



# Hidden, ignored and growing: B.C.'s forest carbon emissions

*Sierra Club BC report prepared by Jens Wieting, January 2019*

## **B.C. must stop ignoring its growing carbon emissions from forests**

In December 2018, the BC government announced CleanBC,<sup>1</sup> its new climate action plan on how to meet provincial carbon pollution reduction targets. While this plan includes a number of good steps, there are a number of serious shortcomings.<sup>2</sup>

One shortcoming is the lack of action for forests. Few people are aware that in recent years, British Columbia's beaten-up forests have often released more planet warming carbon dioxide than all other provincial sectors combined. What's more, many would be disturbed to learn that these forest emissions<sup>3</sup> are not even counted as part of B.C.'s official emissions in provincial greenhouse gas inventories.

These massive and growing forest emissions are a result of destructive logging, pine beetle outbreaks and wildfires. B.C.'s forests stopped absorbing more carbon than they release in the early 2000s. Uncounted forest emissions are now often greater than the total amount of emissions that are actually counted.

## **Fires and bad logging practices are quickly making the problem worse**

The situation has gotten much worse in the last two years. Both the 2017 and 2018 wildfires burned more than 1.2 million hectares of the province, eight times more than the ten-year average.<sup>4</sup> B.C.'s 2017 fires caused an estimated 190 million tonnes of CO<sub>2</sub> emissions.<sup>5</sup> The number for 2018 is expected to be similar.



*Burning slash from logging operations on Northern Vancouver Island, Nov. 2018. Photo by Torrance Coste.*

<sup>1</sup> <https://cleanbc.gov.bc.ca>

<sup>2</sup> <https://sierraclub.bc.ca/sierra-club-bc-hails-clean-bc-as-important-step-forward>

<sup>3</sup> <https://sierraclub.bc.ca/bcs-forests-full-decade-of-carbon-loss>

<sup>4</sup> <https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/wildfire-statistics/wildfire-averages>

<sup>5</sup> <https://www.cbc.ca/news/canada/british-columbia/it-s-alarming-wildfire-emissions-grow-to-triple-b-c-s-annual-carbon-footprint-1.4259306>

According to the most recent annual inventory<sup>6</sup> (quietly released in December 2018), B.C.'s total emissions were about 62 million tonnes of carbon dioxide in 2016 (a 1.5 percent increase over 2015). Uncounted annual emissions from destructive logging<sup>7</sup> were about 43 million tonnes in the last three years. The inventory released in 2017 showed these emissions were about 47 million tonnes in the same years—it appears this number has been reduced by 4 million tonnes without any explanation or transparency.

In addition, roughly 4 million tonnes of carbon pollution was released annually from slash burning in the past three years. These emissions disappeared in the data released by the B.C. government in 2017, with a note that they were "under review." Slash burning emissions were reported as being about 8 million tonnes annually before 2017 and are now shown at almost half of the previous rate, again without explanation or transparency.

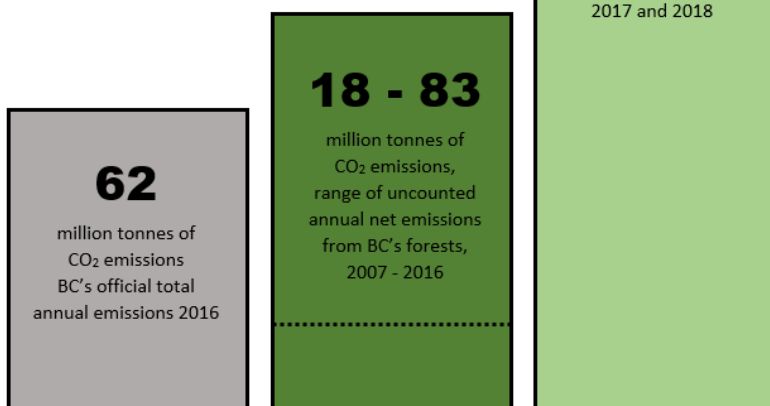
Because wildfire emissions have skyrocketed, we must now expect to add roughly 190 million tonnes to the annual tally, for a total of about 237 million tonnes of uncounted forest emissions (43M from logging + 4M from slash burning + 190M from wildfires).

