HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 110 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Tuesday, October 2, 2018

Chair

Mr. James Maloney

Standing Committee on Natural Resources

Tuesday, October 2, 2018

● (1110)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Good morning, everybody. Thank you for joining us today for our continued study on forest pests.

We're joined this morning by two witnesses from the Invasive Species Centre, Tracey Cooke and David Nisbet.

Thank you very much for coming.

Tracey Cooke is the executive director and David is the partnership and science manager.

The process for the meeting is that once everybody stops talking and starts listening, you will be given up to 10 minutes to do a presentation, which you can do in French and/or English. You'll be asked questions possibly in either or both official languages, so there are translation devices there should you need them. Then after your presentation, we're going to go around the table and you'll be asked questions from different committee members.

The floor is yours.

I understand, Ms. Cooke, you're going to lead us into the discussion.

Ms. Tracey Cooke (Executive Director, Invasive Species Centre): Yes. Thank you very much, Chair, and good morning.

I would like to thank the honourable members of the committee for inviting the Invasive Species Centre here to speak today.

In 2011, the not-for-profit Invasive Species Centre, or ISC, was formed through a collaborative memorandum of understanding as a strategic initiative of the Canadian Forest Service, the Canadian Food Inspection Agency, Fisheries and Oceans Canada, and the Ontario Ministry of Natural Resources and Forestry, as a unique example of partnership and a Canadian hub for collaboration and knowledge sharing.

Our mission is to connect stakeholders, knowledge and technology to prevent and reduce the spread of invasive species in Canada. We are a bridging organization between research and research end-users, bringing knowledge to action. In the last two years alone, we have made over 170 policy impacts by risk assessments and best management practices; welcomed 10,000 people to consultations, training, and presentations; and have had a very strong digital presence.

As you know, insects are one of the most important disturbance agents in Canada's forests, and many of the worst are considered to be invasive.

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. Invasive species introductions are regarded as the second greatest threat to global biodiversity, next to habitat loss. Forest pests are significant because of their dynamic nature and the substantial value of forest ecosystems to our environment, economy and society.

The introduction of an invasive forest pest can cause a decline in the biodiversity and health of a forest ecosystem but also a large reduction in wood fibre. This loss of trees 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. One of the greatest direct economic impacts of forest pest outbreaks is felt by the forestry sector through reduced wood supply or wood quality. This can significantly lower revenues for forest companies, impacting the economic strength of this sector, one of Canada's most important manufacturing sectors.

In many cases, outbreaks start in urban settings. The spread of invasive species is heavily influenced by human activity, following common shipping and trade routes. In urban settings, individual trees are valued for environmental and economic services and for their social and health benefits. TD Economics valued the trees in Toronto's urban forest alone at $7 billion, and that's about $700 per tree, and they calculated that they provide Torontonians with 80 million dollars' worth of environmental benefits and cost savings per year.

From 2016 to 2018, we at the Invasive Species Centre surveyed Ontario municipalities to assess their annual direct expenditures on invasive species management. Analysis and projection on this data indicates that Ontario municipalities alone are collectively spending $36.4 million per year, or an average of $380,000 per year per municipality. This is considered to be a conservative estimate and is focused on Ontario for the purpose of this study. Full impacts and expenditures would be much greater for Canada.

Since 2011, when the federal and provincial governments established the ISC, we have been working collaboratively with federal and provincial governments in improving invasive species outcomes in Canada, particularly with addressing gaps and reducing overlap. Along with our partners, we have shared and supported government objectives on forest pests and would like to highlight the following.

We've provided leadership and support to improve collaboration at the regional, species and pathways levels. We've conducted research on the firewood movement pathway in particular, for the Canadian Council of Forest Ministers' forest pest working group. We've conducted training for practitioners on hemlock woolly adelgid and oak wilt identification and preventative practices, two species that are of great concern to Canada, including hosting workshops, developing fact sheets, participating on advisory committees and engaging citizen scientists.

We contribute to policy solutions such as best management practices for firewood movement in partnership with the Canadian Council on Invasive Species. We have developed a “made in Ontario” risk assessment and early detection rapid response plan for mountain pine beetle that incorporates knowledge and experience from western Canada within the context of Ontario's forests.

● (1115)

We've brought detailed recommendations that came out of that risk assessment. My colleague David can highlight these in more detail as a case study during the question period, if you would like more information.

Ecological and socio-economic risk assessment research has been completed on forest pest species to support regulation under Ontario's Invasive Species Act. We've also improved response capacity and increased the state of the knowledge. We've developed a website, forestinvasives.ca, which is an online hub for information on invasive pests that threaten Canada's forests.

We've developed social media posts to stimulate discussion and get quick dissemination of information and pest alerts to the public. We've created a citizen science program—the Early Detection and Rapid Response Network Ontario—to engage community members to learn and respond to invasive species detection. We are very close to publishing an emerald ash borer manual for land managers in partnership with Natural Resources Canada. This will be a step-by-step guide from pre-invasion to post-invasion for municipalities, first nations and other land managers.

We've created an online database of invasive species risk assessments, which is the first multi-taxa, searchable public database of its kind in Canada. We provide insect diagnostic services for the Province of Ontario, and we verify findings to report to authorities. We've also worked with CFIA to integrate regulated area data into public interfaces, as well as targeted outreach on forest pests in high-risk areas, including the most recent Winnipeg emerald ash borer detection.

These successes can be attributed to intensive collaboration from a number of groups. Accomplishments have been considerable, but we still have significant work to do. Most species invasions follow a similar pattern, commonly referred to as the invasion curve, which compares time to area occupied, beginning from the first occurrence of a species in a new area. As time goes on, the invasive species spreads further into the environment, almost exponentially, until it becomes widely established on the landscape. If the species is detected early in the invasion curve—for example, a single infested tree—then it can be easily and quickly eradicated. However, if an invasive species becomes widespread and established at the landscape level, eradication is much less likely and very costly.

A 2009 report prepared for the Canadian Council of Forest Ministers concluded that Canada could have avoided a cost of $165 million annually by preventing the introduction and establishment of four high-profile invasive forest insects and diseases. The estimated average annual cost over the next 20 years is $34 million if just one additional invasive species were to become established in Canada. For every $1 spent on coordinated multi-jurisdictional prevention activities, $3 in mitigation, regulatory and depletion costs can be avoided if that pest is prevented from establishing.

With an expected increase in invasions and outbreaks in the future, we must focus on a state of preparedness. In terms of strategy, our recommended next steps include that the federal government, with the support of its partner network, scan the horizon and be proactive, preparing for future invasions rather than reacting to invasive species that are already present. An ounce of prevention is worth a pound of cure.

Future strategies and enhanced investments by the federal government should focus on the early stage of an invasion or outbreak, prevention and early detection. Early detection and a rapid sustained response to an invasive species are critical to reduce long-term economic, environmental and social impacts. A national fund that could be established by the federal government in collaboration with their provincial partners would mitigate costly delays and support response in an efficient way. The federal government could improve outcomes by increased investment and streamlining processes in existing partnerships and collaborative networks, both domestic and international.

The Invasive Species Centre was formed by government. It is well positioned as an organization rooted in science with the proven ability to facilitate collaboration and eliminate inefficiencies to implement these actions.

We look forward to working with all partners, both government and non-government, to address forest pest issues within Canada.

The Chair: Thank you very much.

Mr. Harvey, you're going to start us off.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): Thank you, Mr. Chair, and thank you to our guests for being here with us today.

If you had to summarize, what would be the top five things the federal government could do to work in conjunction with private industry and NGOs to take a more proactive approach to how we deal with forest pests in rural and urban environments?

We need to take into account that the landscapes are different in both of those areas. I'm not sure whether we need to look at integrated pest management solutions or place a greater focus on biological controls versus traditional pesticide management. I'm interested in your thoughts.

● (1120)

Ms. Tracey Cooke: Emergency response effectiveness is one of the top ways we could look at doing that, perhaps the development of a national framework that would engage all these partners and actually assign leads. We have done an exercise with emergency response, implementing the incident command system in an outbreak situation, having people assigned to be in charge of the incident, people assigned to reach out to partners, that type of thing, setting that framework in advance.

With that might be the establishment of an emergency response fund so that it can be a very rapid response, so that the funding is there to access and doesn't require a lot of steps for approval. We certainly have that model as well for the mountain pine beetle in the case of Ontario. Possibly conduct and support exercises, go through a mock exercise of some of these types of responses to the different species that might be on the horizon. Then look to provide new tools for end-users, the biological control or the chemical control, or whatever research can be done with the federal government to provide some of those tools. In some cases, I know you're already doing that, with the emerald ash borer and things such as that. Another aspect is to make sure that the information is widely disseminated to the partners and that the partners are involved, and perhaps provide a mechanism to share those experiences.

