

RECOMMENDATIONS to the Select Committee on Climate Change

Presented by Dr. Caroline Lubbe-D'Arcy, on behalf of Stop Spraying NB

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I am Caroline Lubbe-D'Arcy and am a practicing dentist here in Fredericton. I have always been interested in environmental issues and how they relate to quality of life and health, and became active as a community organizer in 2007, when my daughter graduated from high school and I had more free time after work to dedicate to environmental issues in Fredericton and in New Brunswick.

Today I will be presenting on behalf of Stop Spraying NB and will recommend that the forestry practices in this province play a critical role in any action plan on climate change. The spraying of NB forests must be removed as a component of our forest management plan since it has significant impacts on our biodiversity, our job creation, our flood protection, and our forest fire protection. All of these impacts will only be made worse as climate change becomes more severe with each passing year.

How did I become involved in this issue? I was a member of the Facebook group Stop Spraying New Brunswick back in 2015 and followed the criticism among NBers about the 2014 Forest Management Strategy that was signed in secret and without any consultation, even with the government caucus! Then news came out about the catastrophic decline in our deer population from the lack of food caused by the spraying of our public forests. The reaction was swift. Literally overnight, this Facebook group quadrupled its membership to 10,000 members. It is now 13,500+ members strong and growing.

NBers started to mobilize and clearly had enough. You must have heard about the ongoing petition to stop spraying NB forests and our two petition presentations so far here in front of the Legislature Building. I have had the pleasure to meet so many wonderful people in this province, from Saint John, Sussex, Doaktown, Miramichi, Rogersville and Kedgwick to name a few. Community meetings have been held by Stop Spraying New Brunswick, EcoVie, as well as the Peace and Friendship Alliance.

So why stop spraying of our public forests? First of all I would like to read to you a press statement of Nov. 27, 2015 that was signed by 73 industry, environmental, wildlife, scientific groups and academics. This statement called for a new Crown Lands and Forests Act. I have attached the document to your handout. SSNB supports this document.

The current forest management strategy with its accompanying intensification of clearcuts, spraying practices, reduction in conservation forests below the recognized minimum of 28%, and the atrociously low 4% in protected natural areas is unsustainable. I have included a handout that shows the importance of healthy soil and its role in sustaining biodiversity and mitigating climate change. If we are managing our forests on clearcut rotations shorter than the soil carbon recovery time of 80 years, we are continuously depleting our soil carbon pool. Herbicide spraying has been shown to affect soil health and it kill plants that support wildlife. Mono-culture plantations are not forests; They harbour disease such as spruce budworm, are a fire hazard due to loss of hardwood stands. These plantations contribute to climate change effects with resultant increase in pests that affect human health such as Lyme disease due to greater winter survival of ticks.

RECOMMENDATION #1: Stop Spraying our forests with herbicides to manage plantations.

RECOMMENDATION #2: The forest management deal of 2014 needs to be cancelled and NB needs a new Crown Forest Act to reflect needs of today as opposed to 1980.

RECOMMENDATION #3: (taken from the attached Press Statement of Nov 27'16) "State clear principles for managing public forests in order to protect ecosystem services, native biodiversity, a wide variety of sustainable, forest-based business opportunities, and recreational values all in the context of climate change." There are opportunities here for more than low quality products that our diverse forests could be used for.

RECOMMENDATION #4: Increase protection of our communities from the catastrophic flash floods of climate change.

RECOMMENDATION #5: Increase protection of our communities from the catastrophic wildfires of climate change.

I read the May 2016 Discussion Guide, 'Building a Stronger New Brunswick Response to Climate Change', and Three points jumped out at me needing to be addressed from SSNB's position:

1) **Carbon sinks and carbon sequestration.**

In the description, management decisions applied to forests are mentioned and there is this statement: "Continue to identify and encourage opportunities for enhancing forest and agricultural carbon sinks".

The TRUTH is that we are currently destroying, not enhancing our forest carbon sinks with our forest management strategy that involves intensified clearcutting and spraying. New Brunswick has now an accepted level of only 23% conservation forests when experts have repeatedly stated that 28% is the absolute minimum required. Also NB only has 4% natural protected areas, which is abysmal compared to the Canadian standard of 17%. To top it up, we are cutting almost twice as much public forest as we are replanting; satellite maps that track deforestation and reforestation rates show that NB forest loss =1.7 times that of forest gain. The scale of this loss of forest carbon sinks is sobering - for the next 25 years, 660,000m³/yr of NB forests will be cut and sprayed, including on slopes and wet areas. 47.7% will come from conservation forests.

