

PROTECTION OF INTACT FOREST LANDSCAPES IN RUSSIA: ROLE OF GOVERNMENT, MARKET-DRIVEN AND BUYERS' RESTRICTIVE APPROACHES

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ABSTRACT. Leading environmental organizations recognize intact forest landscapes as priority areas for conserving forests. A quarter of global intact forest landscapes (IFL), are found in Russia, and since 2000, the country has lost over 7,5% (or 21 million ha) of its IFLs due to logging, forest fires and road construction. With the projected logging rates Russia's IFLs will completely disappear in 150 years, and IFLs that are "rich" in timber will do so in 50 years. Protection of IFLs is the serious challenge, not only due to associated biodiversity loss, but also due to outstanding carbon sequestration and climate change mitigation role of IFLs.

The objective of this research is to define the key drivers and factors and to examine how government and market-driven approaches contribute to the preservation of intact forest landscapes in Russia. A further objective is to assess the merits of consumers restriction measures, such as phase-out of IFL product purchases, as proposed by some environmentalists.

According to our research, voluntary forest certification (market-driven approach) was the main tool for IFL protection in Russia until recently. A market-driven FSC voluntary certification scheme includes moratoria agreements to preserve almost 3 million ha of IFLs. Additionally, between 2010 and 2020 more than 770 thousand ha of IFLs were established in two national parks and three nature reserves in North-West Russia with the primary goal to protect IFLs, mainly in former FSC "no logging" zones. Market-driven approach is currently the main tool used to protect IFLs in Russia.

KEYWORDS: hydromorphology, ecohydraulics, proglacial river, Katun, Altai Mountains, Russia

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INTRODUCTION

IFL (Intact forest landscape) mapping team¹ and (Potapov et al. 2017) defines intact forest landscape (IFL) as an unbroken expanse of natural ecosystems within the zone of current forest extent, showing no signs of significant human activity and large enough that all native biodiversity, including viable populations of wide-ranging species, could be maintained. Although all IFL are within the forest zone, some may contain extensive naturally tree-less areas, including grasslands, wetlands, lakes, alpine areas. A territory that contains both forest and non-forest ecosystems that are only slightly impacted by human economic activity, with an area of at least 500 km² (50,000 ha) and a minimum width of 10 km (measured as the diameter of a circle that is entirely inscribed within the boundaries

of the territory) is technically referred to as an IFL (Potapov et al. 2017). The findings of IFL mapping and monitoring between 2000 and 2020, study of IFL degradation reasons and comparison of protection method efficiency have all been published by the IFL Mapping team.

At the moment, scientists, NGOs, and decision-makers are all interested the preservation of intact forest landscapes. Researchers are focusing on threats to IFLs and their loss (Betts et al. 2017; Donald et al. 2019; Grantham et al. 2021; Heino et al. 2015; Williams et al. 2020), protection and conservation of IFLs on government and indigenous people lands, in forest concessions (Chazdon 2018; Fa et al. 2020; Karpachevsky 2022; Ptichnikov and Karpachevsky 2020; et al.). The significant number of policy and research papers cover the international and national IFLs frameworks, monitoring and values of IFLs (CBD 2021,

¹Intactforestlandscape.org

Hansen et al. 2020; Hansen et al. 2021; IPBES 2019; Watson et al. 2018).

With 815 million ha of forested area, Russia represents more than 22% of the world's forests (FAO 2020). Nearly all forests belong to the Federal Government and their commercial use is implemented through leasing (concessions) to private forest companies. According to the Forest Code, regional forestry authorities and federal forestry agencies organize and oversee forest management. Around 223 million ha are currently (the end of 2021) under commercial lease, from that around 180 million ha under forest management lease (the rest – under hunting and agricultural lease of forests) (Filipchuk et al. 2022).

The area of intact forest landscapes (IFL's) in Russia is estimated currently between 225 and 250 million ha, according to FSC Russia assessments 2021². According to (Dobrynin et al. 2021) the total area of intact forest landscapes within FSC (Forest stewardship council)-certified concessions in Russia was 5.8 million ha in 2021. The area of IFL outside FSC certified logging concessions is likely more than 10 million ha, based on results of own estimation³. Some IFL are in leasing for non-logging purposes, for example hunting management, and no major logging threats exists for such concessions (The National strategy 2021). The total area of leased IFL under threat of logging is likely more than 16 million ha, or around 7% of the total IFL area. 93% of IFL are outside of logging concessions and are not affected by commercial logging (Fig. 1).

Russia's national of forest sector growth strategy until 2030 calls for an increase in harvesting volume of 70 million m³, comparing to 2021 (The National strategy 2021). The majority of this harvesting increase may happen in the new concessions outside currently leased forests, mostly in the areas of pioneer logging, including intact forests. Although it is impossible to foresee the exact scale of this development, risks to IFL are more likely to grow than lessen in the years to come.