Then I mentioned getting ahead of the threats by scanning the horizon, taking a role in coordinating some national studies and analysis and using a risk pathway analysis model, as we did for the firewood pathway, where you focus on how those pests are getting in. That was something we've done for firewood, and it can be done for other pathways. Perhaps you could look at allowing coordination of an information and data-sharing network so that everyone has access to the same information, and continuing to fund research and possibly partnering with organizations such as us to make sure that we can bridge that research to go out to the people who it needs to go out to.

The third thing would be to possibly engage with and fund provinces, industry and non-government associations to address the leading edge of the invasion, possibly a fund that could have other contributors as well. Industry might want to contribute, and there might be other organizations as well. Assess those high-risk stands near borders, using silvicultural practices to treat those high-risk stands and prepare in advance for that leading edge of the invasion, and adjust harvest accordingly there. In order to train those “eyes on the ground”, look at citizens science networks, keeping in mind that the provinces and the federal government don't have all the on-the-ground staff that we might need to help with early detection. Have the citizen scientists or the other groups on the ground and make sure they're well trained.

Communication is also a big piece. That's something we're very strong at, but just enable Canadians to help reduce the risk of spreading invasive species by high-risk pathways, human pathways such as carrying firewood. Ingrain positive behaviour into the societal norm.

Mr. T.J. Harvey: Okay.

In your work, would you say that CFS has been a positive partner to engage with in times of crisis?

I know some of the other people we've heard from have talked about their collaborative relationship with CFS and how that has worked for them. Could you speak a little on how you feel CFS could play a role in facilitating the government side of the bridge between the NGOs and provincial governments and the federal response as well?

● (1125)

Ms. Tracey Cooke: We've had a very positive relationship as well with the Canadian Forest Service. They helped form the ISC. They saw the need for an organization such as that seven years ago when we were started.

The CFS could definitely play a coordination role in having a collaborative partner or agreements with partners, maybe multiple partners in some cases to be able to coordinate some of this work. I don't think they need to do it all on their own. They certainly could engage the partners that we have. If there was a mechanism to make those partnership agreements a little easier to facilitate, that would be very helpful, maybe multi-year agreements so that there isn't perhaps some of the paperwork involved that goes along with some of the agreements to be able to help facilitate that.

Certainly they're very strong at the research. Where we don't do the actual research at our facility, we can take that research and get that science and information out to the practitioners.

Mr. T.J. Harvey: Do you think that regional flexibility and program development and implementation need to be integral to the pathway going forward to ensure that the solutions both proactively and reactively address different geographic needs and the needs of different species, as well as rural versus urban?

Ms. Tracey Cooke: Yes. We definitely need to take that into account. Even when you're dealing with a species such as the mountain pine beetle that's native to western Canada, it could be devastating and very impactful to eastern Canada. You definitely have to take those regional pieces into consideration.

Then you have to consider the pathway perspective too. We have the oceans coming from that pathway perspective, the shipping, and then you have the Great Lakes, so there are lots of different pathways that species can come in through. I think you definitely have to have some overall national coordination for that piece, but it has to take regional particulars into consideration for sure.

Mr. T.J. Harvey: Thank you very much.

The Chair: Excellent. Thank you.

Mr. Calkins, I understand you're next.

Mr. Blaine Calkins (Red Deer—Lacombe, CPC): Yes, I am. Thank you, Chair.

This is my first time back at the natural resources committee since the previous election. I'm glad to be back.

I have some questions for you. Thank you for the presentation.

I think you spoke about it when you talked about the 3:1 ratio, where an ounce of prevention is worth actually three ounces of cure. You talked about potential upcoming threats and that every new threat is going to cost approximately $40 million to $50 million to deal with based on previous experiences with past threats that have gotten out of control.

What's the next threat? What's on the horizon? Do you have a list of potential threats that we should be aware of?

Ms. Tracey Cooke: It is definitely regionally specific, but some of the ones that we've been working on specifically are the hemlock woolly adelgid, which is already in parts of Canada.

Mr. David Nisbet (Partnership and Science Manager, Invasive Species Centre): It's been detected in parts around the Niagara Gorge and then eradicated by the Canadian Food Inspection Agency. There have been detections, and it's established in Nova Scotia. In Ontario, it's been detected twice and quickly eradicated.

Ms. Tracey Cooke: Oak wilt is a pathogen that is on our radar, which is very close to Canada but has not quite been identified yet.

Mr. Blaine Calkins: It's not here yet.

Ms. Tracey Cooke: But it could be very devastating as well, given the significant number of oak trees that are in our urban forest settings.

Obviously the mountain pine beetle is of concern to Ontario and other provinces in the east.

Mr. Blaine Calkins: Welcome to the club.

Ms. Tracey Cooke: Yes.

The emerald ash borer, for parts of Canada that don't yet have it, could be of significant concern as it continues to spread.

Can you think of something else?

Mr. David Nisbet: The Asian long-horned beetle would be another one.

● (1130)

Mr. Blaine Calkins: Some of these are invasive species that can survive here long enough to do damage.

Are they true invasive species or are they just at the edge of a geographic range that's expanding now due to changes in weather patterns, weather cycles or climate cycles?

Ms. Tracey Cooke: It's a combination of both. The emerald ash borer and the Asian long-horned beetle are not native to Canada, so they have arrived here via different pathways and obviously have the ability to adapt and survive.

Mr. Blaine Calkins: You're not distinguishing between natural ranges changing and an invasive species that has actually been introduced. You're just identifying it based on what the current status quo is and trying to maintain that homeostatic balance of what we have currently in Canada. Is that right?

Ms. Tracey Cooke: Yes, if it meets our definition of “invasive”.... It may be a native pest that is introduced into a new range and therefore has a great impact. That's considered invasive.

Mr. Blaine Calkins: When a new species, an invasive species, a native species that's outside of its range, or when your definition of an “invasive species” is detected, what happens?

I know what happens when a forest fire is set up. There's a command post set up. Somebody's in charge right away and all resources are brought to bear that can be brought to bear. Is it a similar type of thing?

How do you respond if it happens to be in a national park, a provincial park, in a Crown land area, or on private land? What are the problems and differences in being able to respond to that?

Ms. Tracey Cooke: It depends on what the species is and who has regulated it, if it's regulated. In some cases, species are regulated federally under the CFIA, so the emerald ash borer would be one.

In other cases, it may not be federally regulated and the province may be responsible through their forest health program to respond. The Province of Ontario is the only province that has a stand-alone piece of legislation, so it may be regulated under that piece of legislation in that case. I think it's a multi-level government response, and I know that even in cases of regulated species, the provinces are still engaged quite actively as far as monitoring goes through their forest health program.

In other cases, say, with the Asian carp, for example, Fisheries and Oceans would be involved. We come in on that process, not necessarily in a legislated capacity but to help with communication and outreach and, in some cases, engaging our citizen science network to help with monitoring and things like that. For example, in Thunder Bay, I think it was, when EAB, emerald ash borer, was identified there, we engaged our network to go out and do some tree surveying.

Mr. Blaine Calkins: Have you identified any gaps where an invasive species could, in the right circumstances, fall between the cracks, if there's a jurisdictional gap in legislation or regulation or just somebody who's not paying attention to it?

Ms. Tracey Cooke: That's where risk assessment comes in, and preparing for some of these new responses. We might have to be looking out over the horizon. Beyond Canada and the U.S., we have to look internationally as well, to see what could be the next pest that's coming. We have to get out in front of it, do the risk assessment in advance, and then answer those policy questions. I think that's why scanning the horizon and early detection is important.

Mr. Blaine Calkins: Is there any advice that you would have for this committee as far as the Pest Management Regulatory Agency and so on that we have in Canada goes? When it comes to the use of pesticides and herbicides and all these other things, I hear loud and clear from agricultural producers and others that sometimes we're a little lagging behind other jurisdictions. Is that an issue when it comes to invasive species management in Canada?

Ms. Tracey Cooke: I do think that there could be more tools in the tool box as far as being able to treat some of these.

Mr. Blaine Calkins: What are the obstacles to those tools being in the tool box?

Ms. Tracey Cooke: A lot of it has to do with some of the studies that have been done on the impacts of using some of those tools. The U.S., for example, does have a lot more access to some of those tools than Canada does at the moment. I think something we could work towards is being able to have a few more tools for that.

