



GREENPEACE

EYE ON THE TAIGA

**HOW INDUSTRY'S CLAIMED
'SUSTAINABLE FORESTRY'
IN RUSSIA IS DESTROYING THE
GREAT NORTHERN FOREST**

The timber sector in Arkhangelsk Oblast is still heavily reliant on the logging of Intact Forest Landscapes to maintain the large inputs of softwood timber needed to feed the increasing demand from the area's expanding sawmills and pulp mills.





CONTENTS

EYE ON THE TAIGA: HOW INDUSTRY'S CLAIMED 'SUSTAINABLE FORESTRY' IN RUSSIA IS DESTROYING THE GREAT NORTHERN FOREST	1
SUMMARY	4
SECTION 1: GLOBAL CONTEXT TO PROTECTING THE GREAT NORTHERN FOREST	8
SECTION 2: INDUSTRY'S CONTINUED DEPENDENCE ON INTACT FOREST LANDSCAPE DESTRUCTION	16
SECTION 3: THE BATTLE TO PROTECT THE DVINSKY FOREST – AN IFL BIODIVERSITY HOTSPOT	20
SECTION 4: MARKETS FOR KEY INDUSTRY PLAYERS IN ARKHANGELSK OBLAST	26
SECTION 5: WILL FOREST CERTIFICATION PROTECT IFLS IN ARKHANGELSK?	28
REPORT CONCLUSIONS	30
GREENPEACE DEMANDS	31
ACRONYMS AND BIBLIOGRAPHY	34
ENDNOTES	37

SUMMARY

The scale of this crisis in the Great Northern Forest can be judged from fact that this rate of IFL loss was over one-and-a-half times the average annual rate of deforestation in the Amazon rainforest for most of the same period.

THE EXTINCTION CRISIS – INTERNATIONAL COMMITMENTS TO HALVE GLOBAL FOREST LOSS BY 2020

Human activities are currently driving species to extinction at a rate 1,000 times the average natural rate over the past 65 million years. Habitat loss, including degradation and fragmentation, is the most important cause of this crisis. We must reduce the rate of habitat loss, and eventually halt it, if we are to protect biodiversity and maintain the ecosystem services vital to human wellbeing.

In 2010, under the legally binding UN Convention on Biological Diversity (CBD), governments worldwide agreed a series of targets to reduce biodiversity loss by 2020 – the Aichi Biodiversity Targets. Among other things, these targets require governments to accomplish **a minimum 50% reduction in the rate of loss of undisturbed primary forests** and other high biodiversity value habitats; **where feasible, this loss should be brought close to zero** (Aichi Target 5).¹

At the same time, each country must

contribute towards **protecting at least 17% of the world's terrestrial areas** important for biodiversity and ecosystem services (including primary forests) by means of 'ecologically representative and well connected systems of protected areas and other effective area-based conservation measures' (Aichi Target 11).²

THE GREAT NORTHERN FOREST – GLOBAL SCALE OF BOREAL FOREST DESTRUCTION

The boreal forest landscape that rings the subarctic, also known as the Great Northern Forest, represents nearly one-third of the forest left on Earth.³ Yet, only 2.8% of the Great Northern Forest is formally protected, compared with 27% of the world's tropical forest and 11.0% of its temperate forest.⁴

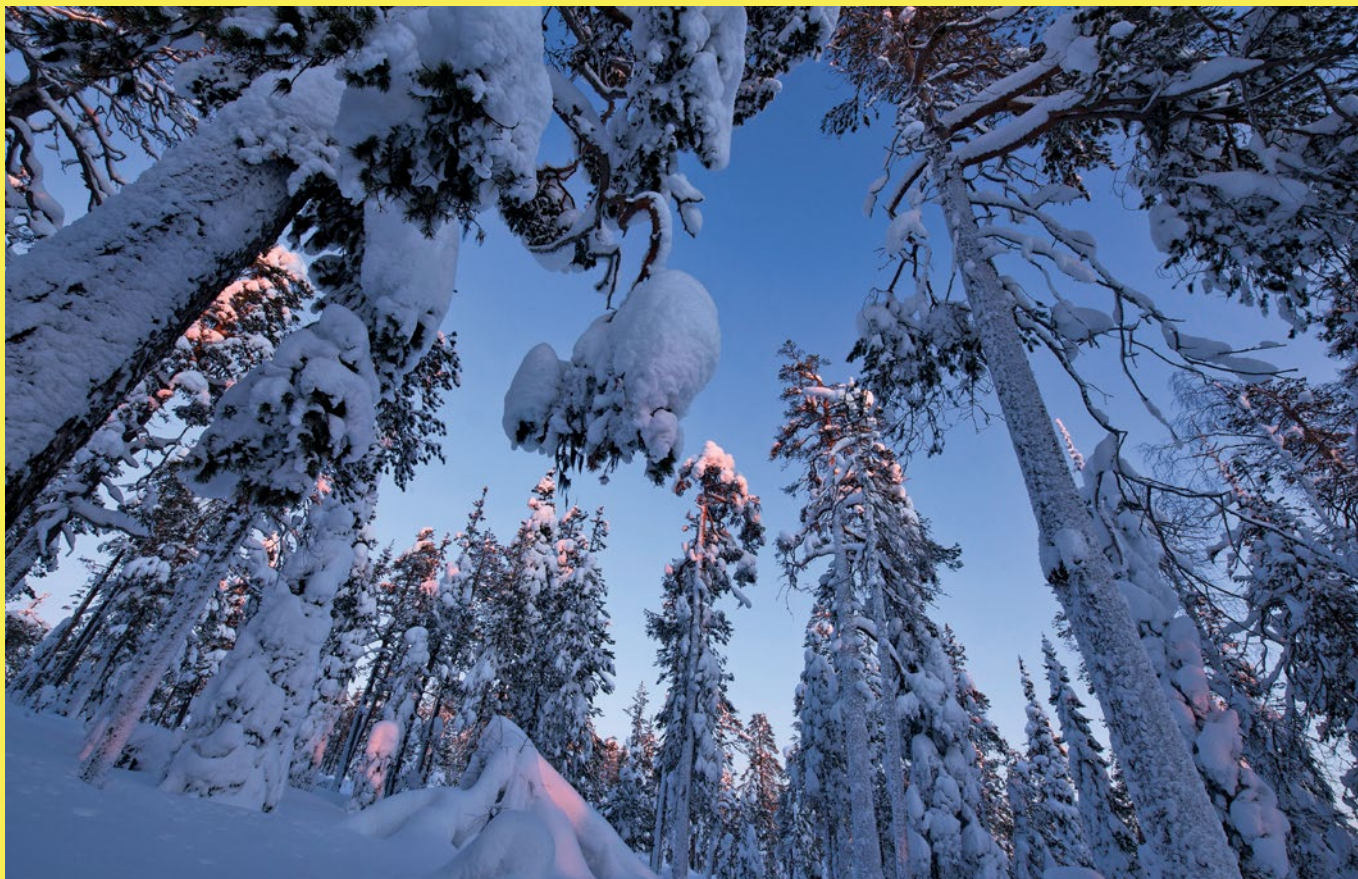
The Great Northern Forest includes nearly half the world's large tracts of undisturbed primary forest⁵ – so called Intact Forest Landscapes (IFLs)⁶ – which are extremely important because they support the full biodiversity native to their location (including top predators), store huge amounts of carbon⁷ and are more resilient to climate

change than other forests.⁸ It is home to a rich diversity of native mammals ranging from elk and deer, through beavers, wolverines and porcupines, to martens, squirrels and lemmings. Reindeer (caribou) live in the northern part of the forest and the tundra beyond. Large predators include black and brown (grizzly) bears, wolves and lynx.⁹

The Great Northern Forest includes nearly half the world's IFL area.¹⁰ Areas of IFLs are lost when the forest is clearcut, deforested or burnt but also when it is fragmented or degraded, since in the latter cases it ceases to be a continuous area of primary forest and so no longer counts as IFL. Between 2000 and 2013 the rate of IFL loss in the Great Northern Forest was around 2.5 million hectares (ha) per year.¹¹ **The scale of this crisis in the Great Northern Forest can be judged from fact that this rate of IFL loss was over one-and-a-half times the average annual rate of deforestation in the Amazon rainforest for most of the same period.**¹²

The Great Northern Forest is also home to hundreds of Indigenous communities, and other forest-dependent communities, who traditionally have been the stewards of their lands, rivers and marine areas.

A global approach to protecting the Great



© Markus Mauße / Greenpeace

Northern Forest requires the involvement of Indigenous Peoples, as they can play a vital role in reducing and / or halting the rate of forest loss, fragmentation or degradation.

EYE ON THE RUSSIAN TAIGA

Some 60% of the Great Northern Forest¹³ is located in Russia, where it is known as the Taiga. However, in 2013, less than a quarter of the Taiga remained as IFL.¹⁴ The forest is being carved up into ever smaller fragments by industrial exploitation and wildfires.¹⁵

Russia accounts for over half the total rate of IFL loss in the Great Northern Forest.¹⁶ Between 2000 and 2013, it lost around 1.36 million ha/year of IFLs within the Great Northern Forest.¹⁷

As of 2015, however, Russia had only 3.2% of its total forest area 'designated for conservation of biodiversity'.¹⁸ In theory, 24% of its total forest area is classified as 'protective forests' which are meant to be 'managed' for the 'protection of soil, water and other ecosystem services.' In reality, most of these are intensively logged.¹⁹

Forestry in the Taiga can best be described as 'timber mining'. Once logging companies have extracted the harvestable wood from

one area, they simply move their operations to a new area, with scant regard to the long-term management of the forest.

There is little sign of concrete steps being taken to slow the devastating loss of IFLs. Clearly, Russia will have to act fast if it is to halve primary forest loss by 2020 – the minimum required by Aichi Target 5 – or protect at least 17% of the Taiga – the minimum required by Aichi Target 11.

THE LAST IFL FRONTIERS OF ARKHANGELSK

The boreal zone of north-west Russia still boasts huge IFLs unmatched in other European countries for size and biodiversity. Most of the valuable coniferous forest left in the Arkhangelsk Oblast, at the heart of the region, is in IFLs. Analysis conducted by the Barents Protected Area Network (BPAN) – a joint government–NGO initiative²⁰ – has identified a serious shortfall in forest protection in the Arkhangelsk Oblast, taking as a benchmark the 'at least 17%' global goal from Aichi Biodiversity Target 11.²¹

Further protected areas, proposed but not yet implemented, could meet a large part of this shortfall. One of the most significant

of these is the 'Dvinsky Forest Reserve', covering a total area of 489,000 ha within the largest unprotected lowland IFL left in Arkhangelsk Oblast (see 'The battle for the Dvinsky Forest' below). Designation of this area would take protected area coverage of the central portion of the boreal zone within the oblast to nearly 15%. (see Section 1 of the main report for full analysis).

The timber sector in Arkhangelsk Oblast is still heavily reliant on the logging of IFLs²² to maintain the large inputs of softwood timber needed by the area's expanding sawmills and pulp mills.

Three companies – Pomor Timber, Arkhangelsk Pulp & Paper Mill (APPM) and the ICE Titan Group (Titan) – are in the process of expanding production capacity by constructing additional pulp lines or sawmills in Arkhangelsk Oblast. This, in turn, is expected to increase the demand for softwood sourced from the remaining IFLs in the region.

POMOR TIMBER'S EXPANSION PLANS

Pomor Timber has recently announced that in late 2018 it plans to build a new sawmill, increasing its consumption of coniferous

logs to 1.3 million m³/year.²³ In a recent article on its website,²⁴ the company calls on the regional government to support its investment by granting it an annual allowable cut of ‘not less than 2 million m³’.

APPM’S AND TITAN’S COMMON STRATEGY FOR EXPANSION

APPM has a long-term partnership with logging and timber company Titan, the sole supplier of raw wood materials to its pulp mill.²⁵ APPM and Titan are currently in the process of increasing their production capacity. **Their expansion plans would see the total wood supply to both APPM’s pulp mill and Titan’s sawmills increase from 4.5 million m³/year in 2015 to 7.8 million m³/year by 2025** (see Section 2 of the report for detailed calculations). The vast majority of APPM’s increased pulpwood demand, and all of Titan’s timber demand, will be for coniferous species, which are commonly sourced from IFLs or other primary forest in the area.²⁶

FUTURE OF THE TIMBER INDUSTRY IN ARKHANGELSK OBLAST

This rapid expansion is doing nothing to encourage a much-needed shift by the timber sector away from dependency on clearcutting of IFLs and towards a future based on the long-term management of secondary forest. Nor is it encouraging a more long-term approach among the political ambitions of the Arkhangelsk Oblast regional parliament, which recently argued that the future of the local timber industry can only be secured by logging in IFLs.²⁷

THE BATTLE FOR THE DVINSKY FOREST – AN IFL BIODIVERSITY HOTSPOT

Both Pomor Timber and APPM/Titan are at the centre of an acute conflict over a long proposed plan to protect the core part of the Dvinsky Forest, an IFL biodiversity hotspot covering 835,000 ha and home to

one of the last remaining populations of the endangered wild forest reindeer (*Rangifer tarandus*).²⁸ It also provides important habitat for a number of species of mammals such as brown bear (*Ursus arctos*), wolverine (*Gulo gulo*) and lynx (*Lynx lynx*).²⁹

Only 60% (489,000ha) of the remaining Dvinsky Forest (IFL) has been earmarked for protection. While the proposed Dvinsky Forest Reserve was officially included in the Arkhangelsk Oblast’s Forest Plan, as well as its Territorial Planning Scheme, back in 2008, conflicts remain over the proposed protected area and its boundaries.

In the 15 years after it was first mapped in 2000, the Dvinsky Forest lost over 300,000 ha of IFL.³⁰ **As of 2016, 13 forest management units (FMUs) overlapped with three-quarters of the proposed reserve.**³¹ These FMUs were held by Solombalales Group (which supplies wood to Pomor Timber); APPM/Titan; and Region-Les LLC (which supplies wood to both Pomor Timber and APPM/Titan).

In December 2016 Titan and APPM issued a joint public statement supporting the proposed reserve, although they argued that its originally proposed boundaries should be renegotiated.³² Pomor Timber, on the other hand, has so far expressed clear opposition to the reserve.³³

Thus the future of the Dvinsky Forest Reserve, and other critically important IFLs in Arkhangelsk Oblast, continues to hang in the balance.

MARKETS FOR IFL DESTRUCTION

Of course, the logging of the Dvinsky Forest and other IFLs in Arkhangelsk Oblast and beyond would not be occurring were it not for markets willing to purchase the timber and pulp/paper products that originate there.

Russia’s boreal forest may seem unimaginably remote to most customers outside the country, but in fact the destruction of those forests is being driven by demand from a wide range of western European, American and Australian companies, some of which are household names and/or global brands. These companies have it in their power to help slow

the global loss of IFLs, either by changing suppliers or by insisting that their current suppliers adopt policies that protect IFLs.

POMOR TIMBER’S KEY EXPORT MARKETS FOR TIMBER

Pomor Timber’s customers in 2015³⁴ included **Stora Enso Bois** (France), which sells direct to timber merchants and industrial end users;³⁵ **Protac Ouest** (France), which specialises in the manufacture of wood products for the building trade, including decking, cladding for buildings, panelling and frames;³⁶ **Smartt Timber Sales B.V.** (Netherlands), which distributes softwood mainly to the Dutch, Belgian and German markets;³⁷ and **Churchill & Sim International Ltd** (UK), a softwood timber agent.

TITAN’S KEY EXPORT MARKETS FOR TIMBER

One of Titan’s key customers is **Bremer Holzwerke GmbH** (Germany), which sells to **Karibu Holztechnik GmbH**,³⁸ a company well known for its wooden saunas³⁹ which are sold to ‘over 500 DIY stores in Germany, as well as all over Europe.’⁴⁰ Another customer is the ISB Group (France),⁴¹ a big supplier of sawn timber to DIY stores and professional and industrial wholesalers⁴² such as **BigMat**, **Dora** and **Panofrance**.⁴³

APPM’S KEY MARKETS FOR PULP AND PAPER

According to APPM’s annual reports its key customers in Russia have included mills owned by some of the largest paper companies in the world,⁴⁴ including **SCA** (Sweden),⁴⁵ **Stora Enso** (Finland),⁴⁶ **Smurfit Kappa** (Ireland)⁴⁷ and **Ilim Group**⁴⁸ – a joint venture between Ilim (Russia) and **International Paper** (USA).⁴⁹

Two of APPM’s largest export customers for market pulp include **Arctic Paper Group** (Poland) and **Kiev Cardboard and Paper Mill** (Ukraine), a subsidiary of **Pulp Mill Holding GmbH** (Austria).⁵⁰

Arctic Paper's customers include publishing group **Random House Germany**⁵¹ and the paper merchant **Antalis** (part of the Sequana Group). Kiev Cardboard and Paper Mill's customers include **McDonald's, Pepsico, Nestlé, Unilever, Mondelez** (American multinational confectionery, food and beverage company), **Amtcor** (Australian multinational packaging company) and **Auchan** (French supermarket chain).⁵²

GREENPEACE DEMANDS ON PROTECTING THE GREAT NORTHERN FOREST

Greenpeace calls upon companies to prioritise the protection of Intact Forest Landscapes (IFLs) and other remaining forests supporting High Conservation Value (HCV) across the Great Northern Forest – the boreal forest ecosystem:

LOGGING COMPANIES:

Greenpeace is calling on companies to stop the destruction of the Great Northern Forest – the boreal forest ecosystem. Companies need to stop expanding industrial operations into the last remaining forest areas critical for biodiversity and the climate. They also need to respect the rights of Indigenous Peoples and make publicly available maps of their logging operations.

CORPORATE CONSUMER COMPANIES:

Greenpeace is calling on companies to phase out suppliers involved in the destruction of the Great Northern Forest, the boreal forest ecosystem. Companies need to ensure their suppliers respect the rights of Indigenous Peoples, as well as make publicly available maps of their logging operations. They also need to ensure products sourced from the boreal are traceable at every step of their supply chain.

For more detailed demands see Section 6 of the main report.



© Markus Mauthe / Greenpeace



© Igor Podgorny / Greenpeace



© Igor Podgorny / Greenpeace

*'Habitat loss, including degradation and fragmentation, is the most important cause of biodiversity loss globally... Reducing the rate of habitat loss, and eventually halting it, is essential to protect biodiversity and to maintain the ecosystem services vital to human wellbeing.'*⁵³

– UN Convention of Biological Diversity (CBD) guide to achieving the Aichi Biodiversity Targets.