### Uncounted forest carbon emissions skyrocketed in 2017

*Left: B.C.'s total emissions in 2016, without uncounted forest emissions (based on B.C. government data 2018).*

*Centre: Range of B.C.'s uncounted forest emissions 2007-2016 (based on B.C. government data 2018). Right: Sierra Club BC projection of 2017 and 2018 uncounted forest emissions, using federal estimate of B.C.'s 2017 wildfire emissions, combined with B.C. forest emissions data that were relatively stable in previous years (non-wildfire forest emissions).*

*Chart by Jens Wieting.*



Suffering forests in B.C. were only capable of absorbing about 28 million tonnes of carbon dioxide in 2016. Subtracting this 28 million tonnes that was sequestered, the numbers Sierra Club BC has been able to access suggest we will see about 209 million tonnes of "uncounted" annual carbon dioxide emissions from B.C.'s forests once data becomes available for 2017 and 2018.

### Ignoring emissions is no solution

Forest emissions are not counted as part of official emissions due to international agreements. There is good reason to track them separately from fossil fuel emissions because some factors like fire and insects are difficult to control. It is important to be able to monitor how much emissions from coal, oil and gas are being reduced without the ups and downs of wildfire seasons muddying the picture.

However, this does not mean we should hide forest emissions as if they don't exist.

<sup>6</sup> <https://www2.gov.bc.ca/gov/content/environment/climate-change/data/provincial-inventory>

<sup>7</sup> Emissions related to logging are reported as 'Emissions from Decomposition of Harvested Wood Products,' despite the fact that the majority of these emissions occur as a result of common destructive logging practices that leave behind massive amounts of wood waste.



*Extensive clearcuts near Cowichan Lake on southern Vancouver Island will release carbon for about 13 years. Aerial photograph taken by Sierra Club BC Senior Forest and Climate Campaigner Jens Wieting in July 2018.*

## **B.C. needs a forest emissions report**

There is a simple step the province can take to address this issue: produce an additional report on forest carbon emissions.

Here are two reasons why this is important:

- First, B.C.'s growing forest emissions must be addressed with a suite of urgent, publicly communicated steps to reduce them as much as possible. Nobody will act if they remain hidden.
- Second, the growing loss of carbon from forests is signaling how severely climate impacts are already damaging the natural life support systems we depend on. We cannot ignore this deafening alarm any longer. It is this kind of ignorance that leads our governments to allow new pipelines and fracked LNG terminals that will massively increase emissions and make climate impacts even worse.<sup>8</sup>

Keeping forest carbon emissions out of sight keeps them out of mind. This is one of the key reasons we have not yet seen any meaningful improvement in provincial forest stewardship—despite growing concern about climate change—or any recognition of the carbon role of B.C.'s forests in the Province's CleanBC climate action plan announced in December 2018. The government has not even taken action to end slash burning,<sup>9</sup>

---

<sup>8</sup> <https://thenarwhal.ca/b-c-s-climate-action-must-address-three-elephants-in-the-room>

<sup>9</sup> <https://www.cbc.ca/news/canada/british-columbia/province-wide-slash-burning-sparks-controversy-1.3652496>



the lowest hanging fruit in lowering forest emissions. Ending slash burning would be equivalent to reducing B.C.'s counted emissions by about 7 per cent.

Forest emissions data must be shown with at least as much detail as B.C.'s counted emissions. For comparison, the provincial inventory includes more than 50 line items to offer detailed insight into the sources of counted emissions, but only 3 numbers for all sources of uncounted forest carbon emissions.

In addition, the B.C. government should be transparent and use peer review mechanisms when significantly revising its methods and results of how much emissions are attributed to slash burning or logging. Millions of tonnes of previously reported emissions simply disappeared without explanation in its data shared in December 2018.

### **Three important steps to better data on forest emissions**

We need a particular focus on forest management and logging practices where we have the greatest ability to control emissions. To inform meaningful policy, forest emissions data must offer as much detail as possible with regard to the following three aspects:

#### **1. Data by region**

As a minimum first step, all forest emissions should be shown for all five ecozones in B.C.: the Pacific Maritime, Montane Cordillera, Boreal Cordillera, Boreal Plains and Taiga Plains ecozones. We need as much detail as possible to help inform land use planning at a regional scale (e.g. for Vancouver Island).

#### **2. Data by forest type and distinction between intact and logged forests**

The most important distinction<sup>10</sup> to inform policy must be between forests that show low levels of natural disturbance and forests that show high levels of natural disturbance.

The damage inflicted on B.C.'s forests from the mountain pine beetle and wildfires highlights that not all forests are the same. Interior forest ecosystems with a certain level of natural disturbance from fire and insects, increasingly worsened by climate change, are now the hardest hit.

