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INSECT MANAGEMENT IN CANADA'S FOREST SECTOR: STRENGTHENING NATIONAL COOPERATION AGAINST CURRENT AND FUTURE OUTBREAKS

Report of the Standing Committee on Natural Resources

James Maloney, Chair

**FEBRUARY 2019
42nd PARLIAMENT, 1st SESSION**

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FUTURE OUTBREAKS**

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**James Maloney
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NOTICE TO READER

Reports from committee presented to the House of Commons

Presenting a report to the House is the way a committee makes public its findings and recommendations on a particular topic. Substantive reports on a subject-matter study usually contain a synopsis of the testimony heard, the recommendations made by the committee, as well as the reasons for those recommendations.

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THE STANDING COMMITTEE ON NATURAL RESOURCES

has the honour to present its

ELEVENTH REPORT

Pursuant to its mandate under Standing Order 108(2), the Committee has studied insect management in Canada's forest sector and has agreed to report the following:

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SUMMARY

Forest insects are the biggest cause of tree mortality in Canada, and there is evidence to suggest that their impact may be getting worse. Canada's two most persistent outbreaks of native species are the mountain pine beetle in Western Canada and the spruce budworm in the east. Major outbreaks of other forest insects include the Jack pine budworm of Ontario, Manitoba and Saskatchewan; the Douglas-fir, spruce and balsam bark beetles of British Columbia; as well as foreign species such as the Eurasian gypsy moth, the European brown spruce longhorn beetle, and the Asian long-horned beetle and emerald ash borer.

Forest insect outbreaks can spread through various trade and transportation routes and are exacerbated by wildfire suppression and climate change. Ongoing outbreaks are having negative impacts on Canada's environment, economy and forest-dependent communities. For example, they damage forest health and biodiversity, creating new pathways for more insect outbreaks; diminish the supply and quality of wood fibre, putting forest-dependent communities and businesses at risk; threaten Canada's natural heritage (e.g., national parks and urban trees); possibly increase the risk of wildfire; and contribute to Canada's greenhouse gas emissions by turning trees from carbon sinks to carbon sources.

While close to 90% of Canadian forests fall under the jurisdiction of the provinces and territories, the federal government provides critical research and financial support in collaboration with regional governments and stakeholders. The committee heard that governments and forest insect managers should address the following priorities in order to improve Canada's response and adaptive capacity to forest insect outbreaks:

- Build on preventative and early intervention strategies by enhancing active surveillance, risk pathway analysis, border inspections and reporting;
- Ensure sustainable funding to support long-term action against persistent outbreaks, such as that of the mountain pine beetle;
- Eliminate knowledge gaps across jurisdictions through training/skill transfer opportunities and public awareness;
- Incorporate Indigenous knowledge in forest insect management practices, in line with the Crown's duty to consult;

- Support Canadian municipalities in their efforts to address outbreaks in their jurisdiction; and
- Adapt forest management practices and policies to ecological and climate change.

To this end, witnesses called on the federal government to scale up Canada's national dialogue on forest insect management, in collaboration with regional governments and stakeholders.

LIST OF RECOMMENDATIONS

As a result of their deliberations committees may make recommendations which they include in their reports for the consideration of the House of Commons or the Government. Recommendations related to this study are listed below.

Recommendation 1

The House of Commons Standing Committee on Natural Resources (the committee) recommends that the Government of Canada work with industry, civil society, research institutions, Indigenous governments and communities, and provincial, territorial, municipal and/or international governments to strengthen Canadian capacity to prevent, mitigate and/or adapt to regional pests by:

- a) Continuing to enhance border protection against foreign invasive species and to promote preventative and/or proactive outbreak management practices, such as the Early Intervention Strategy to combat the spruce budworm in Atlantic Canada;**
- b) Expanding federal research on invasive species, including the mountain pine beetle, especially with regards to their impacts in new host environments and other factors related to ecological and/or climate change;**
- c) Providing long-term financial and/or policy support, where necessary, according to the stated needs of regional governments and forest managers, including municipalities and Indigenous governments and communities;**
- d) Coordinating a central reporting and information-sharing system to allow forest managers access to the same outbreak management data nationwide;**
- e) Offering educational and training opportunities to forest managers, as needed, in communities and jurisdictions with inadequate outbreak management capacity;**

- f) Investing in research and expertise to bring forward Indigenous knowledge of forest land and resource management;**
- g) Strengthening citizen awareness and engagement through public outreach campaigns that aim to promote and normalize risk-reduction practices;**
- h) Encouraging the adaptation of regional harvesting and reforestation policies, according to new ecological realities and science-based evidence on climate change, to ensure the diversity and sustainability of both urban and rural forests; and**
- i) Including specific research and support for municipalities to deal with invasive insects and diseases, recognizing the social, environmental and economic value of urban forests.**

Recommendation 2

The committee recommends that the Government of Canada convene a meeting with provincial, territorial and Indigenous governments, as well as the Federation of Canadian Municipalities to develop a co-ordinated national strategy to deal with invasive insects and diseases, including their impact on the urban forest.