Although Russian Federation is a signatory to the Convention of Biodiversity (CBD), taking part in all CBD-related activities, and being a member of IUCN, the Russian current legislation, in our opinion, does not recognize the unique significance of IFL's. IFL's are widely offered by the Government for commercial use through leasing. If the places are not protected areas, leaseholders – harvesting companies – have complete legal authority to log the intact forest landscapes. Protection of IFL's is important to protect forest biodiversity, to reduce carbon emissions from deforestation and forest degradation and to stimulate sustainable forestry management practice use.

By our opinion the policy of Russian government toward recognition of intact forest landscapes was to some extent controversial. The government has mentioned these into the National Forest Policy as forests of high conservation value (Basics of state policy 2013). The Ministry of Natural Resources of Russia includes a new special category of forests – known as the “national heritage” forests – in the new forest inventory instruction (Forest inventory 2020). The initial intention was to use this category to protect IFLs in some of the most pressing areas and hot spots. However, the intended purpose to protect some parts of intact forest landscapes has changed as a result of

Intact forest landscapes in and outside logging concessions in Russia

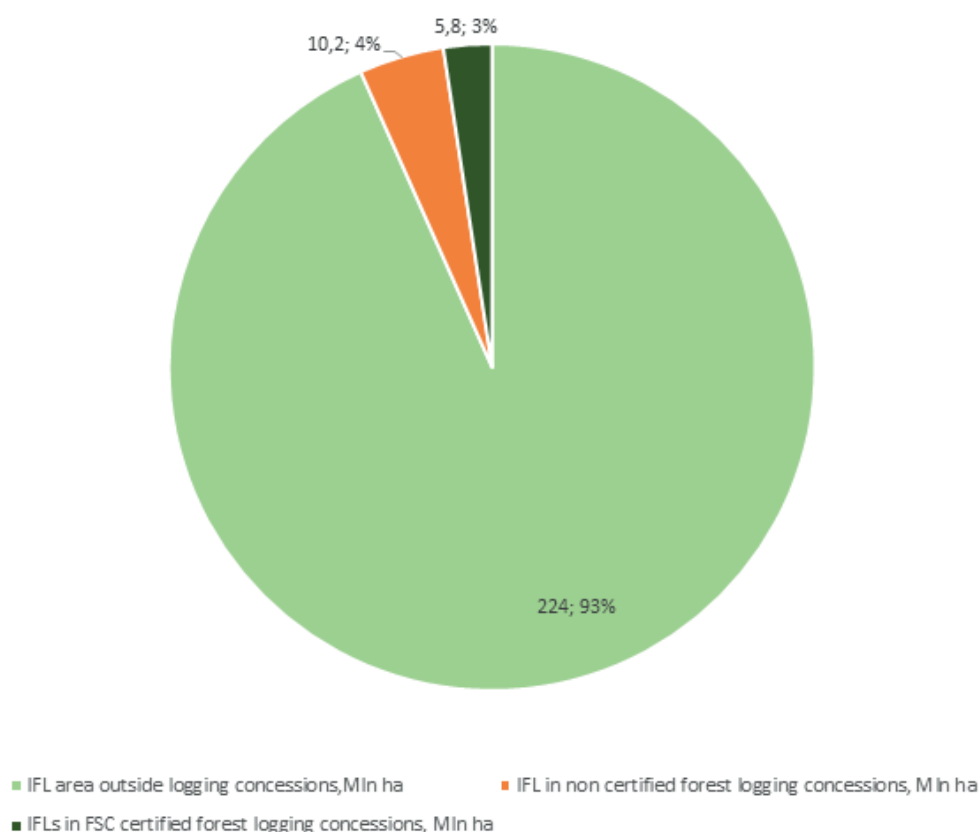


Fig. 1. Intact forest landscapes in and outside logging concessions in Russia, in million ha and percent of the area (authors own assessment, based on Dobrynin et al. 2021, and FSC Russia 2021 data)

²Stricter rules protect biodiversity and intact forest landscapes in Russia. Source: <https://fsc.org/en/newsfeed/stricter-rules-protect-biodiversity-and-intact-forest-landscapes-in-russia>

³The share of FSC certified and non-certified forest lease in IFL ranges from 19% in Khabarovsk region to 65% in Irkutsk region, according FSC Russia private communication.

modifications to the 2020 instruction. The changes make intact forest landscapes smaller, fragmented homes for extinct and endemic species rather than large intact landscapes.

The FSC National Forest Stewardship Standard is currently the only normative document that fully recognizes intact forest landscapes and provides the need for their management and preservation (FSC National standard v2-1). Despite the partial leave of FSC certification in Russia, forest management standard and certification are still operational in the beginning of 2023. In the same time the FSC FM certified forest area is decreasing in 2022-2023 due to impossibility to sell FSC forest products from Russia with FSC claim⁴.

