Bill 57 – Environmental Goals and Climate Change Reduction Act

Submission to Law Amendments Committee
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Annapolis County – October 31, 2021

Nature Nova Scotia member organizations represent > 10,000 citizens: *Annapolis Royal and Area Environment and Ecology Group: Annapolis Waterkeepers : Blomidon Naturalists Society : Cape Breton Naturalists Society : Eastern Shore Forest Watch Association : Friends of Antigonish Harbour : Friends of Nature : Friends of the Pugwash Estuary : Halifax Field Naturalists : Margaree Environmental Association : Nova Scotia Bird Society : Nova Scotia Wild Flora Society : Save Caribou : Stop Clearcutting Unama'ki : Stop Spraying and Clear-cutting Nova Scotia: Tusket River Environmental Protection Association : Young Naturalists Club of Nova Scotia*

Introduction

The Environmental Goals and Climate Change Reductions Act (EGCCRA) is significant and essential environmental legislation required to address the climate change emergency as well as to protect the natural world; our environment that sustains both us and all living things. Recognizing that many of our daily actions and management policies presently *contribute* rather than mitigate the climate change emergency, it is appropriate to implement bold new environmental goals with set timelines to rapidly alter course.

This legislation can greatly assist us with some of the biggest emission issues that contribute to the climate emergency. Bill 57 represents an improvement over the preceding government's Sustainable Development and Goals Act. However, some additional amendments are required to successfully mitigate damage to the natural world and reduce climatic warming. This submission focuses particularly on forest resources and 'nature-based' climate solutions. Some timelines must be moved up, or they shall lead to failure on reducing carbon emissions and will seriously handicap our ability to conduct ecological forestry in both the short and long-term. We need to act *now*, based on a firm, science-based platform, and using some recent evidence that is extremely important but may not be widely known or understood. The legislation should reflect growing public concern over dwindling forest resources that are a key part of climate mitigation the biodiversity crisis.

Some additional factors need to be addressed and integrated into Bill 57, such as; 1) inappropriate use of forest resources for biomass-generated/falsely-labelled green electricity; 2) the increased realization that forest resources need to remain intact and allowed to grow older wherever possible in order to help mitigate the climate crisis.

The remainder of our focus is directed toward Section 10, which sets out Government's goals with respect to protected lands, ecological forestry, and land use planning.

10 The Government's goals with respect to the protection of land are

(a) to conserve at least 20% of the total land and water mass of the Province by 2030 as protected areas and other effective area-based conservation measures, including Indigenous Protected and Conserved Areas, in a manner consistent with national reporting criteria;

(b) to support the goal in clause (a) with a collaborative protected areas strategy to be released by December 31, 2023;

(c) to implement by 2023 an ecological forestry approach for Crown lands, consistent with the recommendations in "An Independent Review of Forest Practices in Nova Scotia" prepared by William Lahey in 2018, through the triad model of forest management that prioritizes the sustainability of ecosystems and biodiversity in the Province; and

(d) to identify by 2023 the percentage allocation of Crown land dedicated to each pillar of the triad model of forest management referred to in clause (c).

Problem statement: Bill 57 will not curb Carbon emissions without addressing the amendments outlined in bold in this submission. Much of the Nova Scotia landscape has become carbon-emitting in recent years, thereby adding to the climate change crisis, stemming from continued clearcutting and degradation to lands that might otherwise have been allocated to protected areas or matrix land for ecological forestry. We suggest carefully reviewing updated satellite images of NS submitted in Appendix A that show pink areas that can be regarded as mainly carbon-emitting landscapes. Those lands shall remain damaged for centuries and are rendered immediately unusable for either of the two pillars of the TRIAD, i.e., protected areas or matrix lands for ecological forestry. Land use planning was recommended by Lahey but has been unnecessarily delayed, leading one to surmise that the delay was purposeful to allow more time for aggressive cutting valuable forest resources to the detriment of the environment and climate change.

