwhile, as many flatter areas have already been logged, harvesting on sloped terrain is becoming more common, despite the increased flood risk.[132]

The ramifications of more frequent and intense flooding are serious. Extreme flood events not only threaten human lives but also severely damage water bodies by increasing sediment loads, which can, among other negative impacts, smother salmonids.[133] Floodwater can also alter the landscape by eroding riverbanks and causing them to collapse. As floodwater carries material from the eroded banks, it suspends sediment in the water, which can degrade water quality and lead to harmful blooms of algae.[134]

Despite these risks, natural resource management often takes a "reductionist" approach, simplifying complex ecosystems into easily measurable metrics.[135] For example, the United Nations Food and Agriculture Organization defines a forest so broadly that recent clearcuts are categorized the same as old-growth forests—overlooking their significant ecological differences.[136] This kind of oversimplification has extended to the relationship between logging and flood risk. While scientists have established a causal link between logging—particularly on slopes—and flood events, traditional forestry planning continues to fall short in effectively integrating flood management. Approaches often overlook both the direct impacts of logging and the complex, fluctuating, and cumulative factors that influence flood risk, such as soil moisture content and the timing of snowmelt.[137] As a result, management practices routinely understate the true risk of post-harvest flooding—especially in the context of increasingly extreme weather events.

Extensive Clearcutting is Costly

In 2014, a couple in northwest British Columbia filed a lawsuit against B.C. Timber Sales, the provincial Crown agency responsible for auctioning approximately 20 percent of the province's annual allowable cut. The plaintiffs claimed that the agency failed to take reasonable precautions to prevent logging-related damage to their property and that excessive clearcutting of the local watershed led to flooding and increased water flow that interfered with their enjoyment of their property. The province settled the case out of court for $300,000.[138] Additionally, the Halalt First Nation filed a lawsuit claiming that negligent forestry practices combined with failing infrastructure created conditions that led to severe flooding on Vancouver Island's Halalt reserve. In regard to forestry practices, the lawsuit claims that overharvesting and a failure to adequately manage and clear logging debris has disrupted the natural drainage and soil stability. This disruption has allegedly increased surface runoff, led to greater sedimentation, and contributed to riverbank erosion along the Chemainus River watershed (Figure 11).

Figure 11: Lawsuits against logging companies for the impacts of floods are growing. Property owners in northwestern B.C. won their legal challenge that the province's approved logging practices exacerbated flooding impacts.[139] Vancouver Island's Halalt First Nation asserts negligent forestry practices and infrastructure failures caused flooding impacts in their community (the case has not yet reached a final verdict).[140]

Criterion 4: Conservation and Maintenance of Soil and Water Resources

Forests are the largest terrestrial reservoirs of biomass and soil carbon, and they play a crucial role in the global carbon cycle. [141] Understanding how much carbon is stored within forest ecosystems, how that carbon flows between forests and the atmosphere, and the degree to which forest management practices are enhancing or undermining the carbon storage potential of forests is essential in developing effective responses to climate change. The Montreal Process's fifth criterion evaluates forests' contribution to global carbon cycles. It includes indicators related to total forest ecosystem carbon pools and fluxes, total carbon stored in forest products and their associated fluxes, as well as the "avoided" fossil fuel carbon emissions by using forest biomass as an energy source.[142]

Logging has a profound impact on forest carbon storage and release, underscoring the need for accurate carbon accounting in discussions about forest management. However, the SOF inaccurately depicts industrial logging as, at a minimum carbon neutral—if not a means of reducing carbon emissions.[143] This misrepresentation stems from crediting the managed forest's "anthropogenic partition" with the carbon sequestration of all primary, old-growth, and mature forests and only considering forests that have recently been a source of emissions from stand-replacing fire or insect infestation as the "natural partition."[144] This approach obscures the high carbon emissions from industrial logging with the natural sequestration of primary, old growth and mature forests. In reality, the net carbon emissions of the forestry industry place it as one of Canada's largest emitting sectors. [145]

This distorted accounting has led to the allocation of hundreds of millions of dollars in government subsidies for forestry, including high-emission logging practices.[146] Moreover, the lack of transparent reporting on logging emissions can bias climate policymaking and leaves officials without the vital data needed to develop effective, science-driven solutions for sustainable forest management.

The feature stories below explain how carbon accounting is masking the extent to which logging is contributing to Canada's carbon emissions; the flawed assumptions underwriting the push for biomass as a climate solution; and the challenges and shortcomings of Canada's Two Billion Tree program.

Logging and Carbon: Canada's Growing Climate Problem

Despite Canada's long-standing assertions that logging is a sustainable, low-carbon climate solution, growing evidence indicates that the forestry sector is contributing significantly to the climate crisis. A 2024 report on Canadian logging emissions revealed that logging accounted for one-fifth of all nationally reported emissions in 2022—making it the third-highest emitting sector, after transportation and oil and gas (Figure 12).[147] The study also found that logging emissions were double previous government estimates, once recalculations of historically logged areas were included.

The discrepancy between reported and actual emissions in Canada mirrors a broader global issue. National greenhouse gas inventories often diverge from global emissions estimates based on climate models. For example, global estimates of logging-related emissions summarized by the Intergovernmental Panel on Climate Change were 3.5 billion tonnes of carbon dioxide equivalent per year higher than country-reported figures—a gap greater than India's total annual carbon emissions.[148]

In Canada, the accounting gap is partly attributable to how wildfire emissions are treated. Currently, Canada excludes stand-replacing wildfires emissions from its greenhouse gas accounting for forested lands, which can overlook a significant source of emissions.[149] For example, in 2023, a historic wildfire year, Canadian wildfires emitted over two billion tonnes of carbon dioxide equivalent—more than three times the country's total reported emissions.[150]

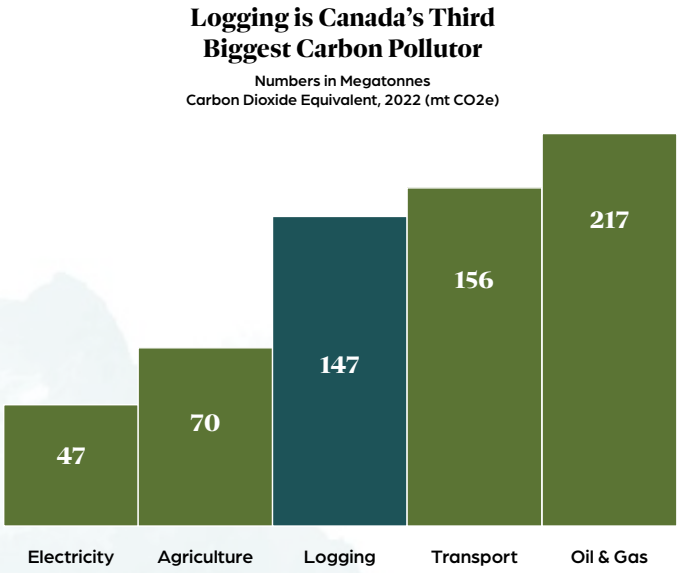


Figure 12: Canada's logging emissions. Source: Nature Canada.

There are pros and cons to reporting on wildfires along with other land-based emissions. On one hand, wildfire emissions are large and impactful, partly human-caused, and, if they are not counted, less likely to be reduced. Moreover, many other countries do count them. On the other, wildfire emissions are highly variable and can mask emissions more directly under human control, such as those from industrial logging.

Regardless, if the federal government does not report wildfire emissions, it should not take credit for carbon absorbed by trees that regrow naturally after fires—its current practice. For example, in 2021, Canada credited the forestry sector with 80 million tonnes of carbon absorption from post-fire regrowth, even as it excluded emissions from large wildfires. [151] Similarly, it should not claim credit for the carbon sequestered by primary, old-growth, and mature forests with no recorded history of industrial logging, which it currently does now. [152]

Canada's forest carbon accounting also overlooks permanent landscape changes. When tallying total forest cover, the federal government excludes roads and areas that fail to regenerate after logging.[153] One study in Northwestern Ontario found that, on average, 14 percent of pre-harvested forest had not regained tree cover even up to 30 years after logging, due to roads, slash piles, and other industry infrastructure.[154] Including these types of clearcut logging scar losses in Ontario alone—which accounts for roughly one-sixth of Canada's logging—would result in a sevenfold increase in reported forest-sector emissions, as these areas are functionally deforested and will not sequester carbon.[155] Similar industrial practices are used widely across forests in Canada.

Concerns about Canada's logging emissions accounting are mounting. A March 2023 audit from the Canada's Office of the Auditor General found that the federal government had failed to properly account for emissions from the country's forestry sector.[156] Criticism has also come from scientists, experts from the United Nations, and members of Parliament and the Senate.[157]

> ***"Canada has one of the worst track records when it comes to double counting natural carbon sinks. They're seeking ways to take credit for regrowing forests. It's completely outrageous."***[158]
>
> ***Andrew Weaver, Climate Scientist, University of Victoria***

Forest products and life cycle analyses

Forest products can play an important role in slowing the release of carbon into the atmosphere and may be more sustainable than products that undergo manufacturing processes with more significant carbon footprints. However, many Life Cycle Analyses (LCA) of forest products overlook well-known and significant sources of emissions associated with the harvest and manufacture of wood products.