Mr. Blaine Calkins: If you could provide the committee with a list of those differences, it might be quite helpful.

Ms. Tracey Cooke: Sure, we could do that.

Mr. Blaine Calkins: If you have any recommendations on how to get some of those tools in the tool box, I think the committee would be most happy to hear about them.

I think my time is pretty much up. Thank you.

● (1135)

The Chair: It's right on, actually, perfect.

Mr. Cannings.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you both for being here today.

I want to start with a little clarification, following up on what Mr. Calkins was asking, about your definition of an invasive species and this business of being introduced outside its native range.

We have the mountain pine beetle. I'm a biologist. When I think of something being introduced, I think of something coming in somebody's suitcase or in a packing crate, or carried by some human action, whereas pine beetles flew across the rockies on a nice Pacific breeze. I can see why the mountain pine beetle infestation is of national concern, but maybe you should work on your definition.

We have other things. Maybe white pine blister rust isn't a good example because it's an introduced species as well, but it's moving up mountains because of climate change and attacking white bark pine. Would that fit in that definition?

These are climate change actions. I'm just wondering how you work around that, or whether you just look at something moving and causing economic damage.

Mr. David Nisbet: Our definition of “invasive” is that it has to be introduced to somewhere outside of its native range, as you've heard, and it has to have potential ecological, social and economic impacts.

For something like the mountain pine beetle, it's spreading further than it ever has before in history. In that case, we would consider it invasive and not just expanding on its native range in a natural process, because some of the factors that led to the spread of the mountain pine beetle weren't natural processes at all. It had to do with the history of fire suppression by humans on the landscape, making the forest much more susceptible to this spread. It has to do with climate change, which can be attributed to human activity. These aren't natural processes that are actually leading to the spread.

Mr. Richard Cannings: I assume a lot of these things that are spreading into Canada, these introductions, didn't arrive in Montreal, Halifax or Vancouver. They arrived somewhere in the United States.

Ms. Tracey Cooke: In some cases, yes.

Mr. Richard Cannings: Oak wilt is another example of something that's native, I assume, to the United States and is just moving north for various reasons.

Can you comment on how you co-operate or how Canada co-operates with the United States, or should, in a coordinated effort to keep these things out? The hemlock woolly adelgid is an example that I assume came over to the United States from Asia or someplace, and now it's knocking on our door. I have lots of woolly adelgids in my backyard, but they're native and don't seem to do much damage.

Can you comment on that aspect? It seems it would save us a lot of time, effort and money if we kept them out of North America, rather than just worrying about the 49th parallel.

Ms. Tracey Cooke: Yes, I think when we talked about investing in collaborations and partnerships we didn't mean only domestically. I think that has to happen first and foremost domestically, but it has to also include the rest of North America.

We participate in networks that are North American-wide that have members from Mexico, the U.S. and Canada on them. I know that CFIA and other federal-level organizations also participate in similar types of committees. I think that's definitely happening, and I see shared research happening.

There is always room for improvement and definitely for making sure that information is shared across that border.

Another issue is potentially making sure that the data we have is in a compatible format so that it can be used across the board.

Mr. Richard Cannings: Yes...and across the border.

Ms. Tracey Cooke: Yes, across the border.

I think there is always room for improvement, so additional investment in working on those networks and collaborations and partnerships, either at the government level or through organizations such as ours, is critical. Then bringing that as a North American approach to the international community is very important when we're stopping new invasions.

● (1140)

Mr. Richard Cannings: Just to switch gears a bit and get back to the mountain pine beetle, Ontario is concerned. Alberta is in the thick of it and Saskatchewan is very concerned.

What kinds of things are you recommending to, say, Ontario to do in advance of this spread? What kinds of things can Ontario do to steel itself for this arrival?

Mr. David Nisbet: This was part of the case study that we had looked into, doing a risk assessment process and then making some recommendations to the Province of Ontario and in eastern Canada to prepare for the potential invasion of the mountain pine beetle.

We have a number of recommendations. Some of them are regulatory, so Ontario, as a province, could consider regulating the mountain pine beetle as a pest, or regulating the pathway—the introduction of firewood or logs with bark that might be bringing the beetle into Ontario.

Also, it could consider a lot of collaboration with the western provinces. All the on-the-ground action is happening in Alberta along the Alberta-Saskatchewan border, so Ontario could contribute to that financially to slow the spread coming east. It could be in-kind support, sending staff that way to get the training, to recognize the insect and how it spreads, and gain our expertise in eastern Canada.

Research is another key thing that shouldn't be forgotten. The federal government has done some amazing research on the mountain pine beetle already, but there are opportunities to do more research in figuring out how the mountain pine beetle might behave in the Ontario environment. It's never been here before so apart from taking the pine beetles and putting them in Ontario, which I don't think anyone wants to do, it's a challenge to figure out how they will actually behave. There is climate modelling that should be done. There is looking at the types of forests we have and the connectivity of the forests to figure out if the mountain pine beetles could actually establish and sustain themselves here.

Again, there's public outreach, and connecting to communities, especially in northwestern Ontario, which might be at the front line of the mountain pine beetle coming into Ontario. It might be first nation communities and it might be the forest industry in northwestern Ontario, and training them on mountain pine beetle identification and getting more eyes on the ground to detect it early if it does arrive.

Ms. Tracey Cooke: Part of that was what I mentioned, doing mock exercises. We've held two mock exercises with the province and with other groups—industry and whatnot—to actually go through the scenario of what happens when you find a mountain pine beetle-infested tree and what happens next and who takes the lead.

It's having those types of emergency response mock exercises for pests that are of concern, and obviously those exercises can be catered to a regional specific.

The Chair: Thanks, I'm going to have to stop you there.

Mr. Hehr.

Hon. Kent Hehr (Calgary Centre, Lib.): Thank you, both, for your excellent presentation and your detailed knowledge of what is facing this country.

I'm the member of Parliament for Calgary Centre, but prior to this I was an MLA in Alberta. We've seen the devastation of the mountain pine beetle over the course of the last 16 to 17 years and how that is now spreading to Saskatchewan, and we think to Ontario.

I wanted you to think about it in that context. You have said many things that I've tried to take in—an ounce of prevention is worth a pound of cure. You listed a whole menu of things the government should be trying to facilitate when Mr. Harvey asked his questions around what we can and should be doing.

Should the federal government be playing a larger role in this, in your estimation?

Ms. Tracey Cooke: Yes, I think the federal government could always invest more in some of the networks, collaborations and partnerships that we have. I don't know if that role would be invasive species as a whole, or if you would break it down into forest pests versus other types of invasive species. Definitely, I think it would make sense for the federal government to play a high-level coordination role, engaging all of the partners that are on the landscape to facilitate and make sure things keep moving along.

● (1145)

Hon. Kent Hehr: I think you bring up a good point—the municipalities. The pest doesn't know the end of the municipality's borders.

Ms. Tracey Cooke: Exactly.

Hon. Kent Hehr: The pest doesn't know the end of the province's borders, or in fact, if you want to take this broader, the Canadian and North American culture, as Richard was discussing.

My sense is that this would largely be a proactive role that the federal government would play. Are there estimates as to how much this would cost? Have you given your...?

Ms. Tracey Cooke: To do the prevention, do you mean?

Hon. Kent Hehr: It's to do the prevention piece properly; that is, from funding where we are now, in your estimation, to where it needs to be for us to do a better job.

Ms. Tracey Cooke: I don't know that anyone has actually sat down and done that work, but we would be happy to do it.

I don't know. It's hard to say. I think that would have to incorporate research. It would have to incorporate emergency response, and it could incorporate that fund that we're suggesting, which would be there and easily accessible. I think there are similar collaborative models for fire response in Canada that we could use as a model for an invasive species emergency response fund.

Hon. Kent Hehr: I think that is some necessary work that needs to be done, to look at the full funding envelope that we need to get early intervention strategies off the ground, in a coordinating effort to go forward and do that capacity. I hope we find a grant or a proposal, or something to that effect, to make that happen.

I was interested in hearing about your citizen scientists and their role in the community. Can you flesh that out a little more for me?

Ms. Tracey Cooke: The idea around our citizen science network is that we first generate interest. That might be through social media, website usage, or approaching the groups that already have these types of folks in there, naturalist groups and things like that.

Once we have an interest and people wanting to learn more, we hold specific training workshops in these communities where people are trying to set up these networks. We have champions in these communities who spearhead this type of thing. We might go in and do training specifically on aquatic invasive species or terrestrial invasive species, or a combination. Then those people are trained on identification.