FSC certification is considered as powerful tool to institutionalize IFL concept, ensure protection of core IFLs due to its standards requirements. FSC is the international forest certification scheme, driven by markets. An extensive literature on FSC as a private, market-driven governance institution, NGO (non-governmental organisations) roles in promotion FSC and FSC impacts is available (Cashore et al. 2004; Cashore et al. 2006; Tysiachniouk 2006; Marx and Cuypers 2010; Giessen et al. 2016).

The 2008 adoption of the first iteration of the Russian national FSC standard – amended in 2012 and 2015 – described the preservation of the core areas of intact forests landscapes in consideration of the socioeconomic circumstances of the area (FSC National standard V 6.01). Adoption of the Motion 65 at FSC General assembly 2015 was the turning point in the protection of IFLs, as this Motion required protection of vast majority of IFLs within certified forests (FSC ADV 20-007-018). This motion was driven by environmental organizations, including some radical ones, but also by more constructive WWF⁵, WRI and other FSC environmental chamber members (Dobrynin et al. 2021). New FSC Russia national standard in 2020 was based on international generic indicators – IGIs. The standard requires 80%, 50% and 30% of IFL within concession to be conserved, depending on the protection and management measures taken by the certified company. According to the standard certificate holders (CH's) are required to protect 80% of intact forest landscapes (IFLs) if they only zone IFLs and designate a core conservation area, 50% of IFLs if they also ensure the preservation of biological diversity

and mimic natural forest dynamics in their forest management, or 30% of IFLs if they also initiate and/or carry out measures to reduce climate change (FSC National standard V2-1).

In addition to the active interaction with FSC certification scheme, in 2017 Greenpeace International⁶ launched the report "Eye on taiga: How industry claimed sustainable forestry is destroying great northern forest" (Greenpeace 2017) and following campaign⁷. Greenpeace advised consumers through its campaign "to phase out from buying IFL based products, whether FSC certified or not". Campaign was also aimed to accelerate establishment of Dvinsko-Pinejsky zakaznik to protect around 300-450 thousand ha of remaining IFLs in Archangelsk region. Greenpeace report and campaign were accompanied by a number of publications in Russian Forest forum⁸, claiming that FSC certification is not efficient to ensure protection of IFLs, that restrictive measures, such as total "phase out from buying IFL based products" is the right approach to protect IFLs in boreal forests, and primarily in Archangelsk. The debate over the best strategy to safeguard IFLs was started by a Greenpeace report and campaign. Campaign has clearly accelerated establishment of the Dvinsko-Pinejsky zakaznik⁹, but discussion on efficiency of phasing out from buying IFL based products in presence of FSC certified forests is still on-going among environmentalists and forest product buyers and consumers^{10,11}.

This article provides the overview of government-driven, market-driven and restrictive approaches to protect IFLs, assesses and compares its outcomes against protection of IFL's from logging and provides recommendations for further actions to enhance protection of intact forest landscapes in Russia.

MATERIALS AND METHODS

The discourse on Russian forests that we have established and analyzed in this research is non-state actor-driven and prioritizes preserving intact forest landscapes over the vulnerable forests with significant conservation significance. The following list of key elements of the discourse under analysis is offered in connection to its conceptualization, institutionalization and materialization:

Table 1. The key components of authors analysis for IFL in Russia (based on authors assessment and Dobrynin et al. 2021)

Discourse	Conceptualization	Institutionalization	Materialization	Key drivers	Key actors
Protection of intact forest landscapes	Last large unfragmented primary forest landscapes, shelters of biodiversity and carbon sinks. The priority category of primary forest to be conserved	FSC Forest management standard	Voluntary logging moratoria (later on some of moratoria may be transformed in protected areas (PA's))	Markets, EU legislation to some extent	Companies with green procurement policies, national public procurement
		NGO/ scientists vision on IFL values	Protected areas	National obligations to CBD	Scientists, some NGO's
		Consumer campaigns	Exclusion of suppliers with IFLs in leasing from forest products procurement, despite the fact of FSC certification	Corporate risk management under NGO pressure	Radical NGOs

⁴FSC Russia and FSC International end their partnership. Available at: <https://fsc.org/en/newsfeed/fsc-russia-and-fsc-international-end-their-partnership> [Accessed 13 Jul. 2022].

⁵Nominated as "foreign agent" by Ministry of Justice of Russia in May 2023

⁶Nominated as unwanted organization in Russia in May 2023

⁷Eye on Taiga. Available at: <https://www.greenpeace.org/international/publication/7355/eye-on-the-taiga/>

⁸www.forestforum.ru (now this web-site is not operational) [Accessed 21 Feb. 2022].

