

LOGGING WHAT'S LEFT

HOW DRAX'S PELLET MILLS ARE SOURCING LOGS FROM BRITISH COLUMBIA'S RAREST OLD GROWTH FORESTS

INTRODUCTION

Drax Group Plc is a UK-based company that operates the world's biggest biomass power station, and is also the world's second biggest pellet producer, after Enviva. Drax burns pellets from its own production at Drax power station in England, and sells pellets to other companies, mostly in Japan.

Drax owns seven pellet mills in British Columbia (BC) after acquiring the province's largest pellet producer, Pinnacle Renewable Energy Inc., in 2021. Its BC pellet mills produced over 1.3 million tonnes of pellets in 2021,¹ accounting for almost 40% of Canada's total pellet production. Drax sources its raw material from BC's forests and forest industries, and maintains that its operations in BC are "sustainable."

This analysis focuses on north-central BC, where all of the material feeding Drax's pellet mills there originates from Primary forest, whether it arrives directly from logging operations or as byproduct from near-by sawmills. The vast majority of commercial logging taking place in BC is of Primary forest.

In BC, Old Growth is Primary forest² that has reached an advanced age and consists of communities of plants, animals and other life forms that have lived together long enough to develop complex, interconnected relationships. Productive Old Growth forest with large

trees covers only 3% of the province, and is now very limited because of a century of logging, mostly for sawlogs and pulp.

In 2021, the government of BC convened a technical committee to identify and map Old Growth forest types, including the rarest Old Growth forest types that are at high and near-term risk of irreversible biodiversity loss if they are logged.

These rare Old Growth forest types were recommended by the technical committee for short-term protection from logging and are referred to collectively as Priority Deferral Areas. The committee identified three categories of rare Old Growth³ with the highest risk of being logged over the short-term: Remnant Old Growth, Ancient Forest and Big-treed Old Growth.

In 2020, northern BC-based community group Conservation North documented the issuing of Primary forest logging licences by the BC government to pellet companies. In 2022 BBC Panorama and CBC Fifth Estate investigations revealed that Drax was logging rare Old Growth forest and other Primary forest in BC. This investigation examines the extent to which Drax's pellet mills are still sourcing logs for its pellet production from irreplaceable Old Growth forests, particularly Priority Deferral Areas.

¹ Information comes from Sustainable Biomass Partnership (SBP) reports for each of the mills. Accessible at: <https://sbp-cert.org/certifications/certificate-holders/>

² OG TAP Old Growth Deferral: Background and Technical Appendices. Accessible at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/og_tap_background_and_technical_appendices.pdf

³ Priority Deferrals: An Ecological Approach. Accessible at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/summary_for_g2g_package.pdf

GLOSSARY

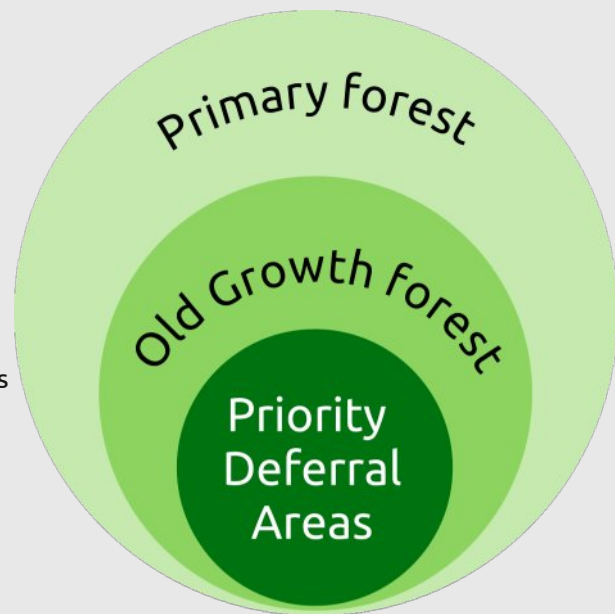
Primary forest: A natural forest of any age that has never been modified by industrial human activity and regenerates naturally from natural disturbances like windthrow, fire, insects or disease.

Old Growth forest: Forest that has reached an advanced age, usually 140 or 250 years, depending on the region and its climate. It has structural elements that animals and plants need such as rotting logs, snags, large old trees, gap openings and often a multi-layered canopy. In BC, all Old Growth is also Primary forest, but not all Primary forest is Old Growth.