THE GREAT NORTHERN FOREST COVERS SOME 16 MILLION KM²



INTACT FOREST LANDSCAPE LOSS ACROSS THE GREAT NORTHERN FOREST (KEY COUNTRIES).²⁹

Countries within the Great Northern Forest	IFLs remaining in 2000 (ha)	IFLs remaining in 2013 (ha)	IFL loss 2000-2013 (ha)	IFL loss 2000-2013 (%)	Average annual loss (ha./year)
Russia	245,636,130	227,896,060	17,740,070	7.2	~ 1,364,620
Canada	276,817,420	264,278,950	12,538,470	4.5	~ 964,500
Norway	178,890	177,120	1,770	1.0	~ 136
Sweden	1,158,470	1,149,550	8,920	0.8	~ 686
Finland	974,510	972,080	2,430	0.2	~ 187
Alaska (USA)	42,248,640	39,761,160	2,487,480	5.9	~ 191,345
Total	567,014,060	534,234,930	32,779,130	5.8	~ 2,521,471



SECTION 1: GLOBAL CONTEXT TO PROTECTING THE GREAT NORTHERN FOREST

THE GLOBAL EXTINCTION CRISIS

Human activities are currently driving species to extinction⁵⁴ at a rate 1,000 times the average natural rate over the past 65 million years.⁵⁵

Across the world, natural habitats continue to decline as a result of destructive logging, mining, oil extraction, industrial agriculture and infrastructure development, which are decimating biodiversity and jeopardising the ecosystem services on which we all depend. In particular, the outright loss, degradation and burning of carbon-rich forests and peatlands threatens a massive release of greenhouse gases into the atmosphere, fatally undermining our efforts to slow the rate of global warming.

In order to protect biodiversity, to slow carbon dioxide emissions and to maintain the ecosystem services on which we all depend, it is vital that the rate of habitat loss is reduced and eventually halted.

In recent decades, global attention has focused on halting the devastating loss of tropical rainforests, on account of their enormous biodiversity and the huge quantities of carbon that they store.

Although worldwide attention rightly continues to be given to the alarming loss and degradation of tropical rainforests, a more global approach is urgently needed in the face of climate change and biodiversity loss. This would ensure that other threatened forest biomes that are also critically important for biodiversity protection and terrestrial carbon storage, such as the boreal forest, are not simply ignored.

Historically, fire and insects primarily drove the natural dynamics of the boreal forest; however, human-related activities and disturbances have increased during recent years.⁵⁶ Industrial logging, mining, fossil fuel extraction, road building and human-ignited wildfires⁵⁷ are all resulting in extensive forest loss in some regions, whereas other regions face heavy forest fragmentation and/or the threat of new exploitation.⁵⁸

THE GREAT NORTHERN FOREST – EARTH'S LARGEST TERRESTRIAL CARBON STORE

The boreal forest landscape, also known as the Great Northern Forest, represents nearly one-third of the forest left on Earth.⁵⁹ Yet, only 2.8% of the Great Northern Forest is formally protected, compared with 27% of the world's tropical forest and 11.0% of its temperate forest.⁶⁰

It's the second largest forest ecosystem in the world – after the tropical rainforests⁶¹ – and is home to a rich diversity of native mammals ranging from elk (moose) and deer, through beavers, wolverines and porcupines, to martens, squirrels and lemmings. Caribou or reindeer live in the northern part of the forest and the tundra beyond. The large predators of the forest include black and grizzly bears, wolves and lynx.⁶²

The Great Northern Forest stretches around the subarctic from Alaska, through Canada, Scandinavia and Finland and across Russia to Siberia, covering some 16 million square kilometres⁶³ – over twice the size of the Amazon rainforest.⁶⁴ Its extreme weather conditions give it a unique animal and plant diversity and, along with the shortness of the growing season, result in a tree cover dominated by slow-growing conifers.⁶⁵

Huge areas of peat soils and permafrost help to make the Great Northern Forest Earth's largest terrestrial carbon store, holding more carbon than all tropical rainforests together.⁶⁶ However, large-scale forest loss and degradation, mainly as a result of wildfires exacerbated by industrial logging, pests and disease,⁶⁷ threaten to change this carbon sink into a net source of greenhouse gases,⁶⁸ turning the forest from a brake on global warming into a contributor to it.

Ironically, climate change itself may pose the greatest threat to the Great Northern Forest's carbon storage function. The boreal zone is one of the fastest-warming parts of the planet,⁶⁹ causing temperature- and drought-related stresses on trees and leading to severe pest outbreaks.⁷⁰ These factors in turn result in more dead trees, which along with the drier conditions make the forest more prone to fire.⁷¹ Recent decades have seen increases in the area burned each year, a longer fire season and fires of greater intensity and heat.⁷²

However, logging and other industrial development, by degrading and fragmenting forests, have also contributed to the recent increase in fire frequency, particularly in Siberia.⁷³ The impact of logging is especially significant. Nearly two-thirds of boreal forest is now managed primarily for timber production (for example, 35–40% in Canada, 58% in Russia and 90% in Fennoscandia⁷⁴).⁷⁵ The slow-growing forest takes many years to regenerate after clearcutting; moreover its structural and biological diversity are decreased, along with its resilience to climate change.⁷⁶

THE IMPORTANCE OF PROTECTING INTACT FOREST LANDSCAPES

In view of its increasing vulnerability, there is an urgent need to preserve large intact areas of the Great Northern Forest in order to maximise its climate resilience, prevent emission of the carbon stored within its trees and soils and maintain its biodiversity. Large tracts of undisturbed 'primary forest'⁷⁷ – called Intact Forest Landscapes (IFLs)⁷⁸ – are able to support the complete ensemble of biological diversity native to their location (including top predators), contain a disproportionately high share of the world's forest carbon⁷⁹ and are known to be more resistant to climate change than second-growth and degraded forests.⁸⁰ So policies and measures that protect IFLs not only preserve the forest that is of highest conservation value, but also safeguard the forest that is likeliest to remain healthy and thus to continue storing globally significant amounts of carbon in the long term.

The Great Northern Forest includes nearly half the world's IFL area.⁸¹ Areas of IFLs are lost when the forest is clearcut,

deforested or burnt but also when it is fragmented or degraded, since in the latter cases it ceases to be a continuous area of primary forest and so no longer counts as IFL. Between 2000 and 2013 **the rate of IFL loss in the Great Northern Forest was around 2.5 million hectares (ha) per year.**⁸² **The scale of this crisis in the Great Northern Forest can be judged from the fact that this rate of IFL loss was over one-and-a-half times the average annual rate of deforestation in the Amazon rainforest for most of the same period.**⁸³

The Great Northern Forest is also home to hundreds of Indigenous communities, and other forest-dependent communities, who traditionally have been the stewards of their lands, rivers and marine areas. A global approach to protecting the Great Northern Forest requires the involvement of Indigenous Peoples, as they can play a vital role in reducing and / or halting the rate of forest loss, fragmentation or degradation.



© Markus Mauthe / Greenpeace



INTACT FOREST LANDSCAPES (IFLS) – DEFINITIONS

IFLs are extremely important in both climate and conservation terms, as they contain a disproportionately high share of the world's forest carbon, are large enough to sustain the complete ensemble of biological diversity native to their location, and are critical to the livelihoods of forest-dependent peoples living within and adjacent to them. They are large enough to host top predators as well as other endangered wildlife and to allow ongoing evolution, enabling many plant and animal species to adapt to changing ecological conditions as a result of climate change.⁸⁵

IFLs are defined as unbroken expanses of natural habitat (both forest and non-forested) within the current forest zone. These areas need to show no signs of significant human activity and large enough that all native biodiversity, including viable populations of wide-ranging species, can be maintained – in practice they are defined as being larger than 50,000 ha. They consist mainly of dense and open forest (covering 81 % of their area on average) with the remainder being swamp, rocky terrain, grassland, rivers, lakes and so on.⁸⁶

An area of IFL is classified as lost ('IFL loss') when the forest is cut into smaller fragments (e.g. through roadbuilding) or where there is tree cover loss (e.g. through clearcut logging, deforestation, fires, etc). If the remaining area of IFL falls below the minimum 50,000 ha threshold, then it too ceases to be an IFL.⁸⁷

THE CBD AICHI TARGETS – A GLOBAL COMMITMENT TO FOREST PROTECTION

In 2010, under the legally binding UN Convention on Biological Diversity (CBD), world governments agreed a series of targets to reduce biodiversity loss by 2020 – the Aichi Biodiversity Targets. Targets 5 and 11 are particularly relevant to preventing further loss of primary forest and IFLs.

Target 5 requires that **'By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.'** The CBD advises that 'The emphasis of this target should be on preventing the loss of high biodiversity value habitats, **such as primary forests**, ... and of ecosystems where continued loss risks passing "tipping points" that could lead to large scale negative effects on human well-being.'⁸⁸ To achieve this target, the governments of Canada, Finland, Russia, Sweden and Norway – which have all ratified the CBD – will need to reduce significantly the degradation and fragmentation of primary forests, and in particular IFLs.

Target 11 requires that **'By 2020, at least 17 per cent of terrestrial ... areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically**



The current model of forestry in Russia's boreal zone can best be described as 'timber mining'. Once logging companies have extracted the harvestable wood from one area, they simply move their operations to a new area.

representative and well connected systems of protected areas and other effective area-based conservation measures.' While this is a global goal, each country must develop and implement national action plans to contribute towards it.⁸⁹

EYE ON THE RUSSIAN TAIGA

Some 60% of the Great Northern Forest – totalling over 950 million ha⁹⁰ – is located in Russia, where it is known as the Taiga. The region provides habitat for a large number of endangered animals along with rare and endemic fungi, lichens and flowering plants.

In 2013, less than one-quarter of the Russian Taiga remained as IFLs⁹¹. These continue to be carved up into smaller and smaller forest fragments by industrial logging and exploitation, as well as wildfires.⁹² These impacts are greatest in the more southern portions of the Taiga, the most economically productive and biodiverse forest areas.⁹³

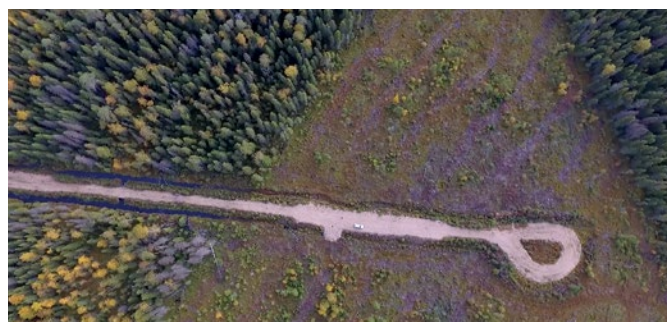
Russia has the highest rate of IFL loss of all countries in the Great Northern Forest that still have IFLs, accounting for over half of the loss.⁹⁴ Between 2000 and 2013, IFL loss (i.e. no longer as a continuous area of primary forest but fragmented or degraded) in Russia was around 1.36 million ha/year within the Great Northern Forest.⁹⁵ The scale of this crisis can be judged from the fact that

this rate of IFL loss was more than the average annual rate of deforestation in the Brazilian Amazon rainforest.⁹⁶ Clearly, Russia will have to act fast if it is to halve primary forest loss by 2020 – the minimum required by Aichi Target 5.

According to data reported to the Food and Agricultural Organisation (FAO), in 2015 Russia had only 3.2% of its total forest area within areas '**designated for conservation of biodiversity**' – i.e. a total of 26.5 million ha.⁹⁷ In addition, data shows that 24% of its total forest area is classified as 'protective forests' and hence 'managed' for the '**protection of soil, water and other ecosystem services**'.⁹⁸ Under this Russian 'protective forests' system such areas are supposed to be 'managed' for both environmental services and wood production,⁹⁹ but in reality, most have little or no environmental protection and are intensively logged.¹⁰⁰

For Russia to meet Target 11, it would therefore need either to increase its existing forest protected areas massively, or to reform the 'protective forests' system to provide adequate protection for IFLs and other primary forests – in either case by 2020.

In the last few years Russia has made some encouraging noises suggesting that it is aware of the need to address its forest protection, for example establishing a body called National Forest Heritage to fund the protection of forests not subject to economic



All photos © Greenpeace

development.¹⁰¹ More recently, President Putin himself has issued decrees to make 2017 the Russian Federation Year of Natural Protected Areas and Year of Ecology,¹⁰² and has signed into law an updated Federal Law on Environmental Protection,¹⁰³ Article 3 of which requires federal, regional and local authorities to prioritise the 'protection of natural ecosystems, landscapes and complexes'.

However, there is little sign of concrete steps being taken to slow the devastating loss of IFLs. Russia urgently needs to establish all the new protected areas that have already been proposed at both federal and regional levels as well as halting the destruction, fragmentation and degradation of IFLs by industrial logging and moving the country away from environmentally destructive forestry.

'TIMBER MINING' UNDER THE GUISE OF SUSTAINABLE FORESTRY

The current model of forestry in Russia's boreal zone can best be described as 'timber mining'. Once logging companies have extracted the harvestable wood from one area, they simply move their operations to a new area, with scant regard to the long-term management of the forest – and forestry regulations actively encourage this approach. Annual harvesting levels are set using

formulae unchanged since the Soviet system, which required the largest possible quantity of mature trees of commercial species to be harvested from a forest management unit (FMU), while providing a continuous supply of timber for at least 20 or 30 years.¹⁰⁴ To make matters worse, harvesting levels are very often set on the basis of out-of-date forest inventories that may exaggerate the volume of standing timber present,¹⁰⁵ meaning that FMUs get logged out even more quickly.

Clearcut areas of Taiga needs far longer than 20–30 years to regenerate into mature forest; what is more, without replanting and careful management, the regenerating forest tends to be dominated by species such as birch and aspen, of little value to the logging industry. It is far easier for companies simply to move into new areas of primary forest in search of mature timber. The low fees charged by the government for the logging of the high-quality conifers available in primary forest, and to fund the replanting of the logged forest, provide no financial motivation for logging companies to invest in well-managed forestry and move away from one-off clearcutting.

In short, Russia's model of forestry is based not on harvesting rates and management practices that can sustain the forest's ecological processes while providing a steady supply of commercial timber, but on sustaining the logging industry with a continuous supply of high-quality



trees by encouraging it to clearcut primary forest, including IFLs.

THE ARKHANGELSK FOREST FRONTIER

The boreal zone of north-west Russia used to contain a vast expanse of intact forest, and still boasts huge IFLs that have no match in Europe in terms of their size and biodiversity. However, the government's 'primary development of the Taiga' policy¹⁰⁶ has seen much of the region's forests suffer severe fragmentation or fundamental transformation. Decades of extensive clearcutting and a lack of effective reforestation have resulted in a serious depletion of valuable coniferous species, leading logging companies to turn their attention towards ever more remote IFLs across the region. Unfortunately, many of these areas have no protected status.¹⁰⁷

The regional centre of north-west Russia is the city of Arkhangelsk, situated about 1,000 km to the north of Moscow and about 1,000 km north-east of Saint Petersburg.¹⁰⁸ Covering a land area of 59 million ha,¹⁰⁹ the Arkhangelsk Oblast, of which Arkhangelsk is the capital, has become one of the 'wood mining' forest frontiers targeted by the logging industry. Most of the valuable coniferous forest left in the Arkhangelsk Oblast, especially spruce forest, is in IFLs.

As in the wider Barents Euro-Arctic Region, the statutory protected area coverage for the boreal zones in Arkhangelsk Oblast falls well short of the Aichi 17% figure, with coverage worsening towards the south.

The Arkhangelsk Oblast contains around 10% (4,955,200 ha) of the northern boreal zone within the Barents Euro-Arctic Region.¹²³ As of March 2013, over 14% (711,000 ha)¹²⁴ of this was in protected areas and an additional 408,700 ha¹²⁵ had been proposed, which would bring coverage to 23% if implemented.¹²⁶

Arkhangelsk Oblast contains nearly 29% (13,305,300 ha)¹²⁷ of the middle boreal zone within the Barents Euro-Arctic Region.¹²⁸ As of March 2013, over 10% (1,396,400 ha)¹²⁹ of this was in protected areas and an additional 740,400 ha¹³⁰ had been proposed, which would bring coverage to 16% if implemented.¹³¹ Since the study was concluded, an additional 78,000 ha of the proposed areas has now been designated as a protected area, taking coverage to 11%.¹³²

The most significant and largest proposed protected area in Arkhangelsk Oblast is the 'Dvinsky Forest Reserve' (see the section below – the Battle for the Dvinsky Forest), covering a total area of 489,000 ha within the largest unprotected IFL left in the middle boreal zone. Designation of this area would take coverage to nearly 15%.

Arkhangelsk Oblast contains 46% (12,360,000 ha)¹³³ of the southern boreal zone within the Barents Euro-Arctic Region.¹³⁴ As of March 2013, nearly 3% (345,200 ha)¹³⁵ of this was in protected areas and an additional 139,800 ha¹³⁶ had been proposed, which would bring coverage to 4% if implemented.¹³⁷ An additional 1,561,100 ha of protected areas would still be needed to meet the 'at least 17%' target. However, this is unlikely to be feasible given the lack of surviving HCV forests in the southern boreal zone.