⁹State environment expertize endorsed the project of Dvinsko-Pinejsky zakaznik. Gosudarstvennaya expertiza odobrila proekt Dvinsko-Pinejskogo zakaznika. Available at: <https://new.wwf.ru/resources/news/arkhiv/gosudarstvennaya-ekologicheskaya-ekspertiza-odobrila-proekt-dvinsko-pinezskogo-zakaznika/>

¹⁰IKEA logging old-growth forest for low-price furniture in Russia. Available at: <https://news.mongabay.com/2012/05/ikea-logging-old-growth-forest-for-low-price-furniture-in-russia/#:~:text=A%20new%20campaign%20is%20targeting,of%20old%20and%20biodiverse%20forests>

¹¹Certification schemes such as FSC are greenwashing forest destruction. Available at: <https://www.greenpeace.org/international/press-release/46802/certification-schemes-such-as-fsc-are-greenwashing-forest-destruction/>

The methodology used by authors included four main steps:

1. Collection of information for each individual case of protection of IFLs during 2001–2021 in form of protected areas, voluntary logging moratoria or other approaches (e.g., public commitment et al). The number of IFL protection instances that were reviewed increased from 3 to 5 in the first five years to 40–45 in the final five years of the investigation. Information was collected using FSC certificates global data base (info.fsc.org), hcvf.ru web-site section of logging moratoria agreements, authors observations, analysis of literature cross-checked through interviews with key actors, mainly NGO's.

2. Assessment of key drivers and actors in the defense of IFLs and their categorization as market-driven, NGO/scientist-driven, and consumer campaign-driven for each case identified. Assessment was provided on the basis of hcvf.ru web-site section, analysis of literature, including several issues of Sustainable Forest Management Journal, published by WWF Russia.

3. Comparison of results for the end of 2021 following a quantitative study of each strategy's results. This analysis was based on the data, collected during step 1 and 2.

4. Providing recommendations to key actors, based on effectiveness of each approach to protect IFLs.

The lead author did participant observations in 2004–2018 while participating in NGO activities in Russia, and again in 2018–2022 while working on his research project. They constitute the source of the autoethnography materials. Autoethnography implies a critical look at various social beliefs and management practices based on personal experience, self-observation and reflexive exploration, which are used in various research fields (Anderson 2006; Mosse 2005; Winkel 2012). In addition to policy documents, government laws, and certification requirements, opinions, debates in internet forums, press announcements, and other materials were useful to the research. The analysis of technical and policy documents

was supported by scrutiny of relevant academic and grey literature in Russian and English.

A logic of interpretative analysis to understand the meanings Russian forest policy players attribute to forest discourses (Yanow 2007). The logic of interpretative analysis implies that meanings of policy and governance issues are context specific. The meanings are created by the many players and scholars in their capacity as meaning-makers, in addition to being taken from documents and events that are pertinent to policy. Interpretative analysis was carried by the researchers.

RESULTS

Market-driven approaches to protect IFLs

Russia has over 61 million ha of FSC-certified forests by the middle of 2021 (Dobrynin et al. 2021). According to FSC Russia¹², 3 million ha of intact forest landscapes are conserved under moratoria agreements as of January 2021 (1.2 million ha under permanent moratoria agreements, 1.8 million ha under temporary moratoria agreements). The total area of FSC-certified IFLs in Russia was 5.8 million ha, around 52% of these landscapes are conserved as no-logging moratoria zones¹³. Principle 9 of the Russia FSC national standard (FSC National standard V2-1) include moratoria agreements between certificate holders (CH's) and stakeholders, who are represented mainly by ecological organizations. The web-site www.hcvf.ru, which was created by WWF Russia, serves as the foundation for the map of FSC-certified forests with intact forest landscapes (Fig. 2).

As required by FSC NFSS, FSC's approach for protecting IFLs including putting aside certain IFL regions through moratoria agreements between certificate holders and stakeholders. Each logging moratorium is ended for the whole five-year term of each FSC certificate; commitments may be long-term (until the end of the forest lease) or



Fig. 2. SC certified forests with intact forest landscapes in Russia, 2021 (source: www.hcvf.ru, provided by WWF Russia)

¹²<http://maps.fsc.ru/> [Accessed 12 Jan. 2021].

¹³<https://fscrus.nextgis.com/resource/0> [Accessed 12 Jan. 2021].

short term (for the length of the certification agreement) (Dobrynin et al. 2021). Short term agreement can be extended up to unlimited number of cycles of certification. There are numerous examples of CHs continuing to safeguard IFLs over two or more cycles of FSC certification, and if they are interested in FSC certification, they may continue to do so for longer.