These people are out in nature anyway. They already have their cameras and they're going out for their own enjoyment. If they happen to stumble upon an invasive species that has never been identified in that region, then we promote a tool for them to report that. There are tools in place. We would like to see a national tool for that.

Hon. Kent Hehr: That was my question. Right now, that is only in Ontario.

Ms. Tracey Cooke: There are other citizen science networks or other organizations that run something similar in other provinces, but there's not necessarily one national citizen science network in place.

In terms of being able to have a national reporting tool as well for them to be able to report that information, right now, some provinces have online reporting tools. Ontario has EDDMapS.org. That's online, and it comes with an app as well, and there are others.

We would definitely promote the idea of having one national reporting tool that the data feeds into and one app that people can download and use when they're out enjoying nature.

Hon. Kent Hehr: Is there early intervention technology that would feed into this work that would then allow people to go in, as you say, when that one tree is identified, and get it out early and do that intervention piece? Have you had successes on that here in Canada? As well, are there new technologies coming out that make that even quicker and easier to do?

● (1150)

Ms. Tracey Cooke: Thunder Bay is a good example of that, where we engaged our network. Within a week of their originally finding EAB in Thunder Bay, we had our network on the ground doing monitoring.

They found how many more trees?

Mr. David Nisbet: They found a few more infested trees in the area.

The Canadian Food Inspection Agency was leading a delimitation survey around the infested tree, but we had already established a network of citizen scientists in the area and we had already done training on emerald ash borer identification prior to the initial detection. Therefore, when it was detected, it was easy for us to get our volunteers out on the ground.

We had assigned different streets in different areas of the city for people to cover. They did find more infested trees close to the initial infestation, but we quickly reported that information to the CFIA to include in their data.

The Chair: I'm going to have to stop you there. Thanks.

Mr. Falk, you have five minutes.

Mr. Ted Falk (Provencher, CPC): Thank you, Mr. Chair, and thank you to our witnesses for coming to the committee. You've done an excellent job of informing us about the work you do, as well as a little more about these invasive species.

I'll just follow up a bit on Mr. Hehr's questions.

When the volunteers in your organization identify an invasive species, what is your typical plan of action?

Ms. Tracey Cooke: I'll use invasive forest pests as an example, since that's why we're here. We have an insect diagnostician on staff at the ISC. If the citizen is out in the environment and find what they think is a potential sighting, we encourage them to report that through the EDDMapS tool. If not, it can come directly to us.

That would go in. It would come to our diagnostician with either a photo or an actual sample. If he's able to diagnose it from that, we then inform the regulatory people who would need to be involved. That might be the provincial forest health team, it might be CFIA or it might be CFS. It depends on what the species is.

From there, we would be involved in helping CFIA respond, or in this case, we helped CFIA respond with their survey. We would engage the municipality along the way as well. That's the process we take for forest pests.

Our partner, the Ontario Federation of Anglers and Hunters, actually has people on staff who do verifications of all the reports that come in through their online tool. If it's a report of an Asian carp, it goes to DFO. They have different folks who identify those.

We all have a process delineated so that it goes to the right authorities to be able to respond. It's very quick.

The final step is that once the regulatory authorities are ready to get the information out to the public, we're able to do so very quickly. We have pest alert functions on our forest invasives website where we can send that information, that bulletin, very quickly so that all the networks are on the lookout for that species.

Mr. Ted Falk: Okay, thank you.

When you've identified an infestation, you've indicated that removing the tree, if it's an isolated tree, works just fine.

Ms. Tracey Cooke: Yes.

Mr. Ted Falk: What do you do with the tree when you remove it?

Mr. David Nisbet: We don't personally do the eradications. We would inform our partners who would actually do the on-the-ground work. In terms of tree removal, whether they could just chip it or burn it usually depends on the insect.

Mr. Ted Falk: You don't really eradicate the insect when you just chip it. Is that right?

Mr. David Nisbet: It depends on the insect. It also depends on the life stage of the insect. If it's larvae under the bark and you chip up the tree, it can't complete its life cycle. However, for something such as the mountain pine beetle, the approach is cutting and burning the trees and then also doing the delimitation survey in the area to determine if it really is only one tree or if there are others in the area that you'd have to address as well.

Mr. Ted Falk: Can you comment on the effect that these raging forest fires in B.C. have had on the mountain pine beetle?

Mr. David Nisbet: The relationship between the mountain pine beetle and fire is still an ongoing area of study. The history of fire suppression is one of the factors that led to the mountain pine beetle outbreak in the first place. Now that there are all these standing dead trees, there are some who hypothesize that it could contribute to more forest fires or more intense forest fires.

It's an ongoing area of study to look at their relationship, but the mountain pine beetle could be one of the contributing factors to the recent forest fires we've seen.

● (1155)

Mr. Ted Falk: Could forest fires, as a natural consequence, be effective in controlling the mountain pine beetle population?

Mr. David Nisbet: The mountain pine beetle population is really widespread. I don't think the fire would burn all the area infested. Cutting and burning trees is one of the approaches, although generally the beetles have already left the standing dead trees.

If those trees are burning, it's not going to control the population. The green trees where the beetles are first attacking that are on the leading edge of the infestation you'd want to cut and burn. If the tree is already dead, it's too late.

Mr. Ted Falk: I think I'm out of time. Thank you.

The Chair: You think right.

I'll go to Mr. Tan, but I want to ask a question first.

Is there a document available that shows who has what jurisdiction where and on what issues? Provinces have a certain jurisdiction over themselves, and the federal government has certain jurisdictions. I'm sure municipalities are involved at some level as well.

In answer to Mr. Falk's question, you just said that when you find the emerald ash borer, you don't deal with it but you call your partners on the ground. Is there a document that can explain to us who all the players are, what their responsibilities are, and what they can and can't do?

Ms. Tracey Cooke: I think it depends on the species. That document does exist for some species. I don't know that it exists in general for invasive species as a whole. We can certainly get you what we are aware of.

The Chair: Okay.

Is there a map somewhere that shows where the invasive species are in Canada and where they're going?

Ms. Tracey Cooke: In Ontario, for sure, we have EDDMapS, which provides an interactive map of where the invasive species are. In EDDMapS, you can also see the regulated areas under CFIA's control. That will show you where that species has spread and which areas have been regulated.

Depending on the species, I think some of the modelling that has been done by CFS would be able to give a good picture of where it's going.

The Chair: Can we get a copy of that map?

Ms. Tracey Cooke: Sure.

The Chair: Perfect. Thanks.

Mr. Tan.

Mr. Geng Tan (Don Valley North, Lib.): Thank you, Chair.

As a scientist myself, I'm very much fascinated by your concept of engaging more citizen scientists on the ground.

I want to ask a question about the definition of “pest species”. I realize that Richard asked a similar question, but I want to go at it from a different angle.

I realize that the terms “alien” and “invasive” refer to the shift from one ecosystem to another, but once a pest species or a disease has moved into the new ecosystem within Canada, at what point is it no longer considered alien or invasive, and rather, becomes native?

In other words, once it has extended beyond its usual geographic range and has occupied some area steadily, does it ever become native or does it remain forever alien or invasive?

Ms. Tracey Cooke: I would think that it would still remain invasive until such point as it doesn't have significant impact on the ecosystem and the economy there. That is the type of criterion we have: the significant impact.

If there ever comes a time where the EAB doesn't have a significant impact, or mountain pine beetle going to the east wouldn't have a significant impact, it may be that the range could be extended. Until such time, I don't know that we would not consider them invasive.

Mr. Geng Tan: You're saying the native species will cause less impact on the economy than the invasive or alien species.

Ms. Tracey Cooke: I guess there are examples of where that's not the case, but for our definition, if it goes outside its regular range and it meets the criteria for the impacts, then we consider it to be invasive. If it's already native to the area and it also has a significant impact, such as spruce budworm, we wouldn't consider that to be invasive, because it's within its natural area.

● (1200)

Mr. Geng Tan: You talked about studying the risk pathways—in other words, focusing on how the species are getting in. That is what you said. To me, that sounds very important.

Can you tell us more about that and what resources are needed to better study risk pathways?

Ms. Tracey Cooke: David can talk to you about the risk analysis we did for the firewood pathway.

What did you look at?

Mr. David Nisbet: For pathways for invasive species spread, you first have to look at the pathway into Canada, how it's getting here in the first place, and then once it's in Canada, the pathway of how it spreads through the country.