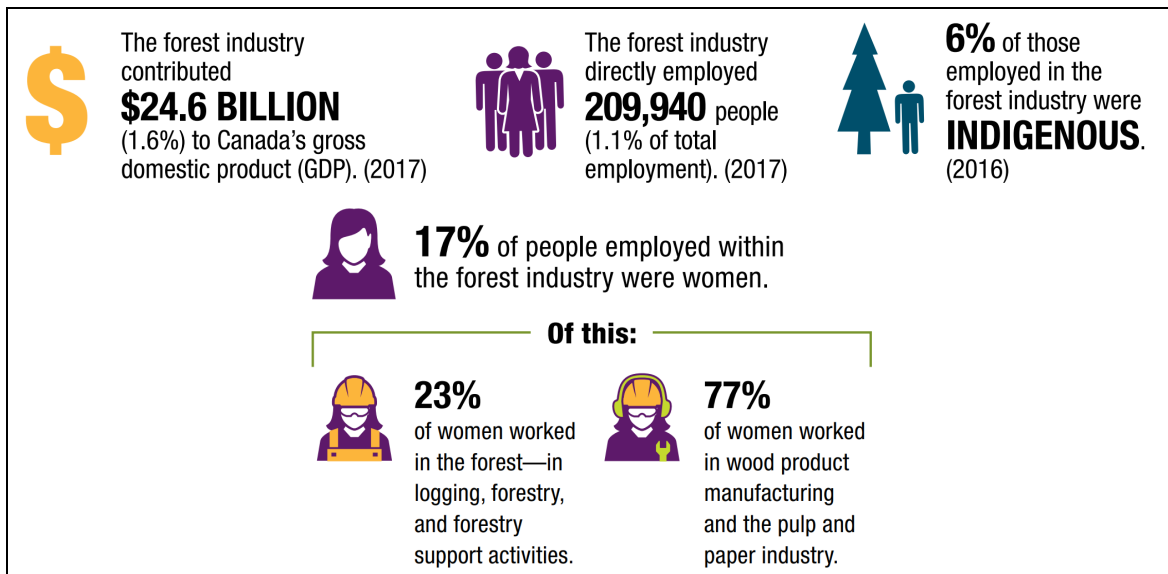


INSECT MANAGEMENT IN CANADA’S FOREST SECTOR

INTRODUCTION

In June 2018, the House of Commons Standing Committee on Natural Resources (the committee) agreed to study and develop recommendations needed to protect the Canadian forestry sector from the spread of forest insects, including the mountain pine beetle and the spruce budworm. Over the course of six meetings, the committee heard from a wide range of experts about the impacts of insect infestations on Canada’s people, economy and environment, as well as best practices for managing outbreaks moving forward. The committee is pleased to present its final report, including the study findings and recommendations to the Government of Canada.

Figure 1: Canada’s Forest Sector at a Glance



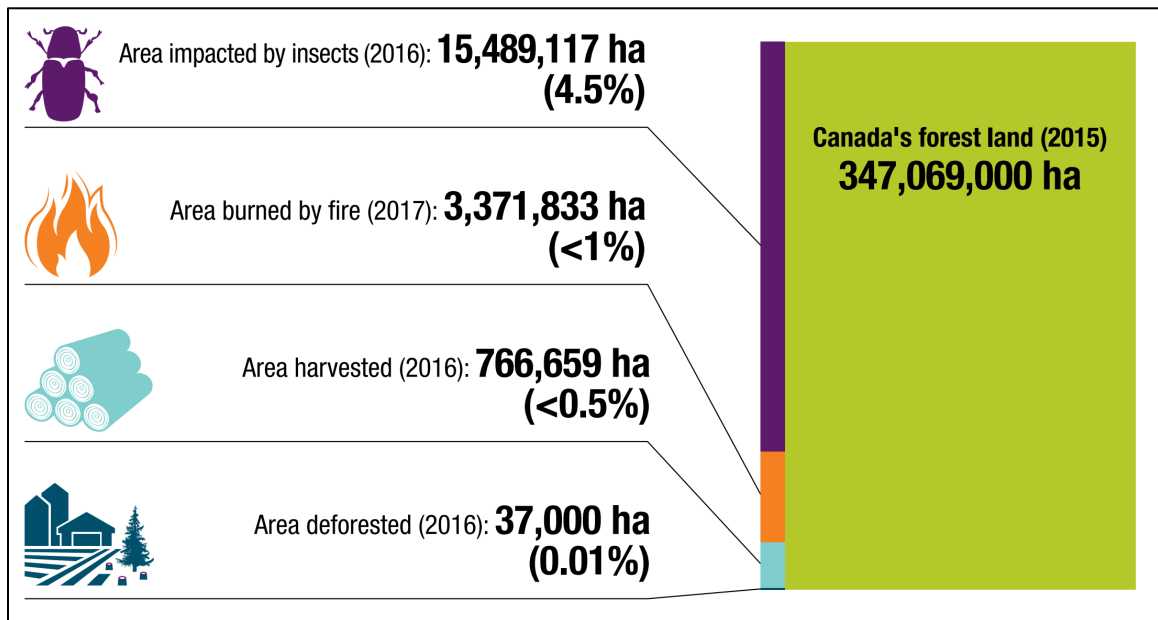
Source: [Natural Resources Canada](#).

Accounting for roughly 35% of the Canadian landmass, forests are an integral part of Canada’s environment, economy and way of life. The committee heard that the forest industry is active in about 600 communities across the country, including more than 150 in rural areas, and that “80% of [Canada’s] First Nations communities call the forest



home.”¹ In 2017, the \$69-billion industry contributed \$24.6 billion to national gross domestic product (GDP) and employed 209,940 people directly (Figure 1). Forests are also natural carbon sinks and could help Canada meet its greenhouse gas (GHG) reduction targets under the [Paris Agreement](#). In 2015, forests removed an estimated 26 million tonnes of carbon dioxide from Canada’s GHG inventory.²

Figure 2: Forest Disturbance in Canada



Source: [Natural Resources Canada](#).

Forest insects are the biggest cause of tree mortality in Canada (Figure 2). Furthermore, there is evidence to suggest that their disturbance of forests may be getting worse.³ The aim of this report is to provide policy guidance to the Government of Canada on how to enhance national insect management, based on evidence from diverse experts from industry, civil society, academia, Indigenous organizations and the public sector. The next two sections outline Canada’s major forest insect outbreaks and their impacts. The final

1 Standing Committee on Natural Resources (RNNR), *Evidence*, 1st Session, 42nd Parliament (*Evidence*): [Bradley Young](#) (Executive Director, National Aboriginal Forestry Association [NAFA]).

