In a Dark, Dark Wood: Morality, Politics, and Ecological Inaction In Russia

by

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DISSERTATION ABSTRACT

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Doctor of Philosophy in Sociology

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This dissertation delves into the complex socio-environmental issues that lay at the intersection of natural resource governance, environmental injustice, and environmental discourse in Russia—a nation with an economy profoundly reliant on revenues from natural resources. Employing environmental sociology as its core analytical framework, this dissertation provides an analysis of the Russian case-study, underscored by a deep-rooted history of settler colonialism and extraction politics, diverse ethnic demographics, and centralized environmental governance.

This dissertation consists of three empirical chapters that are written in the article style to be able to serve as standalone research projects while building upon one another to form a cohesive narrative that helps understand the state environmental affairs in an authoritarian Russian state. Using mixed methods—ethnographic fieldwork in the Russian Northwest, critical discourse study of the federal newspapers, and statistical analysis of the Rosstat and Census data—the three dissertation chapters provide a comprehensive analysis of forestry, politicization of environmental discourses, and the increasing role of extraction in shaping environmental disparities across the Russian regions. This dissertation aims to serve as a starting point for an academic conversation about the largely overlooked by environmental sociology Russian case-study, and it further calls for the much-needed development of this area of research.

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INTRODUCTION

This dissertation focuses on environmental regulation, inequality, and discourse in the age of authoritarianism. Through an investigation of the history of extractivism, resource regulation, and prevalent state-supported discourses, this dissertation aims to provide a comprehensive understanding of environmentalism and environmental inequalities in modern Russia. This research builds on the environmental inequality literature and explores the unique Russian context characterized by historical reliance on extractive industries, centralized environmental governance, and the authoritarian nature of the political regime.

Environmental inequality defined as: "any form of environmental hazard that burdens a particular social group" (Pellow 2000:585), has been thoroughly researched in the North American context. Starting with early studies that were closely connected to the environmental justice movements of the 1970 and 80s, researchers have brought attention to the problems of race and class affecting communities' level of exposure to environmental hazards (Chavis and Lee 1987; Bullard 1990; Brown 1995). Since then, the growing field of environmental justice studies has shown that environmental hazards and pollution are inequitably distributed in ways that disproportionately affect predominantly non-white communities, low-income communities, indigenous, and migrant communities (Taylor 2014; Mohai and Bryant 1992; Mohai et al. 2011; Lievanos 2015; Pulido 1996; Lane et al. 2022; Ard 2015). These disparate effects expose them to toxic elements contamination and contribute to the development of pollution-borne illnesses (Morello-Frosh and Jesdale 2005; Zahnd et al. 2021; White and Borrell 2011).

Environmental inequality is a prevalent issue in industrial zones and mass transportation areas, including highways (Rowangould 2013; Zhou and Levy 2007), ports (Greenberg 2021), and

zones where resource (specifically: oil, gas, and coal) extraction occurs (Donaghy et al. 2023; Bell and York 2012; Wishart and Greenberg 2023). Extractive industries create and perpetuate systemic inequalities. By studying environmental inequality in extractive regions, researchers have found that socially vulnerable populations, majority non-white, and lower-income communities are more likely to have oil and gas extraction and transportation infrastructure that is denser and closer to their homes (Emanuel et al. 2021). These communities also face higher risks associated with contamination of water supply wells from oil and gas wells (Berberian et al. 2023) and tend to be subjected to higher levels of exposure to atmospheric pollution from flaring (Cushing et al. 2021). Studies of resource-based environmental inequality show that regions that are home to extraction, while benefiting from extraction industries in the short run, tend to face an array of socio-economic, environmental, and health consequences in the long run— all of which significantly overshadow the short-term "boom" economic cycle (Greenberg 2017; Freudenburg 1992).

Domestic raw material production and transportation infrastructure prompts the formation of internal peripheries— regions used for the extraction of resources, which are dependent on and controlled by the core within the same country (Leithner 2004). Core-periphery relations existing at the sub-national level create and sustain hierarchy and spatial inequality, even in developed core states. The historical appropriation of resource rents by the core at the sub-national level often leads uneven regional development, which is reflected in the modern levels of socio-economic and environmental inequalities (Driscoll and Kick 2013; Wishart and Greenberg 2023).

What comes into play in creation, distribution, and management of resource exploitation and pollution is the unchallenged "naturalized" privileged access to natural resources by select social groups, as well as the overarching power of the extractive industries (Freudenburg 2005). Malin, Mayer, and Hazboun (2023), explain that oil and gas industries in the USA possess a

"metapower"— or the ability to interfere and affect policy-making and political decision-making. Furthermore, the interest groups related to extractive industries are able to manipulate public discourse to change the narratives that are used for shaping the perceptions of resources and their extraction among industry workers, local communities, and national populations (Bell and York 2010; Malin and Kallman 2022; Brulee 2013; Wylie 2018). This issue gets amplified manyfold in resource-rich countries that do not have democratic institutions, reliable systems of checks and balances, or strong civil societies— such as Russia.

Russia possesses unparalleled reserves of oil, natural gas, coal, forested areas, and freshwater reserves. The country's gas reserves, estimated at approximately 47 trillion cubic meters (accounting for nearly a quarter of reserves globally), with the majority of those reserves being located in a single region— Siberia (BP Statistical Review of World Energy, 2020; Groisman et al. 2013). Additionally, Russia plays a significant role in the global oil market—for over thirty years it has remained among the world's top five crude oil producers (U.S. Energy Information Administration 2023). These contribute to its reliance on revenues from oil and natural gas which amount to approximately 20% of the country's GDP (The Federal State Statistics Service 2022), making it a "*Petronation*" (Rutland 2014).

At the same time, Russia is home to the largest forested area of any country, with forests spanning over 815 million hectares, which accounts for about 20% of the world's total forest area (Ritchie 2021). This vast expanse of forest includes a significant portion of the world's boreal forests, which are critical for biodiversity, carbon sequestration, and regulating climate. The significance of Russian forests extends beyond their geographical borders, mitigating the impact of climate change (Groisman and Gutman 2012). These natural resources are not only pivotal elements in global energy security and environmental sustainability, however. In Russia, fossil

fuels and other natural resources play a significant political role: they have been turned into identity-constructing and ideology-promoting tools (Wilson 2019; Tynkkynen 2019) that serve as state tools for reconstructing national pride through what Graybill (2020: 386) calls the "Becoming great-again discourse." Natural resources are instruments of the regime, that are used to forcefully construct the idea of a nation's power and disseminate it among the population as a part of the federal project to create new nationhood characterized by endless brutal force to be feared in the West.