While emissions from the production of materials like steel and concrete are well understood, fully accounting for the carbon life cycle of forest products requires a level of detail often missing from typical LCAs.[159] For example, most LCAs assume that all carbon harvested is eventually offset by new forest growth. This assumption ignores significant and measurable carbon emissions from soil disturbance, carbon losses caused by the conversion of old-growth and primary forests into planted forests, and lower than expected reforestation success rates. One study found that when a site is logged and wood is converted into long-lived wood products, only 18 percent of the original carbon stores remain—and then only for a few decades before those products start to decay.[160]

In boreal forests, at least three quarters of ecosystem carbon is stored in the soil.[161] Most LCAs assume soil carbon remains constant over time, despite evidence that harvesting practices significantly impact long-term soil carbon stocks. A meta-analysis of 945 data points about harvesting from 112 publications found that soil carbon declined by an average of 11 percent after harvest.[162] Because the soil carbon pool in many forests in Canada is much larger than that in its trees, even a small percentage loss of soil carbon can exceed the carbon stored in harvested wood products—substantially increasing the true carbon cost of those products. Moreover, a significant share of Canada's forest products are used in short-lived products such as paper, tissue, and bioenergy, which rapidly release stored carbon back into the atmosphere.[163]

Beyond soil carbon losses and short product lifespans, the long-term carbon impact of harvesting from primary forests is another critical—and often underestimated—factor in assessing the climate cost of forest products. In primary forests, as much as 60 percent of the carbon initially harvested from a mature stand is never reabsorbed by regrowth.[164] An International Institute for Sustainable Development (IISD) study of carbon accounting gaps in building materials found that "almost all LCA studies oversimplify the treatment of wood products",[165] ignoring evidence that harvesting practices lead to a long term release of soil carbon into the atmosphere and that forest regeneration rates are often below 100%.[166] Even minor adjustments to these assumptions that begin to account for these emissions sources can have a significant impact on the carbon emissions reported for forest products. For instance, a sensitivity analysis conducted by the IISD found that even conservative adjustments—such as a 90 percent forest regeneration rate and relatively small soil carbon losses—increased LCA reported cradle-to-gate emissions from softwood lumber harvested from primary forests by nearly tenfold.[167]

While the SOF acknowledges that "mature forests that were previously harvested store less carbon than primary forests—or forests that have never been harvested," it fails to report the full extent of carbon emissions, the extent of remaining primary and old-growth forests and the rate at which they are being harvested—despite the significant implications of this information for Canada's climate commitments and Criterion 5 of the Montreal Process.[168]

Burning Trees for Energy: The False Promise of Large-Scale Biomass for Electricity

The use of forest biomass as a "sustainable" source of electricity is highly contentious —particularly given ongoing concerns about how much biomass comes directly from trees harvested for this purpose versus wood waste (e.g., bark, branches, and sawdust leftover after timber is processed).[169] Canada is the world's third-largest exporter of wood pellets, with the United Kingdom (U.K.) being a primary destination.[170] These pellets are burned in large biomass power stations such as Drax, the U.K.'s largest electric power station. [171]

While the Canadian government and Montreal Process endorse biomass—claiming that biomass from forests can be used as a carbon neutral substitute for fossil fuels—the notion that biomass is a carbon-neutral substitute for fossil fuels has been repeatedly refuted by global climate experts.[172] Scientific critics argue that "burning wood to generate electricity emits more carbon dioxide per kilowatt-hour generated than fossil fuels – even coal, the most carbon-intensive fossil fuel".[173] Many logged forests take decades or even centuries to recover their original carbon stores, if they ever do at all. [174] Yet biomass power plants are exempt from counting these emissions due to a loophole in international climate agreements, which wrongly assume that emissions are accounted for and offset at the source.[175]

Wood pellets make the long journey from B.C. to the U.K. along this common shipping route. Credit: Adapted from Austin Westphal/The Narwhal[176]

Canada takes advantage of this flawed carbon accounting, along with weak regulations and land-use policies that fail to deliver expected outcomes for old-growth forests and threatened species habitat, to justify subsidizing the biomass industry as a climate solution. Indeed, the industry receives hundreds of millions of dollars in public subsidies from both Canadian and foreign governments.[177] Meanwhile, utilities in the U.K., Japan, and other nations burn Canadian wood pellets—primarily supplied by multinational giants like Drax, which dominates biomass production in B.C., Canada's top pellet-exporting province.[178] As a result, Canada is now the world's second-largest producer and the third-largest exporter of forest biomass.[179]

Beyond being a false climate solution, large-scale biomass energy production obscures the extent of forest degradation by the industry, including the loss of rare old-growth ecosystems in Canada. A recent report highlights the alarming scale of old-growth logging feeding biomass in B.C., which produces approximately 80 percent of Canada's wood pellet exports.[180] One study revealed that, in 2023, a high volume of logs delivered to Drax's B.C. pellet mills came from old-growth forests, including Priority Deferral Areas—zones the B.C. government has identified as high-priority for deferral due to their ecological value.[181] Of the 1,765 log loads with spatial data indicating their geographical origin, nearly 60 percent originated from areas where at least 10 percent of the cut block was old growth. Another 42 percent came from blocks where old-growth forests made up more than half of the logged area, and 10 percent were from blocks where more than 90 percent of the cut block was old growth.

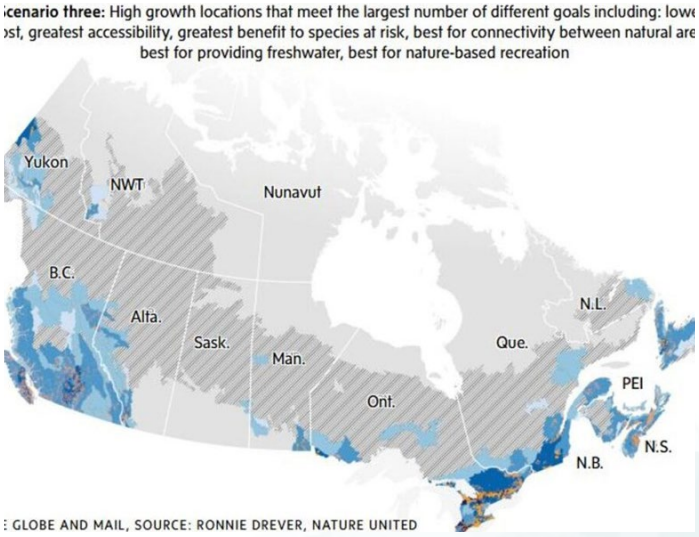
The majority of renewable energy the EU counts toward its legislated targets is from burning wood. Credit: Partnership for Policy Integrity/Fern.

Separate evidence shows that wood pellets are increasingly sourced from whole trees logged in primary forests in B.C., rather than from wood waste, despite industry claims to the contrary.[182] As the sector expands—with new pellet plants proposed or under construction in Quebec, New Brunswick, Ontario, and Vancouver Island (home to the last remaining coastal temperate rainforests)—the use of whole logs, including from primary and old growth forests, for biomass is expected to increase. This will further deplete carbon-rich, species-critical forests and weaken one of the planet's most vital carbon sinks, undermining a key defense against climate change.

Meanwhile, spruce beetle infestations in B.C. have allowed pellet plants to secure timber at drastically reduced prices, with widespread clearcutting justified under the pretext of removing infested trees.[183] However, a 2019 study of clearcuts in the Anzac Valley in B.C. found that three-quarters of logged spruce showed no signs of beetle infestation.[184]

Canada's Two Billion Trees Program: Falling Short on Reforestation Promises

In 2019, the Canadian government pledged to plant two billion trees over 10 years—a policy meant to showcase its commitment to nature-based climate solutions.[185] The initiative's goal was to sequester carbon while creating new habitat for numerous species across the country and was seen as a win for nature. It promised to establish forests twice the size of Prince Edward Island and marked the largest ecological restoration project in Canada's history. Unfortunately, the program has faced numerous challenges that threaten its success and integrity.



Source: Globe and Mail.[186]

A central problem with the program is the lack of requirements for permanence and biodiversity. Trees planted under the program are not permanently protected and can be logged as soon as it becomes economically viable to do so—negating most carbon or ecological benefits. Additionally, there are no minimum biodiversity standards, meaning projects funded by the program can grow monoculture plantations, which are more vulnerable to fire, disease, and pests. These plantations also fail to create the diverse ecosystems needed to halt and reverse nature loss.[187]

The Commissioner of the Environment and Sustainable Development (CESD) raised these concerns in an April 2023 report, which revealed that the program was substantially behind schedule and would fail to meet its targets. [188] The report also noted that 14.4 percent of trees were being planted in monocultures and that, even if fully implemented, the program would likely sequester just 4.3 million metric tonnes of carbon dioxide equivalent annually by 2050—far below the government's projection of 11 to 12 million metric tonnes.[189]

Former Prime Minister Justin Trudeau plants a tree with his son Hadrien (right) at the Frank Conservation Area in Plainfield, Ont.. Photo credit: The Canadian Press/Frank Gunn.[190]

The integrity of the Two Billion Trees program was further undermined when the federal government retroactively counted trees planted under other initiatives, such as the Low Carbon Economy Fund, toward its two-billion total—obfuscating the program's actual impact on carbon sequestration. Of the 157 million trees the government claims to have planted, 54 million were planted through separate initiatives.[191] The CESD described this as an exercise in "creative accounting," creating the illusion that the program is meeting its targets when it is not.[192]

Meanwhile, the federal government has invested significantly less than planned in the Two Billion Trees program, likely due to its 50 percent cost-sharing structure, which poses a major barrier for prospective applicants. For the 2022–2023 planting season, only $82.3 million of the planned $196 million was spent. In 2023–2024, just $117.5 million of the planned $285 million was used, resulting in the planting of 46.6 million trees out of the targeted 60 million.[193]

The Two Billion Trees program will require significant reform. While it has the potential to support nature restoration, without substantial changes, it risks becoming a costly misstep that fails to drive meaningful climate progress.