And then there is the added assault to our forests: glyphosate spraying to allow the growth and maintenance of ever more, and larger, mono-culture softwood plantations. Our Acting CMO's report stated that "40% of the forest land cut in NB in 2014 was sprayed with glyphosate compared to 28% in Ontario, 21% in Alberta, 18% in Manitoba and only 11% in Nova Scotia" and I would like to add: 0% in Quebec

This is what is known about carbon storage in forests: 2-3 times as much carbon is stored in a managed Acadian Forest compared to an intensively managed one . That increases to 4-5 times as much if you include soils in your analysis based on the latest evidence. (Reference is attached: Nunnery and Keeton 2010 and one from the Acadian forest of NS named Taylor et al 2007)

Soil is a large contributor to increasing the carbon sink potential of a forest. With NB's current clearcutting practices as opposed to selective cutting, soil disturbance is great, and forest soil would need 80 years to be re-gained as a forest is allowed to regenerate. Intense forest management post clearcutting will reduce this potential. Additionally, glyphosate has been shown to cause a serious decrease in soil organic matter, nitrogen and carbon contents. It also causes drastic changes in soil and rhizosphere microbial communities. I have included material in my handout that illustrate the importance of healthy soil and its role in sustaining biodiversity and mitigating climate change. If we are managing our forests on clearcut rotations shorter than the soil carbon recovery time of 80 years, we are continuously depleting our soil carbon pool.

So we have a problem in NB. Forestry is our major natural resource which is not being managed sustainably and even though economics is not within the scope of these hearings I need to stress as many have done before me that this industry is not even making taxpayers any money.

SSNB makes the following recommendations:

RECOMMENDATION #1: Stop Spraying our forests with herbicides to manage plantations. Taxpayers are actually subsidizing this practice of spraying forests. Instead we recommend that this government spends taxpayers' dollars to hire thinning crews so that, in addition to mitigating climate change contributions you actually can create real, tangible jobs right away.

RECOMMENDATION #2: The forest management deal of 2014 needs to be cancelled and NB needs a new Crown Forest Act to reflect needs of today as opposed to 1980.

MLA David Coon in office tried to present a bill to deal with this management strategy which was sadly defeated in the house. For reasons mentioned over and over again by many experts, it is inexcusable that this government has done absolutely nothing to turn this mistake around.

Now that climate change is thankfully in front of your mind, I hope that you all realize that the first thing NB can do to improve carbon sinks and carbon sequestration is to actually to forestry RIGHT. Forestry is our biggest resource industry albeit a financial loser to the province and taxpayers. NB is blessed with one of the most diverse forests in the world, with 32 species of trees, a forest type that lends itself to way more profitable forestry practices than clearcutting and softwood mono-culture **plantations and low quality products offer**. We can do better and address both economic and climate change issues at the same time.

2) Identifying vulnerabilities and enabling planning for climate change

The Discussion Guide acknowledges that New Brunswickers rely heavily on natural resources such as trees, fish, wildlife, and water.

Anglophones, Francophones and indigenous people in NB rely heavily on natural resources such as trees, fish, wildlife, and water for income and sustenance (berries, wildlife, fishing, medicines). Climate change will affect all of these, and these vulnerabilities will be intensified if we don't start managing forestry responsibly. Our forests must sustain biodiversity which includes our wildlife. We have seen dramatic declines in our deer population that cannot be excused by harsh winters and coyotes. Just please look at the data I have attached that shows the contrast in deer harvest number trends when you compare New Brunswick to Maine and

Quebec. Maine and Quebec have the same climate as we do. Deer food has been disappearing over decades and with increased spraying practices, this is accelerated even more because of the loss of the vegetation they need to survive. We have a retired deer biologist, Rod Cumberland, who tracked this for 15 years!

Additionally, NINE indicator species are at risk as stated by experts in the field:

- american marten
- red-tailed hawk
- pileated woodpecker
- black-backed woodpecker
- white-breasted nuthatch
- barred owl
- flying squirrel
- fisher
- pine warbler)

How does this make NB look to the rest of Canada? In 2014, 184 academics sent a joint letter to then DNR minister Paul Robichaud. In November of 2015, the press statement which I read to you earlier, was released, in which 73 industry, environmental, wildlife, scientific groups and academics called for a new Crown Lands and Forests Act. How many more experts need to tell our government that we need to change what we are doing? What are we waiting for?