The repositioning of natural resources as tools of the regime is seen today in the "Great Power"—*Velikaya Derzhava* and the "Energy Superpower"—*Energeticheskaya Sverhderzhava* (Rutland 2015; Kuteleva 2020) metanarratives. These narratives were developed in Russia in the early 2000s to unite the nation around extractivism as the central driver of progress and stability that groomed the citizens to associate Russia's power with its natural resources (Graybill 2019). As Kuteleva (2021:63) aptly summarizes: "Constructing Russia as an energy Superpower is one of the central themes of this [Putin-constructed] ideology." Mol (2009) describes this phenomenon as "environmental deinstitutionalization," shifting the focus from sustainability and responsible resource use back to the extraction industries becoming positioned as the primary source of a nation's wealth. The centralization of power under Putin has further turned ecological knowledge and environmental reporting into an instrument of gaining power: it has replaced environmentalism by propaganda rhetoric and manipulation of public opinion orchestrated through mass media (Yanitsky 2012: 34). The current political regime, similar to its predecessor, exploits natural resources and utilizes the media to develop an artificial ecological reality not bothered by environmental or climate problems.

Interestingly, the current "environmental deinstitutionalization", succeeded the relatively free and developed period of heightened environmentalism of the 1980s through the early 2000s. Similar to the U.S., the Soviet Union of the 1980s saw an emergence of an environmental movement which overlapped with the general liberalization of Gorbachev's Perestroika (restructuring, rebuilding) that led to the creation of the civil society on a national level. Perestroika allowed for public participation and discussion of the many issues inherent to the Soviet system, including massive levels of environmental pollution caused by industrialization, ecological disasters prompted by the "Hero Projects" or "Mega Projects" aimed at taming nature, and technogenic catastrophes like Chernobyl (Josephson et al. 2013; Breyfogle, Shrader and Sunderland 2007; Josephson 2024). The growing liberalization and openness of the regime allowed for unprecedented national environmental reforms, the declassification of the pollution data, the establishment of environmental impact assessment regulations, and the creation of new environmental institutions.

During the late 1990s and early 2000s, Russia experienced a surge in environmental activism which spread sustainable development principles and grassroots organizations (Yanitskiy 2012). This period, marked by environmental awareness, a more open society and media, and active environmental NGOs was jeopardized by diminishing funding for environmental protection and several rounds of the bureaucratic restructuring of environmental regulation at both the state and local levels during the early 2000s. Most notably, the abolition of the Forestry Service and the independent State Committee for Environmental Protection, both of which got absorbed by politically-growing Ministry of Natural Resources, as some researchers note— a pseudo-ecological "super-agency" that promotes resource development (Peterson and Bielke 2001; Newell and Henry 2016). Today environmental policy decisions are made almost exclusively in the

Kremlin, with little to no opportunity for regions to provide input or for citizens to participate (Martus 2017; Hartwell, Otrachenko and Popova 2021).

Over the past two decades, Russia has experienced a significant shift towards the centralization of power, gradually sliding it towards authoritarianism. This has impacted almost all aspects of civil society, including environmental activism. The Kremlin's consolidation of power has weakened democratic institutions and removed mechanisms of checks and balances. This has led to the erosion of free speech, with the government imposing stringent controls over media, the internet, and civil society through laws and regulations that curtail dissent and silence opposition voices. Scholars have documented how laws against "extremism" and "foreign agents", as well as more recent laws on the "defamation" of the state, army, and politicians, the "offense of the feelings of believers" (with a strong bias towards followers of the Orthodox Russian faith) and "fake news" have been used to target journalists, activists, and non-governmental organizations, effectively stifling critical voices and muting public debate at the national level (Lipman 2015; Gel'man 2015; Krupskiy 2023). Many minority-centered organizations and environmental groups face harassment, legal challenges, and branding as "foreign agents," all of which undermine their capacity to operate and advocate for environmental causes, making them subjects of prosecution and, sometimes prison sentences (Henry and Sundstrom, 2016; Newell and Henry 2016).

Given the centralized nature of the highly resource-rich non-democratic state characterized by authoritarian tendencies (Laruelle 2022; Gel'man 2015), today, we face the question—what happens to resource regulation, environmental discourses, and environmental inequality when citizens can no longer be heard or participate in the decision-making in a meaningful way? To address this question, I turn to the environmental inequality, environmental perceptions, and

authoritarian populism literature that helps us evaluate the current state of environmental affairs in Russia in the three empirical chapters.

In Chapter One, building upon the literature which explores the role of populism and politics on environmental beliefs, as well as the literature on environmental scapegoating, I analyze the role of personal experience and prevalent environmental narratives in the shaping of environmental perceptions among the extraction industry workers. Through the analysis of 18 in-depth interviews conducted with logging sector workers, this research highlights hybridization of populist environmental narratives and science-based knowledge. Workers perceive environmental issues differently within their region of expertise compared to areas outside their direct experience— notably attributing the deforestation and environmental degradation within distant regions to external factors like China—a notable environmental villain within the Russian environmental discourse. The study underscores the influence of Russia's state-controlled media and authoritarian populist regime in shaping environmental perceptions, offering insights into the politicization of the environment and its implications for policy and future research.

Chapter Two continues this dissertation's exploration of the role of authoritarian populism in shaping environmental beliefs, through an analysis of Russian newspapers to track the formation of the environmental discourses on the federal level. Using the literature on environmental discourse, resource nationalism, and the Russian media, this chapter examines the evolution of Russia's newspaper discourse on forests and logging over more than two decades (2000-2021). Using a qualitative analysis, this chapter explore how these narratives have changed over time, and have been influenced by: Russia's centralization of power, its distancing from the West, and its strategic rapprochement with China. These narratives employ a shift in blame for

illegal logging and deforestation from domestic issues to external factors, like China, which reflect broader political and economic dynamics. This chapter reveals how Russian environmental discourse, influenced by political and economic priorities, marginalizes environmentalism, science, and critical assessments of the true state of Russian forests and its logging industry.