For the firewood pathway analysis we did, we were looking at spread within Canada—assuming that an invasive species is already established in one part, how it may spread to other parts of Canada through the human-facilitated transport of firewood.

We basically looked at firewood producers in Canada and firewood vendors. It's a big network of stores, from Canadian Tire and big box stores to the roadside sellers who might not be regulated. It's hard to capture where people might be obtaining this firewood and then where they might be bringing it.

We looked at networks of infrastructure, where campgrounds are located, what species' firewood they might be bringing, what regulations are currently in place.

Ms. Tracey Cooke: We also looked at things such as what existing policies govern the criteria. We looked at public information, whether people are even aware that moving firewood is a bad thing. We're involved in partnerships that are doing just that.

How far do people bring firewood, and what's the reason they bring their own firewood? For example, they bring their own firewood because they don't think what they're going to get at the park is good quality. What types of outreach campaigns resonate with people? How can we reach people to let them know that moving firewood is a bad thing?

We have a model in place to do that, so we could do that for any pathway that we want to examine.

The Chair: We're going to have to stop there. Unfortunately, we've run out of time.

Thank you both very much for joining us today and providing very valuable information.

We're going to suspend for a few minutes to get our next witness ready and set up.

● (1200)

(Pause)

● (1210)

The Chair: Welcome back, everybody. We'll get our second hour of witnesses under way.

Joining us from Parks Canada, we have Darlene Upton, who is the vice-president of protected areas establishment and conservation, and Gilles Seutin.

Thanks to both of you for joining us.

You will have up to 10 minutes between the two of you to make a presentation, and then you will be given an opportunity to answer questions from people around the table. You can speak in French and/or English. The translation device is available.

The floor is yours.

Ms. Darlene Upton (Vice-President, Protected Areas Establishment and Conservation, Parks Canada Agency): Thank you very much for the opportunity to be here today. I will make opening remarks and we will both be available for questions.

The protected areas establishment and conservation branch oversees important national programs, including the establishment of new national parks and reserves, ecological integrity monitoring, species-at-risk recovery, ecological restoration and fire management.

Parks Canada's mandate is to protect and present nationally significant examples of Canada's natural and cultural heritage and to foster public understanding, appreciation and enjoyment in ways that ensure their ecological and commemorative integrity for future and present generations.

The area of land currently protected in Canada's 46 national parks and reserves stands at about 328,000 square kilometres, covering representative samples of the wide variety of natural landscapes that characterize Canada, including many types of forests.

Parks Canada's priority in managing national parks is clearly stated in the Canada National Parks Act, as follows:

> Maintenance or restoration of ecological integrity, through the protection of natural resources and natural processes, shall be the first priority...when considering all aspects of the management of parks.

Forest ecosystem management in national parks aims to maintain ecological services and processes while mitigating major risks from natural catastrophes, such as wildfire, to park visitors, staff, infrastructure and surrounding communities. For instance, many parks use prescribed burns to reduce fuel load and promote forest diversity.

Forest pests, both native and exotic to Canada, are occurring in national parks and reserves throughout the country. Native pests include the mountain pine beetle and the eastern spruce budworm, while exotic pests include the emerald ash borer and the white pine blister rust. Forest health and pests are monitored in national parks by partnering with the Canadian Forest Service, the Canadian Food Inspection Agency and provincial agencies. The Canadian Forest Service has the national lead for providing expertise in forest pests.

Our agency's general approach to native forest pests is premised on the fact that native insect outbreaks are part of the natural cycle of forests and contribute to forest renewal and diversity, especially in boreal regions. By managing to maintain a forest cover made of various species and age classes, we think parks will be resilient to insect outbreaks and slow their speed. Parks Canada's approach to native forest pests in national parks and reserves is guided by three policies contained in our guiding principles and operating policies.

The first states:

> National park ecosystems will be managed with minimal interference to natural processes. However, active management may be allowed when the structure or function of an ecosystem has been seriously altered and manipulation is the only possible alternative to restore ecological integrity.

The second states:

> Provided that park ecosystems will not be impaired, the manipulation of naturally occurring processes such as fire, insects and disease may take place when no reasonable alternative exists and when monitoring has demonstrated, that without limited intervention:
>
> i) there will be serious adverse effects on neighbouring lands; or
>
> ii) major park facilities, public health or safety will be threatened; or
>
> iii) the objectives of a park management plan prescribing how certain natural features or cultural resources are to be maintained cannot be achieved.

The third policy statement says:

> Where manipulation is necessary it will be based on scientific research, use techniques that duplicate natural processes as closely as possible, and be carefully monitored.

Speaking specifically about the mountain pine beetle, it's a naturally occurring forest insect in western Canada that attacks mainly lodgepole pine. The outbreak has spread to the Banff, Kootenay and Yoho national parks, where the beetle population is now stabilized, and to Jasper National Park, where the population is still growing.

Parks Canada has worked with governmental and industry partners to slow the spread of the insect and mitigate its impacts on parklands and beyond. In Jasper National Park—1.1 million hectares—the outbreak is part of the beetle migration into northwest Alberta from British Columbia that began in 2006. The infestation migrated across the Rocky Mountains, reaching into the Grande Prairie-Peace River area in 2005, north of Jasper, and made its way east and south. About 93,000 hectares of the park's 200,000-hectare pine forests are affected.

The beetle infestation has continued to move on and is now into forests near Hinton, Edson and the Lac La Biche area of northern Alberta. It is a regional challenge, and Jasper National Park is just one of the many jurisdictions impacted by it.

The presence of a large number of dead and dying trees is thought to increase the risk of wildfire in the national park and surrounding area, and this has been partially supported by the observation that in 2017 in British Columbia about one-third of the forest fires were occurring in the dead stands. A mountain pine beetle working group was formed in 2015 by Parks Canada, NRCan, the Canadian Forest Service and the Government of Alberta, through Alberta Agriculture and Forestry, to work together on surveillance and action planning.

● (1215)

With help from the Canadian Forest Service and Alberta, Parks Canada completed and approved a mountain pine beetle management plan for Jasper National Park in 2016. The plan outlines goals and measures to be taken to maintain the park's ecological integrity; slow or limit the spread of the mountain pine beetle, both through the park and into adjacent lands; ensure the safety of visitors and residents of Jasper; and educate visitors on mountain pine beetle occurrence and issues related to national park conservation.

Implementing the plan involves prescribed burns, single and multi-tree removal, and patch removal using mechanical harvesting equipment, which then supports prescribed burns in the community for protection.

Parks Canada has been managing wildfires in Jasper for more than 100 years, and continually improves and refines its approach. For the last 30 years it's been working to put fire back on the landscape to improve ecological integrity and to help manage the frequency and severity of wildfire.

For the past 15 years, Jasper National Park has been a leader in the application of fire-smart practices and fuel reduction around townsites and other high-use areas. It's also mitigating the impact of mountain pine beetle on whitebark pine, an endangered species. In that case we're using pheromones to protect individual trees from the beetle, prescribed fire and thinning are done to reduce competition and wildfire risk, and many thousands of seedlings have been planted or successfully established since 2013.

In terms of other forest pests, outbreaks are also affecting national parks elsewhere in the country. For instance, eastern spruce budworm outbreaks occur regularly in the boreal, Great Lakes and Acadian forests of Canada. A natural disturbance, they're an integral part of the forest ecosystem.

Since 2006, the populations of spruce budworm in Quebec have increased steadily, reaching about seven million hectares in 2017. The outbreak in the lower St. Lawrence in Quebec spread to nearby northern New Brunswick in 2016 through massive moth migration events, and reached the Miramichi in 2017. We believe it's just a matter of time before the outbreak reaches Kouchibouguac National Park and possibly Fundy National Park.

The Government of New Brunswick is using early-control strategies consisting of a spray program combining insecticide, insect growth regulators and sex pheromones for mating disruption, and a representative of the New Brunswick Department of Energy and Resources consulted with the park on manners related to Kouchibouguac. The spruce budworm population will be monitored in the park, and management options will be examined if it becomes a source of infestation.

Many national parks are also confronted with non-native, exotic forest pests such as the emerald ash borer. This wood-boring beetle, native to Asia, feeds on and kills all emerald ash species native to Canada. Infestations now exist in much of southern Quebec and southern Ontario. The beetles have also reached Winnipeg to the west and Edmundston to the east.

The current area of the emerald ash borer infestation includes national parks in Ontario, as well as national historic sites and canals and waterways in Ontario and Quebec. In those cases, individual parks are working with partners to slow the spread and manage its impact through education, outreach and monitoring, as well as by treating individual trees with systemic insecticides and removing hazard trees.