The moratoria agreements were concluded between CHs and key stakeholders, such as environmental NGO's (WWF, Transparent World, Silver Taiga et al). The list of moratoria is available on www.hcvf.ru/ru/moratorium. Since the beginning of the FSC and ASI (Accreditation service international) Credibility Project in Russia in 2013, the rate of the moratoria agreements that have been reached has increased by three times¹⁴. Prior to its 7th General Assembly, FSC Russia made a survey among the members on quality aspects of certification. Around 70% of respondents stated that since 2013, high conservation value forests (HCVF) have improved in terms of quality, transparency, and the protection of biodiversity on logging sites.¹⁵

Evolution of protected areas approach for IFLs conservation in Russia

Some environmental organizations propose protected areas alone—without FSC certification—will serve as the primary tool for IFL protection¹⁶. They highlight the fact that FSC certification does, in theory, authorize some logging of IFLs; depending on the scope of the moratoria agreement, anything between 20 and 70 percent of IFL area may be logged under FSC certification. In that case, protecting IFL through the lobbying and advocacy efforts of scientists and non-governmental organizations (NGO) protected areas (PA's) appears to be a more attractive option. In reality this traditional approach now has some clear limitations in Russia.

Due to strong investment and harvesting activity in commercial forests and high demand for forest leasing for logging activities, the potential of establishing official PAs in IFLs in commercial forestry zones has considerably declined over the past 10 to 15 years, notably in European part of Russia (Ptichnikov 2019). Only one PA was established in Russia's European region in the past 20 years, in 2007, as a consequence of persistent lobbying by scientific and environmental organizations. It is the 70,000 ha Kalevala National Park in Karelia, where IFLs are safeguarded. A national park called "Onejskoye Pomorie" was established in 2013 in the Archangelsk region mainly due to long-term lobbying from scientists and NGO's, but also with a support from local FSC certified leaseholder. Due to its dedication to FSC standards and certification, this company, which leased forest on the Onega peninsula, agreed to omit part of those forests with high conservation values from its lease (Tysiachniuk 2006).

According to the Forest Code, even though certified forests are under a logging ban or a standard forest

management plan that includes logging, leaseholders are still required to pay forest fees (Forest Code 2006). Because of this, leaseholders often want to keep moratoria zones out of the leasing area.

Moratoria zones are established mostly in IFL core zones. If these moratoria zones are not available for leasing, FSC certified leaseholders will no longer be able to purchase wood from them because doing so would be against the FSC controlled wood standard (avoid contentious wood from high conservation value forests that are not available for leasing) (FSC STD 40-005 V3-1). If a former moratoria zone is later acquired under new lease by a non-certified company, the new leaseholder will encounter difficulties in selling such timber to neighboring FSC-certified enterprises. As a result, new harvesting projects in core IFL zones frequently fail in their first stages if they are even initiated. For regional governments, creating protected areas in former moratoria zones is actually the greatest option because such woods cannot actually be commercially logged. PA's in former moratoria areas can be a source of investments into tourism and recreation, hunting and fishing. Such activities are normally compatible with PA status, especially in case of regional zakazniks (corresponds to IUCN IV category).

Mondi Group and Komi republic environmentalists are not only agreed to exclude around 150 thousand ha of the most valuable IFLs from logging in moratoria zones, but also initiated the establishment of Koygorodsky National Park in the south of Komi, enlarging "moratoria" IFL to approximately 50 thousand ha. Large Karpogorsky zakaznik (natural reserve) was established in the Komi Republic in 2022 in the area that Mondi had previously leased but abandoned in 2015 after Komi environmentalists learned that Karpogorsky core IFL area had the highest conservation value¹⁷.

Uftugo-Ilishsky zakaznik in Archangelsk was established with support of Ilim group in 2015 to protect IFL core zone in Verkhnetoemsky IFL massive. The highest value of this massive was defined by the Archangelsk branch of WWF Russia in 2009. Ilim group, which protected this area from logging and later from lease in collaboration with environmentalists and the local government, partially leased this territory¹⁸.

Around 677 thousand ha of core IFLs were excluded from lease for logging purposes and converted into PA's by initiative of responsible FSC certified companies in the frame of their commitments to sustainability and FSC values in North-West Russia in the last decade (Table 1). In the regions of Komi and Archangelsk, further PAs are in the works.

Our research indicates that market-driven approaches, represented by FSC certification, play a major role in the protection of intact forest landscapes, primarily in European part of Russia. Because IFLs in Siberia and the Russian Far East only cover a small area and are therefore excluded from leasing, the situation there is rather different. That can be explained by the impact of nearby China market, which may consume any type of timber from non-certified forests.

¹⁴Again, about the improvement of quality of certification in Russia. I snova o povyshenii kachestva sertifikatsii v Rossii. Press-release of the FSC Russia, 21 of June 2016. Available at: <https://ru.fsc.org/ru-ru/news/id/470> [Accessed 21 Feb. 2022].