Priority Deferral Areas: Old Growth forest types recommended by a technical committee appointed by the provincial government to be protected from logging as a matter of urgency. The three types of Old Growth forest included within Priority Deferral Areas are Ancient Forest, Big-treed Old Growth and Remnant Old Ecosystems.

Timber mark: A short reference code used to identify the specific cutting authority or geographic location where the timber was harvested as well as other specific information such as type of land tenure.

Cut block: An area of land with defined boundaries that is authorised for logging. Where logging is taking place on Crown Land (public land) in BC, timber marks correlate to one or more cut blocks, known as a Cutting Permit Area.



METHODS

The BC government's **Harvest Billing System (HBS)** provides data on the volume and weight of all biomass arriving at Drax pellet mills directly from forestry operations, which falls into two categories: logs or wood chips, referred to as hogged tree material. We **extracted from these data** details of each load arriving at Drax pellet plants in 2023,⁴ including what material came from each supplier and in what volume, and what timber mark each load arrived with.

The BC Data Catalogue provides spatial data for all forest cut blocks on public land (**Forest Tenure Cutblock Polygons (FTA 4.0)**), areas of Old Growth forests (**Old Growth Technical Advisory Panel (TAP) - Forest Seral Stage**) and Old Growth Priority Deferral Areas (**Priority Old Forest Deferral Areas - Current View**). We extracted spatial data for cut blocks relating to timber marks that Drax mills had sourced logs from in 2023 and compared them with spatial data for Old Growth forest and Priority Deferral Areas.



Logging in an Old Growth Priority Deferral Area in a Drax-licensed cut block, exposed by BBC Panorama in 2022.

In order to carry out a spatial analysis of the forest types present in cut blocks that logs were sourced from, we used QGIS mapping software to overlay cut block areas with Old Growth forest and Priority Deferral Areas, allowing us to determine **what proportion of the cut blocks and therefore timber marks** that Drax mills had sourced logs from in 2023 contained forests characterised as Old Growth and Priority Deferral Areas.

In order to confirm the accuracy of BC government spatial data on Old Growth forest and Priority Deferral Areas, Conservation North and Bulkley Valley Stewardship Coalition visited a number of cut blocks in February 2024. We also used recent satellite imagery to confirm whether or not cut blocks had been logged.

⁴ Logs and hogged tree material that arrives at Drax pellet mills is invoiced under "Pinnacle Renewable Energy Inc."

DID DRAX SOURCE LOGS FROM OLD GROWTH FORESTS IN 2023? ⁵

About one quarter of the woody material that goes into Drax’s pellet-producing plants in BC comes directly from logging operations⁶ in the form of logs or wood chips.⁷ This amounted to around 430,000m³ of wood in 2023, with logs accounting for almost 60% of this volume. The rest is byproduct from nearby industries, such as sawdust from sawmills.

In 2023, Drax’s Burns Lake, Smithers, Houston and Meadowbank⁸ pellet mills received over 5,000 truck loads of logs between them from Primary forest, equivalent to around 200,000 tonnes of wood.⁹ This includes nearly 200 loads of logs (4%) marked as “salvage”, meaning that these logs came from Primary forests that had a recent natural disturbance like a fire or an insect outbreak.

Just over half of the loads of logs (59%) delivered to Drax pellet mills in 2023 came from lands where there is publicly-available spatial data corresponding with timber marks that indicate the origin of each load of logs. Generally speaking, these are public lands where Drax has paid a fee (stumpage) to the BC government for each load.

The data show that a high volume of logs arriving at Drax’s BC pellet mills in 2023 were from Old Growth forest, including Priority Deferral Areas. Almost 60% of the loads of logs (1765) for which there is spatial data indicating geographical origin arrived with timber marks where 10% or more of the corresponding cut block area(s) was Old Growth forest. Forty-two percent (1251) originated from timber marks where more than half of the corresponding area was Old Growth forest, and 10% (300) from timber marks where more than 90% of the corresponding area was Old Growth forest.

Many loads of logs were also sourced from Priority Deferral Areas, the most at-risk Old Growth in BC. More than 20% of the loads (604) came from timber marks where over a third of the total area was classed as Priority Deferral Area.