2 RNNR *Evidence*: [Derek MacFarlane](#) (Regional Director General, Canadian Forest Service, Atlantic Forestry Centre, Department of Natural Resources [NRCan]); [Étienne Bélanger](#) (Director, Forestry, Forest Products Association of Canada [FPAC]); [Richard Briand](#) (Chief Forester, West Fraser Mills Ltd.); and [Young](#) (NAFA).

3 RNNR *Evidence*: [Allan Carroll](#) (Professor, Department of Forest and Conservation Sciences, University of British Columbia [UBC]).

section discusses best practices for multi-stakeholder insect management across jurisdictions.

The committee is aware that many organizations refer to undesirable forest insects as *pests*. However, [Bradley Young](#) of the Native Aboriginal Forestry Association indicated that the term carries negative ideological connotations. He explained that Indigenous elders do not use such terms, “instead referring to the little ones as *man îcosak*, or some other respectful Indigenous nomenclature in Cree, Dene, Blackfoot, Haida, etc.”

MAJOR OUTBREAKS

Canada’s forest insects can be classified into three broad categories: native, alien and invasive. Native species have lived in Canadian forests for thousands of years, contributing to essential lifecycle functions such as forest renewal and regrowth. Only in the event of an infestation or outbreak do they become harmful to forest ecosystems and resources. Alien and invasive species, on the other hand, are foreign to the ecosystems to which they are introduced. They often arrive with no natural enemies, attacking trees that have not adapted defense mechanisms against them. According to [Tracey Cooke](#) of the Invasive Species Centre, “a species is invasive if it is introduced outside of its native range and has potential negative impacts on ecology, economy or society in its introduced range.” Alien insects are species introduced into Canada’s forests within recent history.⁴

[Indigenous cultures] place the insect family within the circle of life and readily acknowledge that in many ways they are both much more powerful and much more fearsome than humans can ever hope to be.

Bradley Young,
Native Aboriginal Forestry Association

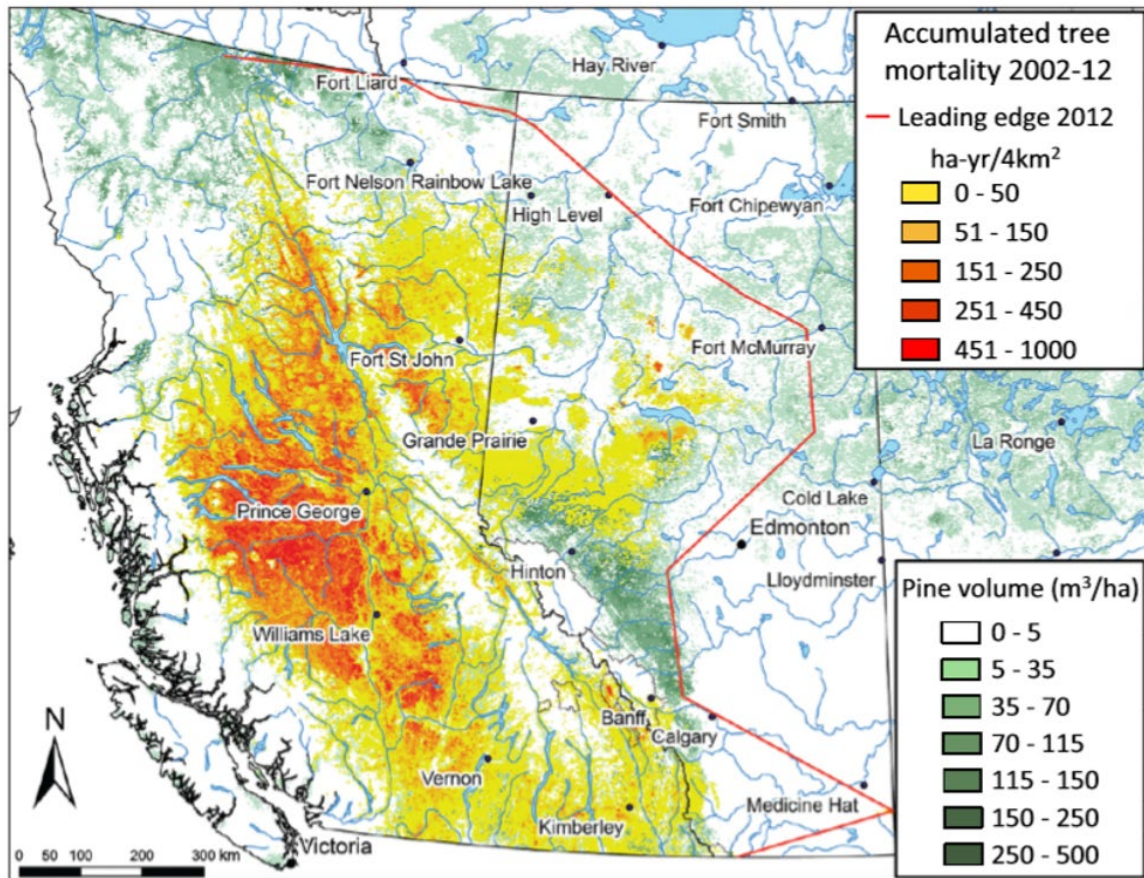
The committee heard that Canada’s two most persistent outbreaks of native species are the [mountain pine beetle](#) of Western Canada and the [spruce budworm](#) of the boreal, Great Lakes and Acadian forest regions. The current beetle outbreak started in British Columbia in the late 1990s and has since spread northward and eastward beyond its native range of lodgepole pines. Breaching the Rocky Mountains, it is now considered an invasive species for reproducing in the jack pine of the boreal forest. The insect has