Criterion 6: Enhancement of Long-term Multiple Socio-economic Benefits

Forests provide a wide range of benefits to diverse stakeholders, and managing them sustainably requires balancing socio-cultural, ecological, and economic needs, while ensuring inclusive governance—particularly for Indigenous peoples and local communities who depend on forests for their livelihoods and cultural identity.

The sixth criterion of the Montreal Process emphasizes the maintenance and enhancement of long-term socio-economic benefits to meet the needs of society. It includes indicators related to the production and consumption of forest products, investment and employment in the forest sector, forest-based recreation and tourism, and other social and cultural values associated with forests. Notably, it also has an indicator to measure "the extent of forests managed primarily for their cultural, social and spiritual values to people and communities, including Indigenous communities and others with strong ties to forests."[194]

In recent decades, Canada has increasingly recognized the need for reconciliation and respect for Indigenous rights, as demonstrated through the establishment of its Truth and Reconciliation Commission to investigate and address past human rights violations, and its adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). One key element of UNDRIP is Free, Prior, and Informed Consent (FPIC)—the right of Indigenous peoples to give or withhold consent for projects that may impact their lands, territories, or resources. FPIC ensures that Indigenous communities are actively involved in decisions regarding the use and conservation of forest resources, fostering both environmental stewardship and respect for their land and cultural rights. While the SOF provides reporting on indicators such as employment and wages in the forest sector, it does not explicitly report on the extent to which Indigenous rights and responsibilities are integrated into forest management planning, and how well these rights and responsibilities are being upheld. The feature stories below explain the extent to which Indigenous rights and responsibilities are integrated into forest management planning, and how well these rights and responsibilities are being upheld.

IPCAs: Barriers and Breakthroughs in Conservation

It is estimated that about 40 percent of the world's remaining intact forests are under the care of Indigenous Peoples. Research shows that when local communities are granted greater authority to manage forests, those forests are often better protected and maintained, benefitting global biodiversity and the socioeconomic well-being of the communities themselves.[196] As of 2022, more than 1.8 million Canadians—nearly 5 percent of the population—identify as Indigenous, with nearly 70 percent residing in or close to forested areas.[197]

At the 15th Conference of the Parties (COP15) to the Convention on Biological Diversity, held in Montreal in 2022, governments from around the world gathered to establish new global biodiversity goals. During the summit, the Canadian government announced up to $800 million over seven years, starting in 2023-24, to support up to four 'Project Finance for Permanence' Indigenous-led conservation initiatives and also $5.8 million in funding for 14 Indigenous-led initiatives, as part of the Indigenous-led Natural Climate Solutions initiative.[198]

One of the strategies Canada is pursuing to meet its protected area targets is the expansion of Indigenous Protected and Conserved Areas (IPCAs),

which have emerged in Canada and other countries as an alternative to traditional conservation models that have excluded and displaced Indigenous Peoples.[199] IPCAs are lands and waters where Indigenous Peoples lead the protection and restoration of ecosystems. Unlike many conventional protected areas such as many federally and provincially managed parks and reserves, IPCAs are managed according to Indigenous laws, governance structures, and knowledge systems, with culture and language at their core. They shift the land management paradigm from one centered on ownership to one rooted in relationships and responsibility. Moreover, they offer a powerful response to both climate change and biodiversity loss, while enabling Indigenous Nations to reclaim sovereignty and jurisdiction over their ancestral territories.[200]

Though the goals of management and governance vary, IPCAs are typically characterized by three principles: they are Indigenous-led, committed to long-term conservation, and uphold Indigenous rights and obligations.[201] This includes adherence to Natural Law principles—the belief that by caring for the land, the land will take care of us—a guiding framework for stewardship and decision-making.

A notable example of an IPCA in B.C. is the establishment of 76,000 hectares of conservancies in Clayoquot Sound by the Ahousaht and Tla-o-qui-aht First Nation. After 70 years of protesting the clearcutting of ancient cedar rainforests, these nations successfully established these conservancies to halt resource exploitation and assert their legal authority to stewardship of their ancestral lands.[202]

Despite the success of such initiatives—and the fact that funding has been provided to more than 50 Indigenous communities for IPCA development, planning, and engagement—some provinces have refused to collaborate with Indigenous communities or the federal government on these initiatives.[203] For example, in 2021, Ontario's Protected Areas Working Group recommended a provincial strategy that included a commitment to nation-to-nation dialogue to advance IPCAs and Indigenous Guardians programs. However, the report was only publicly released after a Freedom of Information request, which can be both an onerous, lengthy and potentially expensive option to obtain information that should be publicly available.[204] To date, Ontario has refused to support any of the IPCAs established by First Nations in the province. These include Grassy Narrows, Shawanaga on Georgian Bay, Moose Cree on the North French River watershed, Migisi Sahgaigan, and Kitchenuhmaykoosib Inninuwug. Troublingly, the province has even allowed mining claims within the Grassy Narrows IPCA, despite the First Nation's ban on industrial activity in the area.[205]

Given the vast landmass in Canada—which contains 30 percent of the world's boreal forest and 9 percent of all forests globally[206]—and its significant Indigenous population, IPCAs offer significant potential to transform environmental and cultural conservation and position the country to become a global leader in Indigenous-led conservation. However, as of 2022, Indigenous-led protected areas made up less than one percent of the land area in Canada.[207] To meet its international conservation targets and fulfill its commitments to reconciliation, Canada must address the barriers limiting IPCA expansion. While the country's endorsement of global biodiversity goals and the work of the Truth and Reconciliation Commission have fueled the growth of IPCAs across Canada, sustained political will at the federal level alongside provincial/territorial support and long-term investment are essential to realizing the full promise of Indigenous-led conservation.

Ontario Withholds Support for Omushkego Land Protections

At COP15, Canada announced that up to four Indigenous-led conservation projects would receive $800 million in funding through Project Finance for Permanence (PFP). [208] This novel investment model promotes large-scale, long-term conservation by utilizing both public and private funding. PFPs bring together partners from the philanthropic community, various levels of government, and Indigenous communities, who contribute their expertise, experience, or financial resources. Together, these

partners work to establish a shared vision, set collective goals for protecting nature and halting biodiversity loss, and explore opportunities for sustainable resource development. The PFP model addresses many of the targets in the Kunming–Montreal Global Biodiversity Framework, including commitments to mobilize resources for biodiversity action, prioritize Indigenous-led conservation, and protect 30 percent of lands and oceans by 2030.

"Omushkego" means "the strong people" and is the name Cree use to describe themselves, while "Wahkohtowin" refers to the kinship, interconnectedness, and relationships between each other and the natural world. It emphasizes that everything is related and we have responsibilities to those we share the world with.

In the provinces of Ontario and Nunavut, the Omushkego Wahkohtowin PFP aims to protect one of the world's largest peatlands—an area that stores billions of tonnes of carbon.[209] If fully realized, this PFP, which is roughly five times the size of Nova Scotia and spans large swaths of the Hudson Bay Lowlands, Hudson Bay, and James Bay, would conserve up to two percent of Canada's land area and one percent of its marine area. Established by the Mushkegowuk Council, which represents seven First Nations, the conservation plan comprises two key components: a marine conservation area and a land protection initiative that together would safeguard coastal waters, wetlands, and boreal forest.

For decades, Omushkego leaders have emphasized the need for large-scale conservation in their ancestral lands.[210] In 1974, the Mushkegowuk Council pledged to protect the Breathing Lands and the Birthing Place, ecologically and culturally significant areas within the Hudson Bay Lowlands. This commitment was followed by a resolution in the 1980s to create an Omushkego Tribal Conservation Authority, whose purpose would be to protect these lands and waters.

However, despite these longstanding efforts, the Ontario government, which claims jurisdiction over the land within the proposed conservation area, has yet to publicly back this PFP or Indigenous-led conservation more broadly.[211] Meanwhile, it has granted mineral claims in the province's far north, which means mining companies must now be brought into discussions on conservation efforts.[212] The province's intransigence—and its continued refusal to support or recognize Indigenous-led conservation—not only undermines reconciliation but also places corporate interests ahead of Indigenous rights and environmental protection.

Delayed Safeguards for Wolf Lake Forest Reserve in Ontario

The Wolf Lake Forest Reserve in Ontario, spanning 1,600 hectares in the Temagami wilderness area, is home to the largest remaining old-growth red pine forest in the world. It provides invaluable recreational, cultural, ecological, and economic benefits. In addition to sustaining eco-tourism enterprises that contribute over $3.5 million annually to the local economy, Wolf Lake Forest Reserve plays a vital role in maintaining the ecological well-being of the surrounding watershed.[213]

Located on the traditional lands of the Wahnapitae First Nation, the area has been designated a "park in waiting" since the 1990s under Ontario's Lands for Life land-use planning project.[214] In partnership with the Save Wolf Lake Coalition and the Living with Lakes Centre at Laurentian University, the Wahnapitae First Nation recently secured federal funding from Environment and Climate Change Canada to begin planning an IPCA to safeguard Wolf Lake and its ancient red pine forest.[215] This funding supported a June 2024 symposium that introduced the vision for the IPCA—to be called the Mi'iangan Zaagagan Preserve—and initiated discussions about formal protection pathways. With this groundwork laid, the Ontario government must now step up—by recognizing and supporting IPCAs that protect irreplaceable ecosystems like Wolf Lake.