© Greenpeace

A PROTECTED AREA NETWORK FOR THE EUROPEAN BOREAL ZONE – MEETING AICHI BIODIVERSITY TARGET 11

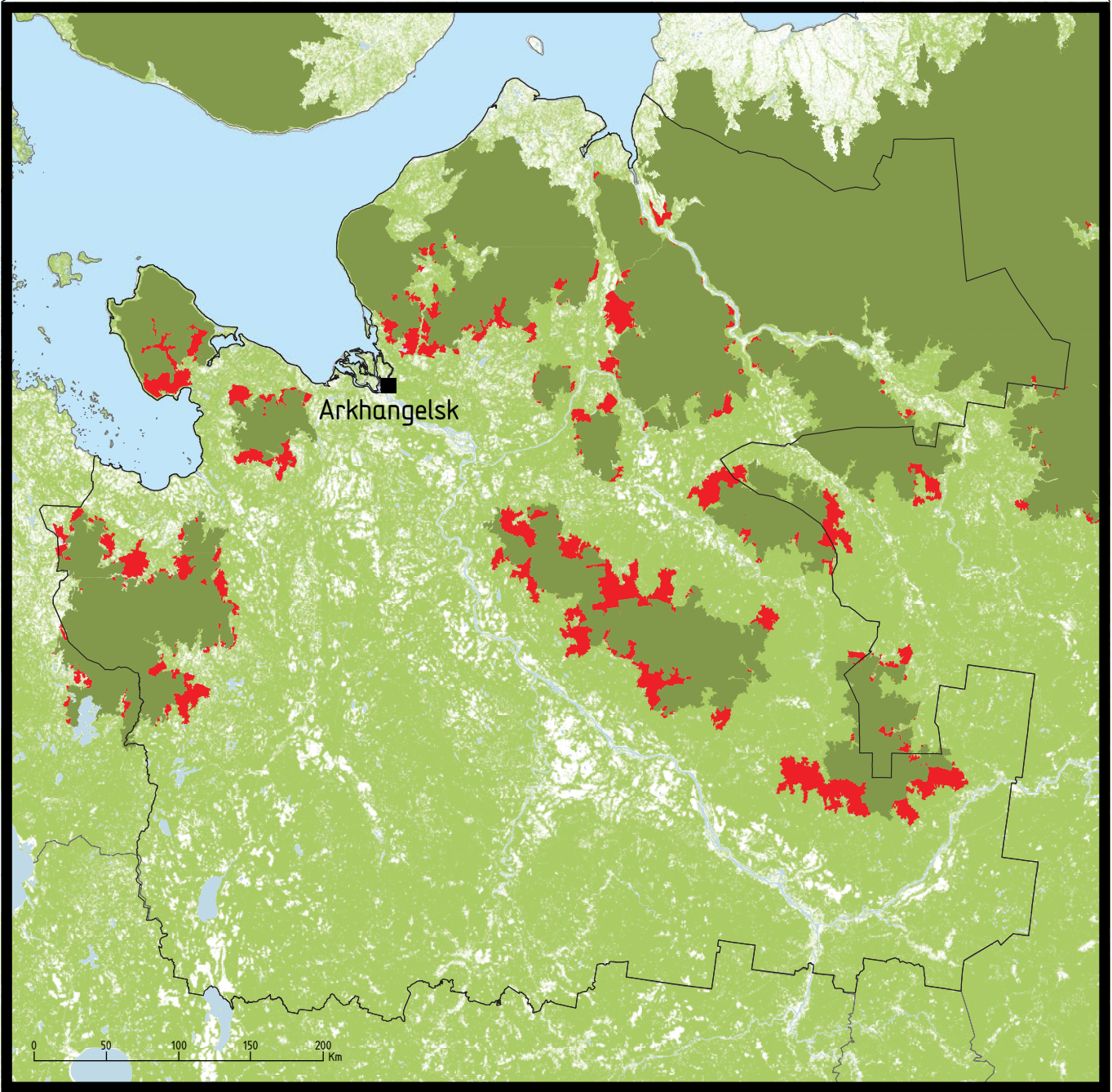
The Barents Protected Area Network (BPAN) is a joint government–NGO initiative¹¹⁰ to promote the establishment of a representative protected area network in the Barents Euro–Arctic Region,¹¹¹ in order to conserve the biodiversity of the boreal and Arctic zones, and in particular their forests and wetlands.¹¹² The project is funded by the Nordic Council of Ministers, the governments of Finland, Sweden and Norway, and WWF's Barents Sea Office.¹¹³

The Barents Euro–Arctic Region (BEAR) covers some 180 million ha, of which 75% is in north–west Russia.¹¹⁴ The BPAN project has adopted as a benchmark the advisory 'at least 17%' protected areas level from Aichi Biodiversity Target 11.¹¹⁵

Over two-thirds of the total terrestrial area of the Barents Euro–Arctic Region falls within the boreal zone, and over two-thirds (89.2 million ha) of this lies within northwest Russia.¹¹⁶ The boreal zone is divided by the BPAN project into the northern boreal zone (52% of which is in Russia), the middle boreal zone (79% in Russia) and the southern boreal zone (almost all – 99% – in Russia).¹¹⁷ The southern boreal zone has the most biologically productive forests in the boreal, and hence is the prime target of the logging industry.

As of March 2013, the northern boreal zone (generally less threatened than other zones) has about twice the percentage of protected area as the middle boreal zone, which in turn has about twice the percentage of protected area as the southern boreal zone.¹¹⁸ No country achieves the 'at least 17%' threshold in the middle or southern boreal zones, with Sweden having the highest level of protection of its territory within either zone (10.6% in the southern boreal zone), followed by Russia (9.5% in the middle boreal zone).¹¹⁹ For the southern boreal zone as a whole, the protected area coverage is far below the 17% threshold, standing at 3.8%¹²⁰ (i.e. around 990,000 ha) out of a total of 26.1 million ha.¹²¹ However, there are few remaining large areas of High Conservation Value (HCV) forest left in the southern boreal zone – such areas as do remain are mostly limited to small fragments.¹²²

**IFL LOSS IN
ARKHANGELSK
OBLAST, 2000-16**



* © Hansen/UMD/Google/USGS/NASA

- IFL 2016
- Tree canopy cover >20%, 2000*
- IFL loss 2000-2016
- Arkhangelsk oblast

SECTION 2: INDUSTRY'S CONTINUED DEPENDENCE ON IFL DESTRUCTION IN ARKHANGELSK OBLAST

The timber sector in Arkhangelsk Oblast is still heavily reliant on the logging of IFLs (nearly all coniferous forests)¹³⁸ to maintain the large inputs of softwood timber needed to feed the increasing demand from the area's expanding sawmills and pulp mills.

Pomor Timber, Arkhangelsk Pulp & Paper Mill (APPM) and the ICE Titan Group (Titan) are all currently in the process of expanding production capacity either through construction of additional pulp lines or through construction of additional saw mills located in Arkhangelsk Oblast. This, in turn, is expected to increase the demand for softwood sourced from the remaining IFLs in the region.

All companies hold certification under the Forest Stewardship Council (FSC) system, a global forest certification organisation dedicated to promoting responsible management of the world's forests. See later section 'Will forest certification protect IFLs in Arkhangelsk' for discussion on Motion 65 and FSC certification.

1. POMOR TIMBER – THE REBIRTH OF THE BANKRUPT SOLOMBALALES GROUP

Pomor Timber currently does not hold any Forest Management Units (FMUs). It holds an FSC chain-of-custody (COC) certificate¹³⁹ which allows it to source FSC Controlled Wood and FSC Mixed Wood (i.e. a mixture of forest management-certified wood from third parties and FSC Controlled Wood) from third-parties.

The company recently bought the Solombala sawmill from the Solombalales Group, which has been in bankruptcy proceedings since late 2014.¹⁴⁰ The acquisition took place with the support of MKB Capital,¹⁴¹ a Russian management company,¹⁴² and the company is largely owned through a company registered in Cyprus: Kalia Properties Ltd.¹⁴³

The Solombalales Group is owned by UK Solombalales LLC (Russia) and included Solombala Sawmill OJSC and Solombala Pulp and Paper Mill.¹⁴⁴

In 2015, state-owned Eximbank of Russia provided a RUB 350 million (US\$ 5.8 million) loan to Pomorskaya Lesopilnaya Kompaniya (Pomor Timber LLC) for the 'purposes of maintenance and restoration' of timber production in the Solombalsky district of Arkhangelsk Oblast, as well as to increase timber exports from the region.¹⁴⁵ Eximbank's stated mission is to 'provide Russian exporters with access to convenient credit instruments and to create an infrastructure that will enhance the competitiveness of our national business abroad'.¹⁴⁶

Pomor Timber's website¹⁴⁷ states that in 2015 the company expected to process 300,000 m³ of coniferous logs, increasing to 400,000 m³ in 2016; coniferous logs are commonly sourced from IFLs or other areas of primary forest (which are normally dominated by spruce species).¹⁴⁸

According to the Russian Les-EGAI database,¹⁴⁹ in 2015–16 Pomor Timber's main suppliers were the Region-Les Group and Solombalales Group, through Solombala Sawmill OJSC¹⁵⁰ and Solombalskaya Lesnaya Kompaniya LLC (logging company).¹⁵¹

POMOR TIMBER'S EXPANSION PLANS

Pomor Timber has recently announced that in late 2018 it plans to build a new sawmill in the same timber-processing complex as the existing sawmill,¹⁵² which will increase the company's consumption of coniferous logs to 1.3 million m³/year.¹⁵³ It also expects to start pellet production (using sawdust from the sawn timber production) in late 2017,¹⁵⁴ with a total production of 150,000 tonnes/year.¹⁵⁵

In a recent article on Pomor Timber's website,¹⁵⁶ the company argues it needs the regional government to support the investment project by granting it an annual allowable cut of 'not less than 2 million m³, including 531,000 m³ of annual allowable cut, historically assigned to the Solombala sawmill'.

THE SOLOMBALALES GROUP'S PLAN FOR A NEW PULP MILL

In 2008, Solombalales Group declared its intention to build a new pulp mill in Arkhangelsk Oblast with a production capacity of 280,000 tonnes per year, requiring 714,500 m³ of logs per year.¹⁵⁷ The project was listed by the Ministry of Industries and Trade of the Russian Federation as a priority investment.¹⁵⁸

In 2011, the intention of this investment project was changed to the building of a sawmill. Around the same time, the whole pulp mill project was excluded from the Ministry's list of priority investments. But announcements of the plan to build a new pulp mill (without details of its proposed production capacity) continued to be made until 2013.¹⁵⁹ Even now the plan for the new pulp mill has not been officially rejected.

2. APPM'S PARTNERSHIP WITH TITAN

Arkhangelsk Pulp & Paper Mill (APPM) has a long-term partnership with the ICE Titan Group (Titan), the sole supplier of raw wood materials to its pulp mill.¹⁶⁰ Together Titan and APPM holds FSC-certified FMUs covering 2.27 million ha in Arkhangelsk Oblast.¹⁶¹

APPM, owned by Pulp Mill Holdings GmbH (Austria/Germany),¹⁶² is one of the major pulp and paper companies operating in European Russia.¹⁶³

Titan is largely owned by Shelbyville Enterprises Limited,

a trust company registered in Cyprus.¹⁶⁴ The group owns the largest sawmill in north-west Russia, known as Sawmill 25,¹⁶⁵ which produces around 500,000 m³/year of softwood sawn timber (65% spruce and 35% pine),¹⁶⁶ almost all for the export market.¹⁶⁷ In 2016, Titan increased its sawmill capacity by buying the Arkhangelsk LDK-3 sawmill from RusForest (Sweden).¹⁶⁸

APPM'S AND TITAN'S COMMON STRATEGY FOR EXPANSION

APPM and Titan are currently in the process of increasing their production capacities. Under their existing expansion plans,



the total demand for wood to be supplied to both APPM's pulp mill and Titan's sawmills, by Titan itself or third parties, would increase from **4.5 million m³/year** in 2015 to 7.8 million m³/year by 2025, as set out below.

The vast majority of APPM's increased pulpwood demand, and all of Titan's timber demand, will be for coniferous species, which are commonly sourced from IFLs or other areas of primary forest (which are normally dominated by spruce species).¹⁶⁹

TITAN'S EXPANSION PLANS

Titan's 'Sawmill 25' currently consumes around 1.1 million m³ of coniferous logs each year.¹⁷⁰ In a statement made in an article on Titan's website, the director of Sawmill 25 stated that half of the log volume consumed by the sawmill comes from FMUs that the group operates, with the remainder coming from third parties.¹⁷¹

The 1.1 million m³ figure implies that Titan's existing sawmill capacity requires a total forest supply area (including from third parties) with a combined annual allowable cut of roughly 4.4 million m³, given that the company states that only 25% of combined annual allowable cut consists of coniferous logs suitable for its sawmills.¹⁷² This implies that a large percentage of the remaining 75% (3.3 million m³)¹⁷³ would be available to APPM as pulpwood logs.

The acquisition of the LDK-3 sawmill will increase the group's demand for coniferous logs – commonly sourced from IFLs or other primary forests in the region – for sawmilling by an additional 400,000 m³/year (i.e. **from 1.1 million m³/year to 1.5 million m³/year**) by 2018.¹⁷⁴

APPM'S EXPANSION PLANS

In 2015, APPM sourced around 3.4 million m³ of pulpwood from Titan:¹⁷⁵ just over half of this was softwood.¹⁷⁶ APPM's overall annual wood demand is predicted to increase dramatically to **6.3 million m³** by 2025 to meet the company's pulp mill expansion plans, some of which have already been implemented.

Hence, assuming that Titan remains APPM's exclusive supplier, supplying wood from its own logging operations and third parties, the company would need to supply at least an additional 2.9 million m³/year to meet APPM's projected pulpwood demand of 6.3 million m³/year as of 2025. The vast majority of this increased pulpwood demand will be for coniferous species, which are commonly sourced from IFLs or other areas of primary forest (which are normally dominated by spruce species)¹⁷⁷

- In 2016, APPM increased its production of semi-chemical hardwood pulp from 173,300 tonnes/year¹⁷⁸ to 345,000 tonnes/year.¹⁷⁹ According to APPM's own conversion rate¹⁸⁰ this expansion will have led to an increase in APPM's hardwood log demand of up to

500,000 m³/year.¹⁸¹ Presumably, this increased demand is being largely sourced from secondary regrowth forests in the region, which are dominated by hardwood species.

- In November 2016, APPM announced further pulp mill expansion plans: by 2025, the company will install another pulp line at its existing mill that will have an additional output capacity of 500,000 tonnes/year of bleached softwood pulp (market pulp). According to APPM's own conversion rate,¹⁸² this expansion will lead to an increase in APPM's softwood log demand of 2.4 million m³/year. This is likely to be sourced from IFLs or other primary forests in the region, which are dominated by coniferous species.

BUSINESS-AS-USUAL EXPANSION VS LONGER TERM VIABILITY OF THE INDUSTRY

The rapid expansion in mill production capacities in Arkhangelsk Oblast, as described above, is doing nothing to encourage a much-needed systematic shift away from the timber sector's business-as-usual dependency on clearcutting of IFLs and towards a future based on the long-term management of secondary forest following regrowth.

In September 2016, the Arkhangelsk Regional Assembly of Deputies (the regional parliament of Arkhangelsk Oblast) argued that the future of the timber industry in Arkhangelsk Oblast can only be secured by logging in IFLs.¹⁸³

The Assembly sent a letter to the Minister of Natural Resources and Ecology of the Russian Federation, related to the 'issue of reducing the negative consequences associated with the adoption of [FSC Motion 65] by the General Assembly of the Forest Stewardship Council'. The letter argues that:¹⁸⁴

'In a number of regions of Russia, where logging is conducted in IFLs, or IFLs are planned for development, [FSC] forest certification with **strict adherence to Motion 65 becomes virtually impossible, because logging in these regions may only be possible in IFLs.**'

In September 2014, the FSC General Assembly passed Motion 65 – a high-level request for action – intended to 'protect the vast majority of IFLs' within FSC-certified FMUs.¹⁸⁵ In December 2016, the FSC issued an Advice Note requiring all certificate holders (companies) and certification bodies operating in countries where IFLs exist to apply the original default indicator of Motion 65. Specifically, the Advice Note requires at least 80% of the IFL within the certificate holder's FMUs to be off limits to any harvesting or roadbuilding.¹⁸⁶

The protection measures included in this Advice Note, as well as from the final national standards, could impact long-term wood supply for FSC companies logging within IFLs.

See later section 'Will forest certification protect IFLs in Arkhangelsk' for discussion on Motion 65 and FSC certification



© Antti Leinonen / Greenpeace



© Antti Leinonen / Greenpeace



3. © Markus Mauthe / Greenpeace



© Antti Leinonen / Greenpeace



© Antti Leinonen / Greenpeace



© Antti Leinonen / Greenpeace

SECTION 3: THE BATTLE TO PROTECT THE DVINSKY FOREST – AN IFL BIODIVERSITY HOTSPOT

In the 15 years since the IFL was first mapped in 2000, the Dvinsky Forest has lost over 300,000 ha.

7



© Antti Leinonen / Greenpeace

- 1 Great grey owl (*Strix nebulosa*)
- 2 Wolverine (*Gulo gulo*)
- 3 Lynx (*Lynx lynx*)
- 4 Brown bear (*Ursus arctos*)
- 5 Grey wolf (*Canis lupus*)
- 6 Wild forest reindeer (*Rangifer tarandus*)
- 7 Golden eagle (*Aquila chrysaetos*).

The most significant and largest proposed protected area in Arkhangelsk Oblast covers the core part of the largest unprotected IFL left in the middle boreal zone of Arkhangelsk Oblast – the Dvinsky Forest.

In the 15 years since the IFL was first mapped in 2000, the Dvinsky Forest has lost over 300,000 ha.¹⁸⁷ This biodiversity hotspot – predominately a spruce forest¹⁸⁸ – provides important habitat for a number of species of mammals such as brown bear (*Ursus arctos*), wolverine (*Gulo gulo*), grey wolf (*Canis lupus*), lynx (*Lynx lynx*), Eurasian otter (*Lutra lutra*), European pine marten (*Martes martes*), red fox (*Vulpes vulpes*) and one of the last remaining populations of the endangered wild forest reindeer (*Rangifer tarandus*).¹⁸⁹