I have to repeat a few things that I stated earlier: The current forest management strategy with it's accompanying intensification of clearcuts, spraying, reduction in conservation forests below the recognized minimum of 28%, and the atrociously low 4% protected natural areas compared to the international standard of 17% is unsustainable. The International Union of Conservation of Nature has set a conservation target of 17%. Nova Scotia has conserved 16% and Maine stands at 19%.

I have included in the handout a concise flyer from the Food and Agriculture Organization of the United Nations from 2015, which incidentally was the International Year of Soil. This flyer illustrates the importance of healthy soil and its role in sustaining biodiversity and mitigating climate change. Soil carbon is negatively influenced by exposing too much of the forest floor to direct sunlight and mechanical disturbance, and that influence takes decades to be undone (up to 80 years in coarse textured soils). If we are managing our forests on clearcut rotations shorter than the soil carbon recovery time than we are continuously depleting our soil carbon pool. Herbicide spraying has been shown to affect soil health and kills plants that support wildlife. Mono-culture plantations are not forests. They also harbour disease such as spruce budworm, but also pests that affect human health such as Lyme disease due to greater winter survival of ticks as a result of climate change.

I took the liberty to borrow this sentence from the attached 2015 press statement for my recommendation to this committee because I could not say it any better:

RECOMMENDATION #3: (taken from the attached Press Statement of Nov 27'16) "State clear principles for managing public forests to protect ecosystem services, native biodiversity, a wide variety of sustainable, forest-based business opportunities, and recreational values all in the context of climate change." There are opportunities here for more than low quality products our diverse forests could be used for.

The Discussion Guide also acknowledges that climate change adds challenges due to more frequent and intense rainfall events, high winds which increase flood risk. NB's current forest management strategy contributes to higher flood risk for NBers due to the loss of trees with deep roots to hold the soil, loss of wetlands, streams, riparian zones which are all important for water retention. In addition, forest loss which has been intensified since 2014 will contribute to higher flood-risks for NBers. This is a serious safety issue. We have seen a examples already the past few years, where communities were greatly affected by serious flooding, which in addition to being a safety hazard also costs a lot of money to mitigate.

Forest management practices in NB need to change:

RECOMMENDATION #4: Increase protection of our communities from the catastrophic flash floods of climate change. Go back to 28% conservation forests. Bring back buffer requirements, reduce allowable clearcut sizes. Increase natural protected areas from 4% to 17%: these areas will help protect us from the increased flood risks and forest fire risks that come with climate change.

NB's current forest management strategy also contributes to higher forest fire risk, and higher rates of out of control fires or wildfires. The increased conversion of NB's diverse forests to large mono-culture softwood plantations has 2 associated problems;

1) Softwoods are shallow rooted, and softwood stands of more northerly species such as black spruce, jack pine and balsam fur are more fire-prone than hardwood stands. Firefighters know that hardwood stands are the best breaks when fighting a fire.

2) Softwood mono-culture plantations are more susceptible to pest infestations. There is a very strong direct correlation between budworm defoliations of balsam fur and hardwood content within those balsam fur stands in Northern NB.

<http://www.nrcresearchpress.com/doi/abs/10.1139/x26-182#.V8WHuGWRIPU>

RECOMMENDATION #5: Increase protection of our communities from the catastrophic wildfires of climate change. Go back to growing mixed Acadian forest and use selective cutting. Practice forestry management to increase and maintain diversity. Stop intensifying the mono-culture softwood plantations, to

increase resistance to budworm and forest fires. Stop spraying NB forests. Bring in thinning crews instead, allow more natural regeneration so that hardwood is in the mix to increase resistance to budworm and forest fires.

Lastly, I would like to address the section in the discussion guide titled: **Provincial government leadership. This government has an opportunity to show leadership by taking the forestry problems in NB seriously and TO DO SOMETHING ABOUT IT.**

The only entities benefiting from NB's current forestry practices are a few large players. New Brunswick citizens are losing, New Brunswick is growing poorer, and we are setting ourselves up for severe difficulties in the future in light of climate change. We are also not getting the jobs per 1000m³ of timber that jurisdictions such as Ontario, Vermont and New York State have. The jurisdictions that do better have diversified forestry, including community forestry, private woodlot owners who are NOT short changed and value added products. One easy way to have some immediate job creation in NB is to STOP SPRAYING and hire thinning crews. We need to put people to work, and it happens to be a sustainable option as well.