¹⁵Ptichnikov A. Report of executive body of FSC Russia for 2013-2016. Otchet ispolnitelnogo organa FSC Rossii za 2013-2016. Presentation at the 7th conference of FSC Russia, 13 of April 2016. Slide 8. Available at: https://ru.fsc.org/ru-ru/o_nas/fsc_in_russia/conferences/vii/-123 [Accessed 12 Feb. 2022].

¹⁶Private communications with Swiss and Russian active environmentalists

¹⁷Silver taiga web-site: www.silvertaiga.ru [Accessed 12 Jul. 2022].

¹⁸Uftugo-Ilishsky zakaznik has celebrated its 5 years anniversary. Available at: <http://www.dvinainform.ru/economy/2020/11/24/63241.html>

Table 2. Protected areas established in core IFL areas and set-aside from leasing by FSC-certified companies

Protected area established in former moratoria, adjacent or affected areas, since 2015	Administrative regions	Former lease of companies	Total area, thousand ha
Koygorodsky national park	Kirov, Komi	Mondi (in Komi)	56,7
Dvinsko-Pinejsky zakaznik	Archangelsk	Titan and 6 other companies	300
Uftugo-Ilishsky zakaznik	Archangelsk	Ilim	70
Karpogorsky zakaznik	Komi	Mondi	250
Total			677

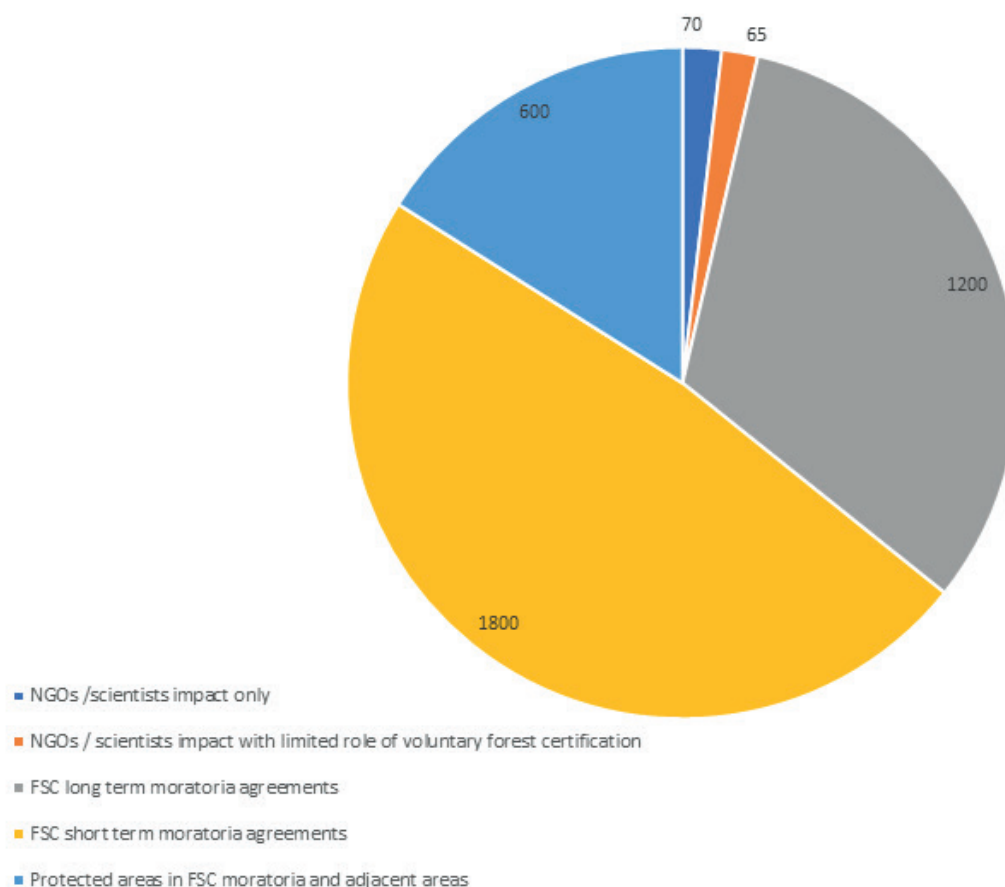
The main discourse in Russia regarding the preservation of intact forest landscapes has changed from the traditional approach, based on lobbying and advocacy work of scientists and NGOs, typical for the end of the 1980s, and the beginning of the 1990s, and the 2000s, to the new discourse, based on preservation within moratoria zones inside FSC certified leases and/or following establishment of PAs in the former logging moratoria zones, excluded from lease and their surrounding areas. This kind of conversation was common at the end of the 2000s and in the 2010s up until 2021 (Fig. 3).