Post-clearcut landscapes alter forests from carbon sequestering to carbon-emitting. Bill 57 allows for more clearcutting to occur until 2023 with increased carbon emissions continuing to emanate from post-clearcut lands for years afterward. Delays indicated in this Bill for implementing ecological forestry further exacerbates climate change and the biodiversity crisis. Avoidance in addressing the clear connection between clearcutting and climate change will result in heating up both the planet and public anger. Members of Nature NS and other Nova Scotians grow weary and mistrustful from unnecessary further delay that continues to damage our natural world.

Suggestions and Amendments:

We suggest several amendments to Section 7 goals for climate change mitigation and reduction of greenhouse gas emissions.

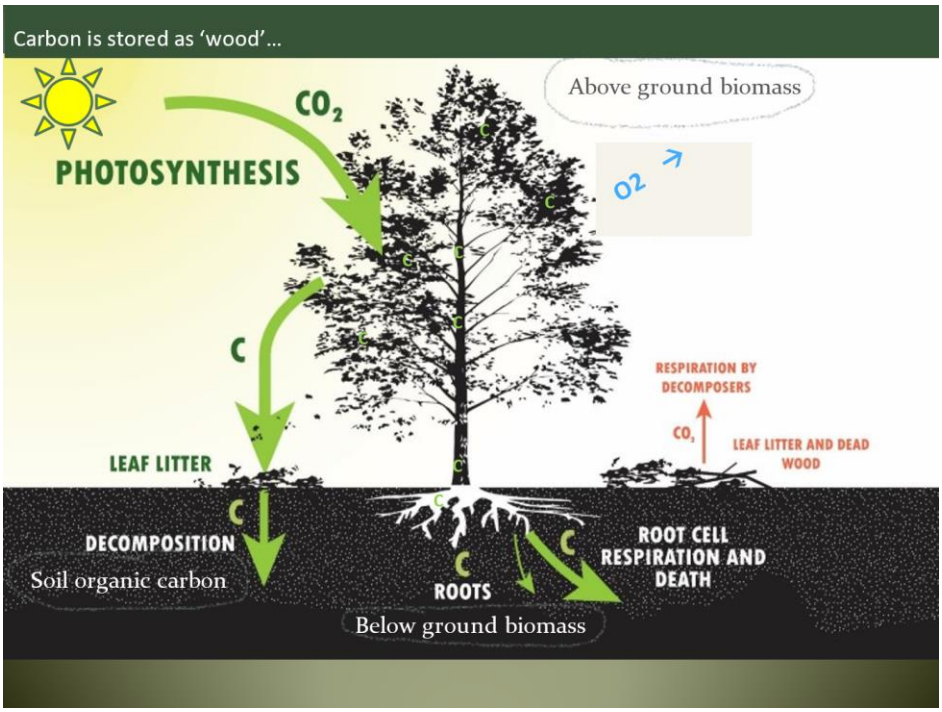
1) **Amendment Sect 7 – Reduce forest cover losses in recognition that maintaining forested environments is a 'nature-based climate solution' that greatly aids the earth's natural capacity to sequester carbon and heal itself against climate change.**

Forest ecosystems naturally sequester large amounts of greenhouse gases (i.e., atmospheric CO2), helping to mitigate climate change. The tree can be regarded as a 'natural climate solution'. Yet in Nova Scotia we are cutting trees down faster than they grow back at a time when we need them more than ever to counter climate change.

Maintaining forest cover is one of the most cost-effective ways to address the climate emergency. Knowing how forests store/release carbon is of great utility to Committee members and may serve to improve Bill 57.

But many of us have never learned the connection between forest cover losses and the way this contributes to global warming. This is not our fault, and as a former high school science teacher, I strongly urge this subject be added to our science curriculum- "Carbon" as a Carbon dioxide gas (CO2) is rather nebulous, and more formal learning helps us understand how it gets into trees. I understand that you may have a handout of some slides I prepared and can see what I am referring to on slide # 3 so I will rapidly walk you through it (*with a short test at the end*).