⁵ Unless otherwise stated, all of the figures stated in this report are extracted from this spreadsheet: https://docs.google.com/spreadsheets/d/1Dg7bZmxXKokFj_qiRjbL04Ca08ewBZTyHaMmZiw5Nngo/edit#gid=0

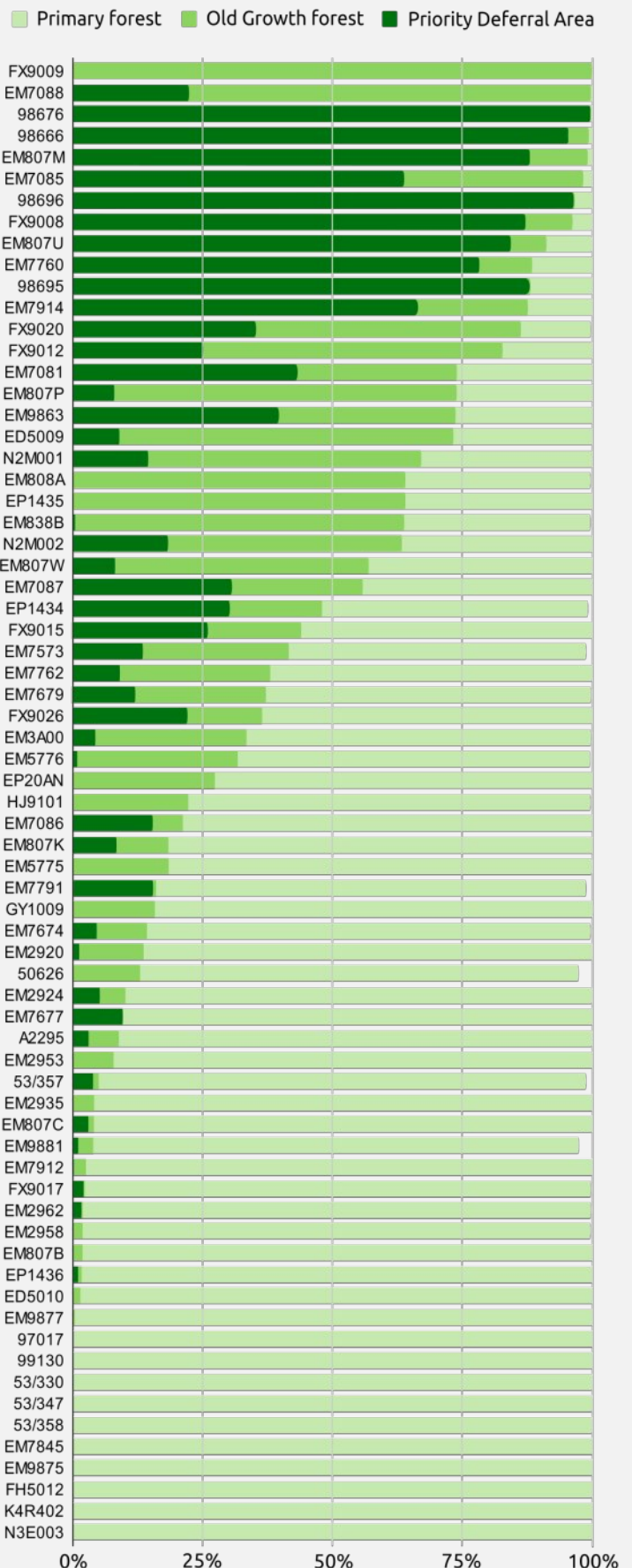
⁶ Information taken from most recent SBP reports for each of Drax’s BC mills. Accessible here: <https://sbp-cert.org/certifications/certificate-holders/>

⁷ Referred to as “hogged tree material” in the Harvest Billing System. Hogged tree material is also referred to as “bush grind”.

⁸ Although the Meadowbank mill had been receiving significant quantities of logs in 2022, in 2023 the mill saw a large reduction in the number loads of logs arriving compared to the previous year, and most of the logs were harvested from private timber marks.

⁹ We took three representative invoices and divided total weight by number of loads, and 38 tonnes was the average weight of a load of logs.

Timber marks that logs were delivered to Drax mills with in 2023 and their relative proportions of Primary forest, Old Growth forest and Priority Deferral Area



Drax pellet mills received logs from 70 different timber marks with spatial data in 2023. Old Growth forest accounted for more than 10% of the corresponding land area in 45 of them (64%), more than half of the land area was Old Growth forest in 26 (37%) of them, and more than 90% of the land area was Old Growth forests in nine of them (13%).

In terms of the presence of Priority Deferral Areas in the land corresponding to timber marks, more than 10% of the land area was in a Priority Deferral Area in 25 of them (36%), more than half of the land area was in a Priority Deferral Area in 10 of them (14%) and more than 90% of the land area was in a Priority Deferral Area in three of them (4%).