Efficiency of buyer's restriction measures to protect IFLs in boreal forests

In its report Greenpeace International¹⁹ (Greenpeace 2017) raises concerns regarding FSC certification in the area as well as the problem of the destruction of intact forest landscapes (IFLs) in Russia. The FSC certification's ability to guarantee conservation and the prudent use of high conservation value forests in Russia is called into

doubt in the abovementioned report, which details the status of intact forest landscape loss in Russia. Among others, the report addresses the following issues: "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...". "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".

Numerous NGOs, stakeholders and forestry companies have different perspectives on the current protections for IFLs provided by FSC, as well as the reasons behind their total devastation. While radical NGO's suggest that the FSC is not doing enough, other organizations agree that the National Forest Stewardship Standards (NFSS)'s stringent

**Fig. 3. Main reasons for IFLs protection in Russia (based on calculated area of protected IFL in thsd ha. As per end of 2021)**

¹⁹ Nominated unwanted organization in Russia in May 2023

requirements make the FSC certification standards the only programme that provides some IFL protection in forestry operations (Tysiachniouk and McDermott 2016; Ulubina 2014; Ulybina and Fenell 2013).

In particular, FSC Russia's NFSS requires that management of IFLs be established after consultation with stakeholders and FSC Certificate Holders (CH). These include ENGOs such as WWF, Transparent World and others (Dobrynin et al. 2021). IFL protection through FSC entails very active engagement and negotiation with all concerned stakeholders to define specific areas of protection through far-reaching consensus, including agreements among these bodies on the protection of the most valuable (or core) parts of IFLs and the management of IFL areas where the social and economic interests of the local population need to be considered equally. The result of the negotiation process is normally a moratorium agreement. The list of moratorium agreements is available on www.hcvf.ru web-site.

The reaction to the Great Northern Boreal campaign by Greenpeace from key Russian leaseholders that are responsible for the voluntary protection majority of IFLs in Russia was studied through the interview in 2017. We interviewed ten large FSC-certified companies from the European geographical region of Russia, Siberia and Russian Far East, which set aside 65% of all IFLs in Russia. These businesses were all made aware of the Greenpeace campaign. Three of the four FSC-certified companies said that they are considering switching to other certification programmes because of the dangers associated with the current campaign. Four FSC certified companies reported a scenario of significant reputational risk for them. Another FSC certified company notified significant reputational risk (it is a double FSC/PEFC certified company), and five others did not provide an assessment of the campaign risks.

Nine CHs with 600,000 ha of IFL would switch to other certification programmes like PEFC if all IFLs were to be excluded from management. PEFC does not need the protection of IFLs. Only one FSC CH will stay in FSC under any conditions. That means that a vast majority of IFLs will be under risk of logging if all IFLs are being excluded fully from management due to campaign requirement.

In practice phasing out campaign resulted in acceleration of establishment of Dvinsko-Pinejsky zakaznik (2019), which protected 300 thousand ha of intact forest landscape. The campaign tagline urging people to cease purchasing FSC-certified goods from concessions run by IFLs is divisive for IFLs. The campaign's practical implementation could hasten the demise of IFL if businesses switch to certification programmes that don't treat IFLs with the same care that FSC does, like PEFC Russia (PEFC Russia Standard).

Key results of assessment

Our research found that the main tool for IFL protection in Russia is the voluntary forest certification (market-driven approach). Around 3 million ha of IFLs were protected under moratoria agreements within market-driven FSC voluntary certification scheme. In addition, two national parks and three nature reserves with a total area of more than 770 thousand ha of IFLs were established in North-West Russia in 2010s–2020s with the primary aim to protect IFLs, mainly in former FSC moratorium "no logging" zones. Market-driven process is currently the main instrument to protect IFLs, responsible for almost 96% of IFL protection after 2001.

In the same way as it was at end of the 1990s and the beginning of the 2000s, the government-driven approach to protecting intact forest landscapes, based on the lobbying and advocacy power of NGO's and scientists, is no longer a significant tool to protect IFLs from logging. Due to the current strong demand for forest lease from logging companies, the government can no longer afford to protect more or less significant forest areas with IFLs that are within reach of logging companies.

The consumer campaign tool, which aims keep IFL fibres out of products despite their FSC certification, seems to be a very contentious tool and could hasten the logging of IFL as forest firms switch to less stringent certification programmes, like PEFC. The consumer-driven approach has hastened the formation of PA in the last surviving IFL in the Archangelsk region, however in practice this "worst" case scenario was not realized. From that point of view consumer campaign may be considered as extraordinary but risky tool to accelerate protection of IFLs in some IFL hot spots.