Trees absorb CO2, a greenhouse gas, through the process of photosynthesis where the Carbon (C) atom is broken away from the CO2 molecule and is incorporated into the tree where it becomes "wood" and other plant tissues. Wood is essentially 'sequestered carbon' converted from the gas form into its solid form; a miraculous outcome of photosynthesis! (*The trees also produce oxygen as a by-product of photosynthesis, which we humans and other animals find life-sustaining*.)



But there's even more to be excited about with this nature-based solution: The ability of our forests to sequester carbon *below ground* can make up to roughly 60 % of forest carbon stores. In other words, half or more of forest carbon stores exist underground, in roots and soil carbon from decaying plant matter. The critical step that I hope everyone understands is that a total removal of the forest overstory

exposes forest soils and result in the release of vast carbon stores in the soil as the soil heats up in hot, dry clearcuts. In other words, clearcut logging doesn't just impact the vegetation but also undermines the integrity of soil health and the soil carbon vault.

Furthermore, while the trees regrow, the forest takes a long time before it returns to being a *net absorber* of carbon. **The solution to reducing CO2 emissions is to keep underground carbon stores *in situ* by maintaining FOREST COVER.** To be clear, we can still harvest forests, but maintaining natural forest cover is a goal in ecological forestry.

Throughout NS, unsustainable clearcutting of public forests has continued unabated, despite years of focus on the damage incurred to the Acadian forest, which is not adapted to clearcutting, and enormous public outcry. Presently, almost no old forests remain above 80 years old on the landscape, despite older forests having higher carbon storage capacity.

Over-harvesting has attributed to the loss of older forests, which store the most carbon. The age class of our Nova Scotia forests has become increasingly younger and has less capacity to store carbon. We now recognize how this has caused additional releases of excessive greenhouse gases from the soil. It is no longer acceptable practice, given modern carbon science.

In addition to the suggestion of addressing the use of natural forest cover to combat the climate crisis, this approach would have significant, long-term benefits for biodiversity; deemed part of the "twin crisis" along with climate change.

2.) **Amendment Sect 7- Identify that maintaining forest cover as part of a natural climate solution is a means to also benefit <u>biodiversity</u> which is in decline.** It may be considered an oversight to have an "environmental goals" bill that refers to *biodiversity* only once throughout the Bill, only under 10 (c) where it was prioritized by Bill Lahey. Roughly half of Nova Scotia forests have been clear-cut in the past 35 years. Mature forests and their habitats are essential for the survival of many wild species but are rapidly disappearing. Nature is resilient, but we've been taking too much, too fast, for too long. The bill might also consider an acknowledgment that restoration of healthy ecosystems is a reasonable environmental goal for many locations before they are degraded beyond critical thresholds. Global biodiversity is in crisis. The list of NS species at risk is growing, and there has been negligence to properly address the management of many of those species, such as the endangered mainland moose that continues to have its forest habitat degraded for profit.

The introduction of invasive species will cause additional and even greater losses of biodiversity over this decade. These biodiversity losses will also be notable in protected areas that are poised to lose forest foundation species of eastern hemlock, and American beech, as well as ash trees. These are temperate tree species that would have remained suitable to the new climatic conditions and provided habitat for many other forest species.

All in all, the unprecedented, widespread mortality of such tree species present more reasons to tread lightly on our forest resources. With this realization comes a renewed examination of Section 10 (a)- and the question may arise whether 20 % protected areas is sufficient. Many of

these areas will be highly degraded and will not perform the ecosystem services (e.g., filtering clean air and water) as they would normally do. With the unprecedented high levels of old growth mortality expected to ensue from invasive forest species, carbon sequestration will be compromised and may become carbon- emitting despite not being cut down. Yikes! How do these factors build a climate resilient Province?