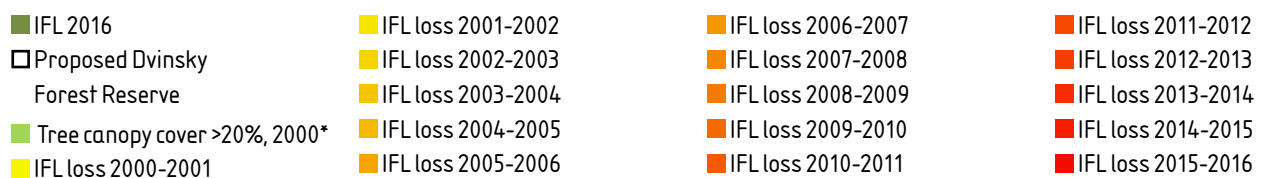
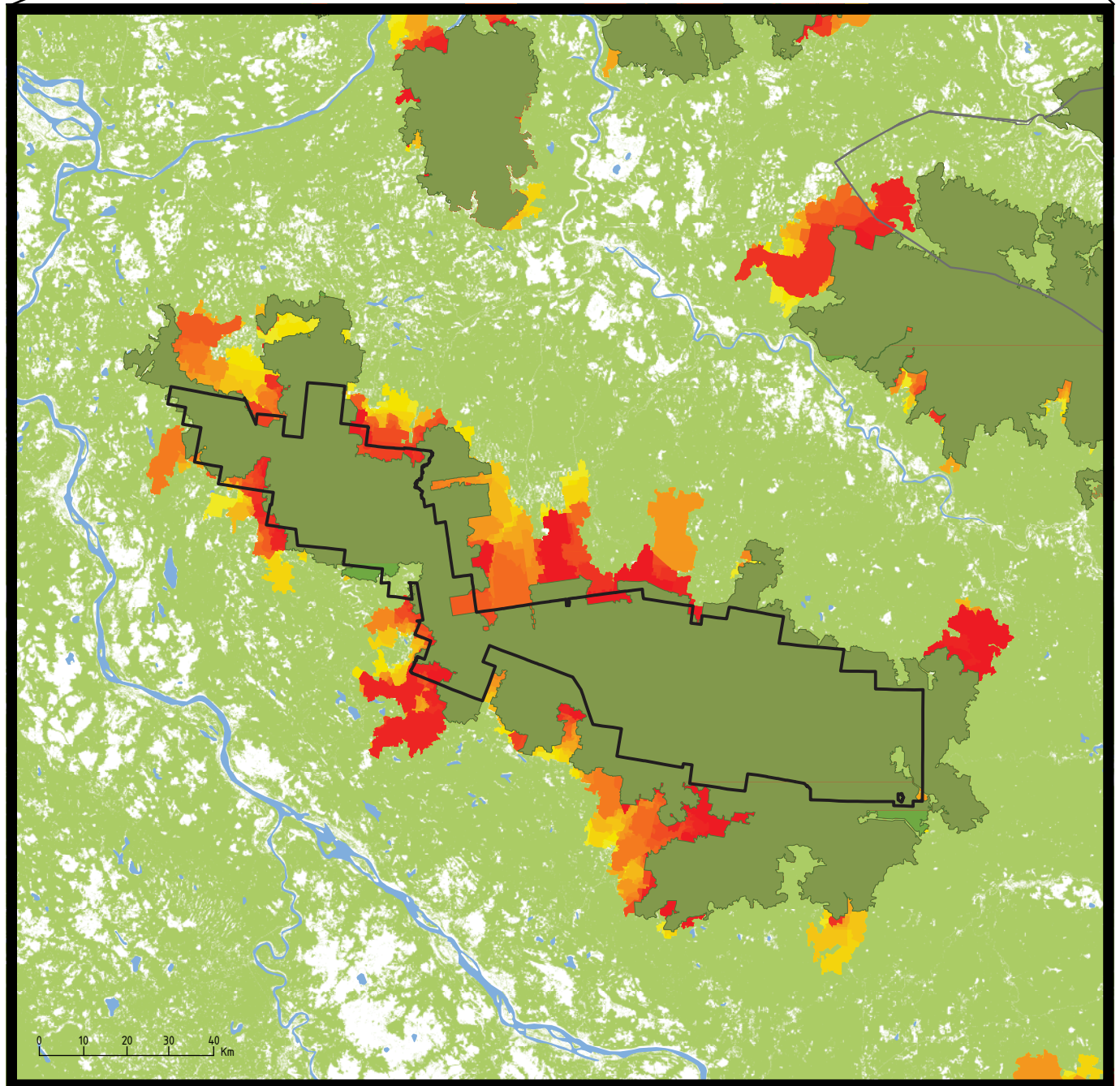
It is of critical importance for many species included in the Red Data Books of the Russian Federation and Arkhangelsk Region, including many bird species such as the golden eagle (*Aquila chrysaetos*), Eurasian eagle-owl (*Bubo bubo*), Eurasian hobby (*Falco subbuteo*), Eurasian pygmy owl (*Glaucidium passerinum*) and great grey owl (*Strix*

nebulosa).¹⁹⁰ It also hosts threatened species of plants (e.g. *Cypripedium calceolus*, *Dactylorhiza traunsteineri*, *Paeonia anomala*) lichens (e.g. *Bryoria fremontii*, *Lobaria pulmonaria*), and mosses (e.g. *Sphagnum subfulvum*).¹⁹¹ The rivers that flow through the Dvinsky Forest provide vital spawning grounds for Atlantic salmon (*Salmo salar*)¹⁹² – around 10% of the salmon spawning rivers in the Arkhangelsk Oblast.¹⁹³

The proposed Dvinsky Forest Reserve – now covering 489,000 ha of the IFL – is recognised as a conservation priority by the BPAN project, which promotes the establishment of a representative protected area network in the Barents Euro-Arctic Region in order to conserve the biodiversity of the boreal and Arctic zones, particularly their forests and wetlands.¹⁹⁴

While the proposed reserve was officially included in the Arkhangelsk Oblast's Forest Plan, as well as its Territorial Planning Scheme, back in 2008, conflicts remain over the proposed protected area and its boundaries. Pomor Timber and APPM/Titan, together with their suppliers, are at the centre of this acute conflict

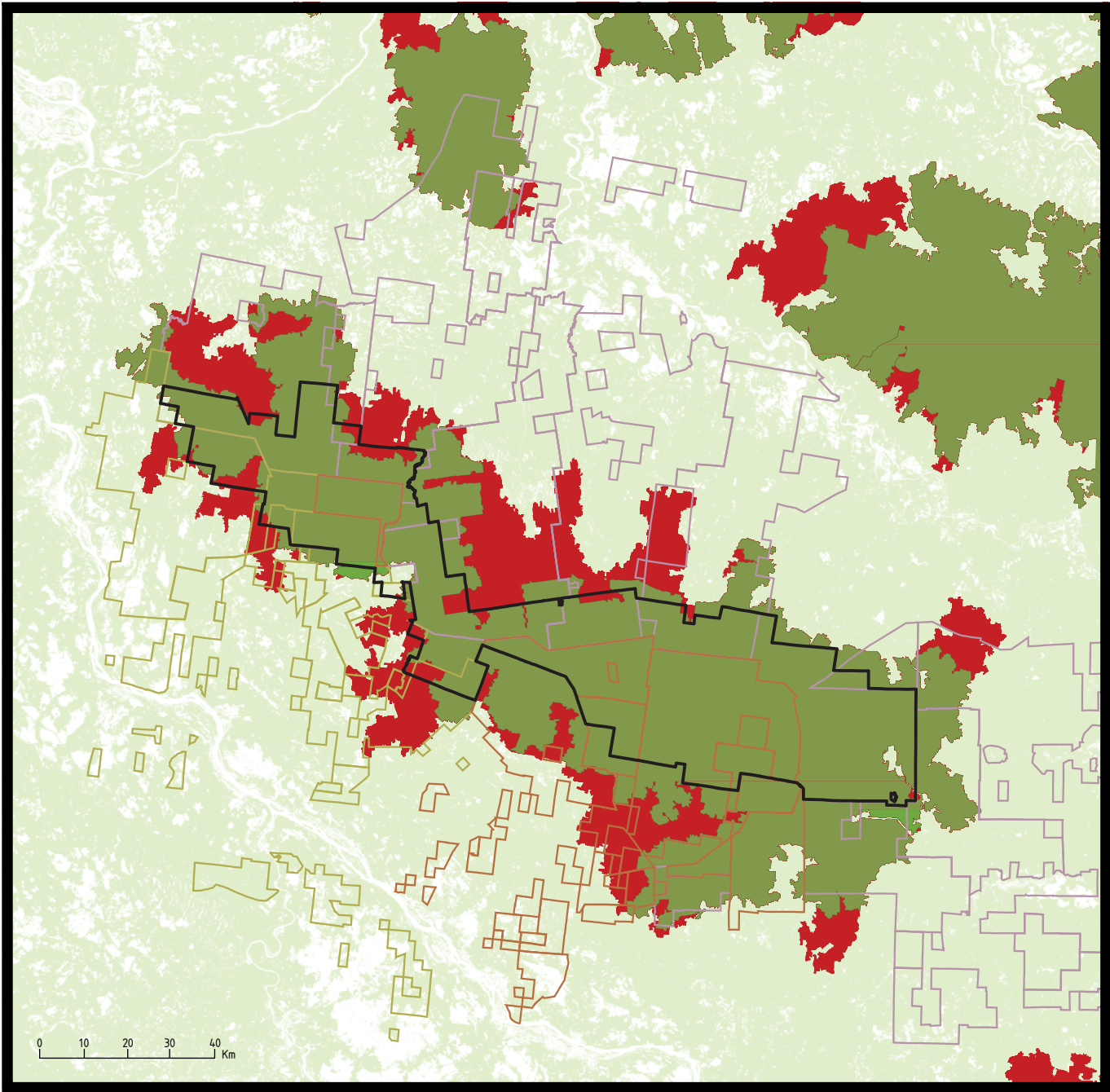
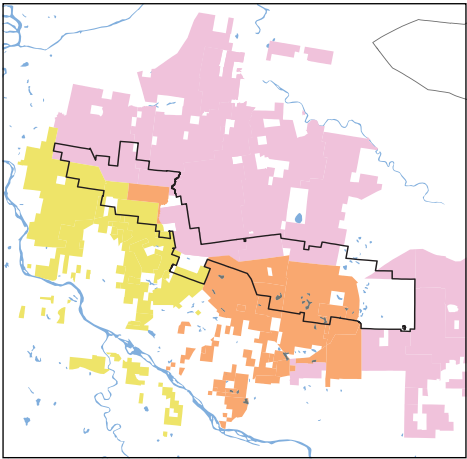
IFL LOSS IN THE DVINSKY IFL, 2000-16



* © Hansen/UMD/Google/USGS/NASA

As of 2016, 835,000ha of the Dvinsky Forest remains, with 13 Forest Management Units overlapping with three-quarters of the proposed reserve

Proposed Dvinsky Forest Reserve
Titan / APPM
Solombalales
Region-Les



* © Hansen/UMD/Google/USGS/NASA

IFL 2016
Tree canopy cover >20%, 2000*
Proposed Dvinsky Forest Reserve
Forest Loss 2000-2016
Titan / APPM
Solombalales
Region-Les

THE DVINSKY FOREST – ONE OF THE FIRST IFLS TO BE MAPPED, BUT STILL UNPROTECTED

CHRONOLOGY OF THE HISTORY BEHIND THE PROPOSED DVINSKY FOREST RESERVE

1990–2000: The concept of mapping IFLs began in Arkhangelsk Oblast. Using GIS-based forest cover analysis, Greenpeace published the world's first IFL map covering north-west Russia,¹⁹⁵ including Arkhangelsk Oblast. Since then, Greenpeace has published IFL maps for the rest of the world.

The final maps for Arkhangelsk Oblast¹⁹⁶ show a large IFL covering 1.14 million ha¹⁹⁷ in the area between the Northern Dvina and Pinega rivers, and later named the 'Dvinsky Forest'.

Following the publication of this regional IFL map, Greenpeace made the first attempts to persuade the Arkhangelsk Oblast government and logging companies operating within the IFL to protect it as the largest highly biologically productive lowland IFL left in the whole of the Oblast.

2001: The year saw the first FSC forest management certification in Arkhangelsk Oblast, covering an area of the Dvinsky Forest, managed by the German company Holz Dammers.¹⁹⁸ At the same time, the first logging moratorium agreement covering part of the IFL was signed between the same company and Greenpeace.¹⁹⁹

2004–2008: An updated IFL map of the region was produced by Greenpeace in 2004.²⁰⁰ It showed that the Dvinsky Forest was the most threatened IFL in the Arkhangelsk Oblast, with the fastest rate of loss due to logging and fragmentation by forest roads. Between 2004 and 2008, WWF organised several field trips to the Dvinsky Forest to collect evidence on species present in the area to support the scientific rationale for the creation of a regional protected area.²⁰¹

2008: For the first time, the area was officially proposed as a reserve and was included in the Forest Plan of the Arkhangelsk Oblast²⁰² – a document approved by the governor that determines forestry development in the Oblast for a decade. However, in the original edition of the Forest Plan the boundaries of the proposed Dvinsky Forest Reserve (Russian name Verkhnejulovsky) were not defined – they were supposed to be defined in the near future.

2011: A new edition of the Forest Plan was adopted:²⁰³ this time the proposed reserve was included with defined boundaries, covering 495,600 ha (in 2011) of the central part of the Dvinsky Forest IFL (in 2016, the proposed reserve now covers 489,000 ha of the IFL).²⁰⁴

2012: The Arkhangelsk Oblast's Territorial Plan – the main official document defining development plans throughout the region that is valid until 2030 – was approved by the governor of the Arkhangelsk Oblast.²⁰⁵ The proposed reserve was included in this plan with the

same boundaries as in the Forest Plan (albeit with less detail).

2013: WWF and the BPAN project published a 120-page study of the Dvinsky Forest's ecological importance, conducted by a team of specialists from research institutions in Arkhangelsk, St Petersburg and Moscow, and entitled *Landscape and biological diversity on the watershed between the Northern Dvina and Pinega rivers*.²⁰⁶

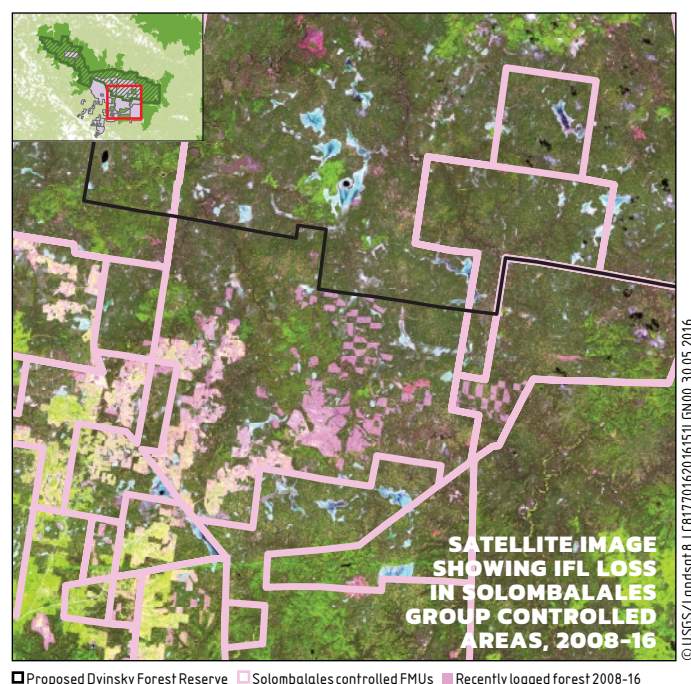
While the proposed reserve has already passed an environmental impact assessment in 2013,²⁰⁷ needed for the Arkhangelsk Oblast government to confirm its official status, the final decision to establish the area has yet to be taken by the Governor of the Oblast. Indeed, the administrative process intended to establish the reserve ground to a halt around 2013. Part of the problem is that the 2011 proposed boundaries are still being argued over, despite nearly 10 years of negotiations between NGOs, logging companies and the Arkhangelsk Oblast authorities.

THREE-QUARTERS OF THE PROPOSED DVINSKY FOREST RESERVE IS UNDER LOGGING PLANS

As of 2016, 835,000 ha of the Dvinsky Forest remains, with 13 FMUs overlapping with three-quarters (371,931 ha) of the proposed reserve.²⁰⁸ These FMUs²⁰⁹ are held by **Solombalales Group** (now in bankruptcy proceedings and some of its assets have been recently acquired by **Pomor Timber**); the partnership between **APPM** and **Titan**; and **Region-Les LLC** (see earlier section on these companies).

Below is a summary of the impacts these companies continue to have on the Dvinsky Forest, which collectively could lead to the possible destruction of the proposed Dvinsky Forest Reserve.

SOLOMBALALES GROUP – A MAJOR SUPPLIER TO POMOR TIMBER



■ Proposed Dvinsky Forest Reserve ■ Solombalales controlled FMUs ■ Recently logged forest 2008-16

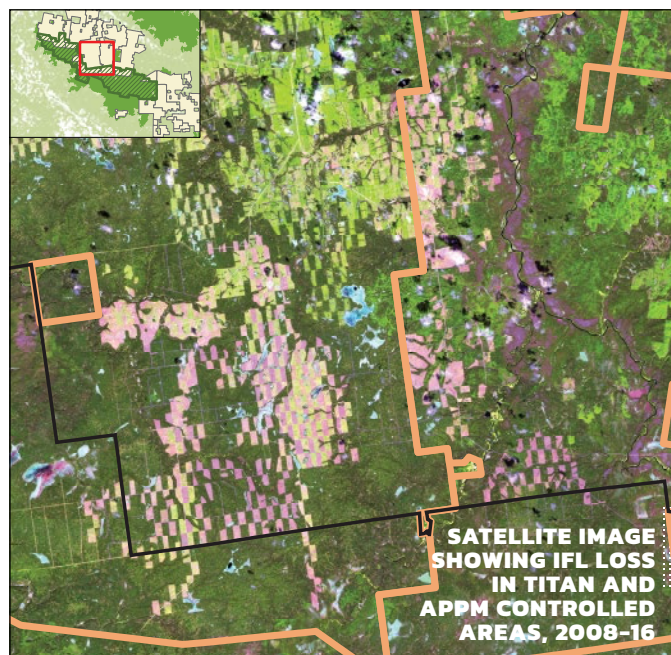
According to forestry maps of Arkhangelsk Oblast, as well as the Arkhangelsk State Forest Register,²¹⁰ in the period

between 2008 and 2014 (when it was declared bankrupt) the Solombalales Group held at least 23 FMUs covering 1.5 million ha, including 549,400 ha of IFL. Over the same period, the total IFL loss within these FMUs was around 37,000 ha inside the Dvinsky Forest.²¹¹ As of 2014, 10 of these FMUs overlapped with 369,000 ha of the Dvinsky Forest. Five of these FMUs overlapped with the proposed Dvinsky Forest Reserve, covering around 196,300 ha (40%) of its area.²¹²

According to the Arkhangelsk State Forest Register,²¹³ in 2016 the Group still held at least 14 FMUs covering 879,000 ha which overlapped with 293,000 ha of IFL in Arkhangelsk Oblast.²¹⁴ (between 2014 and 2016, the lease on one of the Group's FMUs – located in the north-west part of the Dvinsky Forest – was terminated by the government of Arkhangelsk Oblast).

Seven of these remaining 14 FMUs overlapped with 268,000 ha of the Dvinsky IFL.²¹⁵ In 2015–16, IFL loss within these FMUs was around 11,000 ha.²¹⁶ As of 2016, three of these FMUs overlapped with the proposed Dvinsky Forest Reserve, **covering around 153,600 ha (31%) of its area.**²¹⁷

TITAN GROUP AND APPM



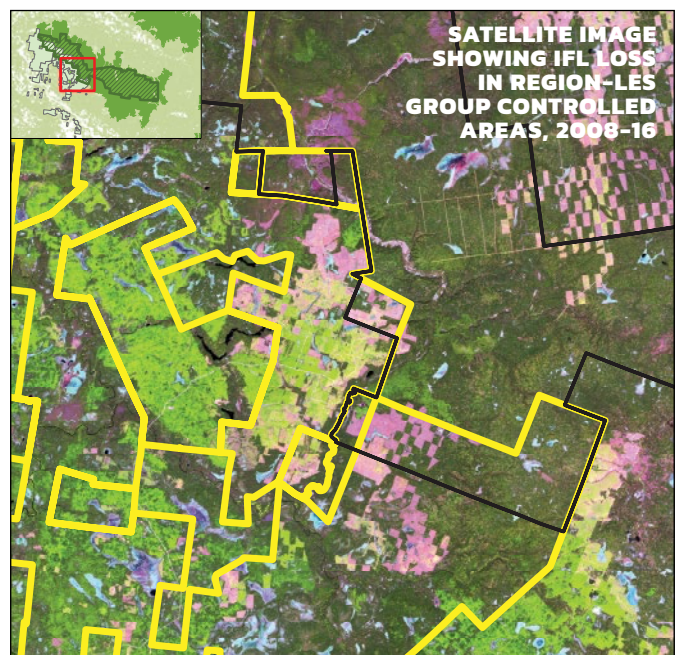
■ Proposed Dvinsky Forest Reserve ■ Titan / APPM controlled FMUs ■ Recently logged forest 2008-16

According to the State Forest Register, in January 2016 Titan group companies held leases for 25 FMUs in Arkhangelsk Oblast,²¹⁸ covering almost 2.7 million hectares,²¹⁹ and APPM held an additional 13 FMUs²²⁰ – covering 1.1 million hectares²²¹ – of which at least seven were operated by Titan subsidiaries.²²²

Out of the 38 FMUs managed by Titan in 2016 (including ones leased by APPM),²²³ 10 overlapped with 343,500 ha of the Dvinsky Forest.²²⁴ Between 2008 and 2016 – since the various FMU lease agreements were originally signed – the total IFL loss within these 10 FMUs was 77,000 ha.²²⁵

As of 2016, seven out of these 10 FMUs overlapped the proposed Dvinsky Forest Reserve, **covering 157,000 ha (32%) of its area.**²²⁶

REGION-LES GROUP – A MAJOR SUPPLIER TO POMOR TIMBER AND APPM/TITAN



■ Proposed Dvinsky Forest Reserve ■ Region-Les controlled FMUs ■ Recently logged forest 2008-16

As of January 2016, the Region-Les Group held 19 FMUs within Arkhangelsk Oblast.²²⁷ In 2016, five of these FMUs overlapped with around 106,300 ha of IFL, including the Dvinsky IFL.²²⁸

In 2016, four of these FMUs overlapped with around 71,400 ha of the Dvinsky Forest. Between 2008 and 2016 – since the various FMU lease agreements were signed – the total IFL loss within these four FMUs was around 40,300 ha.²²⁹ As of 2016, three of these four FMUs overlapped with the proposed Dvinsky Forest Reserve,²³⁰ **covering around 61,200 ha (12.5%) of its area.**²³¹

RECENT DEVELOPMENTS ON THE PROPOSED DVINSKY FOREST RESERVE.