Criterion 7: Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management

This criterion focuses on the frameworks that underpin the forest conservation and sustainable management components outlined in Criteria 1–6. It includes indicators on the legislation and policies designed to support both the sustainable management of forests and cross-sectoral policy and program coordination. Reporting on these indicators is essential for raising public and political awareness of forest-related issues and fostering greater support for sustainable management.

> As the Montreal Process notes, public participation and conflict resolution in forest-related decision-making are essential, as they can lead to "decisions that are widely accepted and result in better forest management."[216]

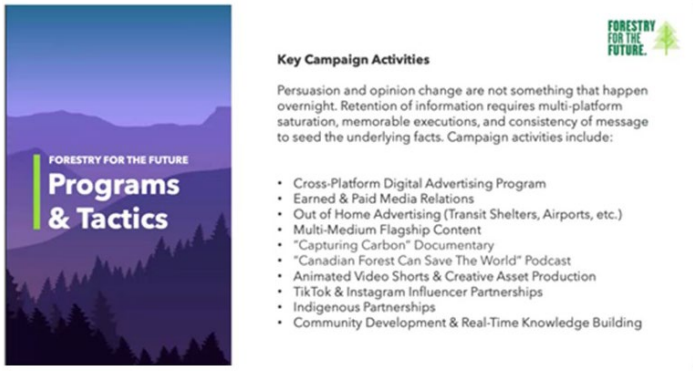
Although Canada's SOF states that "Canada's forests are protected through strong laws and regulations at the federal, provincial/territorial, and even municipal levels"[217] it does not report on whether these laws are actually achieving their intended outcomes. In reality, forests across Canada have lost ecological integrity despite legal and regulatory frameworks across Canada.[218] A particularly critical shortfall is the lack of transparency around the role of cross-sectoral policies in developing shared cumulative impact frameworks.[219]

The feature stories below show how the forestry lobby industry influences policy, how multinational corporations are consolidating forest licenses, leading to a concentration of the benefits of logging outside of Canada, and the toxic legacies that industrial operations have had on First Nations.

Logging, Lobbying, and Lawmaking: Who Shapes the Rules?

To maintain transparency and public awareness around efforts to influence government decisions, Canada's federal Lobbying Act mandates that those involved in lobbying register and declare their activities.[220] This legal framework enables tracking efforts such as those conducted by InfluenceMap, which analyzes corporate influence on climate policy through its LobbyMap tool. These analyses often reveal contradictions between companies' public commitments and their behind-the-scenes lobbying. Canbury Insights, for example, which has analyzed trade association lobbying related to policy frameworks and boreal forest degradation, found that the Forest Products Association of Canada—which represents many multinational forest products-related corporations—is a "highly active trade association," engaging in more than 40 communications, reports, and engagements each month on at least one key policy of public interest.

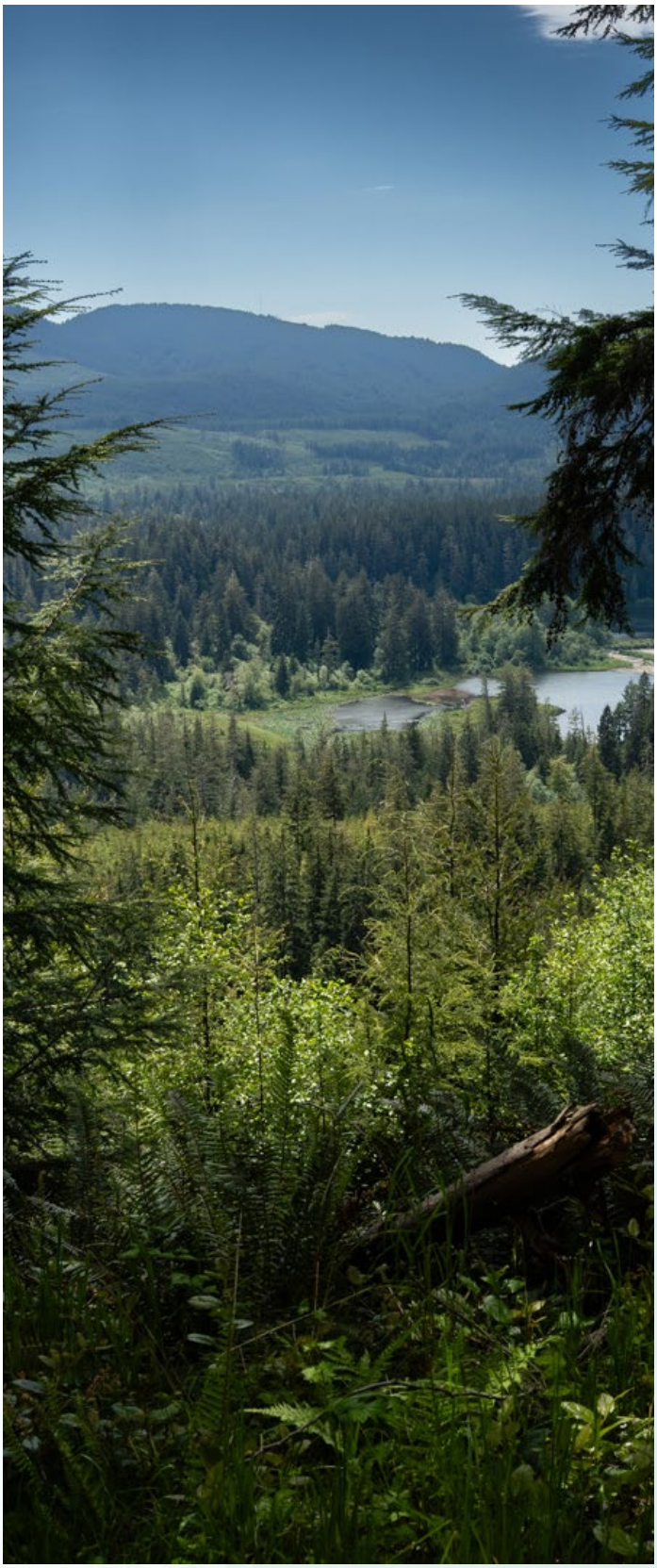
FPAC lobbying habits in their own words:



In a presentation to the Maritime Lumber Bureau in June 2023, FPAC offered insights into their Forests for the Future campaign, what it would entail, and how it planned to get the industry messaging out "to saturate target audiences and increase public opinion of the sector" and "to create a more amenable environment to advance the sector's policy priorities." Credit: Halifax Examiner.[221]

> ***"The government should emulate successful models such as The Forest Enhancement Society of BC, prioritize fire prevention as a national policy objective, and amend regulatory barriers to this objective, including those posed by the Fisheries Act, Migratory Birds Convention Act, and Species at Risk Act."***[222]
>
> ***Forest Products Association of Canada.***

Understanding the impact of this lobbying requires clarity about where decision-making authority lies. In Canada, natural resources like mining, forestry, and oil and gas fall primarily under provincial jurisdiction. However, federal laws also apply, especially in areas related to international or interprovincial trade. While provinces are generally responsible for implementing forestry policy and legislation on the ground, the federal government plays a key role in setting national standards and ensuring consistency across jurisdictions. Forestry companies are responsible for meeting the legislative and policy requirements set out by provincial and territorial governments. Additionally, a healthy democracy encourages rigourous public discourse on forest values that should be maintained – acknowledging that there are a wide range of perspectives as well as potential conflicts. However, when governments or industry makes claims that operations are



"sustainable" because they are meeting legal and policy requirements and recommendations, they imply that those indicators are scientifically-based and objective. In reality, they are significantly directed by the very industry that the laws and policies are meant to watchdog (Table 1).

Forest Products Association of Canada (FPAC)	Alberta Forest Products Association (AFPA)	BC Council of Forest Industries (COFI)	Ontario Forest Products Association (OFIA)	Conseil de l'industrie forestière du Québec (CIFQ)
AV Group NB [owned by Aditya Birla Group (India HQ)] Alberta Newsprint Company [Canada HQ] Alberta-Pacific Forest Industries Inc. [owned by Hokuetsu Corporation, (Japan HQ)] Canadian Kraft Paper [owned by American Industrial Acquisition Corporation (US HQ)] Canfor [Canada HQ] Domtar [US HQ, Indonesian owned] Dryden Fibre Canada [owned by First Quality (US HQ)] Harmac Pacific [Canada HQ] Interfor [Canada HQ] International Paper [U.S. HQ] Kruger Kamloops [Canada HQ] LP Building Solutions [U.S. HQ] Weyerhauser [U.S. HQ)] Maibec-Nova Scotia [Quebec HQ] Mercer [owned by Atlas Holdings (US HQ)] Millar Western [U.S. shareholder owned] Mondi Hinton [U.K. owned] Thunder Bay Pulp and Paper [owned by Atlas Holdings (U.S. HQ)] Tolko [Canada] West Fraser [Canada HQ] Weyerhauser [U.S. HQ)]	Alberta Newsprint Company (FPAC member) Alberta-Pacific Forest Industries (FPAC member) Canfor (FPAC member) Drax (U.K. owned0 International Paper (FPAC member) Mercer International (FPAC member) Millar Western (FPAC member) Mondi Hinton (FPAC member) Tolko Industries (FPAC member) West Fraser (FPAC member) Weyerhaeuser (FPAC member)	Canfor (FPAC member) Domtar (FPAC member) Mercer International (FPAC member) Kruger Inc. (FPAC member) Sinclar Group Forest Products (Canada HQ) Western Forest Products (Canada HQ) West Fraser (FPAC member) Weyerhaeuser (FPAC member)	Columbia Forest Products [owned by US HQ company] Domtar (FPAC member) Dryden Fibre Canada (FPAC member) Georgia Pacific [US HQ] GreenFirst Forest Products [majority owned by US companies Senvest Management, Ravenswood Investment and Fundamental Global] Interfor (FPAC member) West Fraser (FPAC member) Thunder Bay Pulp and Paper (FPAC member) Weyerhaeuser (FPAC member)	Barette-Chapais (Quebec HQ) Cascades (Quebec HQ) Chantiers Chibougamoau (Quebec HQ) Domtar (FPAC member) Louisana-Pacifique Canada [owned by Louisiana Pacific, US HQ] Kruger Inc. (FPAC member) Maibec (FPAC member) Papiers White Birch [owned by Black Diamond Capital Management, US HQ] Produits forestiers Arbec [Quebec HQ] Rémabec Group (Quebec HQ) Tafisa Canada (owned by Sonae Industria SGPS SA, Portugal HQ) Uniboard Canada (Quebec HQ)