3.) **Amendment: Biomass for electricity generation and export for biomass energy abroad will be halted by 2022, with biomass removed from the list of renewable energy sources.**

Section 7 (l) provided a goal to have 80 % of electricity production supplied by renewable energy by 2030. This sounds good in principle but burning forest biomass must not be a part of this goal. Biomass for electricity is dirtier than coal and cannot be considered as "green energy". **This Bill must remove forest biomass from the list of renewable energy sources.** A commitment to reject biomass for electricity – both for domestic and export consumption is required. Burning our dwindling forest resources that are needed for higher uses such as carbon sequestration and other ecosystem services, as well as wildlife habitat, to produce electricity is tremendously wasteful and more polluting than coal. The entire biomass industry for electricity generation is built upon erroneous assumptions. (It is unclear in this Bill whether Government will continue to erroneously consider biomass as a clean and renewable energy resource.

Committee members are encouraged to view the documentary "Burned" for a more fulsome realization of the need for an environmental goal regarding biomass for electricity. Bill 57 must acknowledge the science and true carbon accounting that renders it extremely clear that we cannot not burn our forests for 'green electricity' production. Furthermore, our forest soils contain insufficient nutrients to allow exports of wood chips to carbon-emitting end-uses internationally. It's time to 'do the right thing'. To be clear, wood heating which uses forest biomass, is a different topic that entails far more efficient combustion levels, making it acceptable to use biomass for small wood heating facilities from ecological-harvests. We recognize that this 'in-house' end use of wood products remains acceptable and assists ecological forestry markets.

4**.) Amendment: Conduct proper forest carbon accounting so that climate goals are accurately set and attained.**

A recent report by the NRDC makes it clear that the Government of Canada's current accounting practices for forest carbon included some loopholes and that have severely under-reported forestry carbon emissions (Skene and Polanyi 2021). Forestry can no longer 'fake it on the books' with regards to full reporting of carbon effects from forestry activities. From this, it was concluded that the contribution of forests to meeting 2030 carbon emissions target is significantly overstated.

More accurate carbon accounting will soon be adopted that reveals the full carbon-emitting outcomes of clearcut logging (Skene and Polanyi 2021). **It is prudent in Bill 57 to begin accurate and full carbon accounting now**. Missteps in using traditional forest carbon accounting

loopholes will not only continue to increase our emissions and threaten our ecosystems, but will result in a Government that appears out-dated while passing a brand new Act. The logging industry no longer merits a 'free pass' on carbon emission accounting following biomass and clearcuts.

5.) **Amendment on 10 (c) to implement the Lahey Report recommendations within <u>2022</u>**.

Another 2-year delay is wholly unacceptable after the nearly 3 year wait time already observed to implement real forest change on the ground. Ecological forestry is needed *now,* and further delay serves to further damage our climate change and biodiversity crises.

I was personally involved in the Natural Resources Strategy in 2009-10, along with our Nature NS President, Bob Bancroft. We witnessed first-hand the strategic delays that favoured the forest industry over the environment, and ultimately led to failure to implement the new forestry strategy. I fear repetition of the same mistakes again with the delays observed. Delays are no longer justifiable since we already know how to conduct ecological forestry, practitioners of ecological forestry exist, and the revised silvicultural guides are ready to go. DNRR referred to them as 'living documents' that can be continually revised. Industry and closely-tied Government officials can devise many reasons for why ecological forestry cannot begin, but in truth we are ready and could begin tomorrow. An interim measure to get us started might be to remove no more than 30 % in any single forest harvest entry. There are many ways to incentivise getting ecological forestry underway without more delays.

Furthermore, given the depth and breadth of the Lahey recommendations, Bill 57 is surprisingly devoid of details on its implementation. Additional details are appropriate to include.

Stemming from widespread public frustration over lack of ecological forestry implementation, Nature Nova Scotia requested a full moratorium on all clearcutting on Crown land until ecological forestry is ready to be actioned on the ground. Similarly, there were two additional requests for a clearcutting moratorium until ecological forestry was implemented on Crown land: from the majority of members of the *Ministers Advisory Committee on the implementation of Lahey,* and the Healthy Forest Coalition (HFC). All three requests were ignored by the preceding Government, but public sentiment has not waivered.