In late December 2016, a new round of negotiations began concerning the proposed Dvinsky Forest Reserve. This was initiated by Titan in response to a Greenpeace blog post entitled 'Too long to wait: Russia's Dvinsky Forest could be lost in a decade'.²³² A meeting was held in Arkhangelsk, which was attended by representatives of Titan, Greenpeace and WWF.

Following the initial meeting, Titan and APPM issued a joint public statement on the proposed reserve.²³³ While both companies claim in this statement to support the establishment of the reserve, they want the originally proposed boundaries of the 489,000 ha area to be renegotiated: 'We need to find a solution that balances the environmental and economic interests, while not forgetting about the interests of the inhabitants of the Arkhangelsk region, and to find a consensus on the new boundaries of the reserve to save the most valuable parts of the area.'

In January 2017, a further meeting was held to discuss the proposed reserve. It was attended by representatives of Arkhangelsk Oblast government, municipal districts and deputies, Greenpeace, WWF, Titan, Region-Les and Pomor Timber.²³⁴ During the meeting Pomor Timber expressed its clear opposition to the proposed reserve.²³⁵

SECTION 4: MARKETS FOR KEY INDUSTRY PLAYERS IN ARKHANGELSK OBLAST



Of course, the logging of the Dvinsky Forest and other IFLs in Arkhangelsk Oblast and beyond would not be occurring were it not for markets willing to purchase the timber and pulp & paper products that originate there.

Russia's boreal forest may seem unimaginably remote to a lot of customers outside Russia, but in fact the destruction of those forests is being driven by demand from a wide range of western European, American and Australian companies, some of which are household names or global brands. These companies have it in their power to help slow the global loss of IFLs, either by changing suppliers or by insisting that their current suppliers adopt policies that protect IFLs.

Below we list some of the customers of the main players in the battle to save the Dvinsky Forest – companies that hold its future in their hands.

POMOR TIMBER'S KEY EXPORT MARKETS FOR TIMBER

Pomor Timber's export destinations are largely the same as when its sawmill was owned by the Solombalales Group.²³⁶ In the period January 2015 to August 2016, the UK and the Netherlands accounted for more than two-thirds of its exports, followed by France, Germany and Belgium.²³⁷

Pomor Timber's customers in 2015²³⁸ included **Stora Enso Bois** (France), which sells direct to timber merchants and industrial end users,²³⁹ **Protac Ouest** (France), which specialises in the manufacture of wood products for the building trade, including decking, cladding for buildings, panelling and frames,²⁴⁰ **Smartt Timber Sales B.V.** (Netherlands), which distributes softwood mainly to the Dutch, Belgian and German markets,²⁴¹ and Churchill & Sim International Ltd (UK), a softwood timber agent.²⁴²

TITAN'S KEY EXPORT MARKETS FOR TIMBER

Titan's first sawmill, 'Sawmill 25' currently exports its entire timber production.²⁴³ In 2015, it exported over 498,000 m³ of spruce and pine sawn timber and 93,500 tonnes of wood pellets.²⁴⁴ In 2016, the company's projected exports of sawn timber totalled 492,600 m³ and wood pellets totalled 115,000 tonnes.²⁴⁵

In 2015 Titan's second sawmill, LDK-3, exported 107,000 m³

of sawn timber, more than 90% of its production.²⁴⁶ The mill also produced 66,677 tonnes of wood pellets destined for export markets.²⁴⁷

Both sawmills currently export almost entirely to France, Germany, Belgium, Denmark, the UK, the Netherlands and Ireland, with Egypt being the only non-European destination.²⁴⁸ One of Titan's key customers is Bremer Holzwerke GmbH (Germany), which sells to **Karibu Holztechnik GmbH**,²⁴⁹ a company well known for its wooden saunas and garden buildings.²⁵⁰ These are sold to 'over 500 DIY stores in Germany',²⁵¹ as well Austria, France, Italy and Switzerland.²⁵² Another Titan customer is the **ISB Group** (France),²⁵³ a big supplier of sawn timber to DIY stores and professional and industrial wholesalers²⁵⁴ such as **BigMat**, **Dora** and **Panofrance**.²⁵⁵

APPM'S KEY MARKETS FOR PULP AND PAPER

APPM produces a variety of pulp and paper products, ranging from market pulp (both softwood and hardwood)²⁵⁶ to uncoated office paper,²⁵⁷ as well as kraftliner and fluting used in cardboard packaging production.²⁵⁸

According to APPM's annual reports its key customers in Russia have included mills owned by some of the largest paper companies in the world.²⁵⁹ This included **SCA** (Sweden),²⁶⁰ **Stora Enso** (Finland),²⁶¹ **Smurfit Kappa** (Ireland)²⁶² and **Ilim Group**²⁶³ – a joint venture between Ilim (Russia) and **International Paper** (USA).²⁶⁴

In 2015, APPM exported around 40% of its production of market pulp, kraftliner, fluting and paper products.²⁶⁵ According to Russian customs data, in 2015 more than 70% was destined for companies based in Europe.²⁶⁶ Two of APPM's largest export customers for market pulp include **Arctic Paper Group** (Poland) and **Kiev Cardboard and Paper Mill** (Ukraine), a subsidiary of **Pulp Mill Holding GmbH** (Austria).²⁶⁷ Arctic Paper's customers include **Random House Germany**,²⁶⁸ a group of 45 publishing houses that publishes on average 200 new books each month, and the paper merchant **Antalis** (part of the Sequana Group).²⁶⁹ Kiev Cardboard and Paper Mill's customers include **McDonald's**, **Pepsico**, **Nestlé**, **Unilever**, **Mondelēz** (American multinational confectionery, food and beverage company), **Amcor** (Australian multinational packaging company) and **Auchan** (French supermarket chain).²⁷⁰ Also in 2015, **Fornaroli Carta SpA** (Italy) was one of APPM's largest customers of packaging products, mainly kraftliner.²⁷¹



SAWNTIMBER



SAWNTIMBER

WOOD PELLETS

CARDBOARD PACKAGING

PAPER

PULP



'KARIBU PRODUCTS ARE SOLD TO OVER 500 DIY STORES THROUGH GERMANY'



SECTION 5: WILL FOREST CERTIFICATION PROTECT IFLS IN ARKHANGELSK?

While FSC may have mechanisms in place to limit IFL destruction within the supply chains of FSC-certified companies, there is still considerable uncertainty about how and when these standards will be implemented on the ground, as well as how much IFL will actually be protected as a result of these standards.

The Arkhangelsk Oblast is a key area for forest certification schemes in Russia. The Forest Stewardship Council (FSC) system started to operate in Arkhangelsk more than 15 years ago and is the dominant player in the area. The Programme for the Endorsement of Forest Certification (PEFC) scheme is just starting up in the Arkhangelsk Oblast. The first PEFC certificate was issued to Ilim Group in 2016, and others are expected to follow in the coming months.

The FSC was created in 1993 by a group of timber producers and traders, as well as environmental and human rights organisations, to establish international criteria for responsibly managed forestry. Greenpeace believes that when implemented correctly, the FSC system is the only credible global forest certification system currently available.

The PEFC scheme was created in 1999 and is currently the largest forest certification globally. Greenpeace does not support PEFC endorsed, and other industry-led certification schemes, as they fail to distinguish between responsible and irresponsible forest management.²⁷²

FSC MOTION 65 AND PROTECTING IFLS

Unfortunately, even the FSC system has not been able to provide a guarantee to consumers that certified wood from Arkhangelsk Oblast is free from IFL destruction.

Principle 9 of the FSC system requires logging companies to 'maintain and/or enhance the High Conservation Values in the

Management Unit through applying the precautionary approach',²⁷³ including protecting forest ecosystems at the landscape level.²⁷⁴ However, until very recently, the FSC had no reliable guidelines, restrictions or indicators to ensure the protection of IFLs.²⁷⁵

In September 2014, the FSC General Assembly passed Motion 65, which is intended to 'protect the vast majority of IFLs' within FSC-certified Forest Management Units (FMUs).²⁷⁶ The Motion required a new standard for IFL protection to be developed by the FSC and implemented before the end of 2016. If these standards were not developed and implemented by this deadline, a default indicator requiring the protection of 80% of IFLs would need to be implemented.²⁷⁷

By mid-2016, it became clear that the deadline would be missed. In late 2016, FSC produced an Advice Note on Motion 65, which requires action to be taken from 1 January 2017 to 'minimize further destruction of IFLs before the full set of ... indicators for Motion 65 become effective'.²⁷⁸ Specifically, the Advice Note requires 'at least 80%' of IFLs within FSC FMUs to be off limits to any harvesting or roadbuilding. It does allow forest management operations to proceed if it does not impact more than 20% of IFLs within the FMU or reduce any IFL below the 50,000 ha.²⁷⁹

TIME TO PHASE OUT IFL DESTRUCTION IN ARKHANGELSK

The FSC Advice Note sets out generic interim measures that apply to all certificate holders worldwide with FSC forestry operations



© Antti Leimonen / Greenpeace

in IFLs. If fully implemented, it will give some breathing space to threatened IFLs in Arkhangelsk Oblast, while national indicators are finalised and implemented. Greenpeace firmly believes that, in Russia, these indicators should follow a strictly precautionary approach and should ultimately phase out destructive operations in IFLs. Ultimately, this should lead to an end to IFL destruction within FSC-certified FMUs.²⁸⁰

Where a company has FMUs that are not certified by the FSC system, it can continue clearing IFLs inside the FMU. For example, a total of 19 FMUs held by Titan and APPM,²⁸¹ covering 1.5 million ha of Arkhangelsk Oblast, are not covered by FSC forest management certificates (see section on APPM).²⁸²

Greenpeace is urging logging companies linked to IFL destruction in Arkhangelsk – regardless of whether they are FSC-certified – to implement comprehensive action plans to phase out all wood whose harvesting has involved IFL fragmentation, degradation or loss. This would require logging companies to refrain from starting operations in new areas of IFL and to establish moratoria on any industrial logging operations in IFLs requiring urgent conservation measures. Such measures would provide assurances to consumers that the products they buy do not originate from the destruction of IFLs.

Another reason for the rapid across-the-board phase out of wood production in IFLs is the recent FSC proposal to extend the deadline for implementation of its revised Controlled Wood standard²⁸³ from July to December 2017.²⁸⁴ Controlled Wood is the uncertified wood that is combined with certified wood for

the 'FSC Mix' label, the most common FSC label currently in the marketplace. Under the Controlled Wood system, companies are supposed to eliminate wood from 'unacceptable sources'; under the approved revised standard, companies will be required to eliminate wood from IFLs.²⁸⁵ However, given the proposed delays in implementing the revised standard, wood from IFLs may continue to enter 'FSC Mix' production for nearly another year. This would be bad news for IFLs and consumers.

Finally, the Free, Prior and Informed Consent (FPIC) of Indigenous Peoples is an explicit requirement of Motion 65. In Canada, the concept of Indigenous Cultural Landscapes (ICLs) has emerged as a mechanism for implementing FPIC and to recognise the role Indigenous People have played in shaping and stewarding the Canadian boreal landscape, including IFLs. A recent document on ICLs by FSC Canada²⁸⁶ explains that they are the result of ecosystem management decisions linked to human wellbeing, where the 'long term health of the forest ecosystem and livelihood needs are complementary, rather than opposing goals'. National FSC offices may choose to incorporate this concept into their development of IFL indicators.

While FSC may have mechanisms in place to limit IFL destruction within the supply chains of FSC-certified companies (i.e. through the standard-setting process to implement Motion 65 and revised Controlled Wood standard), there is still considerable uncertainty about how and when these standards will be implemented on the ground, as well as how much IFL will actually be protected as a result of these standards.

REPORT CONCLUSIONS



© Igor Podgorny / Greenpeace

The battle to protect the Dvinsky Forest described in this report is just one of many struggles to safeguard Intact Forest Landscapes (IFLs) under threat from logging companies across the Russian Taiga.

Russia has the highest rate of IFL loss of all Great Northern Forest countries that still have IFLs, amounting to some 1.36 million hectares per year. The sheer scale of the crisis in Russia can be judged from the fact that this rate of IFL loss is more than the average annual rate of deforestation in the Brazilian Amazon rainforest.

The governments of Russia – together with Canada, Finland and Sweden – have clearly forgotten their promises to halt biodiversity loss as part of their commitment to the Aichi Biodiversity Targets. These governments continue to allow the logging industries to destroy IFLs, and other remaining forests with High Conservation Values (HCVs), in their respective countries.

In view of this political inaction, turning the tide on the IFL crisis in Russia and the rest of the Great Northern Forest will need an alternative approach to tackling this global problem.

A growing number of progressive and influential producer and consumer companies have already adopted corporate-wide policies across their supply chains to help tackle global deforestation (i.e. a ‘zero deforestation’ policy that aims to phase out the trade in a commodity linked to deforestation). Some of the same consumer companies that have adopted such policies are still sourcing timber and paper products from companies linked with the destruction of the Dvinsky IFL, and are mostly likely sourcing from other threatened areas of the Great Northern Forest.

A similar markets-based approach is urgently needed to help prioritise the protection of IFLs and other forests with HCVs across the Great Northern Forest, as well as respect the rights of Indigenous Peoples. This approach will require companies producing timber and paper products in the Great Northern Forest, and companies that purchase those products, to adopt corporate-wide policies to phase out the trade from companies involved in the destruction of IFLs and other forests with HCVs.

GREENPEACE POSITION ON THE RIGHTS OF INDIGENOUS PEOPLES

Greenpeace supports the UN Declaration on the Rights of Indigenous Peoples (UNDRIP),²⁸⁷ including the right of Indigenous Peoples to steward their traditional lands, rivers and marine areas, as well as to govern their communities. We also support the application of the UN principle of FPIC for decisions that will affect Indigenous communities, including decisions concerning any proposed project located on their traditional territories, especially in relation to the development and/or exploitation of timber, mineral, fish, water or other resources. Greenpeace moreover believes that Indigenous Peoples should not be forcibly removed from their traditional territories as a result of such development or other related activities.

GREENPEACE DEMANDS

STOP THE DESTRUCTION OF THE GREAT NORTHERN FOREST

Large intact areas of primary forest (Intact Forest Landscapes – IFLs) and other critical forest landscapes across the boreal region continue to be fragmented, degraded and destroyed by industrial logging to feed the global market for timber and paper products.

Greenpeace calls upon logging as well as corporate consumer companies, to prioritise the protection of IFLs and other remaining forests supporting High Conservation Values (HCVs) across the Great Northern Forest.

As a first step to preventing further fragmentation, degradation or loss of IFLs or other forest habitat supporting HCVs, companies should immediately suspend all industrial developments in critical forest landscapes that have been identified or mapped as urgently requiring conservation measures.

Further, Greenpeace demands that companies develop and implement comprehensive action plans to phase out wood and wood products that leads to fragmentation, degradation and loss from IFLs and forests supporting HCVs.

Where IFLs and HCV forests constitute the traditional territories of Indigenous Peoples, companies need to respect their rights, as enshrined in the UNDRIP²⁸⁸ and the ILO Convention on Indigenous and Tribal Peoples (169),²⁸⁹ including their right to the principle of Free, Prior and Informed Consent (FPIC).

The following demands do not apply to areas whose limited development is consistent with traditional Indigenous knowledge and the requirements of science-based conservation, and where Indigenous community land-use and conservation plans have been approved, following FPIC for the development obtained from the Indigenous community.

DEMANDS TO LOGGING AND PRODUCER COMPANIES

1. STOP EXPANSION

Stop expansion into areas identified or mapped as IFLs

2. HALT THE DESTRUCTION

2.1 Establish moratoria on any industrial developments in IFLs, or other remaining forest areas supporting HCVs, within critical forest landscapes requiring urgent conservation measures.

2.2 Implement a comprehensive, time-bound action plan to phase out the fragmentation, degradation and loss of IFLs or other forest areas supporting HCVs.

3. RESPECT THE RIGHTS OF INDIGENOUS PEOPLES

Implement the United Nations-ratified principle of Free, Prior and Informed Consent (FPIC) before any logging or development on land that they own and/or over which they have traditional rights, as well as a conflict mapping and resolution procedure.

4. PUBLIC TRANSPARENCY

As a minimum threshold, publish maps detailing the boundaries of logging concessions, licences or logging plans.

DEMANDS TO TRADING AND CONSUMER GOODS COMPANIES

As a minimum, trading and consumer goods companies sourcing from the Great Northern Forest shall:

1. HALT THE DESTRUCTION

Phase out any supplier that cannot or will not meet the above commitments at a group-wide level.

2. RESPECT THE RIGHTS OF INDIGENOUS PEOPLES

Ensure suppliers respect the rights of indigenous people.

3. PUBLIC TRANSPARENCY

As a minimum threshold, ensure:

- a) suppliers publish maps detailing the boundaries of their logging concessions, licences or logging plans;
- b) products sourced from the boreal forest are traceable along every step of the supply chain.