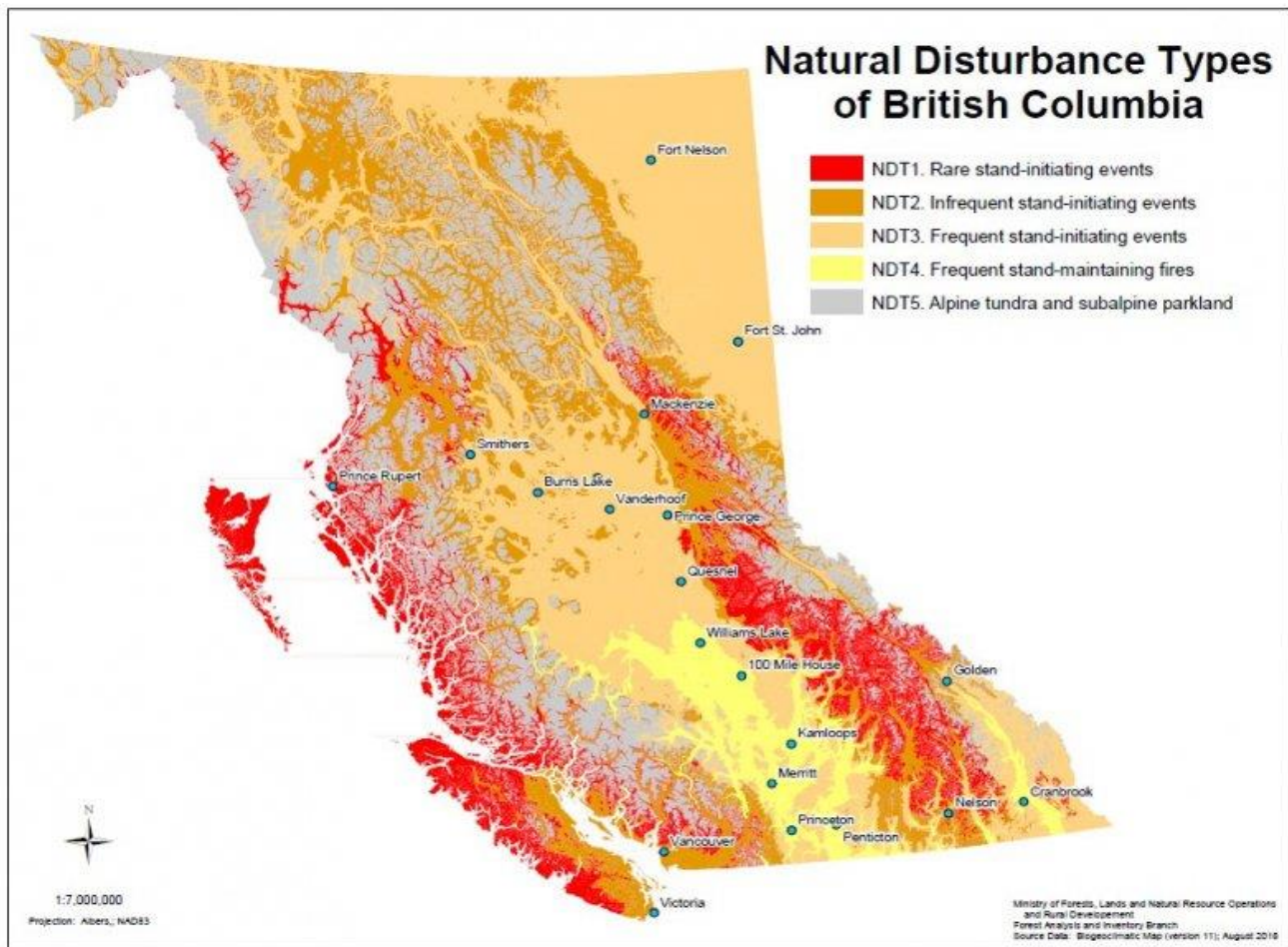
In contrast, B.C.'s old-growth coastal and interior temperate rainforests experience very little natural disturbance and contain ancient trees many hundreds of years old. These forests can store over 1,000 tonnes of carbon per hectare, one of the highest rates on earth. They are like a carbon bank, accumulating carbon in soil, trees, and organic matter over millennia. We need detailed data to inform which areas should be protected to avoid massive carbon loss from clearcutting carbon rich resilient forests.