In conclusion, Parks Canada's approach will be guided by our mandate policies and procedures, and we'll continue to work with all other relevant jurisdictions in our management of forest pests in national parks.

Thank you.

● (1220)

The Chair: Thank you very much, Ms. Upton.

Mr. Whalen, you're going to start us off.

Mr. Nick Whalen (St. John's East, Lib.): Thank you very much, Mr. Chair.

Ms. Upton, we've heard a lot of high-level discussion about pest management, but I'm hoping you can provide some specifics, just so we can have a better mental picture of what's happening on the ground with respect to, initially, mountain pine beetle detection and management within Jasper National Park.

I'd like you to walk me through how you determine which areas to treat, and what you do.

Ms. Darlene Upton: I'll start and allow Gilles to add.

We work in co-operation with several partners who really are leading some of the monitoring on that. As was stated, we have developed a mountain pine beetle management plan for the park that involves several specific objectives related to the mountain pine beetle.

First, we're using prescribed fire. Where we have looked at and analyzed the forest stand structure and we know there's a more diverse forest stand—not all mature and old, but a more natural distribution of forest age—we're using fire as our number one tool to increase ecological integrity and manage the stand.

Prescribed burns are planned in several areas. To give you a few examples of those, one big area is the Fiddle five complex. The aim there is that it's a multi-year program to use prescribed burn in order to bring the stand age to a more normal distribution, which would then give the forest more resilience and enable it to withstand the bug infestation. That's one tool. It's really focused in the Athabasca Valley.

We're also doing what we call “level 1” treatments, which are single-stand removals of infected trees. Again, we're looking specifically at leading edges of certain zones. The analysis that's being done is really looking at where the minimum effort can achieve the greatest result for managing the species. Using mapping and various tools, those interventions are being made in specific areas.

The third is a broader patch removal using mechanized equipment. The use of that particular method is somewhat limited by the geography of the area. Where we can do that, often adjacent to towns and things like that, we are taking those actions.

One of the challenges we face now is that with the past practice of forest suppression, using fire as a natural way to manage does challenge us, because forest fuels are quite high. We're often employing a two-stage effect, where we're doing some mechanical removal to reduce the risk of fire so that we can then move in and use fire on the landscape. Sometimes it's a single treatment, and sometimes it will be multiple.

Mr. Nick Whalen: When you talk about a stand, how many hectares are we talking about for a typical stand?

Ms. Darlene Upton: I do not have the answer to that question.

Mr. Nick Whalen: You used the word “patch” and the word “stand”, and I'm trying to get a sense of how much area we're talking about in each of those differential terms.

Ms. Darlene Upton: Yes.

Gilles, I don't know if you have anything to add on that.

Dr. Gilles Seutin (Chief Ecosystem Scientist, Protected Areas Establishment and Conservation Directorate, Parks Canada Agency): When it comes to prescribed fires, you have to be very careful. You typically do it on a relatively small scale. It goes from anywhere.... In a very small park like the Thousand Islands it can be one hectare, and it goes to a few hundred, typically.

We've been able to limit and avoid uncontrolled escaped fires in 99% of the cases, but it goes to a few hundred.

Ms. Darlene Upton: I have found my table. Some of our fire interventions are as small as 10 hectares. The largest one, at Talbot Lake—these are planned ones—will be up to 4,000 hectares.

Mr. Nick Whalen: When those trees are burned, is the plan to let the forest just naturally return to its post-fire state rather than doing tree-planting?

Ms. Darlene Upton: That's right. Yes.

Mr. Nick Whalen: You mentioned some protection measures for, I think, the white birch. Is that the name of the tree?

● (1225)

Ms. Darlene Upton: It's the whitebark pine.

Mr. Nick Whalen: Will you plant some of those in these new growth forests, or is there going to be some mix of managing the regrowth of the forest with allowing it to happen naturally?

Ms. Darlene Upton: In the case of that species, which is an endangered species, some active treatments are being done to limit the impact of the pine beetle, as well as a restoration program and a planning program specifically for that species. Nursery-grown plants are being grown that can then be planted.

Mr. Nick Whalen: We've heard that it's difficult to detect the mountain pine beetle as it spreads, because when the trees are dead the moths are gone, and it's only earlier on when they're.... What types of tools do you use to determine this? What tools are they using in other parts of the world that we're not using here and that could be used to detect and track the spread in a more proactive way?

Dr. Gilles Seutin: If I may respond, fundamentally, we are land managers. We are not the fine experts on, say, pest control or this or that. We are largely borrowing the techniques that are best practices developed by others. In this case, Canadian Forest Service is obviously a world leader in those things.

What we do is that we adapt those techniques and we look at them in the context of conservation. There are things we can't do the same way in a national park because of the conservation mandate.

Mr. Nick Whalen: Such as—?

Ms. Darlene Upton: Mechanized removal.

Mr. Nick Whalen: I thought you said you were doing mechanized removal.

Ms. Darlene Upton: We do it where we have access and it doesn't jeopardize ecological values.

In a case where that's limited, we're going in much more targeted and with fire where possible.

Mr. Nick Whalen: What about the U.S.?

Is the U.S. park service doing things differently than you are doing to manage the mountain pine beetle?

Dr. Gilles Seutin: No. It's highly consistent.

Another example of mechanized removal is for other diseases. We typically don't spray. We typically avoid using neonicotinoids. Well, we are not using them. We are banning the use of neonicotinoids in national parks, which in some cases are used for some diseases elsewhere. We're trying to use other techniques.

Mr. Nick Whalen: Is there a chemical treatment for the fungus that the mountain pine beetle carries?

Dr. Gilles Seutin: There isn't one that is being applied. It's really mechanical or burning....

Mr. Nick Whalen: I can keep going.

The Chair: You can't, unfortunately. The clock says 10 here.

Mr. Calkins.

Mr. Blaine Calkins: Thanks.

It's great to see some Parks Canada folks here.

I represent a rural area in central Alberta. I used to represent the riding of Wetaskiwin, which reached out to almost Rocky Mountain House and so on, so I'm fairly familiar with the eastern slopes and the Rocky Mountain national parks. I was a former park warden in Jasper.

I'm very curious to find out some of the places that are being prescribed for burns.

This is not a witch hunt, in any way, shape or form, to place blame. However, if my memory serves me correctly, the original source of the outbreak of the mountain pine beetle, which goes back some 10 or 15 years, was in a provincial park in British Columbia. It might have been Tweedsmuir. Because the decision of the day was to not control but to let processes take their part, the infestation has since spread across British Columbia, in through mountain national parks, and is now wreaking havoc in monoculture stands in the Alberta forests.

Has any significant change been made to Parks Canada's policies that would allow for more proactive, active or earlier intervention in these cases? What happens if the next outbreak happens to be in Riding Mountain National Park? Once it gets done spreading across northern Saskatchewan, the first place in Manitoba might happen to be Riding Mountain National Park. If that's the only place we have to head it off at the pass, is Parks Canada policy going to be strong enough to make sure it doesn't spread to the rest of the forest across northern Manitoba?

Ms. Darlene Upton: The policy and policy statements we have were established in 1994. They still allow flexibility. I would say what's changed over time is the breadth and quality of the data we have, and the partnerships that have been established around subjects such as this. We have much better information on the table for decision-making that would allow for appropriate interventions as this particular species is spreading.

The policy statements have remained the same, and I did read the three. We can look at them again, but I believe they give us the scope, with the right information, to be making decisions that would ensure the ecological integrity of our places, as well as contribute more broadly to the landscape management of these forest pests.

● (1230)

Mr. Blaine Calkins: The management plan that was developed for the parks, and specifically Jasper, when it comes to the mountain pine beetle, did not change the policy of Parks Canada at all. That was never part of the management plan.

Ms. Darlene Upton: I would say that it was based on the policy statements that were made, with targeted and specific actions identifying which types of treatments would be used, but still fundamentally respecting the policy statements within the agency.

Mr. Blaine Calkins: What's the current status of the plan insofar as what was expected to be achieved versus where we're at today?

Ms. Darlene Upton: We spent, just in 2016 and 2017, about $1.8 million on a variety of fire- and forest-related activities, which included a number of actions specific to the mountain pine beetle. So that was spent, and a number of prescribed burns were targeted.

As well, this winter there will be a large mechanical removal or reduction occurring in one of our areas here. I can find that here....

Mr. Blaine Calkins: No, you can just submit all of those specifics to the committee. We don't need to go into those details.

Was the plan to just slow down the spread of the pine beetle or was it to eradicate the pine beetle from the park?