Forestry's Power Shift: The Rise of a Mega-corporation

In recent years, Jackson Wijaya—owner of Paper Excellence and a member of the family behind Asia Pulp & Paper (APP), one of the largest pulp companies in Indonesia and China—acquired two of North America's forestry giants: Domtar and Resolute Forest Products (Figure 13).[223] These acquisitions have made Paper Excellence, now consolidated under the Domtar name, the largest pulp and paper company in Canada. In 2024, Wijaya was appointed to succeed his father as the controlling shareholder of APP, consolidating his control over mills and forestry concessions across Asia, North America, South America, and Europe.[224]

Does Catalyst Paper Acquisition need a date?

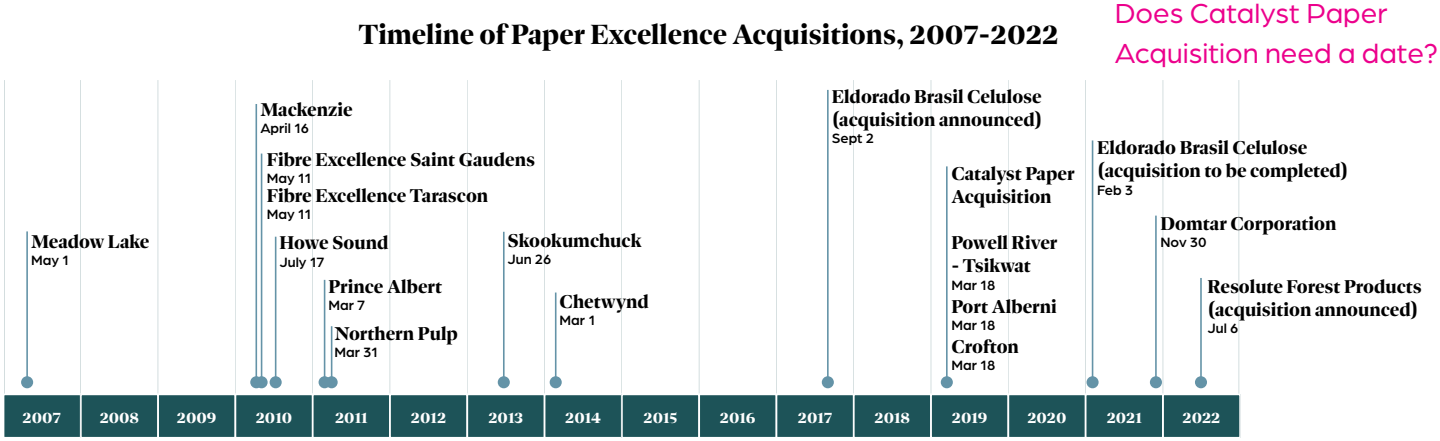


Figure 13: Timeline of the building of Jackson Wijaya's forest empire across North America.

This concentration of ownership has drawn renewed scrutiny of Paper Excellence, particularly given its connection to APP and its parent company, Sinar Mas, whose environmental track record in Southeast Asia is deeply concerning. APP's industrial-scale clearance of tropical rainforests in Sumatra and Kalimantan has depleted ecosystems critical to communities, as well as habitat for orangutans, tigers, and other endangered animals.[225] With over half of its plantations in Indonesia on high-carbon peatlands, APP's operations have also contributed to massive forest and land fires, drawing lawsuits from affected haze victims in Indonesia and product boycotts in Singapore. [226]

Until recently, Paper Excellence denied its connection to APP and Sinar Mas, despite a trove of corporate records and other evidence that indicate Paper Excellence has operated as an arm of the Sinar Mas conglomerate.[227] This includes revelations that APP's largest creditor—a Chinese state-owned bank—had extended Paper Excellence a $1.25 billion line of credit for nearly a decade, until 2021.[228]

Through multibillion-dollar acquisitions of several forestry companies—including Domtar, Resolute Forest Products, and Catalyst Paper—Paper Excellence has rapidly expanded its footprint in Canada. Its Canadian acquisitions began in 2007 with its purchase of the Meadow Lake Pulp Mill in Saskatchewan, under the Sinar Mas Group umbrella.[229] It now controls more than 22 million hectares of forest and operates pulp, paper, and lumber mills across B.C., Saskatchewan, Ontario, Quebec, and Nova Scotia.[230]

While Paper Excellence has demonstrated a willingness to purchase high-cost facilities—offering hope to communities that depend on them for jobs—it has since shut down at least five of the mills it acquired. In some cases, this is after having accepted government subsidies and making public promises to keep them open.[231] One high-profile example is the Northern Pulp Mill in Nova Scotia, which was shut down after the company refused to upgrade its effluent treatment system to comply with environmental regulations to protect the local bay.

When the Nova Scotia government tried to recover $99 million in provincial loans, Northern Pulp filed for bankruptcy. Paper Excellence then sued the province for $450 million over the mill's closure. In 2024, the Nova Scotia government relented, agreeing to recoup less than half of the debt in exchange for Paper Excellence dropping its lawsuit.[232]

Paper Excellence's links to Sinar Mas prompted a Canadian Parliamentary hearing into Paper Excellence and its ties to APP. Member of Parliament Charlie Angus told the Natural Resources Committee, "I don't think anyone would have opened the door to Asia Pulp and Paper coming in, or the Wijaya family coming in, to take over Canadian forestry operations if it was known that they were Asia Pulp and Paper. So hence the creation of Paper Excellence as the Trojan horse to get into Canada."[233]

Government officials also admitted that, in the case of Paper Excellence's acquisitions of Domtar and Resolute, no net benefit review was conducted—an assessment that would have determined whether the acquisition of these Canadian companies by foreign interests would serve the interests of Canadians.[234] For now, Paper Excellence, under the Domtar umbrella, remains the largest private manager of forests in Canada.[235]

Six Decades of Toxic Legacy and Injustice for Grassy Narrows

Between 1962 and 1970, the Dryden Chemicals pulp and paper plant released more than 9,000 tonnes of mercury into the English–Wabigoon River watershed, located in northwestern Ontario and home to the Grassy Narrows First Nation.[236] This contamination caused dangerously high levels of mercury in fish, the community's primary food source. Commercial and recreational fishing in the area were shut down as a result of the severity of the pollution. Although mercury levels downstream of the facility were expected to have stabilized by now, the region continues to suffer from ongoing pollution.[237]

Studies show that mercury levels downstream of the mill remain nearly 130 times higher than those upstream. [238]

Mike Fobister, a member of Grassy Narrows's Land Protection Team, beats a hand drum on the porch of a permanent cabin set up at the Slant Lake blockade site, first erected in December 2002.

The lands, waters, and resources that the Grassy Narrows First Nation depends on for its well-being, cultural survival, and Treaty rights have not been protected or restored by the government. As a result, Grassy Narrows is suing Ontario and Canada for violating fiduciary duties, infringing on Treaty rights, and failing to uphold the Crown's obligation to act honorably in its dealings with the Nation. The lawsuit centers on the Crown's persistent failure to fulfill its responsibility to safeguard Grassy Narrows from the harmful effects of mercury contamination and other industrial impacts, such as resource extraction and industrial effluent. It demands that the government take action to restore the river system, compensate Grassy Narrows for damages, and reform governance practices to respect and uphold their rights.

> ***"I listened to testimonies of Indigenous Peoples in Ontario that shared the devastating health consequences of decades of mercury contamination of the Wabigoon and English rivers resulting in the chronic poisoning of their people, including children. I call upon the government of Canada to take all the necessary steps to provide effective remedies and adequate compensation."***[239]
>
> ***Francisco Calí Tzay, United Nations Special Rapporteur on the Rights of Indigenous Peoples***

A child from Grassy Narrows carries a sign during a protest in Winnipeg in this archival photo from the late 2000s. It was part of the First Nation's efforts to stop clear-cut logging in their traditional territory, including in 2002 when they erected a blockade that has since become the longest logging blockade in Canadian history. Photo credit: Jon Schledewitz/ freegrassy.net.