4 RNNR Evidence: [Tracey Cooke](#) (Executive Director, Invasive Species Centre); [David Nisbet](#) (Partnership and Science Manager, Invasive Species Centre); [MacFarlane](#) (NRCan); [Jean-Luc St-Germain](#) (Policy Analyst, Science Policy Integration Branch, Research Coordination and Integration Division, Canadian Forest Service, NRCan); [Carroll](#) (UBC); [Young](#) (NAFA); and [Natural Resources Canada](#).



caused tree mortality over roughly 16 million hectares of pine-dominated forests in British Columbia. Witnesses think it has the potential to continue its invasive spread through Alberta and beyond (Figure 3).⁵

Figure 3: Accumulated Tree Mortality by the Mountain Pine Beetle, 2002-2012



Source: RNNR Evidence, [Alex Chubaty](#) (Healthy Landscapes Program), based on [Cooke BJ, Carroll AL](#). (2017).

In Eastern Canada, evidence dating back to the 1700s indicates that cyclical outbreaks of the spruce budworm have been occurring every 30 to 40 years. Since 2006, budworm populations have been growing steadily in Quebec, affecting approximately 7 million

5 RNNR Evidence: [Carroll](#) (UBC); [Bélanger](#) (FPAC); [Briand](#) (West Fraser Mills); [Darlene Upton](#) (Vice-President, Protected Areas Establishment and Conservation, Parks Canada Agency); [Peter Henry](#) (Manager, Forest Guides and Silviculture, Policy Division, Ontario Ministry of Natural Resources and Forestry, Government of Ontario); [Young](#) (NAFA); [MacFarlane](#) (NRCan); and [Diane Nicholls](#) (Assistant Deputy Minister, Chief Forester, Ministry of Forests, Lands, Natural Resource Operations and Rural Development of British Columbia, Government of British Columbia).

hectares of trees in 2017. The outbreak spread from the lower St. Lawrence to northern New Brunswick in 2016, reaching the Miramichi region in 2017. According to [Chris Ward](#) of the Government of New Brunswick, the budworm is the greatest insect threat to forests in his province.⁶

Witnesses discussed major outbreaks of other forest insects, including the [Jack pine budworm](#) of Ontario, Manitoba and Saskatchewan; the [Douglas-fir, spruce and balsam bark](#) beetles of British Columbia; as well as alien species such as the Eurasian [gypsy moth](#), the Asian [long-horned beetle](#) and [emerald ash borer](#), and the European [brown spruce longhorn beetle](#).⁷

IMPACTS AND THREAT FACTORS

The committee heard that ongoing insect outbreaks affect Canada’s environment, economy and forest-dependent communities by having the following impacts:

- **Damaging forest health and biodiversity, in turn creating new pathways for more insect outbreaks.** According to [Ms. Cooke](#), invasive insects are considered “the second greatest threat to global biodiversity, next to habitat loss.” By attacking and killing large numbers of trees, they can “reduce habitat for native animals and insects, create canopy gaps altering the microclimate of the forest, and make that forest even more vulnerable to additional invasive species, overall reducing biodiversity.”
- **Diminishing the supply and quality of wood fibre, thereby affecting forestry employment and economic activity.**⁸ The mountain pine beetle has destroyed over 50% of the loggable pine in British Columbia, putting forest-dependent communities and businesses at risk.⁹ In New Brunswick, records show that outbreaks of spruce budworm could lead

6 RNNR Evidence: [Upton](#) (Parks Canada); [Chris Ward](#) (Acting Assistant Deputy Minister, New Brunswick Department of Energy and Resource Development, Government of New Brunswick); [Henry](#) (Government of Ontario); [Young](#) (NAFA); and [MacFarlane](#) (CFS).

7 RNNR Evidence: [Henry](#) (Government of Ontario); [Young](#) (NAFA); [Nicholls](#) (Government of British Columbia); and [Beth McEwen](#) (Manager Forest and Natural Area Management, Urban Forestry, City of Toronto).

8 RNNR Evidence: [MacFarlane](#) (NRCan); [Briand](#) (West Fraser Mills Ltd.); [Cooke](#) (Invasive Species Canada); [William Anderson](#) (Executive Director, Plant Health and Biosecurity Directorate, Canadian Food Inspection Agency [CFIA]); [Nicholls](#) (Government of British Columbia); [Ward](#) (Government of New Brunswick); [Gail Wallin](#) (Chair, Canadian Council on Invasive Species [CCIS]); and [Federation of Canadian Municipalities](#).

9 RNNR Evidence: [MacFarlane](#) (NRCan); [Briand](#) (West Fraser Mills Ltd.); [Nicholls](#) (Government of British Columbia).



to up to 20% reduction in wood supply.¹⁰ Alien insects, such as the European and Asian gypsy moths, are also known to threaten the forest economy by targeting economic tree species.¹¹

- **Threatening Canada’s natural heritage, including national parks and urban trees.**¹² According to [Darlene Upton](#) of Parks Canada, current insect outbreaks are threatening several historic sites and parks across Canada, including Banff, Kootenay, Yoho, Jasper, Kouchibouguac and possibly Fundy National Park. As [Beth McEwen](#) of the City of Toronto pointed out, the economic, social and emotional value of trees should not be underestimated: “the rally to save the oak tree on Coral Gable Drive in [Toronto’s] North York is testament to the emotional connection that some residents develop with trees.” Ms. McEwen added that outbreaks of forest insects and diseases have led to “significant economic impacts on Canadian forests.”
- **Possibly increasing the risk of wildfire.** Emerging data suggests that, by killing trees, forest insects may increase the fuel load for wildfires.¹³ According to [Ms. Upton](#) and [Kim Connors](#) of the Canadian Interagency Forest Fires Centre, this hypothesis can be partially supported by observations that wildfires tend to occur more frequently and/or severely in areas affected by forest insects, as evidenced in British Columbia (2017-2018) and Ontario (2018).
- **Contributing to Canada’s greenhouse gas emissions.** When trees age, get damaged or die, they turn from carbon sinks to carbon sources. In that sense, insect outbreaks are reducing the natural sequestration capacity of Canada’s forests.¹⁴