Chapter Three analyzes broader national issues of environmental injustice. In particular, it investigates the intersection of ethnicity, environmental degradation, and internal colonialism in Russia, emphasizing disproportionate exposure to pollution faced by regions with larger proportions of ethnic minorities. This chapter builds off of the rich literature on the long history of colonialism and extractivism, quantitative studies on environmental inequality, and qualitative case-studies of pollution in regions populated by indigenous people and ethnic minorities. By employing a statistical analysis of publicly available Russian governmental and Census data on pollution and the ethnic composition of the regions, the chapter illustrates the stark environmental inequalities stemming from resource extraction. The findings underscore the systemic nature of environmental injustice, highlighting how regions inhabited by more indigenous populations serve as resource taps and pollution sinks. This research positions the need for a development of a decolonial approach and Russian environmental studies.

This dissertation contributes to the broader discourse on environmental sociology and political sociology by highlighting the intricate mechanisms through which state power influences environmental narratives, practices, and policies. By examining the Russian case, this research sheds light on the global implications of authoritarian environmental governance, emphasizing the need for more democratic and inclusive approaches to environmental management and the recognition of the environmental injustices that have been disproportionately affecting resource-rich regions and the minority populations. This dissertation offers conclusions that might be

applied to other countries that similarly have rich environmental resources but are drifting towards authoritarianism and authoritarian populism. This work highlights the importance of researching and understanding the interplay between political power, environmental policies, and inequality in Russia. This research calls for the development of the field of Russian environmental justice studies and more effective and equitable solutions to environmental challenges that are faced by one the most resource-rich states in the world.

“Here” versus “There”:

Authoritarian Populism, Environment, and Scapegoat Ecology Among Loggers of Northwestern Russia.

Abstract:

This case study contributes to the research on the environmental beliefs of extractive industry workers in an illiberal populist regime. This research is based on semi-structured interviews with logging sector workers of the Russian Northwest— a severely understudied population directly involved in resource extraction. The data shows that these workers understand forestland as two separate localities: the northwestern region of Russia, in which the loggers have expertise and knowledge, and the rest of the country, in which workers don’t have any work or travel experience. This division facilitates a process of hybridization of populist environmental narratives on one hand, and loggers' science-supported knowledge and experiences on the other. This hybridization of the workers’ beliefs is anchored in, and perpetuated by, Russia’s state-controlled media and its modern authoritarian populist regime. This research offers policy implications and encourages future studies on the politicization of the environment and resources in authoritarian populist states.

Keywords: Authoritarian populism, deforestation, environment, logging, perceptions, scapegoat ecology, Russia.

Introduction

It is critical to study environmental resources to understand larger social and political issues, not only because they are part of cultural and state identities, but also because they are "constitutive of the material and ideological nature of nations and states"—they represent the material basis for state power (Koch and Perreault 2019: 616). This is especially relevant in cases of illiberal and populist regimes, both left-wing and right-wing, where populists utilize the land, resources, and environmental issues to gain economic and political power (Ofstehage et al. 2022; Buzogany and Mohamad-Klozback; Sonnefeld and Taylor 2018). Within populist discourse, the larger system of representing and discussing the world through populist frames, the environment becomes a "political object" (Ofstehage et al. 2022: 687). Not surprisingly, countries with leaders who combine illiberalism and populism experience an attendant decline in environmental quality, popular disregard for science, an increase exploitation of resources, land dispossessions, and violence towards the activists and indigenous people (McCarthy 2019; McKay et al. 2020; Scoones et al. 2018; Ofstehage et al. 2022). Populist leadership, even in democratic states[1] undermine environmental science and policy, sometimes with detrimental damages to the environment.

Authoritarian populists take these tendencies further by reshaping notions of nature, climate, and resources, seizing control over the political and ecological discourses in order to secure their power. Illustrative examples include Bolsanaro's Brazil, Erdogan's Turkey, and

[1] For an overview of populism and environment in the United States see Huber, Fesenfeld, and Bernauer (2020), Fiorino (2022); for Europe see Kulin, Sevä, and Dunlap (2021); for Great Britain and Denmark see Forchtner and Kolvraa (2015).

Putin's Russia (Ofstehage et al. 2022; McCarthy 2019; Adaman and Akbulut 2021). Studies of authoritarian populism and its role in turning the environment into a "political object" are an important contribution to the larger studies of global environmental and climate crises, especially in resource-rich states and global greenhouse gas emitters like Russia, whose domestic environmental policies have major global implications.

Russia is considered one of the most resource-rich states in the world, due to its massive reserves of oil, gas, and timber. This presents an exceptional case for studying how authoritarian populist regimes politicize nature and reshape environmental discourses. While research on discourses surrounding fossil fuels, global warming, and international environmental negotiations are well-developed within the context of Russia (Rowe 2013; Poberezhskaya 2015; Korppoo, Tynkkynen, and Honneland 2015; Korppoo 2022; Graybill 2019), the body of research on discourses involving non-fossil fuel resources, such as timber, is severely underdeveloped. This is at odds with the fact that Russia has approximately 20% of the world's forest-covered area and a multi-billion dollar logging industry with a global market. This article addresses this shortcoming and advances the literature on authoritarian populism and its effect on environmental discourses by analyzing timber industry workers' understandings of environmental degradation, sources of ecological threats to forestlands, and mismanagement within the industry.

This research is motivated by the following question: *are industry workers' environmental perceptions and beliefs shaped by populist environmental narratives or are they guided by the science-based knowledge and the workers' first-hand experience?* Based on the strand of existing literature on environmental beliefs of extractive industry workers (Huang 2021; Loechel et al. 2013; Lange, Ryan, and Thomas 2022), and the literature explaining the role of populism and

politics in shaping environmental and climate perceptions (Kulin, Sevä, and Dunlap 2021; Forchtner and Kolvraa 2015), the first hypothesis would predict that politicized populist environmental narratives would prevail over science-based beliefs. Based on the other strand of literature, on environmental risk perception (Lujala, Lein, and Rød 2015; Reser, Bradley, and Ellul 2014), the second hypothesis would expect that personally experienced or witnessed issues would guide workers' environmental beliefs. The findings reject both hypotheses and put forth a process of hybridization of populist environmental narratives on one hand and loggers' science-supported knowledge and experiences on the other.