On average, nearly 40% of the total corresponding land areas of the timber marks with spatial data that Drax sourced logs from in 2023 were Old Growth forests, and nearly 20% of the total land area fell within Priority Deferral Areas. Importantly, three of the timber marks that Drax sourced logs from contained large areas of

Ancient Forest, in one case almost half of the area, which is Old Growth forest over 250 years old.

The Smithers mill received by far the highest number of logs delivered with timber marks containing sizeable areas of Old Growth (more than 10% of total area), amounting to 1156 loads, followed by the Burns Lake mill, which received 532 loads of logs from equivalent timber marks.

The Smithers mill was **endorsed by local officials** on the understanding that its feedstock would mostly consist of chipped slash piles, considered to be logging waste, thereby reducing the health impacts of slash pile burning that local communities are subjected to. However, as well as receiving the highest number of logs from timber marks containing significant areas of Old Growth forest, the Smithers mill also stands out as being the only Drax mill in BC that received no wood chips directly from logging operations in 2023, and only received logs alongside sawmill by product.

NEW YEAR, NEW DRAX?

In January 2024 Drax continued to source logs with timber marks corresponding to cut blocks containing large areas of Old Growth forest and Priority Deferral Area. They included:

Timber mark	Logging company	Pellet mill	Log loads	Old Growth forest type
EM2960	Babine Forest Products	Burns Lake	64	46% Old Growth forest
EM2963	Babine Forest Products	Burns Lake	31	46% Big-treed Old Growth in a Priority Deferral Area
FX9012	Canfor	Houston	8	83% Old Growth forest and 25% Big-treed Old Growth in a Priority Deferral Area

Photo: Logging operation at a cut block associated with timber mark FX9020, which Drax sourced logs from in 2023.

TIMBER MARK CASE STUDIES

The following three timber marks and their corresponding cut blocks are examples of logging sites that Drax pellet mills sourced logs from in 2023. These areas were visited by Conservation North and Bulkley Valley Stewardship Coalition members in February 2024 in order to verify the forest type and state of the cut blocks.

EM807M

Loads of logs received by Drax: 130

Volume of wood received: 5,983m³

Proportion of total cut block volume: 26%

Logged by: Canfor

Proportion Old Growth forest: 99%

Proportion Priority Deferral Area: 88%

Between September 2022 and March 2023 the Drax Burns Lake mill received 130 loads of logs from EM807M, accounting for over a quarter of the total volume of wood extracted from the timber mark. The one cut block associated with the timber mark has been entirely logged, and all of the forest was Old Growth, 88% of which was Big-treed Old Growth within a Priority Deferral Area.



Photo taken during visit to EM807M in February 2024, showing that the associated cut block has been completely logged.



"Slash pile" containing whole logs discarded in the middle of the cut block associated with the EM807M timber mark.



FX9020

Loads of logs received by Drax: 46

Volume of wood received: 2,613m³

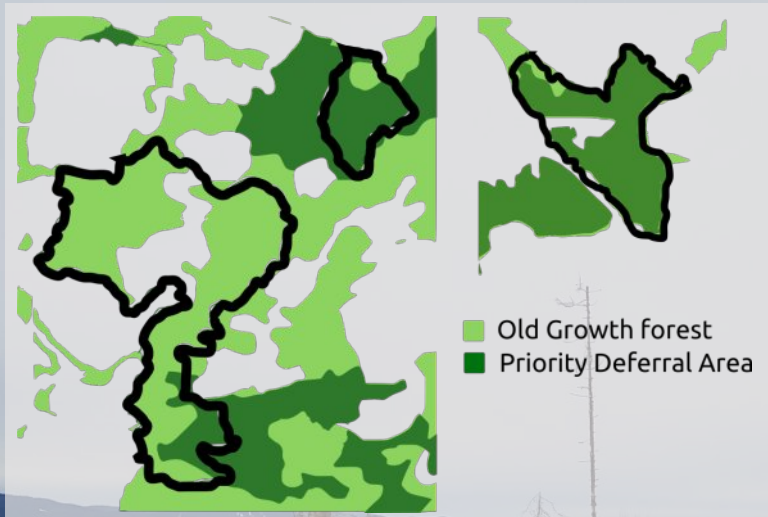
Proportion of total cut block volume: 8%

Logged by: Canfor

Proportion Old Growth forest: 86%

Proportion Priority Deferral Area: 35%

Drax's Burns Lake mill received 46 loads of logs with the timber mark FX9020 in February and March 2023. Twenty percent of the total timber mark area corresponding to the entirety of one of the three cutblocks associated with the timber mark was Ancient Forest, more than 250 years old. A second cut block was entirely Big-treed Old Growth, estimated to be 149 years old, and a third cut block associated with the timber mark was mostly covered in 149-year-old Old Growth forest, around half of which remains and is currently being logged.