Forest insects can spread through various trade and transportation routes. As [William Anderson](#) of the Canadian Food Inspection Agency (CFIA) stated, they are “notorious hitchhikers [...] not restricted to agricultural and forest commodities. They have been found on everything from car parts to furniture and decorations.” The movement of

10 RNNR Evidence: [Ward](#) (Government of New Brunswick).

11 RNNR Evidence: [Wallin](#) (CCIS).

12 RNNR Evidence: [Upton](#) (Parks Canada); [McEwen](#) (City of Toronto); [Federation of Canadian Municipalities](#).

13 RNNR Evidence: [Carroll](#) (UBC); [Chubaty](#) (Healthy Landscapes Program); [Briand](#) (West Fraser Mills); [Upton](#) (Parks Canada); [Nisbet](#) (ISC).

14 RNNR Evidence: [MacFarlane](#) (NRCan).

firewood and ash logs is among the risk factors to watch for in day-to-day activities, as indicated by the CFIA’s [Don’t Move Firewood campaign](#).

Given its origin and magnitude, the mountain pine beetle epidemic is one of the most frequently cited examples of climate change impacts in the world.

Étienne Bélanger,
Forest Products Association of Canada

The committee also heard that wildfire suppression and climate change are facilitating the spread of forest insects through environmental pathways.¹⁵ For example, according to [Professor Allan Carroll](#) of the University of British Columbia, successful wildfire suppression nationwide, and particularly in his province, has caused an increase in the number of older trees, “the preferable food source for the mountain pine beetle,” allowing beetle populations to build to “unprecedented levels.” Furthermore, over the past few years, the mountain pine beetle outbreak has been exacerbated by fewer stretches of the cold temperatures needed to control the insect’s populations during the winter (i.e., -35°C to -40°C), and drier summers, leading to more water-stressed and beetle-susceptible trees.¹⁶

Witnesses further explained that changes in weather patterns can diminish the health of forests, thereby weakening their resistance to alien and invasive species. According to [Chris Norfolk](#) of the Government of New Brunswick, it is this “cumulative impact, not only of the direct environmental condition created by climate change through either extreme weather events or warmer weather, but also of the emergence of new pest pathways, that certainly will create challenges for integrated pest management in the future.”

CROSS-BORDER COOPERATION

Close to 90% of Canadian forests fall under the jurisdiction of the provinces and territories. Of the remainder, 6.2% are private property, 2% are owned by Indigenous peoples, and 1.6% belong to the Government of Canada (Figure 4). At the federal level, the Canadian Forest Service (CFS) provides research and policy support by monitoring

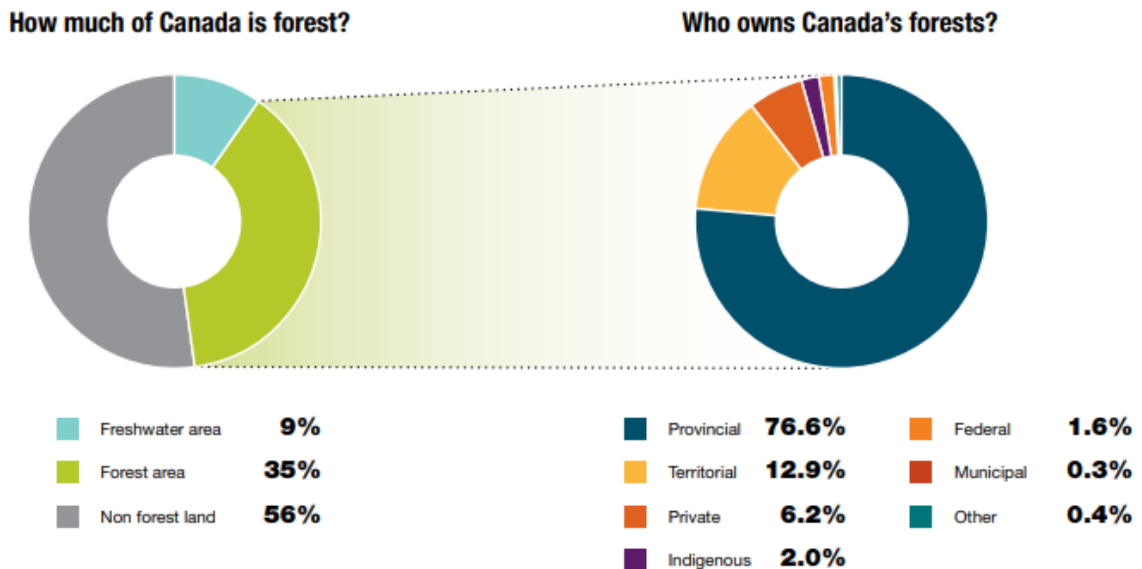
15 RNNR Evidence: [MacFarlane](#) (NRCan); [Bélanger](#) (FPAC); [Carroll](#) (UBC); [Nicholls](#) (Ministry of Forests, Lands, Natural Resource Operations and Rural Development of British Columbia); [McEwen](#) and [Ric](#) (City of Toronto); [Chubaty](#) (Healthy Landscapes Program); [Norfolk](#) (New Brunswick Department of Energy and Resource Development); [Henry](#) (Ontario Ministry of Natural Resources and Forestry); [Seutin](#) (Parks Canada); [Rosen](#) (Tree Canada); [fRI Research](#).