By focusing on logging industry workers—a severely under-researched population (Snyder et al. 2022), this paper contributes to the broader literature on authoritarian populism and the environment. Logging industry workers are critical subjects for the study of authoritarian populism and the environment as they serve as a link between the industry, federal environmental policies, and the larger public. Recognizing how environmental beliefs and perceptions are formed and how they operate on the micro level, helps to understand larger environmental protection measures and national regulations (Marquart-Pyatt 2016), which in the case of Russia are manipulated by the authoritarian populist regime. Since Russia is just another illustration of the global crisis of liberalism (Lewis 2020) and the surge of authoritarian populism across the world (Oftehage et al. 2022), the current case study offers field-based insights into the larger process of the demise of environmentalism on the global scale.

This article proceeds with an overview of authoritarian populism in Russia[2] and continues with a summary of Russia's forestry institutional reorganizations and current problems within the logging industry. Then, the findings section presents interview excerpts which are analyzed in the discussion section. This article's conclusion offers practical implications and directions for future research.

Russian Case Study

Populism and the Environment

Authoritarian populists build their power through discourse that contains campaigns and narratives that single out external enemies and claim to protect the people, land, and the resources against those (Ofstehage et al. 2022; McCarthy 2019). These campaigns are commonly supported by disinformation, nationalist sentiments,fears, and collective memory manipulation (Riedel 2020). Characteristic to these regimes, the emphasis on protection, nationalization, and extraction of natural resources is amplified in Russia, where fossil fuels and other resources take on identity-

[2] Some political scientists might argue that the Russian regime should be called "illiberal", (Laruelle 2022), "authoritarian" (Gel'man 2015), "hybrid" (Treisman 2011), or "electoral authoritarian" (White 2013; Wilson 2016). Others would want to add that Russia has "official populism developed out of hybrid regime (Robinson and Milne 2017) or would explain that the regime has transformed into "conservative populist autocracy" (Fish 2018). For the purposes of this paper I refer to the Russian regime as "authoritarian populism" and "illiberal populist" which I use interchangeably. In this article I follow Ofstehage et al. (2022) definition of authoritarian populism as a political regime, ideology, discourse, and a set of practices managed by an authoritarian leader that builds political support and holds power by exploiting publicly-appealing issues. Such issues are typically constructed with the help of "us"—"the people" vs. "others" dichotomy, where "the people" are claimed to be defended from the corrupt elites, enemies, and external threats.

constructing and ideology-promoting roles, projecting Russia's power (Rowe 2013; Tynkkynen 2019) and grooming the citizens to associate Russia's strength with its resources (Graybill 2019).

"The environment has become a tool, and on occasions, a weapon, used by Putin to serve a broader agenda" (Martus 2021:869). Putin's regime had replaced environmentalism with propaganda, manipulating the public opinion through the media (Yanitsky 2002: 34). This is not surprising because the most reputable and popular media outlets are either under direct control of the government or are managed by individuals tied to extractive industries (Poberezhskaya 2015). Controlled media narratives help populists to create distrust towards, publicly ostracize, or exclude environmental scientists as well as activists and indigenous people from policy-making while encouraging a dilution or removal of environmental protections (Ofstehage et al. 2022; McCarthy 2019). This tactic finds wide representation in Russia, where the environment-related decision-making process prioritizes extractionism and mutes the voices of indigenous people, environmentalists and scientists (Tynkkynen 2014; Newell and Henry 2016).

Today the state suppresses human rights-centered and environment-centered organizations with the "Foreign Agents" law[3] (Tysiachniouk, Tulaeva, Henry 2018). The list of "agents" grows weekly, with the most recent environmental "foreign agent" being the World Wildlife Fund. Many grassroots-level organizations shut down soon after being added to the list, like "The Sakhalin

[3] "Foreign Agents" law, introduced in 2012, requires registration and self-declaration from individuals and organizations who receive any kind of support or are "influenced" from abroad. Once labeled, they become subject to audits and taxes, are required to mark their publications with a disclaimer, and are legally prohibited from participating in political activities or being elected for public office.

Environmental Watch" that ended its 27-year history of environmental service the day after being labeled a "foreign agent".

External Enemies

Russian populism is characterized by nationalistic rhetoric, an emphasis on traditional values, country's power (Tipaldou and Casula 2019; Mamonova 2019; Robinson and Milne 2017), and threats from various external enemies—what Lev Gudkov (2005) calls "Outside Enemy Mythologem". External enemies narratives can be traced in the media, laws, public opinion polls (Gudkov 2021; Frye 2021), and politicians' speeches filled with antithesis—a rhetorical tool of persuasion that emphasizes "us" against "them" (Gimranova et al. 2019). The list of Russia's external enemies is composed mainly of the US (Volkov 2016), NATO (Wilhelmsen and Hjermann 2022), "Gayropa"—"infected" with homosexuality Europe (Foxall 2017), and China.

During Putin's first two presidential terms China was actively portrayed as an internal and external threat (Burrett 2019), perpetuated by the media and politicians that exaggerated the statistics and promised Russian territory and markets to be taken over by the Chinese (Dyatlov 2012; Blyakher and Grigorichev 2015), like the Damansky island that was "stolen"[4] by China in 1962**.** However, in Putin's later terms, China was discursively repositioned as a trustworthy partner with similar humanistic values (Burrett 2019). Despite this shift, a decade of negative portrayal has significantly affected public perceptions that are yet to change (Kolosov and Zotova 2021; Namsaraeva 2018).

It is common to see China portrayed as an environmental villain in Russia at regional and federal levels. Analyzing the first openly violent post-Soviet ethnic clash that happened in 2012, Namsaraeva (2018) explained that what started as a fight over Chinese sawmill workers washing their clothes in a reservoir, in the end got portrayed by the media as a multi-level ecological and physical attack by the Chinese. Similarly, in a recent case of a Chinese-funded factory that was to be built on the shores of Lake Baikal, it was the Chinese company and workers that got blamed for various environmental and economic issues. While ecologists were cautious about the project because of potential harm to the local habitat, the issue got publicized as a nationality conflict, promoting a wave of anti-Chinese sentiment on local and federal levels (Kulintsev et al. 2020). The protests prompted the Chinese company to abandon the project but a well-connected Russian company ended up building a similar factory in the same area.