DISCUSSION

The causes of intact forest landscapes loss in Russia

Currently the globally significant areas of boreal IFLs are found in Russia and Canada, and tropical IFLs in Brazil and Congo basin. IFLs in Russia and Canada are under threat of logging due to their presence in forest concessions. While there are some IFL tracts in Sweden, Norway, China and other boreal countries, they are generally either not included in logging concessions or are protected by national law.

The situation in Canada is to some extent similar to Russia. Almost 5% of Canada's IFLs were degraded or fragmented by human activity between 2000. Nowadays 11.7% of IFLs were located within forestry concessions. In contrast to Russia, only 6% of IFL reduction was located within oil/gas facilities, pipelines, wells, and seismic lines concessions, which accounted for 60% of IFL degradation. In Canada IFL conservation is linked to the preservation of caribou habitats (Conservation Biology 2018), however in Russia, there isn't a single flagship species that might be related to IFL conservation.

According to abovementioned analysis IFL in Russia was lost at a pace of 1.36 million ha each year between 2000 and 2013, amounting to over 17.7 million ha. In order to reverse the loss of intact forest landscapes, it is important to understand the causes of IFL loss. According to the analysis by WWF (WWF Russia 2018), there are three main causes of IFL destruction in Russia:

- Logging and building of roads for timber transportation
- Forest fires
- Mining and prospecting, development of infrastructure and transportation of minerals, oil and gas.

60% of IFL losses are due to human related forest fires, 23% – due to logging and 17% – due to mining and prospecting. More than 50% of loss due to forest fires has occurred in two regions – Yakutia republic and Krasnoyarsk region. The fastest IFL loss due to logging happens in the forested areas next to the most productive and commercially harvested forested areas. Total loss of 'timber rich' IFLs, is expected to take place much quicker, that other IFLs, likely in 48-50 years (WWF Russia 2018).

The rate of IFL loss in FSC-certified concessions and the rate of IFL loss in non-certified concessions cannot currently be compared due to a lack of data. This will be a subject of a further research. In order to reverse the degradation of IFLs, priority measures should therefore be

taken to strengthen protection of IFLs from forest fires, road and pipelines construction, geological survey and mining projects.

Despite the differences between Russia and Canada, only a strong commitment from the government as the forest owner will be able to solve the IFL problem in both nations. The role of market-driven approaches of IFL protection are rather in raising awareness and drive following government decisions.

CONCLUSIONS

It is important to consider that other natural and human-induced factors, such as forest fires, mining and pipeline operations, and road construction, account for the majority of the IFL loss in Russia and are not the sole source of IFL degradation. Protection of IFL against all impact factors is a complex task. We believe that protection of IFLs through voluntary certification should also be connected to the additional economic benefits for CHs that can be derived from protecting the intact forest landscapes and which constitute a motivating factor for their enhancement.

One of the recently open possibilities is the development of nature climate solutions, aimed to decrease emissions from logging and forest fires, and to increase GHG (green house gases) sequestration by forests due to better forest management. Forest company can be partially compensated for not logging some IFLs in their lease through obtaining and trading certified emission reductions (CER) for forest protection above baseline

scenario of forest management. The example of such approach is demonstrated by pilot project, implemented by FSC CH Terneyles. The project was registered by Verra VCS (Voluntary carbon standard) international climate certification scheme and can generate up to 198 000 tonnes of CO₂ equivalent after validation²⁰. At the start of 2022, 1 CER was worth around 5-6 USD. There are some other examples of such projects in Russia and worldwide (Ptichnikov et al. 2021; Krenke et al. 2021).

Success in conservation can be achieved by the combined efforts of responsible enterprises, NGOs, and governments, and it requires key stakeholders to join it in this effort. There are added areas where IFL protection can be enhanced. For example, an alternative but equally strong approach to enhancing conservation of IFLs lies in a strengthening of FSC controlled wood (CW) standards. The new version of CW standard (FSC STD 40-005 ver. 3.1 (FSC STD CW 40-005 V3-1) prohibits or significantly limits the supplies of controlled wood from IFL areas.

Strengthening Government engagement through enhancing protective measures such as the creation of protective sites under a National Heritage Category in Forest inventory instruction is another approach that we consider worth developing in Russia. Boosting ecosystem services certification alternatives, such as carbon sequestration and climate projects in IFLs is a new way forward and these can be integrated into management schemes as an overarching approach. Finally, landscape approach to IFL management²¹ seems to be important complementary measure to ensure better IFL protection. ■

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²⁰Protection of high conservation value forests by Terneyles group. Available at: <https://registry.terra.org/app/projectDetail/VCS/1544>

²¹Finding the Balance: A Landscape Approach to IFLs. Available at: <https://ga2017.fsc.org/finding-the-balance-a-landscape-approach-to-ifls/>

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²²Nominated as unwanted organization in Russia in May 2023

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