16 RNNR Evidence: [MacFarlane](#) (NRCan); [Bélanger](#) (FPAC); [Carroll](#) (UBC); [Nicholls](#) (Ministry of Forests, Lands, Natural Resource Operations and Rural Development of British Columbia); [fRI Research](#).



forest insects and developing solutions to outbreaks in several [research centres](#) across the country; Parks Canada is responsible for insect management strategies within national parks; and the CFIA works to protect Canadian resources and the environment from invasive foreign insects by monitoring and inspecting regulated pathways of plant products. The CFIA is also Canada’s representative to the [International Plant Protection Convention](#), promoting the development and implementation of international plant health standards and practices.¹⁷

Figure 4: Forest Land Ownership in Canada



Source: [Natural Resources Canada](#).

Forest pests do not recognize municipal, provincial or international boundaries. Federal government scientists are well positioned to coordinate research for pests that are considered a high risk to Canadian forests.

Beth McEwen,
City of Toronto

Witnesses stressed the need for cross-jurisdictional partnerships to develop effective insect management strategies, highlighting the importance of the research and financial

17 RNNR Evidence: [MacFarlane](#) and [St-Germain](#) (NRCAN); [Upton](#) (Parks Canada); [Anderson](#) (CFIA); [Bélanger](#) (Forest Products Association of Canada); [Forest land ownership](#) and [Canada's forest laws](#) (NRCAN).

support provided by the federal government.¹⁸ For instance, [Mr. Ward](#) told the committee that the [Healthy Forest Partnership's](#) Early Intervention Strategy (EIS) to tackle the spruce budworm in Atlantic Canada has yielded measurable results:

The collaborative nature of the EIS program is a model for how management of large-scale disturbance can be successfully implemented. It demonstrates that multiple agencies with differing interests and goals can work effectively toward a common objective of preserving forest values from the destructive nature of the spruce budworm. The results of the [EIS] have been a measurable success. Less than 1,000 hectares of defoliation were identified in New Brunswick in 2018, which is less than that identified in 2017.

Furthermore, the committee heard that federal-municipal collaboration with the City of Toronto has brought the Asian long-horned beetle “very close to eradication,”¹⁹ and that intergovernmental efforts with Alberta and Saskatchewan to combat the eastern spread of the mountain pine beetle have made some progress.²⁰ Witnesses highlighted other partnerships involving the federal government, including the [National Forest Pest Strategy](#), the Natural Sciences and Engineering Research Council of Canada’s Turning Risk Into Action for the Mountain Pine Beetle Epidemic Network ([NSERC TRIA-Net](#)), the [Canadian Urban Forest Strategy](#), and the [North American Plant Protection Organization](#), among others.

Despite these efforts, the committee heard that more work is needed to improve Canada’s response and adaptive capacity to current and future outbreaks of forest insects. To this end, witnesses recommended that governments and forest managers consider the following measures:

- **Building on preventative and early intervention strategies by enhancing active surveillance, risk pathway analysis, border inspections and reporting.**²¹ As [Mr. Anderson](#) put it, “an ounce of prevention is worth a pound of cure.” Once an invasive species takes hold at the landscape

18 RNNR Evidence: [McEwen](#) of the City of Toronto; [Henry](#) (Ontario Ministry of Natural Resources and Forestry); [Ward](#) and [Norfolk](#) (New Brunswick Department of Energy and Resource Development); [Upton](#) (Parks Canada); [MacFarlane](#) and [St-Germain](#) (NRCan); [Cooke](#) (ISC); [Carroll](#) (As an individual); [Anderson](#) (CFIA); [Briand](#) (West Fraser Mills); [Keith Atkinson](#) (Chief Executive Officer, BC First Nations Forestry Council); and [Michael Rosen](#) (President, Tree Canada).

19 RNNR Evidence: [McEwen](#) (City of Toronto).

20 RNNR Evidence: [Briand](#) (West Fraser Mills); and [Alex Chubaty](#) (Spatial Modelling Coordinator, fRI Research, Healthy Landscapes Program, As an Individual).

21 RNNR Evidence: [Anderson](#) (CFIA); [Cooke](#) (Invasive Species Centre); [Wallin](#) (CCIS); [Ward](#) (Government of New Brunswick); [MacFarlane](#) (NRCan); [Rosen](#) (Tree Canada); [McEwen](#) (City of Toronto); and [Canadian Council on Invasive Species](#).



level, eradication becomes less likely and more expensive.²² Witnesses discussed several models of early outbreak detection and response, including Atlantic Canada’s EIS; the [Early Detection & Rapid Response \(EDRR\) Network Ontario project](#); and the multijurisdictional [Early Detection & Distribution Mapping System](#). According to [Mr. Ward](#), the EIS is “a \$300-million approach to a \$15-billion problem.” It has the potential to become the new standard for managing insect outbreaks across the country.²³

- **Ensuring sustainable public funding to support long-term action against persistent insect outbreaks, such as that of the mountain pine beetle.** The committee heard that many forest managers could use additional funding to improve insect management within their jurisdiction.²⁴ With regards to the mountain pine beetle outbreak, witnesses stressed the need for consistent multigovernmental support to reduce the beetle’s likelihood of further spread eastward.²⁵ According to [Diane Nicholls](#) of the Government of British Columbia, the most beneficial collaboration on the part of the federal government has been to provide funds with clearly-defined results (i.e., indicate “what the funds could be used for and how they should be used”), while letting the province implement them.
- **Eliminating knowledge gaps across jurisdictions through training/skill transfer opportunities and public awareness.** As witnesses pointed out, forest insects do not recognize political borders. Effective insect management depends on the capacity of neighbouring jurisdictions to act with comparable knowledge and skill. [Ms. Cooke](#) recommended that the federal government coordinate a data-sharing network to allow everyone access to the same information. Furthermore, several witnesses highlighted the importance of skills training and public awareness

22 RNNR Evidence: [Cooke](#) (Invasive Species Centre).

23 RNNR Evidence: [Ward](#) (Government of New Brunswick); [MacFarlane](#) (NRCan).

24 RNNR Evidence: [Cooke](#) (Invasive Species Centre); [Young](#) (NAFA); [McEwen](#) (City of Toronto); [Briand](#) (West Fraser Mills); [Bélanger](#) (FPAC); [Atkinson](#) (BC First Nations Forestry Council); [Chubaty](#) (As an Individual); and [Canadian Council on Invasive Species](#).