China also appears as a villain in newspaper articles and officials' speeches regarding the environment. In an interview for *Vedomosti*—one of Russia's major newspapers, the Minister of Natural Resources Kobilkin warned China with the ban on selling timber because of China's widely perceived involvement in illegal logging in Russia. "China should clearly understand that if they don't help out with solving this issue [illegal logging], then we won't have any other option but to ban exports of logs completely" (Meremiskaya and Petlevoy 2019). Echoing Kobilkin's statement, the head of the Federal Service for Supervision of Natural Resources "Rosprirodnadzor," Svetlana Radionova, claimed that Russia's natural resources are declining because of China. At the meeting of the Federation Council, referring to the procurement of wild endemic herbs and other forest flora, Radionova stated, "Let's be clear—big Chinese brother just vacuums up everything that it can get to, and looks at it barbarically" (Federation Council 2021).

Although she was responding to a critical inquiry about the absence of a state law protecting species that populate zones of planned infrastructure development, Radionova nevertheless attributed blame to China.

Characteristics of The Forest Management and Logging Industry in Russia

Overview of the Forest Management Reorganizations

In late 1990s and early 2000s the state initiated multiple reforms that have significantly harmed environmental regulation in Russia (Newell and Henry 2016; Mol 2009). "The system has been in the process of permanent reforming for 26 years, with no positive effect so far" (Kozyreva et al. 2019:4). Many of the modern forestry institution's and logging industry's issues are rooted in those reforms. "Legacy of top-down decision-making, unsuccessful transition to democracy and limited bottom-up processes" characterize Russia's forest policy (Angelstam et al. 2019).

In the 1990s the government introduced the forest leasing system, which granted access to logging sites via auctions. While the goal of these auctions was to introduce free-market competition, in practice they favored a select group of corporations. The smaller number of harvesting permits issued led to a drop in revenues for local forestry agencies—*leskhozy*. To compensate for their financial losses, leskhozy began selling timber procured under the guise of *sanitary logging*—a legal type of logging similar to "thinning" that is often used in Russia to bypass restrictions on timber procurement (Eikeland, Eythorsson, and Ivanova 2004).

In 2000, Russia's Federal Forest Service was abolished, and its functions and powers were transferred to the Ministry of Natural Resources. All responsibility for forest management and protection, however, were transferred to regional governments, which led to a financing crisis

followed by public and professional outcry (Fiorino and Ostergren 2010; Newell and Henry 2016). Regions became unable to fund silvicultural activities and even record or maintain statistics and indicators of forestland. Sokolov and Onuchin (2019: 95) from the Russian Academy of Sciences describe the reorganizations, noting, "you can say that forest management is carried out blindly."

The rewriting of the main set of forest laws, known as the "Forest Code" (FC), in 1993, 1997, and 2006 further weakened forest management and failed to create an efficient and sustainable state-wide policy. The most recent FC contributed to a dramatic decline in forestry workers numbers and rescinding of the leskhozy's self-funding privileges, diminishing the organization's ability to fund forest management activities. The 2006 FC draft was accepted despite the many appeals from the World Wildlife Fund, environmental scientists, and the public highlighting deficiencies in the draft (Sokolov and Onuchin 2019; Fiorino and Ostergren 2010). Current FC focuses on the economic aspect of forests rather than environmental value and protective activities (Hitchcock 2011; Sokolov and Onuchin 2019). The resource-oriented economy has become the basis not only for private business but an element of national forest policy (Petrov, Katkova, and Karvinen 2018).

Current forestry and logging industry problems

Logging in Russia is often called "wood mining" because the forest is logged where the timber volume is highest, after which the operations are quickly moved to new high-yield primary forest areas with little to no reforestation provisions in place (Naumov, Angelstam, Elbakidze 2016; Dobrynin et al. 2021). Areas of reforestation have shrunk by half over the past 20 years (Sokolov and Onuchin 2019), areas of intact forests, similarly, are shrinking: between 2000 and

2013 Russia lost over 7,5% of its intact forests (Kobyakov et al. 2015). Juvenile stand management and pre-commercial thinning are severely underdeveloped in Russia, clearcut plots are left for natural regeneration (Angelstam, Naumov, and Elbakidze 2017), leading to the replacement of boreal forests by low-yield deciduous species (Potapov et al. 2012) not suitable for sawtimber. Investments in silviculture, similarly to investments into logging infrastructure have a low priority (Shwartz et al. 2023).

Over the past 50 years, forest quality in Russia has significantly deteriorated: productivity has declined, the age of the standing stock has decreased (Newell and Simeone 2014), while tree mortality has increased (Proskurina et al. 2018). The sizes of fires and burnt areas have been expanding; few fires are extinguished, and several grow into megafires larger than 500 hectares (Bartalev, Shvidenko, Held 2020). In Siberia and the Far East, logging and human-induced fires pose the two greatest threats to forests (Bergen et al. 2020).

Due to the undeveloped and unevenly distributed system of logging roads, high cost of road construction, as well as shortening winter felling season (Goltsev, Lopatin 2013), companies don't invest into roads. Illustrative of that is the Northwest, where the average density of logging roads is one-tenth of those in neighboring Nordic countries (Mokhirev and Medvedev 2020). In the absence of road cover, logging machinery leaves deep ruts that remain for up to 15 years, hindering tree growth and water drainage (Ilintsev et. al 2020). The absence of a network of reliable roads further significantly limits restorative silvicultural measures, including containment of insect outbreaks that are expected to become more common due to climate change (Bartalev, Shvidenko, Held 2020).

High waste rates are associated with the outdated techniques and equipment5 used in timber harvesting and processing (Gerasimov and Seliverstov 2010; Crowley 2005). Productivity

of the forest machinery used in the Northwest, for example, is much lower than that used directly across the border in Finland (Proskurina et. al 2018). The inability of the processing industry or the market to accommodate pellets, shavings or mulch, leads to a reduction of potential profits, prompting companies to leave debris on logged sites (Shishmareva, Moiseeva 2020).