ACRONYMS

APPM	Arkhangelsk Pulp & Paper Mill
BEAR	Barents Euro-Arctic Region
BPAN	Barents Protected Area Network
CBD	Convention on Biological Diversity
FMU	Forest Management Unit
FSC	Forest Stewardship Council
FPIC	Free, Prior and Informed Consent
HCV	High Conservation Value
ICL	Indigenous Cultural Landscape
IFL	Intact Forest Landscape
ILO	International Labour Organisation
PEFC	Programme for the Endorsement of Forest Certification
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples

BIBLIOGRAPHY

- Aksenov, D., Kuhmonen, A., Mikkola, J., Sobolev, N. 2014, The Characteristics and Representativeness of the Protected Area Network in the Barents Region, Reports of the Finnish Environment Institute, vol. 29, Finnish Environment Institute SYKE. <https://helda.helsinki.fi/handle/10138/156287>
- Arkhangelsk Oblast 2011a, Decree confirming the Forest Plan of Arkhangelsk region, 20 December 2011, No 5-N. <https://old.dvinaland.ru/power/departments/deples/acts/actlh.php>. Forest Plan 2011 download: <https://old.dvinaland.ru/files/laws/175u.zip>.
- Arkhangelsk Oblast 2011b, Approval of the Forest Plan of the Arkhangelsk region (repealed on the basis of the Arkhangelsk Region Governor Decree of December 20, 2011 N 175-y). <http://docs.cntd.ru/document/962024544>
- Arkhangelsk Oblast 2013, Environmental impact assessment for the planned Dvina-Pinega landscape reserve, List of projects with an approved environmental impact assessment in the Arkhangelsk Oblast 2013, Project No 14. https://old.dvinaland.ru/files/power/departments/comeco/acts/Exp_zakl_2013_4.pdf
- Arkhangelsk Oblast 2016, State Forest Register, List of leaseholders of FMUs, as of 1 January 2016 and/or 1 February 2016. http://portal.dvinaland.ru/docs/pub/e9c944470737468aab5049dd0a40ba7d/Forma2_2_01012016.pdf, <https://portal.dvinaland.ru/upload/iblock/f4d/ReestrZagotovka01022016.pdf>
- Arkhangelsk Oblast Regional Assembly 2016, Open Letter to the Minister of Natural Resources and Ecology of the Russian Federation Sergey Donskoy, 21. September 2016, in Russian. http://www.aosd.ru/?act=show_s_new&id_new=4086
- Arkhangelsk Oblast 2017, Dvina-Pinega Reserve - search for Balance between Environmental, Economical and Social Spheres, Dvina News 09. February 2017, in Russian. <http://dvinanews.ru/-rdbkufsr>
- Arkhangelsk Oblast Government website, Map of the Arkhangelsk Region. <https://dvinaland.ru/-j7vf19x4> (accessed 22 February 2017)
- Arkhangelsk Oblast Government website, Scheme of territorial planning of the Arkhangelsk region. <https://old.dvinaland.ru/region/map/> (accessed 22 February 2017)
- Arkhangelsk Oblast Government website, Forest Planning Documents. <https://dvinaland.ict29.ru/gov/-k888b8aj> (accessed 22 February 2017)
- APPM (Arkhangelsk Pulp and Paper Mill) 2014, Annual Report 2013. http://portal.appm.ru/data/appm/DocLib1/2013/Annual_Report_APPM.pdf
- APPM (Arkhangelsk Pulp and Paper Mill) 2015, Annual Report 2014. <http://portal.appm.ru/data/appm/DocLib1/2014/%D0%93%D0%BE%D0%B4%D0%BE%D0%B2%D0%BE%D0%B9%20%D0%BE%D1%82%D1%87%D0%B5%D1%82%202014.pdf>
- APPM (Arkhangelsk Pulp and Paper Mill) 2015b, The main shareholder of APPM plans to increase pulp production to 1.5 million tonnes per year by 2025, 10 November 2016. <http://www.appm.ru/news/2271/>
- APPM (Arkhangelsk Pulp and Paper Mill) 2016, Annual Report 2015. <http://portal.appm.ru/data/appm/DocLib1/2015/%D0%93%D0%BE%D0%B4%D0%BE%D0%B2%D0%BE%D0%B9%20%D0%BE%D1%82%D1%87%D0%B5%D1%82%202015%20%D0%B0%D0%BD%D0%B3%D0%BB.pdf>
- APPM (Arkhangelsk Pulp and Paper Mill) 2016b, APPM Financial Report for year ending 31. December 2015, in Russian, 30. March 2016. <http://portal.appm.ru/data/appm/DocLib2/%D0%91%D1%83%D1%85%D0%B3%D0%B0%D0%BB%D1%82%D0%B5%D1%80%D1%81%D0%BA%D0%B0%D1%8F%20%D0%BE%D1%82%D1%87%D0%B5%D1%82%D0%BD%D0%BE%D1%81%D1%82%D1%8C%20%D0%BF%D0%BE%20%D0%A0%D0%9F%D0%91%D0%A3/2015/%D0%90%D1%83%D0%B4%D0%B8%D1%82%D0%BE%D1%80%D1%81%D0%BA%D0%BE%D0%B5%20%D0%B7%D0%B0%D0%BA%D0%BB%D1%8-E%D1%87%D0%B5%D0%BD%D0%B8%D0%B5%20%D0%B7%D0%B0%202015%20%D0%B3%D0%BE%D0%B4.pdf>
- BPAN (Barents Protected Area Network) 2015, Planned Dvina-Pinega landscape reserve, editors: Dobrynin D., Stolpovsky A., Hrustaleva Y. Marich S.. www.bpan.fi/wp-content/uploads/2015/08/Dvina-Pinega-2015.pdf
- BPAN Projects website, Barents Region. Barents Protected Area Network (BPAN), www.bpan.fi/en/bpan-project/barents-region/ (accessed 22 February 2017)
- BPAN Projects website, CBD Programme of Work on Protected Areas (PoWPA). Barents Protected Area Network (BPAN), www.bpan.fi/en/programme/ (accessed 22 February 2017)

- BPAN Projects website, Large undisturbed forest areas protected in the Arkhangelsk Region. www.bpan.fi/en/2015/12/page/2/ (accessed 22 February 2017)
- Bradshaw, C.A., Warkentin, I.G. and Sodhi, N.S. 2009, Urgent preservation of boreal carbon stocks and biodiversity, *Trends in Ecology and Evolution* vol. 24, no. 10, pp. 541–548.
- Bradshaw, C.J.A. and Warkentin, I.G. 2015, Global estimates of boreal forest carbon stocks and flux, *Global and Planetary Change* vol. 128, pp. 24–30.
- CBD (Convention on Biological Diversity) 2013, Quick guide to Aichi Biodiversity Targets (Version 2). www.cbd.int/doc/strategic-plan/targets/compilation-quick-guide-en.pdf
- Chivian, E. and Bernstein, A. 2008, *Sustaining life: How human health depends on biodiversity*. Center for Health and the Global Environment. Oxford University Press, New York. www.chgeharvard.org/sites/default/files/resources/182945%20HMS%20Biodiversity%20booklet.pdf
- Dun and Bradstreet 2016, Company profiles for Titan LLC and Shelbyville Enterprises Limited, 10 October 2016
- EMISS (Unified interdepartmental information and statistical system) website, Harvesting levels indicator, <https://www.fedstat.ru/indicator/51208> (accessed 22 February 2017)
- Exim Bank (Russia) website, Pomor Timber: restoration, expansion, export. <http://eximbank.ru/eng/success/stories.php?page=45902> (accessed 22 February 2017)
- Exim Bank (Russia) website, Bank Profile. <http://eximbank.ru/eng/success/stories.php?page=45902> (accessed 22 February 2017)
- FAO (Food and Agriculture Organization) 2012, Global ecological zones for FAO forest reporting: 2010 Update, Forest Resources Assessment Working Paper 179
- FAO (Food and Agriculture Organization) 2015, Global Forest Resources Assessment 2015: Desk reference. <http://www.fao.org/3/a-i4808e>
- FAO LEX Database website, Russian Federation: Forest Code (No.200-FZ). http://faolex.fao.org/cgi-bin/faolex.exe?rec_id=052932&database=faolex&search_type=link&table=result&lang=eng&format_name=@ERALL (accessed 22 February 2017)
- Federal Customs Service of the Russian Federation (Ministry of Finance of the Russian Federation), Russian customs statistics (2015–2016), extracted from <http://d-inform.ru> (accessed 22 February 2017)
- Federal Tax Service of the Russian Federation, Union State Registry for legal entities <https://egrul.nalog.ru/>
- FSC 2014, Motion 65: High Conservation Value 2 (HCV2) – Intact Forest Landscapes (IFL) protection, Forest Stewardship Council (FSC). ga2014.fsc.org/download.motion-65.120.pdf
- FSC 2017, FSC Directive on FSC Forest Management Evaluations (FSC-DIR-20-007 EN), Forest Stewardship Council (FSC). <https://ic.fsc.org/download.fsc-dir-20-007-fsc-directive-on-fsc-forest-management-evaluations.a-6742.pdf>
- FSC 2015a, FSC Principles and Criteria for Forest Stewardship (FSC-STD-01-001 V5-2 EN) 22 July 2015, Forest Stewardship Council (FSC). <https://ic.fsc.org/preview.fsc-principles-and-criteria-for-forest-stewardship-fsc-std-01-001-v5-2-en-print-version.a-4845.pdf>
- FSC 2015b, Requirements for Sourcing FSC® Controlled Wood (FSC-STD-40-005 V3-0 EN), Forest Stewardship Council (FSC). <http://ic.fsc.org/preview.fsc-std-40-005-v3-0-en-requirements-for-sourcing-fsc-controlled-wood.a-5361.pdf>
- FSC 2016, FSC makes new progress to protect Intact Forest Landscapes, FSC Newsroom 31. December 2016, Forest Stewardship Council (FSC). <https://ic.fsc.org/en/news/id/1749>
- FSC Canada 2016, Discussion Paper on Indigenous Cultural Landscapes (ICL) – Version 1.6 December 2016, Forest Stewardship Council (FSC) Canada. <https://ca.fsc.org/preview.icl-discussion-paper-v1.a-1319.pdf>
- Fordaq 2015, ISB Group separates from Wolseley, becomes 100% French, 9 April 2015. www.fordaq.com/news/ISB_France_holding_business_acquisition_41341.html
- Gauthier, S., Bernier, P., Kuuluvainen, T., Shvidenko, A.Z. and Schepaschenko, D.G. 2015, Boreal forest health and global change, *Science* vol. 349 no. 6250, pp. 819–822.
- Glushkovskaya, N.B., Zagidullina, A.T., Korepanov, V.I., Kotkova, V.M., Kushnevskaia, E.V., Mirin, D.M., Stolpovsky, A.P., Filippov, B.J. 2013, Landscape and Biological Diversity on the Watershed between the Northern Dvina and Pinega Rivers, WWF–Russia and Barents Protected Area Network (BPAN), in Russian. www.wwf.ru/resources/publ/book/864
- Greenpeace International 2014a, Weaker certification systems, 3 March 2014. <http://m.greenpeace.org/international/en/mid/campaigns/forests/solutions/alternatives-to-forest-destruct/Weaker-Certification-Schemes>
- Greenpeace International 2014b, FSC in Russia: Certifying the Destruction of Intact Forest Landscapes, FSC at Risk: Case Study 06, pp. 5–7. www.greenpeace.org/international/Global/international/publications/forests/2014/FSC-Case-Studies/454-6-FSC-in-Russia.pdf
- Greenpeace International 2014c, Intact Forest Landscapes (IFLs): Why they must be protected. August 2014 www.greenpeace.org/international/Global/international/briefings/forests/2014/IFLs-factsheet.pdf
- Greenpeace International 2016, Too long to wait: Russia's Dvinsky Forest could be lost in a decade. www.greenpeace.org/international/en/news/Blogs/makingwaves/Russia-Dvinsky-forest-protect-biodiversity-climate/blog/58269/
- Greenpeace, University of Maryland, World Resources Institute and Transparent World. Intact Forest Landscapes 2000/2013, www.intactforests.org (accessed 22 February 2017)
- Greenpeace Russia 2004, Intact Forest Landscapes of northern European Russia, the situation as of April 2014. www.intactforests.org/pdf/publications/Russia.IFL.Monitoring.2004.pdf
- Greenpeace Russia Forest Forum website (2016), Legality of wood harvested during sanitary (salvage) logging needs thorough verification: Joint statement by WWF Russia and Greenpeace Russia, 06. Dezember 2016. www.forestforum.ru/viewtopic.php?t=20294
- ILO (1989), Indigenous and Tribal Peoples Convention, 1989 (No. 169) www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312314
- IPCC (Intergovernmental Panel on Climate Change), Watson, R.T., Noble, I.R., Bolin, B., Ravindranath, N.H., Verardo, D.J., and Dokken, D.J. (Eds.) 2000, Land Use, Land-Use Change and Forestry, Special Report, Cambridge University Press. www.ipcc.ch/ipccreports/sres/land_use/index.php?idp=0
- IPCC (Intergovernmental Panel on Climate Change) 2013, Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the 5th Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press. www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf
- IPCC 2014, Climate Change 2014. Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the IPCC 5th Assessment Report. Technical Summary, Cambridge University Press. www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-TS_FINAL.pdf
- Keenan, R.J., Reams, G.A., Achard, F., de Freitas, J.V., Grainger, A. and Lindquist, E. 2015, Dynamics of global forest area: Results from the FAO Global Forest Resources Assessment 2015, *Forest Ecology and Management* vol. 352, pp. 9–20.
- Kobyakov, K., Jakovlev, J. (eds.) 2013, Atlas of high conservation value areas, and analysis of gaps and representativeness of the protected area network in northwest Russia, English Revised Edition, Finnish Environment Institute. www.syke.fi/gapanalysisofnorthwestrussia
- Kuhmonen, A. 2014, BPAN Barents Protected Area Network. www.ym.fi/download/noname/%7BB687955E-9FC6-44C4-B2C7-0AC92B9DFB52%7D/122540
- Lakehead University (Ontario, Canada), Faculty of Natural Resources Management website, World Boreal Forests – Mammals. www.borealforest.org/world/mammals.htm (accessed 22 February 2017)
- LDK-3 2016, Annual Report 2015, in Russian.
- Lesprom Network 2013, Solomabales intends to build a new factory, 10. April 2013, in Russian. www.lesprom.com/ru/news/Холдинг_Соломбаллес_намерен_построить_новый_завод_на_месте_Соломбальского_ЦБК_55803/
- Morales-Hidalgo, D., Oswalt, S.N. and Somanathan, E. 2015, Status and trends in global primary forest, protected areas, and areas designated for conservation of biodiversity from the Global Forest Resources Assessment 2015, *Forest Ecology and Management* vol. 352, pp. 68–77.
- McCarthy, J.W. and Weetman, G. 2006, Age and size structure of gap-dynamic, old-growth boreal forest stands in Newfoundland, *Silva Fennica* vol. 40, no. 2, pp. 209–230.
- MKRU (Moskovskij Komsomolets newspaper) 2017, What fate awaits the forest between the Dvina and Pinega rivers, 01. February 2017, in Russian. <http://arh.mk.ru/articles/2017/02/01/kakaya-sudba-zhdet-lesnoj-massiv-dvinskopinezhsogo-mezhdurechya.html>
- Olson, D.M., Dinerstein, E., Wikramanayake, E.D., Burgess, N.D., Powell, G.V.N., Underwood, E.C., D'Amico, J.A., Itoua, I., Strand, H.E., Morrison, J.C., Loucks, C.J., Allnutt, T.F., Ricketts, T.H., Kura, Y., Lamoreux, J.F., Wettengel, W.W., Hedao, P., Kassem, K.R. 2001, Terrestrial ecoregions of the world: a new map of life on Earth, *Bioscience* vol. 5, no. 11, pp. 933–938.

Pan, Y., Birdsey, R.A., Fang, J., Houghton, R., Kauppi, P.E., Kurz, W.A., Phillips, O.L., Shvidenko, A., Lewis, S.L., Canadell, J.G., Ciais, P., Jackson, R.B., Pacala, S.W., McGuire, A.D., Piao, S., Rautiainen, A., Sitch, S. and Hayes, D. 2011, A large and persistent carbon sink in the world's forests, *Science* vol. 333, pp. 988–993.

Pomor Timber 2015, Pomor Timber has developed a plan to rescue Solombala Sawmill, 9 November 2015, in Russian. <http://pomortimber.ru/info/news/pomorskaya-lesopilnaya-kompaniya-razrabotala-plan-po-spaseniyu-solombalskogo-ldk/>

Pomor Timber 2016a, Pomor Timber to revive production at Solombala sawmill and woodworking plant, 07. September 2016, in Russian. <http://pomortimber.ru/info/news/solombalskiy-ldk-novyy-lesopilnyy-zavod-na-ploshchadke-sldk/>

Pomor Timber 2016b, Pomor Timber will build a new sawmill on the site SLDK, 31 October 2016, in Russian. <http://pomortimber.ru/info/news/pomorskaya-lesopilnaya-kompaniya-budet-stroit-novyy-lesopilnyy-zavod-na-ploshchadke-sldk/>

Potapov, P., Hansen, M.C., Stehman, S.V., Loveland, T.R. and Pittman, K. 2008, Combining MODIS and Landsat imagery to estimate and map boreal forest cover loss, *Remote Sensing of Environment* vol. 112, pp. 3708–3719.

Potapov, P.V., Hansen M.C., Laestadius, L., Turubanova, S., Yaroshenko, A., Thies, Ch., Smith, W., Zhuravleva, I., Komarova, A., Minnemeyer, S., Esipova, Y. 2017, The last frontiers of wilderness: Tracking loss of intact forest landscapes from 2000 to 2013, *Science Advances*, no. 3. <http://advances.sciencemag.org/content/advances/3/1/e1600821.full.pdf>

RAISG (Rede Amazônica de Informação Socioambiental Georreferenciada) 2012, Amazonia sob pressão. https://raisg.socioambiental.org/system/files/AmazoniaSobPressao_28_03_2013.pdf

Random House website (various): Leseprobe Annika Messing Willkommen im Häkel-Wunderland (2013-11-21), www.randomhouse.de/leseprobe/Willkommen-im-Haekel-Wunderland-Tiere-Puppen-und-viel-mehr-zum-Haekeln/leseprobe_9783572080878.pdf (accessed 22 February 2017); Random House: Russ Harris Raus aus der Glücksfalle (2014-03-06),

www.randomhouse.de/leseprobe/Raus-aus-der-Gluecksfalle-Ein-Umdenk-Buch-in-Bildern-Illustrationen-von-Bev-Aisbett/leseprobe_9783466310074.pdf (accessed 22 February 2017); Random House: Kristin Wiola Ødegård Schnell genadelt mit dicker Wolle, www.randomhouse.de/leseprobe/Schnell-genadelt-mit-dicker-Wolle-Pullis-&-Accessoires-zum-Stricken/leseprobe_9783572081882.pdf (accessed 22 February 2017); Random House: Megan Kreiner Mein Häkelzoo (2016-08-17), https://www.randomhouse.de/leseprobe/Mein-Haekelzoo-Tiere-zum-Kuscheln-Spielen-und-Verschenken/leseprobe_9783809432777.pdf (accessed 22 February 2017); Random House: Gay Merril Gross Zoogami (2014-07-17), www.randomhouse.de/leseprobe/Zoogami-Set-Die-grosse-Origami-Tiermenagerie-Buch-und-64-Blatt-bedrucktes-Faltpapier/leseprobe_9783809433118.pdf (accessed 22 February 2017); Bassermann Verlag: Hans-Werner Wüst Zitate & Sprichworte (2010-11-15), https://media.libri.de/shop/coverscans/110/11023333_lprob.pdf (accessed 22 February 2017).