25 RNNR Evidence: [Carroll](#) (UBC); [Briand](#) (West Fraser Mills); [Chubaty](#) (As an Individual); and [David MacLean](#) (Emeritus Professor, University of New Brunswick, As an Individual).

campaigns to engrain risk-reduction practices into societal norms. The CFIA’s “[Don’t Move Firewood](#)” is one example of such campaign.²⁶

- **Incorporating Indigenous knowledge in forest insect management practices, in line with the Crown’s [duty to consult](#).**²⁷ While there is evidence of growing collaboration between Indigenous peoples and Canadian governments, the committee heard that more work needs to be done in this area. [Mr. Atkinson](#) called for “investment in First Nations research that can bring forward traditional knowledge and understanding of lands and resources.” Furthermore, [Mr. Young](#) pointed out that strengthening Indigenous engagement requires resourcing and “creating the table space where [Indigenous] solutions can come.”
- **Supporting municipalities in their efforts to address outbreaks within their jurisdiction.**²⁸ Considering that invasive species spread through common shipping and trade routes, many insect outbreaks start in urban settings.²⁹ In Canada, municipalities are the constitutional responsibility of the provinces. Nevertheless, [Michael Rosen](#) of Tree Canada suggested that urban forestry should be reflected in federal policy, as is the case in other G7 countries. The [Federation of Canadian Municipalities](#) called on the federal government to “involve municipalities in the development and delivery of forest pest programs, and provide resources to local governments in instances where municipalities are directly involved in limiting the spread of forest pests.”
- **Adapting forest management practices and policies to ecological and climate change.**³⁰ The committee heard that forest management practices need to adapt to changes in the forest environment. For example, witnesses indicated that research can be expanded to better understand the behaviour of invasive species, such as the mountain pine

26 RNNR Evidence: [Cooke](#) and [Nisbet](#) (Invasive Species Centre); [Rosen](#) (Tree Canada); [Léo Duguay](#) (Vice-Chair, Board of Directors, Tree Canada); [Ward](#) (Government of New Brunswick); [McEwen](#) (City of Toronto); and [Nicholls](#) (Government of British Columbia).

27 RNNR Evidence: [Young](#) (NAFA).

28 RNNR Evidence: [Federation of Canadian Municipalities](#); and [Rosen](#) (Tree Canada).

29 RNNR Evidence: [Cooke](#) (Invasive Species Centre).

30 RNNR Evidence: [Carroll](#) (UBC); [Nicholls](#) (Government of British Columbia); [fRI Research](#); [Henry](#) (Government of Ontario); [Wallin](#) (CCIS); [McEwen](#) (City of Toronto); [Atkinson](#) (BC First Nations Forestry Council); [Kim Connors](#) (Executive Director, Canadian Interagency Forest Fire Centre); and [Young](#) (NAFA).



beetle, in new host environments;³¹ that harvesting regimes can be amended to account for insect-infected wood;³² and that government policy can be adapted to allow for greater diversification of tree species and forest structures.³³ Many witnesses brought up the point that some reforestation techniques have weakened the forest’s ability to survive stresses such as pest outbreaks.³⁴ It was particularly noted that foresting a plot, and then replanting a single species (such as the lodge pole pine) in such a way that the homogeneity does not reflect the natural forest’s layout, weakens the forest’s resilience. As [Gilles Seutin](#) of Parks Canada explained, forests of more diverse composition are less susceptible to large-scale infestation and impact. According to [Étienne Bélanger](#), “many of the legal foundations of existing forest regimes do not allow for the necessary changes [to forest composition].”

Witnesses called on the federal government to scale up Canada’s national dialogue on forest insect management in collaboration with governments and stakeholders across jurisdictions.³⁵ [Derek MacFarlane](#) asserted that the CFS is widely seen as “the only national entity that can bring key players to the table to produce relevant and practical science-based results” of benefit to regional forest managers and policy makers.

31 RNNR Evidence: [Henry](#) (Government of Ontario); and [McEwen](#) (City of Toronto).

32 RNNR Evidence: [Upton](#) (Parks Canada); [MacLean](#) (As an Individual); [MacFarlane](#) (NRCan); [Chubaty](#) (As an Individual); and [Nicholls](#) (Government of British Columbia).

33 RNNR Evidence: [Carroll](#) (UBC); [MacLean](#) (As an Individual); [Chubaty](#) (As an Individual); and [Bélanger](#) (FPAC).

34 Ibid.

35 RNNR Evidence: [Bélanger](#) (FPAC); [Cooke](#) (Invasive Species Centre); [Young](#) (NAFA); [McEwen](#) (City of Toronto); [Chubaty](#) (As an Individual); [Federation of Canadian Municipalities](#); and [Canadian Council on Invasive Species](#).