In Russia, forestland is considered state property, of which 51% is operational (available for industrial harvesting), 26% is protective (forests that fulfill numerous protective and regulative services), and 23% are reserve forests (rezervniye lesa) that are not available for commercial logging for the next 20 years. Protection of intact forest landscapes is realized only in non-legally binding moratoria zones in Forest Stewardship Council6 (FSC) certified forest concessions (Dobrinin et al. 2021). This protective measure, however, lost its power since the start of the war in Ukraine.

FSC[4] certification programs in Russia were suspended as part of Europe's set of sanctions introduced after Russia's invasion in Ukraine, leading to the closure of European markets for Russian timber. In response, Segezha Group—one of the largest timber companies in Russia, reintroduced commercial logging of 1.5 million hectares previously protected by FSC forests across Karelia, Komi, Krasnoyarsk Territory, Irkutsk and Arkhangelsk regions. The areas withdrawn from the moratorium in Karelia alone include 680 hectares of the last intact old-growth forests remaining in the region (Uzhvak 2023).

[4] FSC or Forest Stewardship Council is an international non-profit organization founded in 1993 that promotes responsible management of the forests via timber certification.

Methodology

Study Site

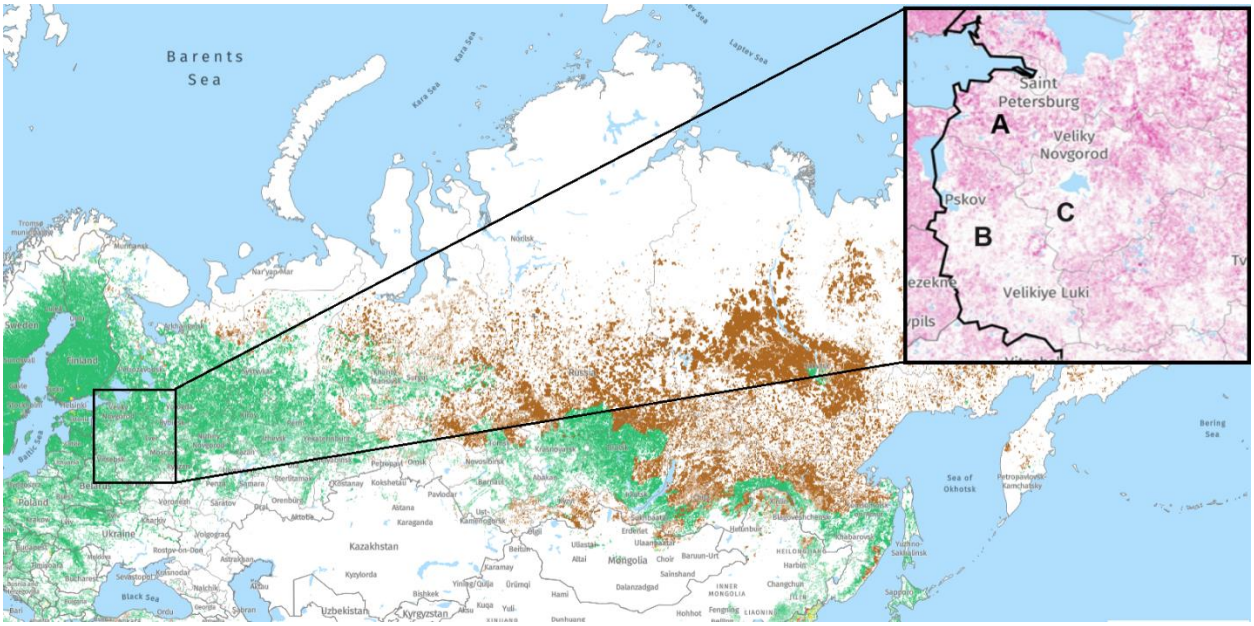
The interviews were conducted across three Northwestern regions: Leningrad region, which shares a border with Finland and Estonia, Pskov Oblast', which shares a border with Estonia and Latvia, and Novgorod Oblast', which shares a border with the other two regions (*See the map below*). This region is the farthest (besides Kaliningrad region) from Siberia, and it is characterized by its poor quality and intensively logged forests—the main driver of forest loss in this region (Curtis et al. 2018). Most of the locally harvested timber is exported to Europe (Trishkin, Lopatin, and Karjalainen 2014). Almost no intact forests remain in the Northwest (Aksenov et al. 2002), the remaining intact forestland tends to be remote, unproductive, and poorly stocked (Potapov et al. 2012). The inaccessibility of transportation infrastructure in this region is among the most prominent problems of both forestry as an environmental institution and as an industry (Angelstam, Naumov, and Elbakidze 2017)

Participants

The study is based on 18 semi-structured interviews conducted with workers in northwestern Russia in the summer of 2020. Participants ranged from 24-75 years old. Participants performed a variety of labor in the logging industry, including loggers doing manual labor, logging machinery drivers, harvester operators, mechanics, logging company owners (two participants previously owned companies and one is a current owner), etc. This diverse representation of the

within-industry positions of the workers allows for better understanding of the variety of interviewees' experiences and beliefs, which otherwise would be limited if all of the interviewees held the same position. All participants were male due to the sector's gendered division of labor. Only one of the participants had previously traveled to Siberia and the Far East, meaning that only he may have personally witnessed the state of the environment and the industry in those regions.

Figure 1: Map of Russia's Forests
(*From the Global Forest Watch 2023)*



Main map: Green—tree cover loss due to forestry activities; Brown—tree cover loss due to the wildfires. *Inlay map:* Pink—tree cover loss in the fieldwork region;

Only two of the participants had some tertiary education: 24 year old Andrei had graduated from the "Forest College", one of the rare higher educational facilities that exclusively specialize in forest science. The other worker reported dropping out of a forestry-related Masters program in

one of the regional universities. The rest of the interviewees had some basic vocational education or didn't complete high school.

Data Collection

I entered the field with the help of a "gatekeeper" who was professionally established and known[5] locally among the logging industry workers. Most participants were interviewed at either forest logging sites or the companies' machinery workshops. I made multiple visits to the field to collect data. I stopped collecting data once the point of saturation was reached—when the collected data explained and provided generous descriptive accounts of workers' environmental beliefs and addressed deviant cases.