RISI 2016, The PPI Top 100, 19. September 2016. <http://technology.risiinfo.com/mills/asia-pacific-europe-latin-america-north-america/ppi-top-100>

Russian Federation 2013, Basics of State Forest Policy until 2030: Order of Government of Russian Federation 26 September 2013, №24-Н signed by Prime Minister D. Medvedev, in Russian, p. 10, item 18(1), http://www.mnr.gov.ru/upload/iblock/439/osnovi_gospolitiki_0110

Russian Federal Forestry Agency 2006, Russian Forest Code, in Russian. www.rosleshoz.gov.ru/docs/federal/codex (accessed 22 February 2017)

Russian Federal Forestry Agency, State Information System 'Accounting of wood deals', in Russian. <http://lesegaiz.ru/open-area/deal> (accessed 22 February 2017)

Russian Federal Ministry of Industry and Trade 2008, Order № Investment project "Modernization of processing facilities holding" Solombalales, in Russian. <http://docs.cntd.ru/document/902125404>

Russian Federal Register on Bankruptcy Information website, legal entity UK Solombalales LLC, in Russian. <https://bankrot.fedresurs.ru/OrganizationCard.aspx?ID=5DF8D87EC3225C19C16469CB3C946D03> (accessed 22 February 2017)

Russian Federal Register on Bankruptcy Information website, Bankruptcy decision UK Solombalales LLC, decision of the Arbitration Court of Arkhangelsk Oblast on 20 November 2014 (case №4-433/2013), in Russian. <https://bankrot.fedresurs.ru/MessageWindow.aspx?ID=AACDE5A9297238ABF6F45807AC646B82> (accessed 22 February 2017)

Russian Federation 2015, Official Year of Protected Areas in the Russian Federation: Presidential Decree 01. August 2015, №92 (signed by Prime Minister W. Putin), in Russian. <http://www.kremlin.ru/acts/bank/39976>

Russian Federation 2016, Official Year of Ecology in the Russian Federation: Presidential Decree 05. January 2016, № signed by Prime Minister W. Putin, in Russian. <http://kremlin.ru/acts/bank/40400>

Russian Federation 2002, Environmental Protection Law: Federal Law 10. Januar 2002, №3, in Russian. <http://kremlin.ru/acts/bank/17718>

Sawmill 25 website, Production. www.sawmill25.ru/en/%d0%bf%d1%80%d0%be%d0%b4%d1%83%d0%ba%d1%86%d0%b8%d1%8f/ (accessed 22 February 2017)

Sawmill 25 website, Sawmill 25. <http://www.sawmill25.ru/en/> (accessed 22 February 2017)

Sawmill 25 website, The Sawmill today. <http://www.sawmill25.ru/en/%d0%be-%d0%bf%d1%80%0%b5%d0%b4%d0%bf%d1%80%d0%b8%d1%8f%d1%82%d0%b8%d0%b8/%d0%bf%d1%80%0%b5%d0%b4%d0%bf%d1%80%d0%b8%d1%8f%d1%82%d0%b8%d0%b5-%d1%81%d0%b5%d0%b3%d0%be%d0%b4%d0%bd%d1%8f/> (accessed 22 February 2017)

SCA 2010, SCA announces official opening of first Greenfield mill in Russia, 16 February 2010 www.sca.com/en/Media/News-features/News-archive-2010-2005/2010/SCA-opened-Russias-first-Greenfield-tissue-mill/

Smirnov, D.Y. (ed.), Kabanets, A.G., Milakovskiy, B.J., Lepeshkin, E.A., Sychikov, D.V. 2013, Illegal logging in the Russian Far East: global demand and taiga destruction, WWF Moscow. www.wwf.ru/resources/publ/book/eng/776

Song X-P., Huang C., Saatchi S.S., Hansen M.C., Townshend J.R., 2015. Annual Carbon Emissions from Deforestation in the Amazon Basin between 2000 and 2010. *PLoS ONE* 10(5): e0126754. doi:10.1371/journal.pone.0126754. <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0126754>

Titan 2016a, LDK-3: Trial run of new sawmill will be held in spring 2017, 13 October 2016, in Russian. www.titangroup.ru/news/2016/10/13/375.shtml

Titan 2016b, Titan to build complex worth Rubles 70 million, 02. November 2016, in Russian. www.titangroup.ru/news/2016/11/02/377.shtml

Titan 2016c, APPM and Titan support the creation of the reserve in the area between the Northern Dvina and Pinega, 26. December 2016, in Russian. www.titangroup.ru/news/2016/12/26/378.shtml and www.appm.ru/news/2300/

Titan 2017, In 2016, Sawmill 25 increases the volume of pellet production by 23%, 12 January 2017, in Russian. www.titangroup.ru/news/2017/01/12/380.shtml

UNFCCC 2016, Annex 2.2, Joint implementation project design document form version 01 – in effect as of 15 June 2016, Joint Steering Committee. <http://ji.unfccc.int/UserManagement/FileStorage/GU4JNEFKILP0DZA1YMQ9675W3VTH20>

United Nations 2008, Resolution 61/295 - United Nations Declaration on the Rights of Indigenous Peoples, 13 September 2008. www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

USSR (Union of Soviet Socialist Republics) 1987, Methodology for calculation of Annual Allowable Cuts in the state forests of the USSR: Decision of the Board of State Forestry Committee of the USSR 26 February 1987, Annex 2, in Russian. www.libussr.ru/doc_ussr/ussr_13828.htm

Yaroshenko, Y., Potapov, P.V., Turubanova, S.A., 2001, The Last: Intact Forest Landscapes of Northern European Russia, Greenpeace Russia and Global Forest Watch, 2001, 75 pages. www.intactforests.org/pdf/publications/The.Last.IFL.of.European.Russia.2001.pdf

Wikipedia website, Fennoscandia, <https://en.wikipedia.org/wiki/Fennoscandia> (accessed 22 February 2017)

WWF 2014, State environmental experts approve the Dvina-Pinega Reserve, 17 January 2014, in Russian. www.wwf.ru/resources/news/article/12020

WWF, BPAN and The Center for Environmental Protection of Arkhangelsk Oblast 2012, Summary for public of ecological rationale for creation Dvinsky Reserve, 2012, in Russian. <http://eco29.ru/images/news/sozdanie-dvinsko-pinezhskogo-zakaznika/resume.pdf> (page 2)

ENDNOTES

- 1 Aichi Target 5 requires that 'By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.' The CBD advises that 'The emphasis of this target should be on preventing the loss of high biodiversity value habitats, such as primary forests. Source: CBD (2013)
- 2 CBD (2013)
- 3 30% according to Keenan et al. (2015)
- 4 Morales-Hidalgo et al. (2015)
- 5 Primary forest is defined as forests of native species, in which there are no clearly visible indications of human activity and ecological processes are not significantly disturbed; cf. Morales-Hidalgo et al. (2015)
- 6 Russian Taiga total: 950 million ha (cf. Greenpeace assessment of officially registered and unaccounted forest areas, based on Russian forest legislation: 'Forest Code of Russian Federation' 1900-FZ and associated laws and regulations. Cf. English version: FAO LEX Database website, Russian Federation: Forest Code (No.200-FZ). Russian IFL remaining in 2013: 228 million ha (cf. Greenpeace calculations based on: Greenpeace et al. website, Intact Forest Landscapes.) = 24% of Russian Taiga remained as IFL in 2013.
- 7 Greenpeace (2014c)
- 8 Gauthier et al. (2015)
- 9 E.g. Lakehead University website, World Boreal Forests – Mammals
- 10 Intact Forest Landscapes 2013 = 1,189 million ha; Great Northern Forest Intact Forest Landscapes 2013 = 534 million ha. Greenpeace calculations based on Greenpeace et al. website, Intact Forest Landscapes
- 11 The global extent of IFLs decreased by 7.2% from 1.28 billion ha from 2000 to 2013. Cf. Greenpeace et al. website, Intact Forest Landscapes, www.intactforests.org
- 12 Between 2000 and 2010, a total of 15.9 ± 2.5 million ha Amazon forests were lost – the Brazilian Amazon and the non-Brazilian Amazon lost a total of 12.5 ± 2.0 million ha and 3.4 ± 0.5 million ha forests respectively over that decade. Source: Song et al. 2015
- 13 Greenpeace assessment of officially registered and unaccounted forest areas, based on Russian forest legislation: "Forest Code of Russian Federation" 1900-FZ and associated laws and regulations. English version: FAO LEX Database website, Russian Federation: Forest Code (No.200-FZ)
- 14 Russian Taiga total: 950 million ha (cf. Greenpeace assessment of officially registered and unaccounted forest areas, based on Russian forest legislation: 'Forest Code of Russian Federation' 1900-FZ and associated laws and regulations. Cf. English version: FAO LEX Database website, Russian Federation: Forest Code (No.200-FZ). Russian IFL remaining in 2013: 228 million ha (cf. Greenpeace calculations based on: Greenpeace et al. website, Intact Forest Landscapes.) = 24% of Russian Taiga remained as IFL in 2013.
- 15 Bradshaw et al. (2009)
- 16 Total IFL loss in the Great Northern Forest 2000–2013 was around 32.8 million ha. Russia accounted for 17.7 million ha of this. cf. Greenpeace calculations based on: Greenpeace et al. website, Intact Forest Landscapes, www.intactforests.org
- 17 Greenpeace calculations based on Greenpeace et al. website, Intact Forest Landscapes, www.intactforests.org
- 18 FAO (2015), p.159
- 19 E.g. Greenpeace Russia Forest Forum website (2016), e.g. example from Leningrad Region: Greenpeace Russia website (2016), e.g. WWF Report about illegal logging in the Russian Far East: Smirnov et al. (2013)
- 20 The project is funded by the Nordic Council of Ministers, the governments of Finland, Sweden and Norway, and WWF's Barents Sea Office. Source: Kuhmonen (2014)
- 21 CBD (2013)
- 22 For example, the Dvinsky Forest IFL in Arkhangelsk is predominately a spruce forest. Source: BPAN (2015)
- 23 Pomor Timber (2016b)
- 24 Pomor Timber (2016a)
- 25 Titan (2016a); see also APPM (2016b), p22:
- 26 For example, the Dvinsky Forest IFL is predominately a spruce forest. Source: BPAN (2015)
- 27 Arkhangelsk Oblast Regional Assembly (2016)
- 28 Smirnov et al. (2013)
- 29 Smirnov et al. (2013)
- 30 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 31 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 32 Titan (2016a); APPM website, 26 December 2016 www.appm.ru/news/2300/
- 33 Statements made at the meeting by Alexey Bulygin, Executive Director of Pomor Timber. Also in an article in MKRU Arkhangelsk he is reported to have proposed that the system of certification is changed [from FSC to PEFC, 'then the creation of the Reserve and conservation of IFL will disappear by itself... PEFC does not need the creation of protected areas, and therefore, there will be not be any limitation on production and economic activity'. Source: MKRU (2017)
- 34 Extracted from Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)/; also Exim Bank (Russia) website
- 35 Stora Enso company website, <http://buildingandliving.storaenso.com/products-and-services/france>
- 36 Protac company website, www.protacfrance.com/societe/
- 37 SMARTT company website, www.smartt.nl/smartt.html
- 38 Karibu company, www.karibu.de/ueber-karibu
- 39 According to field research conducted by Greenpeace
- 40 Karibu company website, www.karibu.de/ueber-karibu
- 41 ISB Group company website, www.groupe-isb.fr/
- 42 Fordaq (2015)
- 43 Silverwood website showing map of outlets, www.silverwood.fr/points-de-vente/
- 44 RISI (2016)
- 45 Main buyers of APPM on the Russian market in 2014 included Syasskiy PPM, Troitsk PF, SCA Hygiene Products Russia and Kuban-Papir. Source: APPM (2015a). In 2015 the mill increased domestic sales of market pulp subsequent to the launch of new tissue plants (SCA Hygiene Products, Pulp Invest, Hayatt). Source: AR 2015. SCA's new tissue mill is located in Sovetsk, Tula Oblast. Source: SCA 2010
- 46 APPM (2014) states: 'In 2013 the list of the largest buyers of containerboard from APPM was the same as for the previous year. In 2013 the largest increase in containerboard sales was recorded by the following companies: OJSC Arkhbum (in connection with launch of its plant in Istra), Stora Enso Packaging, Europack, PEF Soyuz.'
- 47 APPM (2015) states: 'In 2014 the list of the largest buyers of containerboard from APPM was the same as for the previous year. The largest buyers were OJSC Arkhbum, LLC Dekart and ZAO Smurfit Kappa Spb, the aggregated share of which amounted to over 50% of total sales.'
- 48 The main buyers of APPM pulp on the Russian market in 2013 included Troitsk PF (Continental Management), Syasskiy PPM, ZAO Rostovtorpererabotka and Ilim Group in Koryazhma. Source: APPM (2014)
- 49 International Paper website, www.internationalpaper.com/company/regions/europe-middle-east-africa/about-us/international-paper-in-russia/ilim-group
- 50 eg Kyiv Cardboard and Paper Mill website, <http://www.papir.kiev.ua/en/>
- 51 Random House Germany website (various links – see Bibliography)
- 52 Kyiv Cardboard and Paper Mill website, <http://www.papir.kiev.ua/en/>
- 53 CBD (2013), pp.11-12
- 54 Chivian/Bernstein (2008), p.5
- 55 Chivian/Bernstein (2008), p.5
- 56 Bradshaw et al. (2009)
- 57 Potapov et al. (2017), Gauthier et al. (2015)
- 58 Bradshaw et al. (2009)
- 59 30% according to Keenan et al. (2015), table 1
- 60 Morales-Hidalgo et al. (2015)
- 61 Keenan et al. (2015), table 1