6.) **Amend 10 (d) so that land use planning assigns Crown lands dedicated to each pillar of the TRIAD model of LAND management (*not "forest" management*) by <u>2022</u>.**

This amendment is required because the TRIAD system includes protected areas and thus is a way of assigning a full range of Crown land activities, of which forestry is just one of them. (This is also reflected in the updated Crown Lands Act.)

Updates on land use planning have not been forthcoming, though some maps exist for landscape designations of the three land use pillars. Furthermore there is a lack of collaboration between the two government departments that oversee the TRIAD system, with the Department of Environment and Climate Change absent from the Minister's Advisory Committee. Land use planning must be completed *now*, rather than 2023. This becomes obvious when we examine two of the TRIAD designations. The majority of matrix forests are at

risk of being clearcut with the proposed delays, rendering them no longer suitable for ecological forestry nor protected areas. The delay may be regarded to cater to 'High Production Forestry' (HPF) or plantation forestry.

Furthermore, a western Crown lands planning process was recommended by Lahey, with most citizens having long-since recognised that the WestFor model is only working for the interests of mill owners. **Bill 57 must address without further delay a land use planning before the range of management possibilities are severely limited and lands are further damaged with great risk to other forest components**.

Plantation conversions, or HPF lands are one of the pillars of the TRIAD and are being touted by industry. The NRDC report indicates that plantations sequester only a fraction of the carbon of naturally regenerated forests (Skene and Polanyi 2021). Nature NS continues to be concerned with potential public expenditures on plantation forestry, the extent of plantations which negatively impact wildlife habitat, and we are against any new forest conversions given that existing plantations should be utilized to begin the Lahey implementation of this pillar.

We did not focus on technological fixes for climate warming, such as purchasing electric vehicles, or retrofits for rendering buildings to be net zero energy consumption, although they remain worthy endeavours.

Conclusion

Nature Nova Scotia suggests a more strategic commencement of this new legislation that recognizes nature-based climate solutions found in forests and other natural systems which have an enormous ability to address the buildup of greenhouse gases. They bring added benefits and synergies that address biodiversity loss, wildlife habitat loss, and wide-ranging environmental requirements. We recommend that the amendments we've outlined be considered to: (1) provide greater consistency with the spirit and intent of the Lahey Report and meet expectation of a growing public discontent with lack of action to implement Lahey recommendations; (2) minimize carbon emissions through an immediate halt to clearcutting as requested by NNS, HFC, and the Minister's Advisory Committee (majority members request); (3) promote a collaborative land use planning approach for Nova Scotia's Crown lands and protected areas.

Respectfully submitted,

Donna Crossland MScF, VP Nature Nova Scotia

References:

Skene, J. and M. Polanyi. 2021. Missing the forest: How carbon loopholes hinder Canada's climate leadership. NRDC. R: 21-10-J