Each interview involved an in-depth discussion lasting from 30-180 minutes, with the average interview lasting 50 minutes. All interviews were conducted in Russian (researcher's native language). None of the interviews were audio or video recorded because participants feared being identified and prosecuted, they refused to be recorded. Due to this, the content of interviews was recorded via careful notetaking. During interviews, I focused on detecting the most important parts of the dialogue and attempted to record these portions of statements verbatim to the best of my ability. To facilitate accuracy and thoroughness of the data, each interview was typed up and translated into English within 3-5 hours. The quotes presented in the analysis accurately, if not precisely, represent what the respondents said during the interview.

5 The gatekeeper who helped me recruit participants ran a small business that used machinery not intended for logging, mostly excavators, to refurbish them into harvesters. Specialized logging machinery is not produced in Russia and most small companies can't afford to buy machinery made in the EU or the US, so they refer to such specialists as my gatekeeper.

Coding and Analytical Scope

The thematic analysis was based on two rounds of coding. During the first round I assigned descriptive codes that indicated the beliefs and concerns expressed by the workers, such as: roads, thinning, mismanagement, leskhozy, FC, etc. During the second round, the data was grouped into two broader categories based on the geographic location: the Northwestern region—region of workers' labor practices, and the rest of the country—region of no personal experience for the workers. The findings are presented according to this grouping. Moving from the actual words of interviewees to broader group themes allowed me to form an analytical framework that unites the ontological and epistemological representations of environmental processes discovered in the interviews.

To develop the findings, I employ the "scapegoat ecology" concept introduced by Schmitt (2019). Schmitt defines scapegoat ecology as an emergent framework for analyzing environmental discourses and communication that centers the perceived "villain" and their role in environmental degradation. Scapegoat ecology deflects attention from wider systematic environmental issues and endemic institutional insufficiency; it protects the status quo and prevents substantive actionable environmental initiatives from becoming a focal point of the discourse (Schmitt 2019). Scapegoat ecology shifts the blame onto a range of actors, leading to polarization of environmental discourses, oversimplification of the problems, and perpetuation of ecological crisis (Grant-Smith 2015; Okeke-Ogbuafor and Gray 2021).

Fieldwork and Study Limitations

Conducting ethnographic research on the topic of logging entails major physical, mental, and legal barriers to the recruitment of participants. All of the workers' salaries are partially or fully paid *po-chernomu* (off the books, literally "in black")— the salaries or some proportions of them are not registered, which explains why most participants initially were very suspicious and also why every participant refused to be recorded. This type of unregistered labor often attracts work migrants: one interviewee was an illegal migrant from Ukraine, and another participant was a work migrant from Belarus. Workers understood both the precarity of their positions and potential loss of income caused by their employer getting in trouble with the state so they were especially apprehensive.

Other interviewees expected me to be connected to some type of U.S. government program that collects data on logging and people's attitudes toward the government. One worker accused me of being a spy and selling information to the U.S. government, which could potentially use the data to prompt protests. The same worker "suggested" that if someone reported my research activities to the appropriate institution, I would be imprisoned for "sniffing on behalf of the American government." This case of paranoia provides a glimpse into the extreme politicization of Russian society and the role of the "Outside Enemy Mythologem" (Gudkov 2005) in shaping popular opinions about the threats promoted by Russia's populist regime.

This research is based on a single case study and it is not representative of all logging industry workers in Russia. While the final sample is not representative of the logging industry as a whole, the collected data are heterogeneous and offer rich and meaningful insights into the

system of the workers' environmental beliefs and mechanisms underlying their formation and distribution in an authoritarian populist regime. Furthermore, the data offer insights into the views of workers who are at the forefront of deforestation, whose beliefs and experiences are very rarely reflected in empirical environmental literature (Snyder et al. 2022).

Findings

This research finds that the workers' beliefs illustrate a hybrid of, science-based knowledge and workers' experiences on one hand, and populist scapegoating narratives on the other. This hybridization is illustrated within the "Here versus There" framework. Where "Here" represents the region of the workers' personal expertise, northwestern Russia, and "There" refers to Siberia and Far Eastern regions—areas in which the workers have no personal expertise.

Here: The Northwest and Workers' Region of First-Hand Knowledge

Logging sector workers described many personally-witnessed forest management issues, echoing concerns recognized by researchers studying the region's forests. These include the lack of a network of logging roads, low-quality standing stock, underdeveloped silviculture, and challenges stemming from bureaucratic restructuring in the 1990s and early 2000s. The following themes are discussed below in this order.

A predominant theme highlighted by the workers is the absence of the state-constructed and managed logging roads. As Maxim, a former small logging company owner, explained the prohibitive cost of infrastructure:

> One kilometer of the forest road costs about 2-3 million rubles, so nobody builds roads. Everyone [logging companies] thinks that today they exist, but tomorrow

> they might not…. Or they spend 15 million for the road, get to the site, log it, but get only 7 million from that site because the trees are so poor, so that's it….

Rather than building reliable, all-weather raised forest roads, companies usually construct temporary roads using tree trunks which allows them to "take the road" with them and reuse it later. Interviewees noted that these roads often begin to "float" during the Spring thaw. Many workers indirectly linked road conditions to climate change, citing warmer winters. In discussions with colleagues and friends working in the Arkhangel'sk region a few hundred kilometers to the north, they had learned about a recent "bad" winter that was much warmer than usual. A 58 year old Victor, operator of a harvester noted:

> The weather (*pogoda*) is changing; winters are becoming much warmer and less snowy, and if winters are bad, the logging season is bad. We didn't have big problems here, but in the Arkhangel'sk oblast' machinery couldn't get through the forest, it all started to sink in the mud, nobody could work.

Indeed, in 2018 there were few good days for the logging industry in Archangel'sk region—the temperature did not fall below freezing for unusually long, soils didn't freeze, and operators were unable to get machines through the forest. Many workers struggled financially that season.

Another prominent theme emerged around bureaucratic complexities and shifts of responsibilities that do not carry tangible benefits for the forest, but do complicate the lives of small companies or what Dobrynin, Smirennikova and Muhtalahti (2020) term "responsibilization". Oleg, a 47-year-old owner of a FSC licensed logging company pointed out that despite strict regulations, frequent supervisory visits, and the array of the reasons for fines, forest health has not improved:

> They [FSC supervisors] come after the site is cleared and the seedlings are planted, but then what? We plant spruce, we spend money, we find people to do that. The FSC person comes, sees that the trees were planted, puts a check mark in his documents; that's it. Who is going to take care of the young spruce trees after that? Within one month the forest grass will grow so tall that it would kill nearly all the planted trees, but at that point nobody cares about them anymore—all of the checkmarks were already put down. And I can't spend my profit to keep going to the forest to pull that grass out.