In addition, data should distinguish between emissions from unlogged/intact forests and logged/managed forests. Research shows that most natural forests are better carbon sinks than managed forests.<sup>11</sup>

---

<sup>10</sup> <https://thetyee.ca/Opinion/2017/09/12/Preserve-Forests-Carbon-Belongs>

<sup>11</sup> <https://www.nature.com/articles/s41559-018-0490-x>



*Intact forests with low levels of natural disturbance store the highest amount of carbon and are more resilient than other forests. Their destruction causes disproportionately high emissions from logging. Map from Government of B.C.*

### 3. Data by management practices

We urgently need data that accurately compares emissions from various types of logging by distinguishing destructive practices from lighter touch and selective logging. Second-growth forests can be harvested selectively in a way that produces negative emissions. Harvesting trees while increasing the amount of carbon in the forest at the same time can be done by constantly improving growth conditions for standing trees.<sup>12</sup>

### What the B.C. government can do to reduce forest carbon emissions

1. Emissions from logging carbon rich old-growth could be reduced quickly by using some of the solutions developed in the Great Bear Rainforest<sup>13</sup>—as the NDP promised to do in their 2017 election platform—combined with support for First Nations’ land use planning and a rapid transition to improved management of second-growth forests.

<sup>12</sup> B.C. Ecoforester Merv Wilkinson harvested 2 million board feet of lumber from his Wildwood parcel on Vancouver Island over a 70 year period of selective logging, with 1.3 million board feet of standing timber at the beginning and 1.6 million board feet still standing at the end of his work at Wildwood.

<http://vancouverislandbigtrees.blogspot.com/2011/09/vancouver-islands-forest-defender-merv.html>

<sup>13</sup> <https://coastalfirstnations.ca/our-land/carbon-credits>

2. Tree planting initiatives have potential benefits for the climate—but these benefits will not be significantly realized for decades. In contrast, protection of carbon rich old-growth forests has immediate benefits for the climate, helping us avoid massive carbon pollution in the short term. A special report released in October 2018 by the International Panel on Climate Change (IPCC) highlights the need for massive emission reductions within the next 12 years.<sup>14</sup> Research shows that clearcutting temperate Pacific Northwest forests creates “carbon sequestration dead zones” that emit more carbon than they absorb for about 13 years.<sup>15</sup> This is the average time span required for young trees to reach a size where their ability to sequester carbon matches the ongoing high carbon losses that result from destructive logging after a clearcut has occurred.
3. The province should also end the large scale spraying of thousands of hectares of deciduous stands (e.g. aspen, alder and birch) with glyphosate, which is intended to promote the growth of purely coniferous forests.<sup>16</sup> Allowing more deciduous trees to grow can help reduce the risk of wildfires, reduce emissions, increase carbon sequestration, provide benefits to wildlife and improve several environmental services impaired by climate impacts.
4. The government must further ramp up the Fire Smart program, which promotes preventative measures such as forest thinning and using fire-resistant building materials to reduce the impact of fire. It must also modernize all warning systems firefighters and governments depend on to control dangerous fires.<sup>17</sup>

In contrast to setting carbon pollution reduction targets for B.C.’s official emissions (primarily from burning fossil fuels), it will be very difficult to set targets to reduce forest emissions overall. As explained earlier, climate impacts like pine beetle outbreaks and fire will now in some years undermine the actions taken to reduce forest emissions. It will be impossible to measure success by measuring emissions.

However, what the government can do is to set and deliver on targets related to actions like protecting forests and changing practices.

Examples are setting ambitious targets for old-growth protection, establishing timelines to phase out slash burning and forest spraying, and ensuring all communities in fire prone parts of the province are fully participating in Fire Smart programs.

B.C.’s forest management is making climate change worse—an alarming situation when our forests should instead be our best ally in the fight against climate change. Unless the B.C. government wakes up and takes far reaching action to strengthen conservation and improve forest management, provincial forests will continue to contribute to climate change instead of slowing it down. Sharing detailed information to inform forest climate strategies at all levels of government will be a crucial first step.



*Walbran Valley, southern Vancouver Island. Photo by TJ Watt.*

---

<sup>14</sup> <https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report>

<sup>15</sup> <https://sustainable-economy.org/wp-content/uploads/2017/12/Oregon-Forest-Carbon-Policy-Technical-Brief-1.pdf>

<sup>16</sup> <http://stopthespraybc.com>

<sup>17</sup> <https://theyee.ca/Opinion/2018/08/22/Were-Losing-Fight-Wildfires-BC-Fire-Prevention>