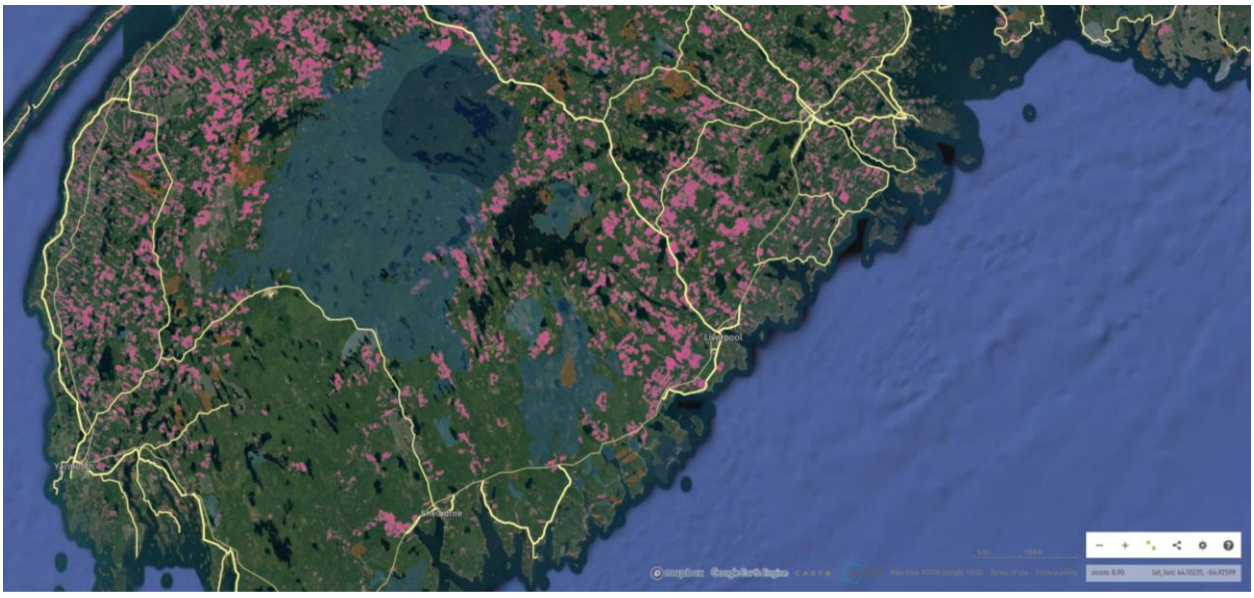
Suggested documentary:

Are trees the new coal? Malboro Productions

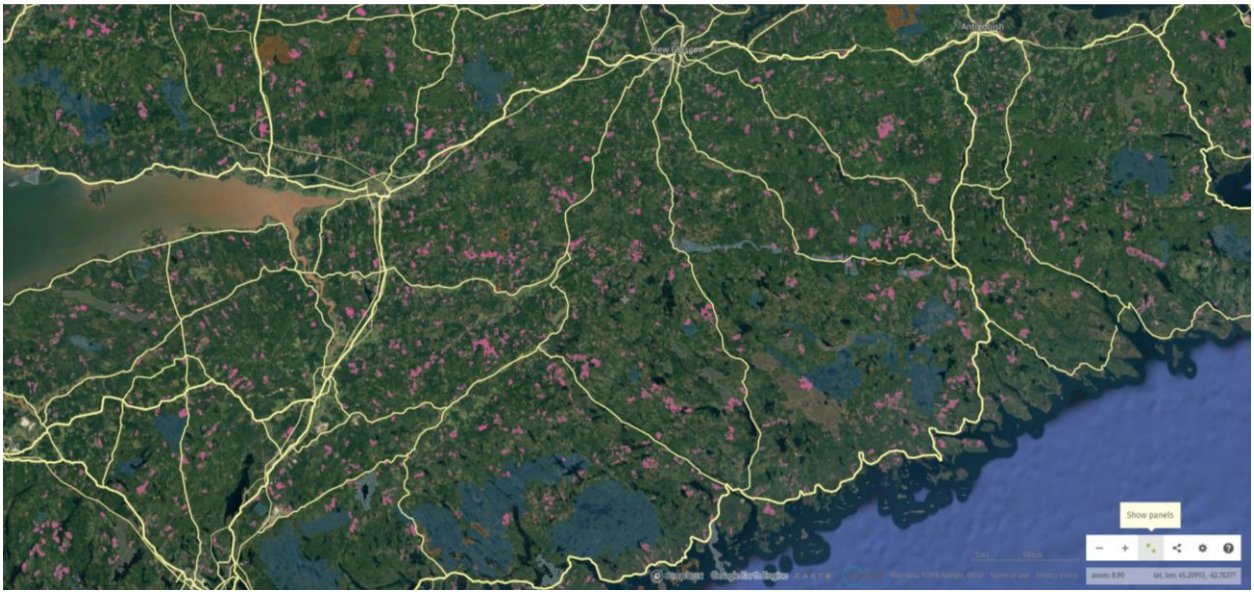
Appendix A

Forest Cover Losses during 20 years in NS that resulted in increased Carbon emissions. Pink polygons are satellite-interpreted forest cover losses. (Source Global Forest Watch)