EM7760

Loads of logs received by Drax: 36

Volume of wood received: 1,594m³

Proportion of total cut block volume: 11%

Logged by: West Fraser Mills

Proportion Old Growth forest: 88%

Proportion Priority Deferral Area: 78%

Between August and October 2023 the Drax Smithers mill received 36 loads of logs with the EM7760 timber mark. Almost 90% of the area associated with the timber mark (including six cut blocks) was classed as Old Growth forest, and almost 80% is within a Priority Deferral Area. Sixty-one percent of the total area was Big-treed Old Growth, and 47% was Ancient Forest.

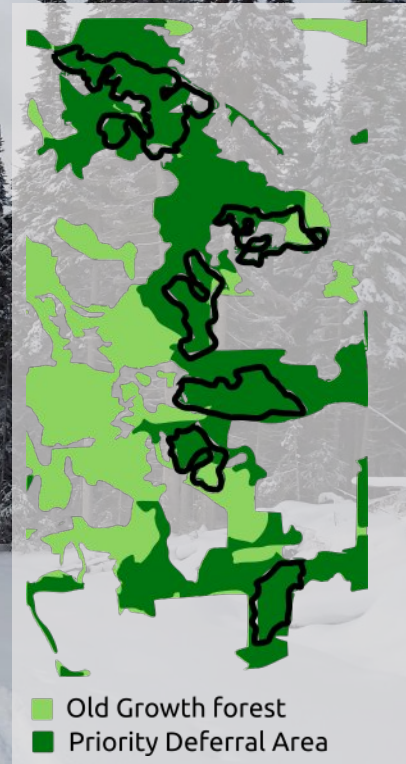
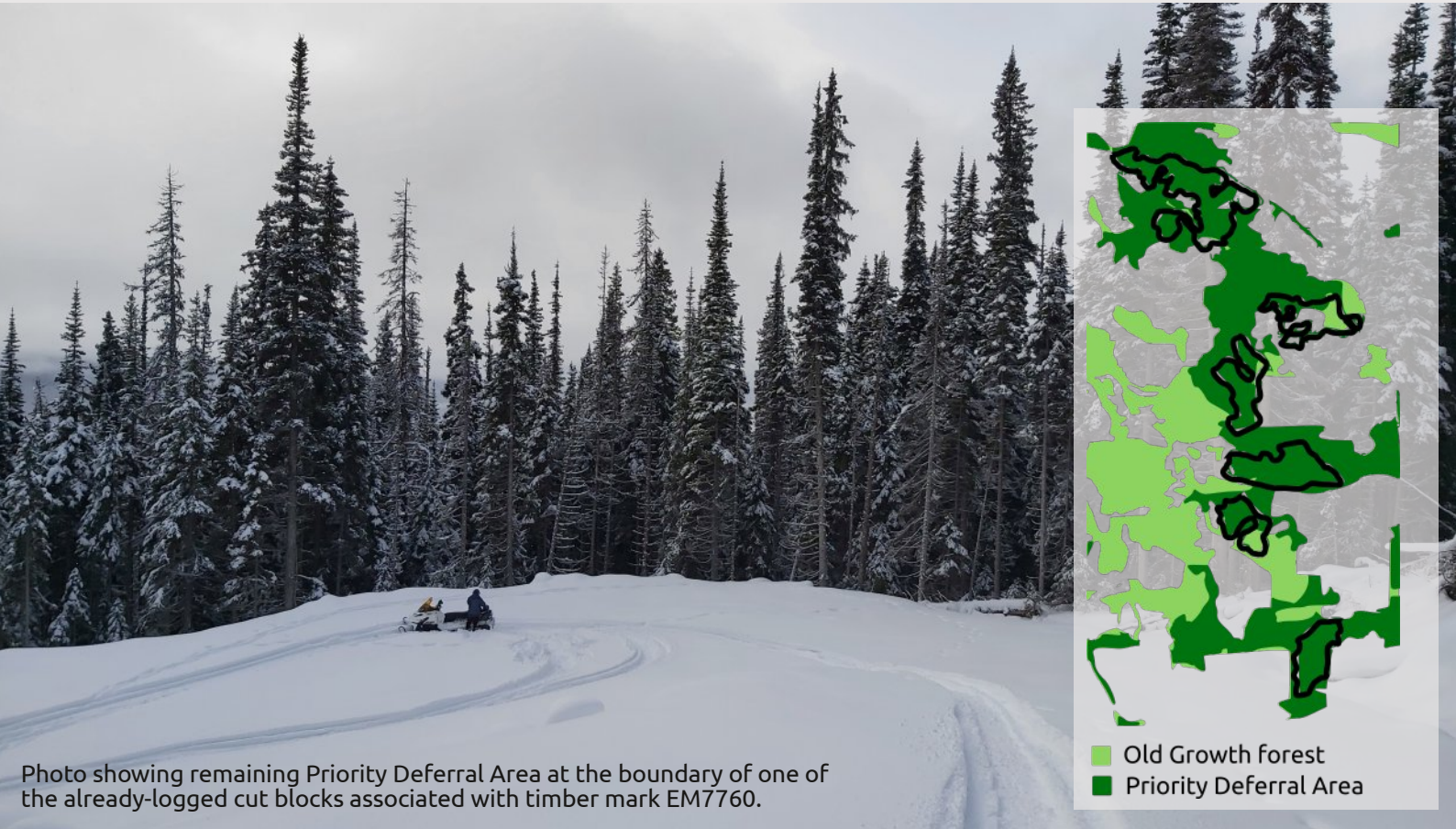