Ms. Darlene Upton: It is a naturally occurring species, so the plan and the hope is to return the ecological integrity of the park. That includes the presence of this species but in numbers that don't jeopardize the ecological integrity, public safety and other interests. It's not full eradication.

Mr. Blaine Calkins: In terms of fire suppression plans for the Jasper townsite, I was out there recently and I noticed big swaths cut through, on the bench and so on, as part of the fire suppression or safety measures for the actual townsite. Are there any other places in Jasper where that's happening?

Ms. Darlene Upton: That continues to happen in a number of areas around the park. Parks Canada implements the “fire safe” program and is really coordinated with provincial governments and internationally, particularly with the U.S., in terms of using the best science for fire practices. Fire-smarting around Waterton, Jasper, Banff and other areas is continually going on.

Mr. Blaine Calkins: I don't know how much fire-smarting there is left to do at Waterton or Drayton Valley.

Voices: Oh, oh!

Ms. Darlene Upton: No, I know.

Mr. Blaine Calkins: Is it your assessment of your own plan—if you're being honest with us, and I'm sure you are—that the plan is working?

Dr. Gilles Seutin: The plan is implemented on a yearly basis. You just have to be careful that you don't do prescribed burns just because they're planned one year. You need to meet certain conditions so that they don't escape and so that you can get the result you want for it.

It's difficult to track very precisely year to year. We have an aim for the next 10 years of burning all of those blocks or patches or stands, but we can't line it up year by year—i.e., that it will be that one—because conditions need to be met.

Mr. Blaine Calkins: It's called the asbestos forest for a reason. When I was there as a warden, the most valuable asset I had was a rain hat and a slicker. Is that interfering with your ability to execute the plan at all? You can't burn a forest that's rained on three times a day.

Dr. Gilles Seutin: It goes both ways. When you have a year of very light rain or no rain, you don't do prescribed burns. As for the tracking of whether it works, it's a bit difficult in that context. It will require time.

Then there's the question of whether you judge the result based on slowing the spread. It's clear that there are those sudden, big, fast waves of beetle migrations. Long flights will happen every several years. Between those, every year, you will have a small spread, so it's really difficult from a science basis to assess or certify that your work is slowing the spread. That's clearly what we're trying to do.

Mr. Blaine Calkins: I have one last—

● (1235)

The Chair: I have to stop you there.

Mr. Blaine Calkins: Are you sure?

It's a really good question.

The Chair: You'll have to keep us in suspense.

Mr. Cannings, you're next.

Mr. Richard Cannings: Thanks to both of you for being here.

I was especially happy to see Gilles' name on the list today. Gilles and I—full disclosure—worked together many years ago on the Committee on the Status of Endangered Wildlife in Canada.

Dr. Gilles Seutin: And bird-watching....

Mr. Richard Cannings: And bird-watching.

So I'm trying to think of some pretty tough questions here.

Voices: Oh, oh!

Mr. Richard Cannings: If I have time, I'll get back to the mountain pine beetle, but I just want to change gears here. As you may know, there's a proposal for a national park in South Okanagan in my riding. Some of the locals have a concern around fire issues and forestry and how Parks Canada deals with that. A lot of people think that when a national park is created, you put a fence around it and just keep it that way. They're concerned that this will increase the risk of catastrophic fires.

I wondered if you could maybe outline some of the things Parks Canada does and what they might do in that area with regard to fire management, before the fires happen.

Ms. Darlene Upton: What I will say is that we have a very strong.... On average, we're investing about $7 million a year in forest fire management. When we have a high fire year, a lot more resources come into the agency, but within that budget we have prescribed fire burns for the agency across the country. That's happening on an annual basis. Obviously, the plan is being adjusted according to different natural factors, like if it's too hot or too cold. There are obviously set conditions for doing a prescribed burn. Each year a significant amount of planning goes into what the prescribed burns will be. It is one of our best tools in managing for ecological integrity in our parks.

We've been very successful over the last two decades with bringing fire back into the landscape. We do have a history of fire suppression that goes far back, but that has really significantly changed for the agency.

In terms of our ability to manage fire on the landscape, as Gilles alluded to, we've done prescribed burns in St. Lawrence Islands National Park adjacent to community sites. We have the technical expertise, as well as the support of other agencies, as required, to deliver on that fire management. It is one of the tools we use in our tool box. Each site and each place has ongoing monitoring of set indicators so that we can report on the state of our places. As part of the active management of those places, fire is used where appropriate as a tool.

We have done a fair bit of work over the last years to understand our various parks and the natural processes that should be functioning within them. Understanding forest fire cycles over time is a big part of that. Grasslands, obviously, they'll burn at a much lower intensity but higher frequency than a boreal forest. Understanding that allows us to make those decisions. It is really an integral part of our tool box now. It is not anything that we hesitate to use under the right conditions.

Around our use of fire there is a lot of communication and education programs that we do with local communities and others, so that there is a high degree and comfort and understanding about the role of fire in a natural landscape. We wouldn't burn an area without a lot of consultation and communication with local residents, but it is without question one of the tools we use, where appropriate, for managing for ecological integrity.

Dr. Gilles Seutin: If I may just add, on the resources, in each of the management units we have on the mountain blocks—we have five in total—there is a fire crew and fire specialists in each one of them, who are permanent, indeterminate, year-round. There are 40 dedicated fire specialists and fire crews that are there, available, fully trained and fully equipped all the time. They are supplemented by people from other regions when it's a bad fire season, and they are also supported by all sorts of communication when you have a big fire and all sorts of other internal supports.

In addition to that, we are part of CIFFC. It's all of the forest and wildfire agencies of Canada—provincial, territorial, federal. There is an active exchange of resources. Firefighters from Ontario, when it's a mild year here, move west. You've all heard those stories. We are an active partner there.

But just to emphasize, this is normal business for us. This is not a project. This is not a thing we consider once in a while. It's really normal business. We have 40 dedicated full-time staff year-round just doing that in the mountain parks.

● (1240)

Mr. Richard Cannings: You touched on whitebark pine and the pine beetle situation in the Rockies. I wondered if you could expand on that. What are you doing?

You mentioned nursery programs. Is white pine blister rust a problem there as well?

So it's both. I know in some places they're using the pheromone trapping method. This is a treeline species, so it has its own issues. I don't know if you could expand on that.

Dr. Gilles Seutin: Yes, we're using the same standards, basically, that are recommended by the national recovery strategy for the species. It tries to avoid the attack by using pheromone traps that capture the vectors before they hit the tree. We have little nursery-grown seedlings that are, as far as we can say, trying to promote disease-resistant individuals for replanting.

I'm missing something here, Darlene.

Ms. Darlene Upton: We have planted 4,000 to date, and there will be more plantings this fall in the Jasper area specifically for that species.

Dr. Gilles Seutin: Yes. We're recreating patches of habitat that are pretty bare and limiting the direct contact of potentially infected trees. We're replanting in those islands, hopefully with success. This is a new type of treatment.

The Chair: I'm going to have to stop you there, unfortunately.

Mr. Hehr.

Hon. Kent Hehr: Thank you, Mr. Chair, and thank you, Parks Canada, for coming in and giving us some more information about the various species that are taking over our forests.

Being from Calgary, I have an understanding of the mountain pine beetle. It's my understanding that as a result of climate change and the continuing warming of the planet, the mountain pine beetle is not contained, as a result of the climate not being below freezing or below -10°C or some number like that for more than 14 or 20 days straight. That's my understanding of the mountain pine beetle.

Ms. Darlene Upton: That's correct. That's my understanding as well.

Hon. Kent Hehr: Is that yours, too, Gilles?

Dr. Gilles Seutin: Yes.

Hon. Kent Hehr: Given the state of the pine beetle—and following up on Mr. Calkins' question—why are we not just trying to eradicate it as a species? If this is going to continually happen, I think we're fighting a losing battle. Is there any possible way to do that, or is that just impossible or just unwise?

● (1245)

Dr. Gilles Seutin: I guess everybody wishes that they were able to find a silver bullet. There is a technological issue here, which is that we don't know of an effective means of eradicating it.

There's another major contributing factor. One limiting factor was removed with global warming. Another thing that's not a limiting factor but is a factor that promotes the spread of this, I think, is referred to as monoculture, and there are some forest enhancement practices of the past that lead to a fairly homogenous stand. Obviously if you have a disease and a susceptibility, and every tree in a large area is susceptible, then you reach epidemic levels.