2000



2020



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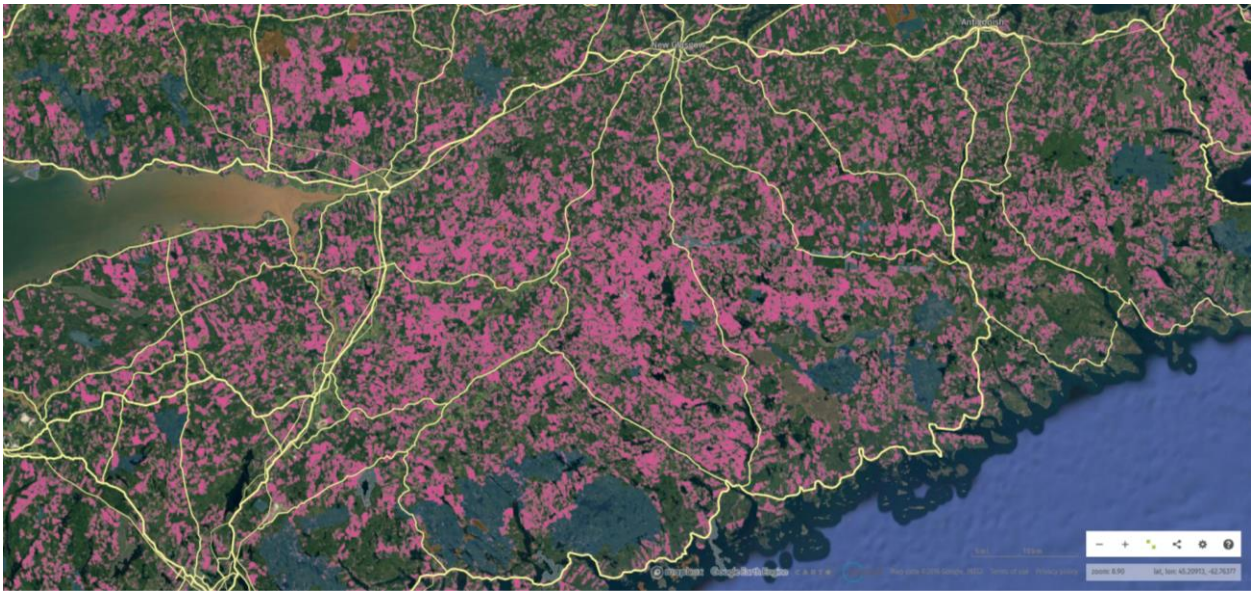
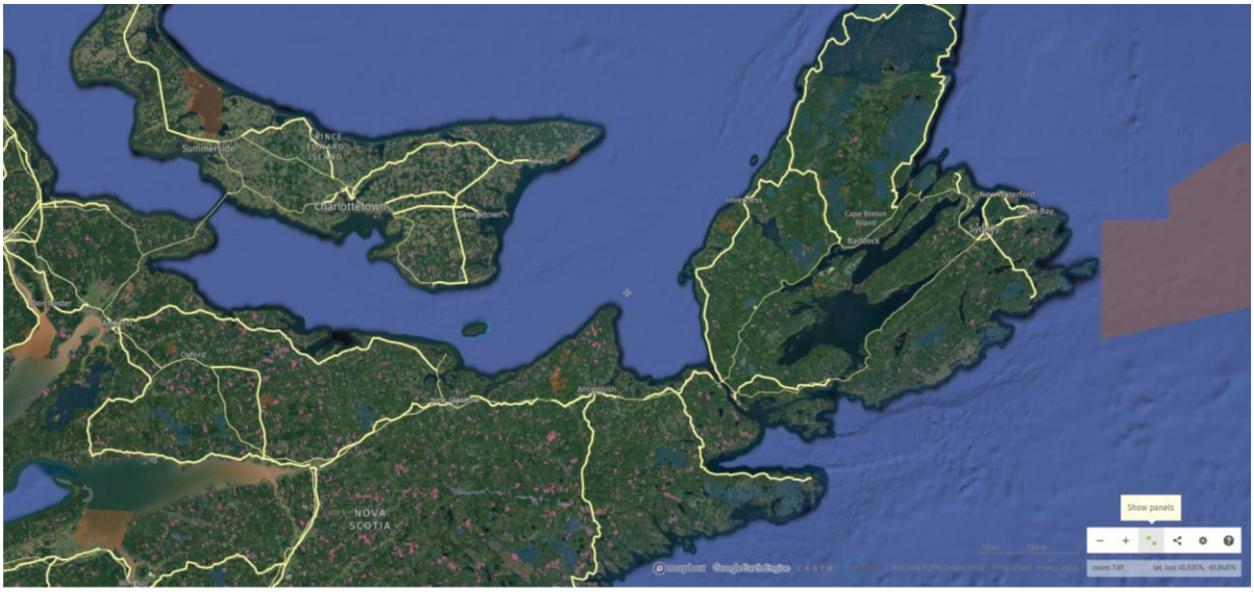