Photo showing remaining Priority Deferral Area at the boundary of one of the already-logged cut blocks associated with timber mark EM7760.



Old Growth forest adjacent to the boundary of another of the already-logged EM7760 cut blocks.

WHO SUPPLIED DRAX WITH WOOD FROM OLD GROWTH FOREST IN 2023?

West Fraser Mills was the largest supplier of logs to Drax pellet mills in 2023, delivering just under a quarter of the total number of loads that went to Drax pellet mills (over 1200 loads). Large sawmill operators Canadian Forest Products (Canfor) and Babine Forest Products were also top suppliers to Drax pellet mills in 2023. Added together, these companies supplied over 40% of the logs that Drax pellet mills received in 2023.

Drax also received large numbers of logs from Community Forest Agreements, First Nations Forestry Agreements and private land, but there is no publicly-available spatial data relating to these timber marks, so it isn't possible to assess what forest type the logs came from. Almost half of the loads came from timber marks with no spatial data, and Burns Lake Community Forest in particular was the second largest supplier of logs to Drax mills in 2023 (661 loads).

For timber marks with publicly-available spatial data, almost three quarters of the loads of logs delivered by West Fraser Mills (886) came from timber marks with

more than 10% Old Growth forest, and on average 38% of the area covered by West Fraser Mills timber marks was Old Growth forest, and 20% was within Priority Deferral Areas.

Over 80% (332) of the truck loads of logs delivered by Canfor came from timber marks that contained more than 10% Old Growth forest, and four of them were over 90% Old Growth forest. On average, the Canfor timber marks that Drax mills received logs from were 58% Old Growth forest, and 24% Priority Deferral Areas.

Top five Drax log suppliers in 2023

<i>Logging company</i>	<i>Loads of logs</i>
West Fraser Mills	1216
Burns Lake Community Forest	661
Bamine Forest Products	599
Canfor	411
Wetzin'kwa Community Forest	171



Recently-logged Old Growth forest at a cut block associated with timber mark FX9020.

WHAT DON'T WE KNOW ABOUT THE LOGS DRAX IS SOURCING IN BC?

What forest types are logs from timber marks without spatial data harvested from?

Almost half of the loads of logs arriving to Drax pellet mills in 2023 had timber marks relating to cut blocks with no publicly-available spatial data. Drax's second largest supplier of logs overall, and largest supplier of logs to the Burns Lake mill, was the Burns Lake Community Forest, which covers an area of 92,000 hectares.

The Burns Lake Community Forest has a supply agreement with Drax, but there is no publicly-available information on where in the vast area of the Community Forest these logs were harvested from, and the

company has refused to provide this information. The 14,000 hectare Dungate Community Forest also supplied 149 loads to the Burns Lake mill in 2023, but has not provided information on the source of the logs it delivered either.

It is also not possible to find spatial data relating to timber marks from privately-owned lands, and therefore to determine if logs with these timber marks have been sourced from Old Growth forest. Put together, around 1000 loads of logs arrived at Drax pellet mills in 2023 from private timber marks.

What kind of logs are arriving at Drax pellet mills?