The way we are trying to manage our mandate to manage for ecological integrity is to have much more diverse forest types, with more mosaic, more age range, within an established patch, and those types of forests are much less susceptible to large-scale infestation and large-scale impact. Normally, the types of habitats that we are trying to restore and to establish and maintain are less prone to being highly impacted compared with commercially harvested lands. That's true for most of those pests, if not all. That's true for the spruce budworm and other types of insect pests.

Hon. Kent Hehr: Ms. Upton, in your presentation, I believe you said that 93,000 hectares of the 200,000 hectares in Jasper National Park are already affected by the mountain pine beetle. Is this correct?

Ms. Darlene Upton: That's correct.

Hon. Kent Hehr: One of the strategies in war was that—we're coming across the 100th anniversary of the end of World War I—when a hill was obviously lost, they would retreat, dig another trench and have a go at it there. Seemingly, Jasper National Park may fit that analogy. Can you tell me why don't we just retreat and try to put up a barrier somewhere else? Is that just not effective forest management?

Ms. Darlene Upton: That is, in fact, really what we are doing in several instances. A large part of our program is managing the impact of the deadfall and the forest fire challenges that come with that. Where we are doing mechanical removals, single treatments or even using prescribed burns is in looking at the landscape, looking at those areas that are not impacted, working the boundaries of the park and using those techniques to create a break that would prevent the spread.

As Gilles mentioned, one of the challenges is that they will do large overflights from time to time, so they have the ability to move large distances quite quickly.

If you have a diverse forest with a good age distribution, they'll be self-limited within that forest, but the challenge we have with past practices of forest suppression and monocultures in other areas—we all deal with our individual challenges—is that getting our forest back to that state is going to take time. We've been actively doing that with prescribed burns and other actions, but it will take time to get to a forest that's more resilient.

As you said, your strategy is really what we are trying to do, and that is to use techniques very strategically to limit the spread.

Hon. Kent Hehr: How is your coordination between your organization, Parks Canada, and those areas immediately outside your jurisdiction? Are there coordinating arms that are performing some of that work? Are you getting assistance? If you were to tell people you were doing a prescribed burn and wanted to limit flight there, could you ask them to operate in another area? Are you seeing a coordinating body that is helping you? Is that piece in place, or does that need to be strengthened?

Ms. Darlene Upton: That exists. In the case of the mountain pine beetle, for example, there was a working group established in 2015 with Parks Canada, Natural Resources Canada, the Canadian Forest Service, and the Government of Alberta. That would be the landowners as well as the expertise in the management of that species, with the monitoring and tracking of that species being done through the Canadian Forest Service.

● (1250)

Hon. Kent Hehr: Are you getting the appropriate level of funding to battle this mountain pine beetle and other invasive species that are coming into the parks system?

Ms. Darlene Upton: We have a very good budget for our efforts. As I mentioned, in Jasper alone, we had 1.8 million dollars' worth of effort related to the mountain pine beetle. Each park has active monitoring programs, resource conservation staff, biologists. Every park in sight has relationships, as required, with outside organizations. There is a lot of coordination on certain issues and this would be a great example of one of those.

In addition, we've recently received, through the government, some more money in last year's budget, so there will be more resources going towards ecological integrity in our efforts.

Hon. Kent Hehr: Do you have any overarching advice for us? What should the federal government be doing that it's not doing?

Dr. Gilles Seutin: Maintain and enhance surveillance capacity. The recipe would be this: We will be successful when we have very early detection, when we have people actively scouting, always being nervous and looking for the spread or emergence of invasive species.

The Chair: Thanks very much. Thanks, Mr. Hehr.

Mr. Schmale.

Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC): Thank you, Chair, and thanks very much to both of you for attending and giving us your feedback.

Ms. Upton, we met many years ago when you were involved with the Rideau Canal and the Trent-Severn Waterway system. It's good to see you once again, though in a different capacity. Maybe if there's time, I might sneak in a waterway question at the end.

Ms. Darlene Upton: Perfect.

Mr. Jamie Schmale: In terms of techniques used to limit the spread of these species, what kind of infrastructure—such as roads—still exists within the Parks Canada-managed areas that could be used to get to where you need to be to create a buffer zone, or that type of thing?

Ms. Darlene Upton: That's going to vary across the landscape in different places, so I can't be very specific. As you can imagine, there would be large areas in Jasper National Park that are not necessarily road accessible, but we have our own helicopter contracts and things like that in order to manage. We're able to bring a variety of tools to bear. The methods we use for managing this do have to take into account accessibility.

Mr. Jamie Schmale: We just talked about some of the measures. What other coordination efforts have you used, thinking outside the box? Has there been any talk about maybe bringing in the private sector or something to remove some of the trees—they could log it or what have you—or anything like that?

Ms. Darlene Upton: I can speak to P.E.I. in the past on the mechanical harvesting. There are partnerships at times. There will be partnerships with the mechanical harvesting that's going to happen in Jasper. I can't speak to how we're doing it specifically, but the logs that are removed will be sold. The money from that, which is projected to be over $1.5 million, will go directly back into managing mountain pine beetle in Jasper park.

Parks Canada Agency retains its revenue for reinvestment within our programs. Specifically with the mechanical removal that will happen this fall, the proceeds of the sale of that lumber will go to support further efforts in the park. I'm not exactly sure which partners are involved in that.

Mr. Jamie Schmale: You looked like you wanted to jump in.

Dr. Gilles Seutin: It's established logging operations. We just put some bounds on the type of equipment that is used and where they can go, so that they don't irreversibly damage some of the land. It's professional companies doing that.

● (1255)

Mr. Jamie Schmale: In terms of obvious jurisdictional boundaries, Parks Canada is managed as a federal property. Obviously, coordination with the provinces is of utmost importance.

Ms. Darlene Upton: Yes.

Mr. Jamie Schmale: As mentioned here before at the committee, bugs know no boundaries or no borders, so they continue to move across the area.

It was interesting that in the last presentation we had—and I just want to correct and maybe get an idea—I think at the beginning someone talked about some of these species being natural to the environment, whereas the language used in the first presentation was more about their being invasive species and not natural to the area.

Can you clarify that for me so that it's clear in my mind, too?

Dr. Gilles Seutin: The pine beetle and the spruce budworm are natural. They're not exotic. They have co-evolved with the forests here and that they are off-cycle or hyperabundant doesn't make them unnatural to the system. I think that's what Darlene tried to say.

On the other hand, you have long-horned beetles or you have the emerald ash borer, which are exotic and, in those cases, from Asia.

When you're the manager of a conservation land where you want to preserve natural ecosystems, the reaction and our policy are different. We just abruptly attack the invasives and we try to manage the natural species in a different way.

The Chair: I'm going to have to stop you there, you're just slightly over time.

Mr. Tan, we have about three minutes left.

Mr. Geng Tan: Okay, I only have three minutes.

We have heard about the species that have invaded our jurisdiction. Can you tell us about one or two invasive species that have been successfully repelled to-date due to our collective efforts? We have so many invasive species and we fight those species every day. Are there any successful examples so far?

Ms. Darlene Upton: I'm not an expert in this field. In some cases, like with the emerald ash borer, a significant effort goes into managing that species, with results, but I'm not an expert on this.

Dr. Gilles Seutin: There has been very important work, through the control of ballast water, that has dramatically reduced the rate of newcomers or undesirable guests in the Great Lakes. It has been quite successful. Unfortunately, it came late, after the invasion of a large number of species there. However, the controls that are now in place have dramatically reduced the rate of invasion. That is one example in which very practical, concrete target measures can work.

In parks last year, due to the threat of a potential invasion by exotic mussels coming from the western United States, we put measures in place to avoid the risk of introducing mussels into Waterton Lakes. Whether it will work in the long term is to be determined, but there are a number of measures that you can put in place.

Mr. Geng Tan: You mentioned the concept of the controlled burn. One of the benefits of a controlled burn is to destroy some invasive species within that controlled area, if I am correct. How effective is a controlled burn in destroying and cleaning out that sort of species or do those pests simply move to another area?

● (1300)

Ms. Darlene Upton: I would say that the first real priority or objective with the controlled burn is really about returning that forest stand to a more natural...the rejuvenation of the forest and bringing it back to an equilibrium, in which you have a proper mixed forest with mixed-age stands. It's really about building the resilience of that forest, first and foremost. I'm not sure if it would succeed, as you suggest, as a way to deal with the insects that are there, at that moment.

The Chair: Unfortunately, we're out of time.

Thank you very much, both of you, for joining us today and for your contribution to this very interesting study. We never have enough time. That's the sad part.

The meeting is adjourned.