APPENDIX A LIST OF WITNESSES

The following table lists the witnesses who appeared before the Committee at its meetings related to this report. Transcripts of all public meetings related to this report are available on the Committee’s [webpage for this study](#).

| Organizations and Individuals | Date | Meeting |
|--|------------|---------|
| Canadian Food Inspection Agency William Anderson, Executive Director Plant Health and Biosecurity Directorate | 2018/09/25 | 108 |
| Department of Natural Resources Derek MacFarlane, Regional Director General Canadian Forest Service, Atlantic Forestry Centre Jean-Luc St-Germain, Policy Analyst Science Policy Integration Branch, Research Coordination and Integration Division, Canadian Forest Service | 2018/09/25 | 108 |
| New Brunswick Department of Energy and Resource Development Chris Norfolk, Manager Forest Development Chris Ward, Acting Assistant Deputy Minister | 2018/09/25 | 108 |
| As an individual Allan Carroll, Professor Department of Forest and Conservation Sciences, University of British Columbia | 2018/09/27 | 109 |
| Forest Products Association of Canada Étienne Bélanger, Director Forestry | 2018/09/27 | 109 |
| Ontario Ministry of Natural Resources and Forestry Peter Henry, Manager, Forest Guides and Silviculture Policy Division | 2018/09/27 | 109 |
| West Fraser Mills Ltd. Richard Briand, Chief Forester | 2018/09/27 | 109 |

| Organizations and Individuals | Date | Meeting |
|---|-------------|----------------|
| Invasive Species Centre Tracey Cooke, Executive Director David Nisbet, Partnership and Science Manager | 2018/10/02 | 110 |
| Parks Canada Agency Gilles Seutin, Chief Ecosystem Scientist Protected Areas Establishment and Conservation Directorate Darlene Upton, Vice-President Protected Areas Establishment and Conservation | 2018/10/02 | 110 |
| As an individual Alex Chubaty, Spatial Modelling Coordinator, fRI Research Healthy Landscapes Program David MacLean, Emeritus Professor, University of New Brunswick | 2018/10/04 | 111 |
| Canadian Council on Invasive Species Gail Wallin, Chair | 2018/10/04 | 111 |
| BC First Nations Forestry Council Keith Atkinson, Chief Executive Officer | 2018/10/16 | 112 |
| Ministry of Forests, Lands, Natural Resource Operations and Rural Development of British Columbia Diane Nicholls, Assistant Deputy Minister, Chief Forester | 2018/10/16 | 112 |
| National Aboriginal Forestry Association Bradley Young, Executive Director | 2018/10/16 | 112 |
| Canadian Interagency Forest Fire Centre Kim G. Connors, Executive Director | 2018/10/18 | 113 |
| City of Toronto Beth McEwen, Manager Forest and Natural Area Management Urban Forestry Jozef Ric, Supervisor Forest Health Care Urban Forestry | 2018/10/18 | 113 |

| Organizations and Individuals | Date | Meeting |
|--|-------------|----------------|
| Department of Public Safety and Emergency Preparedness Calvin Christiansen, Director General Government Operations Centre Patrick Tanguy, Assistant Deputy Minister Emergency Management and Programs | 2018/10/18 | 113 |
| Tree Canada Léo Duguay, Vice-Chair Board of Directors Michael Rosen, President | 2018/10/18 | 113 |

APPENDIX B LIST OF BRIEFS

The following is an alphabetical list of organizations and individuals who submitted briefs to the Committee related to this report. For more information, please consult the Committee's [webpage for this study](#).

Canadian Council on Invasive Species

City of Montreal

Federation of Canadian Municipalities

fRI Research Informing Land and Resource Management

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the Committee requests that the government table a comprehensive response to this Report.

A copy of the relevant *Minutes of Proceedings* ([Meetings Nos. 108 to 113, 121, 124 and 126](#)) is tabled.

Respectfully submitted,

James Maloney
Chair

Forest Pests – Supplementary Report

RNNR

(January 11, 2019)

Canada's Conservatives continue to be concerned by the challenges facing the Canadian Forestry sector, including this Liberal government's failure to negotiate a softwood lumber deal, as well as Liberal initiatives such as the federally imposed carbon tax, massive new red tape for rural development in bills C-68 and C-69, and the proposed Liberal fuel standards – all of which increase the cost of doing business in Canada and already have resulted in job-losses, mill shutdowns, and forestry companies pulling money out of Canada to invest in the United States.

In 2006, the previous Conservative government successfully negotiated the Canada-United States Softwood Lumber Agreement, restoring access to the United States market and resulting in the return of over \$5 billion in duty deposits to Canadian producers. The previous Conservative government also supported the forestry sector through initiatives like the Forest Industry Long-Term Competitiveness Initiative, the Forest Communities Program, and the Investments in Forest Industry Transformation Program. Between 2006 and 2008 this included \$400 million to combat the Mountain Pine Beetle infestation through the federal Mountain Pine Beetle Program, and \$2.3 million to boost spread-control funding for the Mountain Pine Beetle and invested in projects at the University of Northern British Columbia.

The proactive approach to forest pests taken by the previous government also included \$18 million in 2014 for early intervention to prevent the spread of spruce budworm in Atlantic Canada and Quebec.

Conservatives on the committee were relieved the government agreed with the Conservative position that immediate action is required to deal with the threat of the Mountain Pine Beetle.

There was concern, after comments from the Member of Parliament for St. John's East, that the Liberal party did not support any action to combat the Mountain Pine Beetle infestation. The Liberal Member of Parliament for St. John's East suggested that "nature will take its course" and as a member of the government, he questioned "why are we doing anything?" "Why are we trying to manage a crisis that's not manageable?" He also said, "I'm trying to understand why we should not just in some sense leave well enough alone?"

Canada's Conservatives agree with the response to these alarming remarks given by Bradley Young, the Executive Director of the National Aboriginal Forestry Association, on October 16th, 2018, where he said that "...to tell the community that's sitting in the middle of what's basically match sticks ready to go up, that we shouldn't do anything," would be a "recipe for human loss of life and devastation."

Canadian forestry workers are paying for Prime Minister Justin Trudeau's mistakes with their jobs. Rural communities that depend on the forestry industry can count on Andrew Scheer to help their communities get ahead by cancelling Liberal red tape, and making rural life more affordable!