All of the loads of logs arriving at Drax's mills are covered by a Concurrent Residual Harvest System (CRHS) Authorization, whereby scale sites classed as "secondary" users of harvested wood only need to weigh loads, and grading is done arbitrarily. This allows logging companies and pellet mills to save time and expense by simplifying the scaling process.

All loads of logs arriving at Drax mills are scaled according to the following proportions: Grades 1 & 2

(sawlog grade) = 2.9%, Grade 4 (pulp grade) = 85.7%, Grades 6 & Z (waste) = 11.5%. This means that there is no accurate publicly-available record of the grade of logs entering the pellet mills, although it is assumed that only 11.5% of the logs are wood classed as having no use other than bioenergy, since Grade 4 logs can also be used by panelboard and pulp producers, and to produce products such as fence posts.

Grade 4 logs destined for a Drax pellet mill and a pulp mill, according to the driver of this truck. February 2024.





Log pile at Drax's Houston wood pellet mill.



Discarded Grade 4 logs at a logging site near to the Smithers pellet mill.



Discarded logs at the EM807M cut block, which Drax sourced logs from in 2022 and 2023.

How many logs end up in hogged tree material?

About 40% of the total volume of woody material that Drax sources directly from logging operations in BC arrives as wood chip, referred to as hogged tree material or bush grind. Wood chippers are taken to cut blocks after logging operations have ended, and in theory the slash piles that would otherwise be burned on-site are chipped and trucked to the pellet mills.

For example, in 2023 the Williams Lake mill only received hogged tree material, and no logs. At least two of the Williams Lake suppliers, [Tsideldel Enterprises](#) and

[Williams Lake Community Forest Partnership](#) are being subsidised through the Forest Enhancement Society of BC to remove hogged tree material from logging operations and deliver to the pellet mill.

However, there is no means of publicly verifying what is being chipped, and Drax power station's reliance on high-quality pellets with low bark content makes it likely that a large proportion of what arrives at the pellet mills as hogged tree material is in fact logs from whole trees.

How much additional logging has Drax's wood sourcing been responsible for in BC?

For almost two decades a "crediting" system has been in operation in BC's interior, whereby the extraction of so-called lower-quality fibre, referred to as Grade 4 timber, has not been attributed to a forest licensee's Annual Allowable Cuts (AAC) if the forest licensee is operating under the scheme. Under this system, for every load of Grade 4 logs harvested by a logging company and delivered to an end-user, another load of logs of any quality can be logged additionally. This undermines one of the only ways that the BC government is able to control logging rates, and acts as a major incentive for greater volumes to be logged.

There is no public record of how many millions of additional trees have been logged since the scheme began in 2006, but the Grade 4 credit system has been described as "a secretive, fraudulent Ponzi scheme in which the public's timber is being allocated out of the legislated AAC process." It is therefore possible that every load of logs that has arrived at a Drax pellet mill under the scheme has enabled an equivalent volume of logs to be harvested again, which could multiply the scale of the impacts of Drax's log sourcing in BC by a significant factor.

CONCLUSION

Since BBC Panorama and CBC Fifth Estate exposed Drax's logging of Primary forest in 2022, including Old Growth forest in a Priority Deferral Area, Drax's sourcing policy appears to have shifted towards procuring all of its wood from other companies. However, as this investigation shows, this has done little to prevent trees from Old Growth forests from being fed into Drax's BC mills.