2020


Summerside
Charlottetown
Georgetown
Cape Breton Island
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Oxford
NOVA SCOTIA
Show panels

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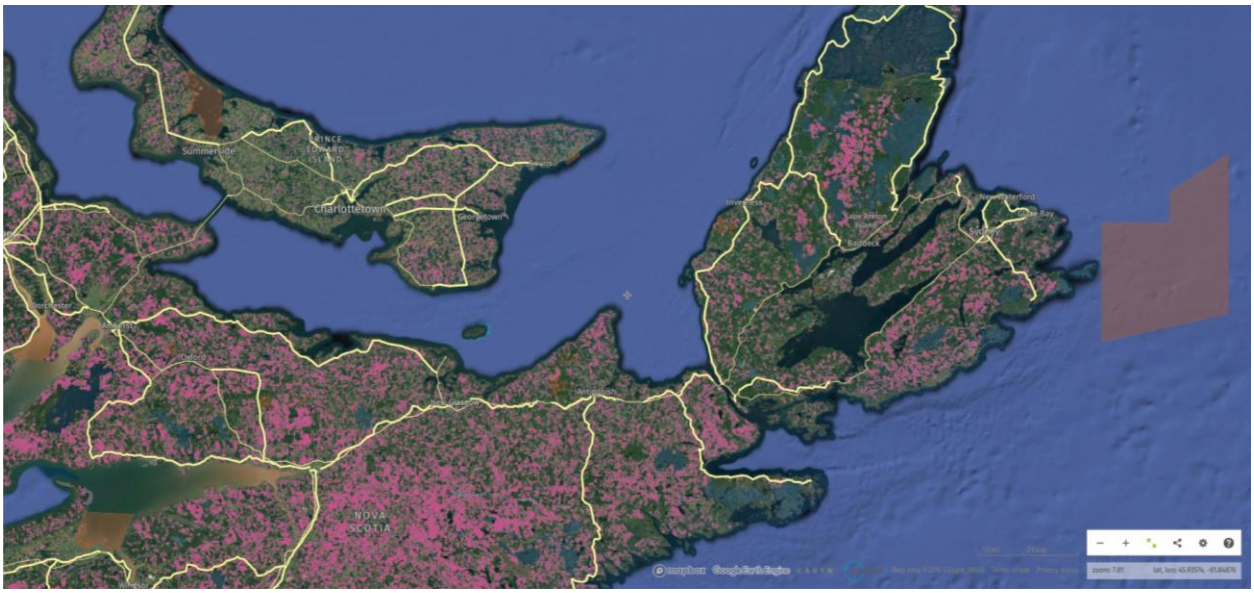
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NOVA SCOTIA

2020