Grassy Narrows First Nation has also called for a ban on mining and industrial operations on its territory and declared an Indigenous Protected and Conserved Area in 2018. In the years afterward, however, the Ontario government permitted a flood of mining claims. After Grassy Narrows initiated a judicial review application of 9 mining exploration permits that were granted without consultation, all of the 9 permits either expired or were withdrawn by the companies.[240]

Northern Pulp's Legacy: The Toll on Pictou Landing First Nation

Until 1967, Boat Harbour was an unpolluted tidal estuary on the Northumberland Strait in Pictou County, Nova Scotia. The area around Boat Harbour (known by the Mi'kmaq as *A'se'k*, meaning "the other side", "over there", or "the other room" in English) was recognized for its highly productive subsistence fisheries, and recreational and medicinal importance.[241] That changed when an effluent (wastewater) treatment facility associated with a nearby bleached Kraft pulp mill was established, releasing approximately 85 million liters of effluent daily into A'se'k.[242]

Over the next five decades, Northern Pulp Nova Scotia caused environmental damage that continues to affect the land and significantly impact the people of Pictou Landing First Nation. In addition to clearcutting and pulping Nova Scotia's forests, the mill has emitted up to 80 times more fine particulate matter than nearby industrial facilities, including Michelin Tire plant and Nova Scotia Power's coal-fired station. [243]

In response to the community's long-standing demand to close the toxic treatment facility, the provincial government agreed to permanently shutter the mill by 2020. At the time, Iain Rankin, Nova Scotia's environment minister, called the effluent crisis one of the worst examples of environmental racism in Canada. [244]

Unfortunately, the community's victory was short-lived. In December 2017, plans were announced to open a new effluent treatment plant at another location to keep the Northern Pulp mill operating. This facility would have piped pre-treated wastewater directly into the Northumberland Strait, threatening vital lobster fishing grounds used by Indigenous and non-Indigenous fishers.

> ***"We're angry. We have reason to be angry. We've been fighting this for 50 years. We shut down Northern Pulp five years ago. I remember celebrating when the premier called. The only thing that's improved is that Northern Pulp has shut down. The sludge is still there."***
>
> ***Councillor Derek Francis, Pictou Landing First Nation***[245]

Despite causing decades of environmental harm, Northern Pulp—now part of a multibillion-dollar global conglomerate (see previous section "Forestry's Power Shift: The Rise of a Mega-Corporation")—sued the province of Nova Scotia for hundreds of millions of dollars in damages. According to court filings, Northern Pulp sought compensation for loss and damage suffered as a result of acts and omissions of officials and representatives of the province, which forced the closure of the Boat Harbour effluent treatment facility and the pulp mill.[246]

Mi'kmaq chiefs protest against pulp waste in Pictou County, Nova Scotia. Photo credit: K. Knight[247]

In 2024, the corporation and the provincial government announced a settlement agreement, bringing an end to the long and turbulent history of the Pictou County pulp mill and years of legal battles—though the company continues to seek funding to build a new mill. Jean-François Guillot, chief operating officer of Fibre Excellence at Paper Excellence Canada, stated in court documents submitted in May 2024—and as part of the settlement agreement—that Northern Pulp is considering constructing a new pulp mill in Liverpool, Nova Scotia.[248] This proposed mill would generate half a million air-dried tonnes of pulp annually, making it the largest northern bleached softwood kraft mill in Canada.

Meanwhile, Northern Pulp owes more than $213 million to its new owner Paper Excellence—itself part of the enormous, multibillion-dollar Sinar Mas business empire of the Sino-Indonesian Wijaya family (Paper Excellence rebranded itself as Domtar in October 2024).[249] Despite this, Northern Pulp has filed documents requesting yet another extension of creditor protection under the Companies' Creditors Arrangement Act (CCAA), this time until early May 2025.

Since first applying for creditor protection in June 2020, the company has received 14 such extensions. The company also owes Nova Scotia—or more precisely, Nova Scotians—close to $86 million, most of which comes from a $75 million loan provided in 2010 for the acquisition of 475,000 acres of woodlands in the province.[250] The cleanup of the former Boat Harbour effluent facility is currently expected to cost at least $314 million.[251]

Recommendations

For Canada to live up to its Montreal Process commitments, it must ensure that it reports on criteria and indicators in a robust manner that provides the basis for scientists, managers, policymakers, Indigenous Peoples and stakeholders to evaluate relevant and broad range of information and to inform ever-improving practices around the local, regional, national, and global scales of sustainable management of forests. Canada's State of the Forest report's claim that it is a comprehensive source for information on Canada's forests and forest sector is inaccurate. [252]

Below are broad recommendations for necessary improvements to Canada's State of the Forest report that would help it to meet Canada's obligations under the Montreal Process and support a broad range of rightsholders and stakeholders seeking to ensure the conservation and careful management of the critical environmental, social and economic values of these forests.

I. Addressing critical gaps in Canada's reporting on Montreal Process Criteria and Indicators

Criterion 1 (Conservation of Biological Diversity)

Criterion 1 was designed with the understanding that preserving the variety of life in forest ecosystems is essential to their long-term health, productivity, and resilience. Biodiversity conservation isn't just about counting the number of species; it's about maintaining the full complement of genetic variation, species, and ecosystem types, which together underpin critical forest functions.

Key gaps in Canada's State of the Forest reporting: Status of forest-dependent species at risk, extent of forest fragmentation, consideration of cumulative effects, importance of and decline in old-growth forests, and contextualization regarding differences between industrially logged and naturally disturbed forest.

Montreal Process Indicator 1.1a *Forest structure, composition and ownership*	Canada's SOF should *quantitatively* report on: • Forest age class distribution across main forest types, including documenting any significant differences between areas managed for harvesting and natural benchmarks. • Area/volume of old-growth harvesting by main forest types. • Percentage of Indigenous-held forest tenure by province. • Natural range of variability across main forest types across Canada (age and forest types) and deviations in managed forests. Canada's SOF should *qualitatively* report on: • Forests that are within Indigenous Protected and Conserved Areas (IPCAs), or other similarly conserved areas governed by Indigenous Peoples, with examples of opportunities and barriers to advance these conservation initiatives by province. • Scientific findings comparing industrially logged areas with natural benchmarks.
Montreal Process Indicator 1.1b *Forest types in most need of protection*	Canada's SOF should *quantitatively* report on: • The distribution of key forest types, by proportion, in regulated federal and provincial protected areas and IPCAs. • Annual progress, by province and territory, toward meeting Target 3 in the Kunming-Montreal Global Biodiversity Framework (i.e., 30% protected by 2030).
Montreal Process Indicator 1.1c *Forest fragmentation*	Canada's SOF should *quantitatively* report on: • Annual changes in area/percentage of the industrial footprint (i.e., area of roads/landings, recent cuts, seismic lines, energy/communications infrastructure, other development and infrastructure) across the managed forest in Canada.

Montreal Process Indicator 2 *Species diversity*	Canada's SOF should *quantitatively* report on: • Changes in the population status (declining, stable, increasing) for species-at-risk, including boreal caribou and spotted owl as well as indicator and culturally significant species, including American marten and bird species dependent on mature and old forests.

Criterion 2: Maintenance of productive capacity of forest ecosystems

Criterion 2 is centered on ensuring that forests continue to provide goods and services sustainably over time. The productive capacity of a forest is not merely about growth rates—it's also about the overall health and structure of the forest ecosystem. Intensive use of forest resources can lead to soil degradation, loss of species diversity, and changes in hydrological cycles.

Key gaps in Canada's State of the Forest reporting: Changes in age classes of managed forest compared to natural benchmark, AAC responses to increasing wildfires in the managed forest, impacts of extensive glyphosate spraying on non-timber forest products, including abundance of forest foods and medicines.

Montreal Process Indicator 2.a *Availability of forest land for wood production*	Canada's SOF should *quantitatively* report on: • Changes each year in the area/percentage within the managed forest that is at or above the age of commercial maturity (by main forest type), as well as area/percentage of the managed forest that has not reached commercial maturity due to harvests or other disturbance. • Changes in area burned by wildfire, and associated reductions in Annual Allowable Cuts (AAC), by province (i.e., adaptive management).
Montreal Process Indicator 2.e *Annual harvest of non-wood forest products*	Canada's SOF should *quantitatively* report on: • Annual and cumulative area sprayed with glyphosate, as these practices impact the production of non-wood forest products. Canada's SOF should *qualitatively* report on: • Policies and alternative forest management strategies to reduce or eliminate the application of glyphosate that may enhance the sustainable harvest of non-wood forest products.

Criterion 3: Maintenance of forest ecosystem health and vitality

Criterion 3 is focused on ensuring that forests maintain their inherent ecological integrity, functionality, and resilience over time. This means supporting the capacity of forest ecosystems to sustain their natural processes despite challenges posed by both natural disturbances and human interventions.

Key gaps in Canada's State of the Forest reporting: Information and context on the negative impacts forest management is having on reducing forests' resilience to climate change, cumulative impacts of harvesting with increasing disturbance related to climate change, and indicators for forest degradation or rationale of benchmarks of ecological integrity.

Montreal Process Indicators 3.a. and 3.b. *Forest ecosystem health and function*	Canada's SOF should *quantitatively* report on: • The role industrial logging can have in reducing forests' resilience to climate change and other natural stressors, and exacerbating climate change impacts (e.g., wildfires and flooding). • The cumulative role that forest management, combined with natural stressors, is having on future forest resilience to fire, floods, insects, and disease. • The distinct impacts that biotic and abiotic disturbances, as compared to anthropogenic disturbances, have on wildlife populations, tree species composition and understorey vegetation. • Indicators of forest degradation and the development of ecosystem integrity benchmarks.