- 62 E.g. Lakehead University website, World Boreal Forests – Mammals
- 63 Greenpeace map for the Great Northern Forest, adapted from boreal biome layer from WWF's Terrestrial Ecoregions of the World (Olson et al. 2001) to include areas of Intact Forest Landscapes in Alaska and other forest cover with 20% or more canopy cover. WWF boreal biome layer gives an area of 1.53 billion ha. There are variations in the precise definition and boundaries of the boreal forest ecosystem, leading to estimates of size, e.g. the boreal 'ecozone' (including boreal coniferous forest, boreal tundra and boreal mountain system) is 1.88 billion ha (FAO 2012) or 1.37 billion ha (IPCC 2000, Chapter 1).
- 64 RAISG (2012)
- 65 McCarthy/Weetman (2006)
- 66 Gauthier et al. (2015)
- 67 Potapov et al. (2008), Gauthier et al. (2015)
- 68 Pan et al. (2011), Bradshaw/Warkentin (2015)
- 69 IPCC (2013)
- 70 IPCC (2014)
- 71 IPCC (2014)
- 72 IPCC (2014)
- 73 Bradshaw et al. (2009)
- 74 Fennoscandia encompasses Finland, Norway and Sweden in their entirety as well as Murmansk Oblast, much of the Republic of Karelia and northern portions of Leningrad Oblast in Russia. Cf. Wikipedia website, Fennoscandia
- 75 Data from various sources compiled in Gauthier et al. (2015)
- 76 Data from various sources compiled in Gauthier et al. (2015)
- 77 Primary forest is defined as forests of native species, in which there are no clearly visible indications of human activity and ecological processes are not significantly disturbed; cf. Morales-Hidalgo et al. (2015)
- 78 Intact Forest Landscapes (IFLs) are defined as unbroken expanses of natural habitat (both forested and non-forested) within the current forest zone, showing no signs of significant human activity and large enough that all native biodiversity, including viable populations of wide-ranging species, can be maintained – in practice the threshold is defined as 50,000 ha. They consist mainly of dense and open forest (covering 81 % of their area on average) with the remainder being swamp, rocky terrain, grassland, rivers, lakes and so on. See Greenpeace International (2014b)
- 79 Greenpeace International (2014c)
- 80 Gauthier et al. (2015)
- 81 Intact Forest Landscapes 2013 = 1,189 million ha; Great Northern Forest Intact Forest Landscapes 2013 = 534 million ha. Greenpeace calculations based on Greenpeace et al. website, Intact Forest Landscapes
- 82 The global extent of IFLs decreased by 7.2% from 1.28 billion ha from 2000 to 2013. Cf. Greenpeace et al. website, Intact Forest Landscapes, www.intactforests.org
- 83 Between 2000 and 2010, a total of 15.9 ± 2.5 million ha Amazon forests were lost – the Brazilian Amazon and the non-Brazilian Amazon lost a total of 12.5 ± 2.0 million ha and 3.4 ± 0.5 million ha forests respectively over that decade. Source: Song et al. 2015.
- 84 Greenpeace calculations based on Greenpeace et al. website, Intact Forest Landscapes www.intactforests.org
- 85 Greenpeace International (2014c)
- 86 Greenpeace International (2014c)
- 87 Greenpeace International (2014c)
- 88 CBD (2013), pp.11-12
- 89 CBD (2013), pp.11-12
- 90 Greenpeace assessment of officially registered and unaccounted forest areas, based on Russian forest legislation: "Forest Code of Russian Federation" 2000-FZ and associated laws and regulations. English version: FAO LEX Database website, Russian Federation: Forest Code (No.200-FZ)
- 91 Russian Taiga total: 950 million ha (cf. Greenpeace assessment of officially registered and unaccounted forest areas, based on Russian forest legislation: 'Forest Code of Russian Federation' 2000-FZ and associated laws and regulations. Cf. English version: FAO LEX Database website, Russian Federation: Forest Code (No.200-FZ). Russian IFL remaining in 2013: 228 million ha (cf. Greenpeace calculations based on: Greenpeace et al. website, Intact Forest Landscapes.) = 24% of Russian Taiga remained as IFL in 2013.
- 92 Bradshaw et al. (2009)
- 93 Based on: Greenpeace et al. website, Intact Forest Landscapes www.intactforests.org
- 94 Total IFL loss in the Great Northern Forest 2000–2013 was around 32.8 million ha. Russia accounted for 17.7 million ha of this. cf. Greenpeace calculations based on: Greenpeace et al. website, Intact Forest Landscapes, www.intactforests.org
- 95 Greenpeace calculations based on Greenpeace et al. website, Intact Forest Landscapes, www.intactforests.org
- 96 Between 2000 and 2010, a total of 15.9 ± 2.5 million ha Amazon forests were lost – the Brazilian Amazon and the non-Brazilian Amazon lost a total of 12.5 ± 2.0 million ha and 3.4 ± 0.5 million ha forests respectively over that decade. Source: Song et al 2015
- 97 FAO (2015), p.159
- 98 FAO (2015), p.152
- 99 This includes 17 categories and subcategories of forest that have different functions and regimes, including green zones and forest parks, stream protection zones, shelterbelts, high mountain and sub-tundra forests. Cf. Russian Federal Forestry Agency (2006)
- 100 E.g. Greenpeace Russia Forest Forum website (2016), e.g. example from Leningrad Region: Greenpeace Russia website (2016), e.g. WWF Report about illegal logging in the Russian Far East: Smirnov et al. (2013)
- 101 Russian Federation (2013)
- 102 Russian Federation (2015), Russian Federation (2016)
- 103 Russian Federation (2002, updated 2016)
- 104 The instructions state: 'Annual Allowable Cuts should take the maximum amount of mature wood in the logging rotation, while providing continuity and a sustainable use of the forest. The volume of final harvests and stand-replacement harvests should be relatively stable for at least 20–30 years.' cf. USSR (1987)
- 105 In 2015, annual harvesting levels for less than a third of intensively managed forests were calculated or revised on the basis of up-to-date forest inventories. Cf. EMISS website, Harvesting levels indicator
- 106 Greenpeace International (2014b)
- 107 Kobayakov/Jakovlev (2013)
- 108 As the crow flies. Source: Google Earth
- 109 Government of Arkhangelsk Oblast website, Map of the Arkhangelsk Region
- 110 The project is funded by the Nordic Council of Ministers, the governments of Finland, Sweden and Norway, and WWF's Barents Sea Office. Cf.: Kuhmonen (2014)
- 111 Barents Euro-Arctic Region consists of 13 administrative regions in the northernmost parts of Norway (Finnmark, Troms, Nordland), Sweden (Norrbotten, Västerbotten), Finland (Lapland, Kainuu, Northern Ostrobothnia) and north-west Russia (Murmansk Oblast, Republic of Karelia, Arkhangelsk Oblast, Komi Republic and Nenets Autonomous Okrug). cf. BPAN Projects website, Barents Region
- 112 Kuhmonen (2014)
- 113 Kuhmonen (2014)
- 114 Aksenov et al. (2014) p.9
- 115 BPAN Projects website, CBD Programme of Work on Protected Areas (PoWPA)
- 116 Aksenov et al. (2014) p. 95
- 117 Aksenov et al. (2014) p. 92
- 118 Aksenov et al. (2014) p.175
- 119 Aksenov et al. (2014) p.107
- 120 Aksenov et al. (2014) p.175
- 121 Aksenov et al. (2014) p.95
- 122 Aksenov et al. (2014) p.155
- 123 The northern boreal zone covers 50,966,500 ha of the BEAR. Source: Aksenov et al. (2014) p.95
- 124 Aksenov et al. (2014) p.105
- 125 Figure extrapolated from data from Tables 34 and 35, as a percentage of 4,955,200 ha. Source: Aksenov et al. (2014) p. 110
- 126 Aksenov et al. (2014) p.110
- 127 Aksenov et al. (2014) p.98
- 128 The middle boreal zone covers 46,448,600 ha of the BEAR. Source: Aksenov et al. (2014)
- 129 Source: Aksenov et al. (2014) p. 105
- 130 Figure extrapolated from data from Tables 34 and 35, as a percentage of 4,955,200 h. Source: Aksenov et al. (2014) p.110
- 131 Aksenov et al. (2014) p. 110
- 132 BPAN website, www.bpan.fi/en/2015/12/page/2/
- 133 Aksenov et al. (2014) p. 98
- 134 The southern boreal zone covers 26,130,100 ha of the BEAR. Source: Aksenov et al. (2014) p.95
- 135 Aksenov et al. (2014) p.105
- 136 Figure extrapolated from data in Tables 34 and 35 of Aksenov et al. (2014), as a percentage of 4,955,200 ha. p.110
- 137 Aksenov et al. (2014) p.110
- 138 For example, the Dvinsky Forest IFL is predominately a spruce forest. Cf. BPAN (2015)
- 139 Pomor Timber FSC chain of custody certificate, <http://info.fsc.org/details.php?id=a02400000QgVn0AAF&type=certificate&return=certificate.php>
- 140 Russian Federal Register on Bankruptcy Information website, legal entity UK Solombalales LLC
- 141 Pomor Timber (2016a)
- 142 MCB Capital company website, <http://mcb-capital.ru/about.aspx>
- 143 As of 16 January 2017, according to data from the Union State Registry for legal entities Pomor Timber LLC shareholders were: 60%: Kallianta Properties Limited, registered in Cyprus – a proportion of these shares is pledged to the Credit Bank of Moscow until 2024. Source: Federal Tax Service of the Russian Federation website. For more information, see: <http://cy-check.com/kallianta-properties-limited/399482.html>; 20%: Popylev Mikhail Nikolaevich (CEO) – a proportion of these shares is pledged to the Credit Bank of Moscow until 2024; 20%: Zenina Tatiana Evgenievna – a proportion of these shares is pledged to the Credit Bank of Moscow until 2024.
- 144 UK Solombalales LLC was the management company of the Solombalales Group. UK Solombalales LLC owned Solombala Sawmill OJSC and Solombala Pulp and Paper Mill OJSC. UK Solombalales LLC was recognized as bankrupt: Russian Federal Register on Bankruptcy Information website, Bankruptcy decision UK Solombalales LLC

- 145 Exim Bank (Russia) website, Pomor Timber: restoration, expansion, export
- 146 Exim Bank (Russia) website, Bank Profile
- 147 Pomor Timber (2015)
- 148 For example, the Dvinsky Forest IFL is predominately a spruce forest.: BPAN (2015)
- 149 Russian Federal Forestry Agency, State Information System 'Accounting of wood deals',
- 150 Solombala Sawmill OJSC supplied Pomor Timber up until May 2015. Cf.: Russian Federal Forestry Agency, State Information System 'Accounting of wood deals',
- 151 Solombalskaya lesnaya kompaniya LLC is as subcontractor in one FMU leased by UK Solombalales. Cf. <http://hcvf.ru/sites/default/files/moratorium/doc00083020160816155136.pdf>.
- 152 Pomor Timber (2016a)
- 153 Pomor Timber (2016b)
- 154 Pomor Timber (2016a)
- 155 Pomor Timber (2016a)
- 156 Pomor Timber (2016a)
- 157 Lesprom website, www.lesprominform.ru/lpk_23.html (last accessed 25 February 2017)
- 158 Russian Federal Ministry of Industry and Trade (2008), Order 49
- 159 Lesprom Network (2013)
- 160 Titan (2016b); see also APPM (2016b)
- 161 FSC FM certificates for Titan managed FMUs:
Pinezhjeles LLC: <http://info.fsc.org/details.php?id=a023300000WV6cLAAT&type=certificate&return=certificate.php>;
Ust-Pokshenskiy LPH LLC: <http://info.fsc.org/details.php?id=a023300000WkK9rAAf&type=certificate&return=certificate.php>; Karpogoryles OOO: <http://info.fsc.org/details.php?id=a0240000005sVzAAAU&type=certificate&return=certificate.php>;
Velskoye LPP OOO: <http://info.fsc.org/details.php?id=a0240000005sVyOAAU&type=certificate&return=certificate.php>; Shalakushales LLC: <http://info.fsc.org/details.php?id=a0240000005sSoOAAU&type=certificate&return=certificate.php>; Dmitrievskiy LPH OAO: <http://info.fsc.org/details.php?id=a0240000005sWSFAA2&type=certificate&return=certificate.php>;
Northern Forest Company Limited: <http://info.fsc.org/details.php?id=a0240000005uAbSAAU&type=certificate&return=certificate.php>
- 162 Pulp Mill Holdings website, www.pulpmill.at/en/index.php
- 163 Pulp Mill Holdings website, www.pulpmill.at/en/appm_info.php
- 164 Shelbyville Enterprises Limited, registered in Larnaca, Cyprus, owns 75.1% of shares in Titan. The contact for the company is listed as the AJK Group, which provides services that include managing trust companies. Source: D&B (2016)
- 165 Sawmill 25 website, Sawmill 25
- 166 Sawmill 25 website, The Sawmill today
- 167 Sawmill 25 website, Production
- 168 LDK-3 profile. Bloomberg website, www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=114204634
- 169 For example, the Dvinsky Forest IFL is predominately a spruce forest. Cf: BPAN (2015)
- 170 Sawmill 25 core activity is the production of spruce and pine sawn timber and wood pellets. In 2015 the sawmill processed 1,136,077 m³ of logs. Source: Sawmill 25 website, Production
- 171 Titan (2016a)
- 172 Titan (2016a)
- 173 Some of this logged volume will be lost due to harvesting and transport losses, be used for logging infrastructure, or be unsuitable for pulp production.
- 174 In 2015 the sawmill processed 1,136,077 m³ of logs. Cf: Sawmill 25 website, Production It's website states that with the recent investment in LDK-3 sawmill it will require 1.5 million m³ of logs. Hence, an additional 400,000 m³. Cf: Titan (2016a) and Titan (2017a)
- 175 'The sole supplier of wood raw materials to APPM is Titan. The annual volume of supplies of wood raw materials to APPM is around 3.4 million m³/year.' Source: APPM (2016b), p.22
- 176 The structure of timber supplies to OJSC "Arkhangelsk PPM" has not changed in comparison with 2012. So, while supply of softwood timber in 2012 amounted to 51.3% of the total volume, in 2013 the proportion increased by only 0.9 percentage points to 52.1%; as for hardwood timber the proportion decreased in 2013 by 0.9 percentage points (from 48.7% of 47.9%). Cf: APPM (2014); While the supply of softwood timber in 2013 amounted to 52.1% of the total volume, in 2014 the proportion increased by only 0.8 percentage points to 52.9%; as for hardwood timber the proportion decreased in 2014 by 0.8 percentage points (from 47.9% to 47.1%). Cf: APPM (2015a)
- 177 For example, the Dvinsky Forest IFL is predominately a spruce forest. Source: BPAN (2015)
- 178 APPM (2015a), p.31
- 179 APPM (2016a)
- 180 APPM's own figure is 2.6 m³ of hardwood (without bark) to 1 Air Dried Tonne (ADT) of pulp. With bark the figure is 2.88 m³. Source: UNFCCC (2016)
- 181 APPM (2015b)
- 182 APPM's own figure is 4.4 m³ of softwood (without bark) to 1 ADT pulp. With bark the figure is 4.8 m³. Source: UNFCCC (2016)
- 183 Arkhangelsk Oblast Regional Assembly (2016)
- 184 Arkhangelsk Oblast Regional Assembly (2016)
- 185 FSC (2014)
- 186 FSC (2016)
- 187 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 188 The Dvinsky Forest landscape is predominately a spruce forest. Cf.: BPAN (2015)
- 189 Glushkovskaya et al (2013)
- 190 Kobyakov/Jakovlev (2013), chapter 3, pp.215-250
- 191 Kobyakov/Jakovlev (2013), chapter 3, pp.215-250
- 192 Glushkovskaya et al (2013)
- 193 Kobyakov/Jakovlev (2013), chapter 3, pp.215-250
- 194 Kuhmonen (2014)
- 195 Yaroshenko et al. (2001); Kuhmonen (2014)
- 196 Yaroshenko et al. (2001)
- 197 Figure based maps in Yaroshenko et al. (2001)
- 198 Holz Dammers company website, www.holz-dammers.de
- 199 The various moratoria agreed for this IFL can be viewed at <http://hcvf.ru/en/regions/arkhangelskaya-oblast>
- 200 Greenpeace Russia (2004)
- 201 WWF et al (2012), p.2
- 202 Arkhangelsk Oblast (2011b)
- 203 Arkhangelsk Oblast (2011a)
- 204 WWF (2014)
- 205 Arkhangelsk Oblast Government website, Scheme of territorial planning of the Arkhangelsk region
- 206 Glushkovskaya et al (2013)
- 207 Arkhangelsk Oblast (2013)
- 208 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 209 Arkhangelsk Oblast (2016)
- 210 16 FMUs. Source: Arkhangelsk Oblast Government website, Forest Planning Documents; 4 FMUs - FSC audit reports of Svetlozerskies LLC. Source: <http://info.fsc.org/details.php?id=a0240000005sV75AAE&type=certificate&return=certificate.php>; 3 FMUs - Public report (2010) of LPH Mamoniha LLC (subsidiary of UK Solombalales). Source: solombala.com/system/system/archives/Mamoniha/Otchet_dlja_obsch-sti_LPH_Mamoniha.doc
- 211 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 212 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 213 Arkhangelsk Oblast (2016)
- 214 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 215 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 216 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 217 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 218 Arkhangelsk Oblast (2016)
- 219 Arkhangelsk Oblast (2016)
- 220 Arkhangelsk Oblast (2016)
- 221 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 222 FSC audit reports of Pinezhjeles LLC, Karpogoriles LLC, Velskoe LPP, downloaded from <http://info.fsc.org/certificate.php>
- 223 Arkhangelsk Oblast (2016)
- 224 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 225 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 226 Greenpeace mapping analysis
- 227 Arkhangelsk Oblast (2016)
- 228 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 229 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 230 1 FMU under the name Vaengskiy Lespromhoz LLC and 2 FMUs under the name Dvinlesprom LLC
- 231 Greenpeace Global Mapping Hub GIS-based analysis 2016-17
- 232 Greenpeace International (2016)
- 233 Titan (2016c); APPM website, 26 December 2016 www.appm.ru/news/2300/
- 234 Arkhangelsk Oblast (2017)
- 235 Statements made at the meeting by Alexey Bulygin, Executive Director of Pomor Timber. Also in an article in MKRU Arkhangelsk he is reported to have proposed that the system of certification is changed [from FSC to PEFC, 'then the creation of the Reserve and conservation of IFL will disappear by itself ... PEFC does not need the creation of protected areas, and therefore, there will be not be any limitation on production and economic activity'. Cf: MKRU (2017)]
- 236 Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)
- 237 Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)
- 238 Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)
- 239 Stora Enso's website, <http://buildingandliving.storaenso.com/products-and-services/france>
- 240 PROTEC's website, www.protacfrance.com/societe/

- 241 SMART Timber's website, www.smartf.nl/smartf.html
- 242 TTJ website, www.ttjbuyersguide.com/companydetails.aspx?id=647
- 243 Sawmill 25 website, Production.
- 244 Sawmill 25 website, Production.
- 245 Sawmill 25 website, Production.
- 246 Production: 116.000m³; Source: LDK-3 (2016)
- 247 LDK-3 (2016)
- 248 Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)
- 249 Field research conducted by Greenpeace in 2016.
- 250 Karibu website, www.karibu.de/ueber-karibu
- 251 Karibu website, www.karibu.de/ueber-karibu
- 252 Karibu website, www.karibu.de/ueber-karibu
- 253 ISB Group website, <http://www.groupe-isb.fr/>
- 254 Fordaq (2015)
- 255 Silverwood website showing map of outlets, www.silverwood.fr/points-de-vente/
- 256 Harmonized System (HS) codes 470329 and 470321
- 257 Harmonized System (HS) codes 480254 and 480255
- 258 Harmonized System (HS) codes 480411, 480439 and 480519, 480591, 480592
- 259 RISI (2016)
- 260 Main buyers of APPM on the Russian market in 2014 included Syasskiy PPM, Troitsk PF, SCA Hygiene Products Russia and Kuban-Papir. Cf. APPM (2015a). In 2015 the mill increased domestic sales of market pulp subsequent to the launch of new tissue plants (SCA Hygiene Products, Pulp Invest, Hayatt). Cf.: APPM (2015a). SCA's new tissue mill is located in Sovetsk, Tula Oblast. Source: SCA (2010)
- 261 APPM (2014) states: 'In 2013 the list of the largest buyers of containerboard from APPM was the same as for the previous year. In 2013 the largest increase in containerboard sales was recorded by the following companies: OJSC Arkhbum (in connection with launch of its plant in Istra), Stora Enso Packaging, Europack, PEF Soyuz.'
- 262 APPM (2015a) states: 'In 2014 the list of the largest buyers of containerboard from APPM was the same as for the previous year. The largest buyers were OJSC Arkhbum, LLC Dekart and ZAO Smurfit Kappa Spb, the aggregated share of which amounted to over 50% of total sales.'
- 263 APPM (2014) states: The main buyers of APPM pulp on the Russian market in 2013 included Troitsk PF (Continental Management), Syasskiy PPM, ZAO Rostovtorpererabotka and Ilim Group in Koryazhma.
- 264 International Paper website, www.internationalpaper.com/company/regions/europe-middle-east-africa/about-us/international-paper-in-russia/ilim-group
- 265 APPM (2016)
- 266 Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)
- 267 eg Kyiv Cardboard and Paper Mill website, <http://www.papir.kiev.ua/en/>
- 268 Random House Germany website (various links – see Bibliography)
- 269 Random House Germany website, www.randomhouse.de/UEber-die-Verlagsgruppe-Random-House/Zahlenund-Fakten/aid60988_12399.rhd#menu
- 270 Kyiv Cardboard and Paper Mill website, www.papir.kiev.ua/en/main-page/
- 271 Federal Customs Service of Russian Federation website, Russian customs statistics (2015-2016)
- 272 Greenpeace International (2014a)
- 273 FSC (2015a)
- 274 FSC (2015a)
- 275 FSC (2015a)
- 276 FSC (2014)
- 277 FSC (2014)
- 278 FSC (2017)
- 279 FSC (2016)
- 280 Greenpeace acknowledges that solutions for the protection of IFLs with FSC FMUs will vary in different regions of the world – i.e different protection thresholds and approaches will probably be adopted by the standards setting process. It does, however, expect that the 'vast majority of IFLs' will be protected in line with the requirements of Motion 65.
- 281 Arkhangelsk Oblast (2016)
- 282 FMUs by Titan Group companies and APPM owned companies that are not included in the FSC Certificate database, <http://info.fsc.org/certificate.php>
- 283 FSC (2015b)
- 284 FSC Secretariat email to certificate holders and stakeholders, 13 February 2017
- 285 The revised Controlled Wood standard states that 'Material shall not originate from commercial logging in Intact Forest Landscapes (IFLs), and shall not originate from areas where management activities contribute to/increase the fragmentation. Cf. FSC (2015b)
- 286 FSC Canada (2016)
- 287 United Nations (2008).
- 288 United Nations (2008).
- 289 ILO (1989)







GREENPEACE

Published March 2017
Greenpeace International
Ottho Heldringstraat 5
1066 AZ Amsterdam
The Netherlands

enquiries@greenpeace.org
www.greenpeace.org