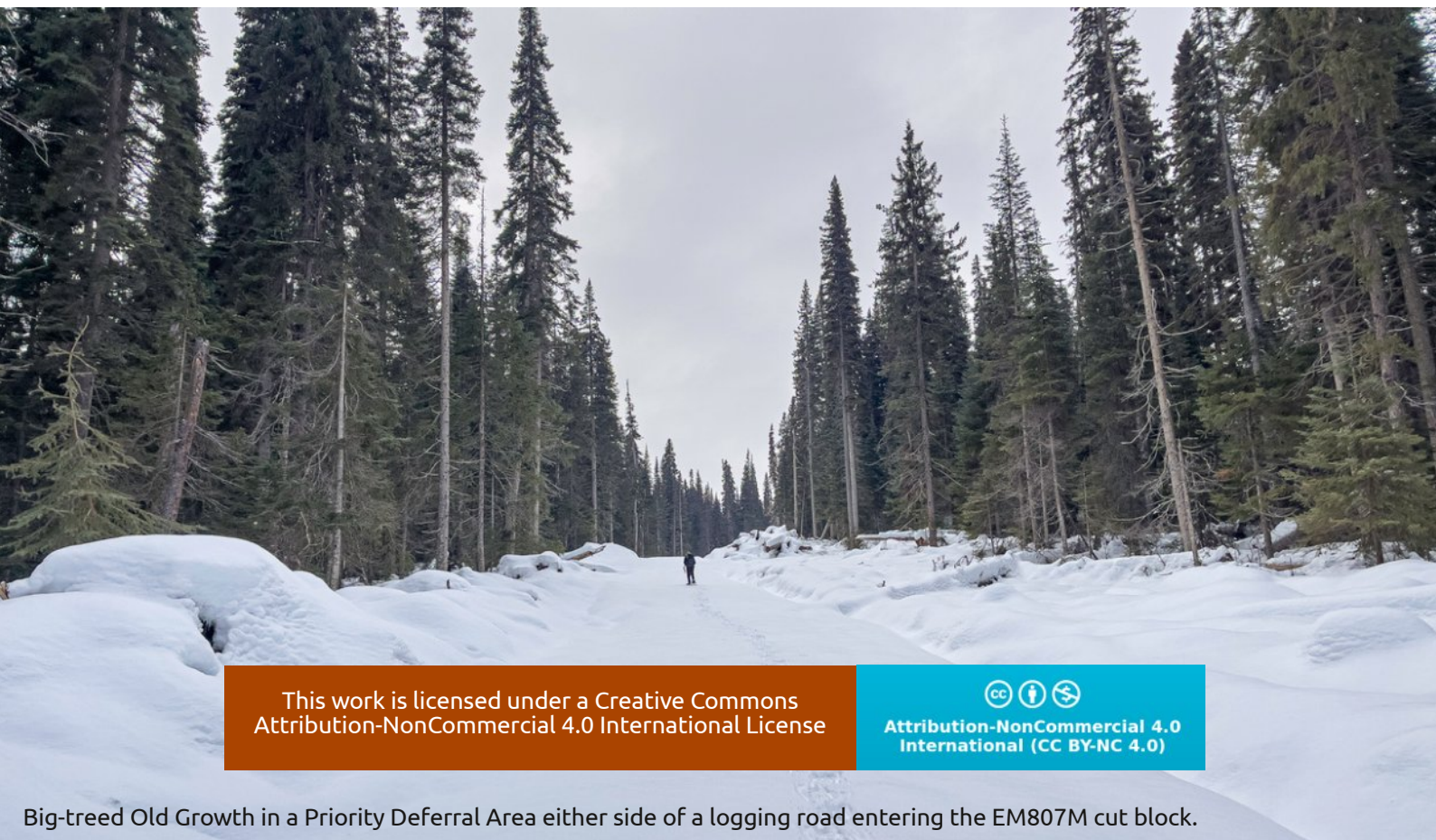
This investigation has uncovered clear evidence that throughout 2023 Drax regularly sourced whole trees from timber marks corresponding to cut blocks containing Old Growth forest, including Big-treed Old Growth and Ancient Forest within Priority Deferral Areas. Large quantities of such logs went to Drax's pellet mills in Smithers and Burns Lake, and smaller quantities to the Houston mill. According to the available data, West Fraser Mills delivered the greatest number of loads of logs from cut blocks containing Old Growth forest and Priority Deferral Areas. Canfor is the second largest source of logs from these forest types.

As there is no publicly-available spatial data for loads originating from Community Forest Agreements, First Nations Forestry Agreements and private land, it is not possible to assess the forest types from which almost

half of the loads of logs delivered to Drax mills in 2023 originated. On top of this, the likelihood that large volumes of logs are being chipped before arriving at the mills means that this investigation is almost certainly underestimating the scale of Drax's sourcing of logs from Old Growth forest. Drax's sourcing of logs is also likely to have resulted in huge amounts of additional logging of Old Growth due to BC's Grade 4 credit system.

Both Drax and the logging companies it sources from are complicit in the destruction of globally-important Old Growth forest, and the BC government enables this destruction, most significantly by permitting the industrial logging of Priority Deferral Areas, which **continues unabated in much of the province.**

As the global biodiversity crisis intensifies, BC must stop allowing the logging of all Primary (never-logged) forest for any purpose. This includes Old Growth and Priority Deferral Areas, but also Primary forest that has had a recent fire or insect outbreak. Moreover, both the UK and Japan governments must end the renewable energy subsidies for burning wood pellets that make Drax's business model, including its practices in BC, possible.



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Big-treed Old Growth in a Priority Deferral Area either side of a logging road entering the EM807M cut block.