Criterion 4: Conservation and Maintenance of Soil and Water Resources

Criterion 4 is designed to monitor impacts on soil and water that form the fundamental physical environment upon which forest ecosystems rely. Conserving soil and water resources ensures that forests remain resilient to both natural disturbances (like floods and droughts) and human impacts. Their integrity underpins not only forest productivity but also the overall health, resilience, and functionality of forest landscapes.

Key gaps in Canada's State of the Forest reporting: Comprehensive consideration of implementation and efficacy of strategies to reduce impacts on soil and water resources, and recognition of the impacts of mill effluent on local and Indigenous communities.

Montreal Process Indicator 4.1a *Protective function*	Canada's SOF should *quantitatively* report on: • The efficacy of current strategies to conserve and maintain soil and water resources. • Examples of successes and failures (e.g., through local measurements of changes in physical, chemical, or biological properties in water resources) relating to forest management strategies for soil and water protection.
Montreal Process Indicator 4.2 *Soil degradation*	Canada's SOF should *quantitatively* report on: • Examples of soil degradation, as well as avoidance of soil degradation, and lessons learned/best practices.
Montreal Process Indicator 4.3 *Water quality and quantity*	Canada's SOF should *quantitatively* report on: • Community impacts from mill effluent (i.e., downstream impacts from wood processing).

Criterion 5: Maintenance of forest contribution to global carbon cycles

Criterion 5 is designed to ensure that the natural ability of forests to take up, store, and cycle carbon is maintained over the long term. This is essential for sustaining forest ecosystems and for contributing significantly to global efforts in climate stabilization and carbon management. While the current SOF reports on changes within the forest carbon pool in Canada, it does so in a manner that obscures the cumulative carbon emissions associated with current forest management practices.

Key gaps in Canada's State of the Forest reporting: Transparent reporting on forest carbon and impacts of logging, emerging research on permanent landscape changes and assumptions regarding forest regeneration, controversial assumptions regarding Life Cycle Analyses, and tracking of progress and reassessment of climate benefits of Canada's 2 Billion Trees program.

Montreal Process 5.a and 5.b *Total forest ecosystem carbon pools and fluxes*	Canada's SOF should *quantitatively* report on: • The emissions associated with industrial logging separate from the natural sequestration of carbon absorbed by post-fire regrowth and primary, old-growth and mature forests with no recorded history of industrial logging. Canada's SOF should *quantitatively* report on: • Recent research on permanent landscape changes associated with common logging practices (e.g., roads and landings) and the potential national climate impact. • Recent Life Cycle Analysis (LCA) research highlighting the loss of forest carbon associated with soil disturbance, the conversion of old-growth and primary forests into planted forests, and reforestation rates based on representative empirical data. • Recent research evaluating the LCA of industrial forest biomass relative to wind and solar electricity, and carbon costs of shipping wood pellets overseas. • Relevant analysis of Canada's current policy approach, including critiques by the CESD challenging the carbon and ecological benefits of Canada's 2 Billion Trees program and Canada's approach to forest carbon accounting.

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

Criterion 6 acknowledges that societies depend on an array of forest goods and services for livelihoods, well-being, and cultural identity. By maintaining and enhancing these socio-economic benefits, forest management can support the long-term, socio-economic needs of societies.

Key gaps in Canada's State of the Forest reporting: GDP benefits of non-extractive ecosystem services, effectiveness of recycling programs, comprehensive economic assessment of annual harvests of non-wood forest products, impacts of temporary and permanent mill closures across Canada on the economy and communities, and economic importance of IPCAs and other Indigenous-led conservation initiatives.

Montreal Process Indicator 6.1 *Production and consumption* Is Montreal Process Indicator 6.2 and 6.3.a Missing?	Canada's SOF should *quantitatively* report on: • Estimates of contributions to GDP from forest-based ecosystem services associated with unlogged areas. • The recovery or recycling of forest products as a percentage of total forest products consumption. • An economic estimate of the annual harvest of non-wood forest products (both commercial and sustenance use) , including edible, medicinal and aromatic plants, craft materials, and wild meat and animal products, with particular attention to those harvested, used and/or sold by Indigenous communities. • Changes in consumption of pulp products based on increasing availability of alternative sources. • The changes in ownership of forestry companies responsible for logging in Canada, including if the companies are Canadian owned or not, and flow of benefits.
Montreal Process Indicator 6.3 *Employment and community needs*	Canada's SOF should *quantitatively* report on: • The average wage rates and annual income of different categories of forest workers compared to the average annual income to other sectors of employment, particularly natural resource extraction sectors, in Canada.
Montreal Process Indicator 6.3.b *Average wage, income and injury rates*	Canada's SOF should *quantitatively* report on: • Temporary and permanent mill closures by province/region, annual cycles of employment and unemployment in the forest sector, and societal costs.
Montreal Process Indicator 6.3.c, d and e *Resilience of forest-dependent communities*	Canada's SOF should *quantitatively* report on: • The distribution of revenues derived within the forestry sector to international stockholders and ownership interests, Canadian stockholders and ownership interests, corporate management, and forest workers and communities. • The extent of glyphosate spraying, especially on forests used by Indigenous communities as a source of food and/or for medicinal plants. Canada's SOF should *quantitatively* report on: • Feature stories on towns with permanent mill closures and post-mill economic strategies.
Montreal Process Indicator 6.4 *Recreation and tourism*	Canada's SOF should *quantitatively* report on: • The area and percentage of forests available or managed for public recreation and tourism. Canada's SOF should *quantitatively* report on: • Feature stories of conflicts and resolutions between recreational users/tourism sector and harvesting.

Montreal Process Indicator 6.5 *Cultural, social and spiritual needs*	Canada's SOF should *quantitatively* report on: • The area and percentage of forests by province that are recognized by provinces and territories as under Indigenous stewardship or managed as part of an Indigenous Protected and Conserved Area (IPCA). Canada's SOF should *quantitatively* report on: • The ways in which Indigenous rights and responsibilities are integrated into forest management planning and policy developments (including planning manuals) at the provincial and federal levels.

Criterion 7: Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management

Criterion 7 focuses on the legal, institutional, and economic framework for sustainable forest management. It assesses whether a country has the necessary policies, laws, institutions, and economic conditions to support sustainable forestry practices. This includes the effectiveness of public participation in forest management.

Key gaps in Canada's State of the Forest reporting: The extent to which provincial/territorial laws are meeting federal requirements (e.g., Canada's Species at Risk Act) and international commitments, public subsidies to the sector, variations in public participation processes across jurisdictions, impacts of wildfire on allowable cuts, pervasive conflicts in forests across Canada, extent of UNDRIP implementation.

Indicator 7.2 should this be Monteal Process Indicator 7.2? *Incorporation into forest legislation* Is Montreal Process Indicator 7.5, 7.7, 7.8, 7.10–12 Missing?	Canada's SOF should *quantitatively* report on: • The number of provincial/territorial forestry laws and policies that are implementing the federal Species at Risk Act, and the number of provinces/territories that are in violation. • The number of provincial forestry laws that include requirements for free, prior, and informed consent as specified by Canada's commitment to the United Nations Declaration on the Rights of Indigenous Peoples and United Nations Declaration on the Rights of Indigenous Peoples Act (UNDA).
Montreal Process Indicator 7.4 *Use of economic instruments and fiscal measures*	Canada's SOF should *quantitatively* report on: • The amount of federal and provincial subsidies allocated to the forestry sector, as well as their intended purpose, and who receives the funds.
Montreal Process Indicator 7.6 *Stakeholder participation and transparency*	Canada's SOF should *quantitatively* report on: • A comparison of public participation and consultation requirements across different provincial and territorial jurisdictions in Canada.
Montreal Process Indicator 7.9 *Stakeholder participation and transparency*	Canada's SOF should *quantitatively* report on: • Changes in area burned by wildfire, and associated reductions in Annual Allowable Cuts (AAC), by province. (See Indicator 2.a)

Montreal Process Indicator 7.13 *Mechanisms for conflict resolution*	Canada's SOF should *quantitatively* report on: • Recent and current conflicts relating to how forests are managed across Canada, the extent to which conflicts were resolved (or not), and successful resolution mechanisms. • Current legal challenges to forest management regimes and forest product facilities (e.g., pulp mills) across Canada, particularly in relation to Indigenous Peoples and their inherent and Treaty rights. This should be designed to increase public understanding of these conflicts and proposed pathways towards resolution. • Examples of how previous and ongoing impacts from forestry practices on Treaty rights (e.g., cumulative impacts to watersheds, impacts to sustenance wildlife populations) are remediated.
Montreal Process Indicator 7.14 *Periodic policy, legal, and institutional review*	Canada's SOF should *quantitatively* report on: • Where forest policies and laws are leading to co-management of forests with Indigenous Peoples.

II. Conduct public and Indigenous consultation to identify the most appropriate indicators for NRCAN to use in SOF assessments

As part of its Montreal Process reporting obligations, Canada should conduct ongoing public consultation to ensure that the SOF is reporting on the indicators that are relevant to rightsholders and stakeholders and at a level of detail that allows for the improvement of management practices and can inform policy development and implementation at the provincial, national and international levels.

Conclusion

Reporting under the Montreal Process framework of criteria and indicators is a component of Canada's global commitment to improve the management and conservation of boreal and temperate forests. Yet by failing to report on critical indicators of the Montreal Process, neglecting to apply defensible benchmarks based on scientific standards, failing to identify weaknesses in current policies and shortcomings in achieving our international commitments, Canada obscures the full impacts of its forestry sector.

This insufficiency in reporting limits the information available to communities and policy-makers to address unprecedented cumulative threats from climate change and ongoing industrial activities, compromising efforts to develop new policies and practices to support forest resilience and restoration in the face of these stresses. The federal SOF also shifts attention away from industry's role in degrading ecological integrity—particularly by emphasizing the effects of natural disturbances such as wildfires and insect infestations, without acknowledging the well-established differences between natural and human-caused disturbances, the concept of managing within the natural range of variation, or the cumulative impacts of industrial activity.

While the SOF may aim to reassure the public that forests in Canada are being managed sustainably, it ultimately fails to deliver a complete and accurate picture of their true state. In doing so, it undermines

opportunities for policy solutions that could protect and restore the significant biodiversity and climate values of forests across Canada, fulfill Canada's international commitments, and strengthen its reputation as a source of truly sustainable forest products.

Criterion 1: Ecological Diversity			
What is required? This criterion evaluates the **conservation of biological diversity**. It includes reporting on forest ecosystem types, successional stages, age classes, and forest ownership or tenure. It also requires information on the extent of protected areas and fragmentation, species at risk, and the maintenance of genetic diversity.	**Reported by the SOF:** • Quantifies forest area. • Summarizes public versus private ownership.	**Partially reported by the SOF:** • Mentions Canada's Two Billion Tree program but does not quantify how effectively the program is achieving its goals. • Provides only limited references to genetic diversity (e.g., whitebark pine). • Mentions populations of selected representative forest-associated species with a limited geographic focus (e.g., B.C.) and provincial efforts to conserve biodiversity. • Reports on the percentage of regulated protected areas in Canada. It states there is "an increased commitment to preserving biodiversity, which includes the adoption and implementation of the Kunming-Montreal Global Biodiversity Framework (GBF) to halt and reverse biodiversity loss by 2030." However, it provides no context for how GBF goals are being monitored or what progress has been made. For example, it claims that conservation areas "are increasing," but provides no supporting data on the extent or pace of this increase.	**Missing or needed in the SOF:** • Does not report on forest fragmentation. • Does not report on the status (e.g., declining, stable, or increasing) of forest-associated species, particularly species at risk. • Lists forest management practices that could support environmental values (e.g., striving to emulate natural disturbances), but provides no data on the extent to which these practices are used or whether they are effective. • Claims that "old-growth forests are increasingly being protected or conserved," but provides no data on the extent of protection or the amount of old-growth forest still being logged. • No reporting on cumulative impacts or changes to the industrial footprint across forests in Canada.

Criterion 2: Maintenance of Productive Capacity of Forest Ecosystems			
What is required? This criterion evaluates the **maintenance of the productive capacity of forest ecosystems,** including merchantable timber stock, wood products as a percentage of sustained yield, and the annual harvest of non-wood forest products.	**Reported by the SOF:** • Quantifies the area of forest land available for wood production, total growing stock (i.e., tree volume), and annual wood product harvest. • Quantifies the area planted annually in Canada. • Includes a featured story on maple syrup with both quantitative and qualitative information.	**Partially reported by the SOF:** • Acknowledges that wood supply will continue to decline over the next several years, "since AACs [annual allowable cuts] in many jurisdictions are reduced in response to the impact of insect outbreaks (e.g., mountain pine beetle, spruce budworm), hurricanes and severe wildfires, and to the measures that are being taken to protect woodland caribou habitat and old-growth forests" with no accountability relating to previous harvest levels. For example, it does not acknowledge or report on the "fall-down effect" (i.e., the inevitable decline in timber supply that occurs when a forest is transitioned from mature, high-volume old-growth to younger, lower-volume second-growth through logging) in B.C. which is driven by excessive logging of old growth forests.	**Missing or needed in the SOF:** • Does not report on the area, percentage, or growing stock of plantations of native and exotic species (despite the availability of this information in the National Forest Inventory, which is cited in the SOF's sources). • Does not report on the overall economic importance of non-timber forest products—only vaguely suggests that forests provide them.

Criterion 3: Forest Ecosystem Health and Vitality			
What is required?* This criterion evaluates the **maintenance of forest ecosystem health and vitality,** including the impacts of natural disturbances like insect outbreaks and wildfires. *It is important to note that while the rationale for this criterion links forest ecosystem health and vitality to the loss of forest benefits and environmental degradation, it fails to include indicators that address the role of industrial logging—one of the primary drivers of forest degradation	**Reported by the SOF:** • Includes area and percentage of forest affected by biotic processes and agents (e.g., diseases and insects). • Includes area and percentage of forest affected by abiotic agents (e.g., wildfires).	**Partially reported by the SOF:** • Mentions the National Forest Inventory (NFI) and the National Forestry Database (NFD), which are used to help assess Canada's forests health, but provide no quantitative measurement on loss of ecological integrity, or changes in forest composition or forest age.	**Missing or needed in the SOF:** • Does not report on the impact of forest management on forest resilience, including its role in mitigating—or exacerbating—floods and wildfires. • Does not report on examples or drivers of forest degradation, which is mentioned just once. Loss of ecological integrity is never addressed, despite assurances that sustainable forest management "aims to protect and conserve the integrity of forest ecosystems and their inherent values."

Criterion 4: Conservation and Maintenance of Soil and Water Resources			
What is required?* This criterion evaluates the **conservation and maintenance of soil and water resources,** including levels of soil degradation and changes in the physical, biological, or chemical properties of water.	**Reported by the SOF:** • Explains the importance of soils for carbon storage and water quality. • Covers how forest cover loss—which it links partly to mountain pine beetle outbreaks—affects soil and water quality.	**Partially reported by the SOF:** • Explains how wildfires, insect outbreaks, harvesting, and climate change impact water; it also references the impacts of rutting from logging machinery. However, the report treats all forest disturbances as having an equal impact on water and soil quality and overlooks how forest management decisions specifically and uniquely impact both.	**Missing or needed in the SOF:** • Does not report on stream length or the area and percentage of water bodies in forest areas that show significant changes in physical, chemical, or biological properties compared to reference conditions. • Does not review forest management approaches designed to protect soil and water—or assess their success.

Criterion 5: Maintenance of Forest Contribution to Global Carbon Cycles			
What is required? This criterion evaluates the **maintenance of forests' contribution to global carbon cycles,** including carbon pools and fluxes within ecosystems and forest products, as well as avoided fossil fuel emissions from the use of forest biomass.* Note: The limitations of this criterion are discussed in the report	**Reported by the SOF:** • Clarifies in the Sources and Information section that "..when stands are affected by stand-replacing wildfires, the emissions and subsequent removal during post-fire regrowth are reported in the 'natural partition.'" Further explains that once regrowing stands reach commercial maturity (45 to 100 years), emissions and removals are reported in the "anthropogenic partition."	**Partially reported by the SOF:** • Includes data from the Canadian Forest Service's National Forest Carbon Monitoring, Accounting and Reporting System, which is part of NRCan, and tracks carbon pools as well as total forest ecosystem and product carbon fluxes.	**Missing or needed in the SOF:** • Does not report on anthropogenic carbon emissions associated specifically with forest harvests, despite recommendations by the Commissioner of the Environment and Sustainable Development, MPs, scientists, and environmental and health groups to do so.

Criterion 6: Enhancement of Long-term Multiple Socio-economic Benefits			
What is required? This criterion evaluates the **maintenance and enhancement of multiple long-term socio-economic benefits to meet societal needs,** including the volume of wood and non-wood products, investment in the sector, levels of employment, and the resilience of forest-dependent communities.	**Reported by the SOF:** • Includes the value of roundwood exports and imports, employment levels, and other forestry sector benefits to communities.	**Partially reported by the SOF:** • Notes some forest benefits, such as broad considerations of recreational, tourism, cultural, social, and spiritual values. Also includes reference to some non-timber values like ecosystem services and the resilience of forest-dependent communities.	**Missing or needed in the SOF:** • Does not report on mill closures (temporary or permanently). • Does not report on societal costs associated with job loss.

Criterion 7: Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management			
What is required? This criterion evaluates the **legal, institutional, and economic frameworks that support forest conservation and sustainable management.** It includes legislation and policies, cross-program coordination, land tenure security and clarity, and mechanisms for conflict resolution.* Note: This criterion is limited by its lack of acknowledgement of Indigenous Peoples as rightsholders.	**Reported by the SOF:** • Lists legislation relevant to forest management. • Mentions research, partnerships, monitoring efforts, public participation, and conflict resolution mechanisms.	**Partially reported by the SOF:** • Mentions resources supporting forest management, but does not report on cross-sectoral policy and program coordination; taxation and other economic strategies that influence sustainable forest management; clarity and security of land and resource tenure and property rights; or enforcement of forest-related laws.	**Missing or needed in the SOF:** • Provides no context for how effectively laws and regulations at the federal, provincial, territorial, or municipal levels are implemented, enforced, or meeting their intended goals (e.g., supporting the Species at Risk Act or boreal caribou recovery efforts). • Mentions the United Nation Declaration on the Rights of Indigenous Peoples (UNDRIP) just once and in a vague reference to a potential effort to align NRCan's initiatives, policies, and programs with the UNDRIP Act.

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