Another major theme related to the overcomplication of bureaucracy that workers referred to was the negative role of the auction system favoring the best bidder. As told by my gatekeeper, a couple of harvester operators, and Alexander—the main mechanic working for a few companies, large corporations always win the auctions for the most profitable plots. They explained that because of the immense amount of capital and power, corporations like Segezha Group that also do paper and pulp production, control the market and dictate the prices for timber that they buy from the small companies that can barely stay alive on their profit margins.

A recurring concern among the workers was the absence of thinning and the poor quality of standing stock. Workers, drawing comparisons with nearby Finland, noted that Russian forests must be cleaned to prevent economically-important spruce species from being overtaken by competing trees. Alexander commented: "Look at Finland—they have less forest land than we do in the Northwest, but they harvest so much more! When you just drive in Finland you can see almost each tree, they all have spaces in between…"

The workers associated the absence of silviculture with insufficient state funding and the absence of a comprehensive forward-thinking approach to forestry. Pavel, a retired worker,

complained that in Russia, the "forest has no master" (*u lesa net khozyaina*). Both Maxim and Oleg referenced the absence of a good master, concluding that "the forest needs a master" (*lesu nuzhen khozyain*). All three men connected the problem of a "masterless forest" to the dissolution of the FFS and the adoption of the 2006 FC, which is explained in the academic literature to have severely weakened the management and protection system and impaired leskhozy—a used-to-be stronghold of Soviet forestry. "Today, leskhozy is a badly-funded bureaucratic entity that has no power, its main job is to file papers and fine forest renters" (Oleg). While a general sense of decay was felt by the interviewees, these perceptions, as we will see in the next section, turned out to be limited to the workers' home region.

There: Perceptions of Forest Problems outside the Northwest

The authority of workers' personal experiences, environmental knowledge, and expertise all faded away when discussing forestry problems beyond their regions of employment. When asked about areas of the country most affected by deforestation and forest degradation, all but two interviewees mentioned Siberia and the FE region. When probed further on why those regions were perceived as most affected, most respondents confidently said "China", some added "fires." While fires were generally perceived as inevitable and unstoppable, the theme of Chinese influence featured prominently in all but two interviews.

For instance, Vladimir, a 37-year-old logging truck driver who transports freshly logged round wood to a loading site outside the forest, shared his views on China's role in deforestation:

> Oh, I heard what they [the Chinese] do in the Far East! They not only clear-cut the forest and don't replant the [logging] sites, but they just pull trees out of the ground like savages, and they scoop away the topsoil, the rich hummus, and they also take it [the soil] so that they can sell it later. They take everything. Nothing is left alive after them!

This statement is quite striking as it comes from a worker who lives and works in the Northwest—the region furthest from Siberia, historically known for severe over logged. In Vladimir's case, environmental reality was replaced by culturally-embedded fear and prejudice, which serve as the main drivers of the scapegoat deforestation discourse in Russia. The influence of stereotypes and prejudice on deforestation perceptions is further evident in the fact that 15 of the 18 participants, including Vladimir, mentioned the Damansky battle[6] which occurred more than 50 years ago.

While discussing forestry problems, Oleg brought up the battle: "They [the Chinese] came, attacked, took over. They will keep coming and taking over. The Far East belongs to them; the Far Eastern forest belongs to them. They are everywhere." As shown by Oleg's reference to the battle which occurred 10 years before he was born, Damansky had become an important historical recollection shared by Russians—a "collective memory" (Eyerman 2004). Today, media reports and articles on Damansky continue to strengthen the collective memory by using this historical event to accentuate the role of the "Chinese aggressor." The manipulation of collective memories is just another typical characteristic of authoritarian populism (Riedel 2020).

[6] The Damansky (Zhenbao) Island battle originated in 1962 on the small island located between Russia and China on the river Ussuri. The battle became the basis for promoting the "Chinese Threat" narrative in the USSR, prompting the largest anti-Chinese ideological campaign lasting for nearly 20 years.

Among the workers, attitudes toward immigration were also strongly attached to perceptions of environmental exploitation—Oleg's statement hints at this connection. When I asked Alexiy, a 38-year-old harvester operator, which region was experiencing the most logging and who was felling the largest volume of trees in that region, he replied succinctly: "Siberia. Foreign companies. The Chinese occupied everything. What else is there?!" In response to the same questions, 41-year-old Enisey said: "Siberia, [the] Irkutsk area, Kamchatka. You know, nobody cares about the forest or cleaning the forest; they just all work for China, the whole [region around] Baikal [lake] is occupied by them." When I then asked Enisey what country, in his opinion, had the most negative effect on Russian forests, he added: "China… I think….They say that on the news, so that's probably right."

Many workers' vocabularies of blame include the words "occupied" and "Baikal." The quotes show that the interviewees' environmental beliefs are strongly supported by the analogy that they use to connect forestland and what they perceive as occupation, either economic or demographic. Maxim, for example, combined three separate sources of China-related anxieties: immigration, economic expansion, and the environment, and used Baikal water factory incident to justify his beliefs:

> Far East….what about the Far East? It is more than clear what is going on there. Baikal is already under their [China's] control; the whole region belongs to them. And that factory that they were trying to build on the shore of Baikal, pumping the water into bottles to sell back in China, isn't this quite a good representation of the whole situation?! We lost Baikal; we are losing the Far East. The Far Eastern Forest is there too, that's it!

Although loggers' lives and incomes were based almost solely on harvesting timber and although approximately 80-90% of harvested timber is sold to Nordic countries (according to the loggers themselves), mainly Finland, only two loggers mentioned European states in connection to deforestation. These two interviewees, both under 40 and with some professional education, acknowledged that the Northwest was heavily logged, and Nordic countries played a significant role in that. When asked about the China-centered environmental blame narrative, a 24-year-old Andrei—a supervisor of logging operations, explained:

> The majority [of workers] has no understanding of what is going on. They believe in what they hear. They take in what they are told. That is a narrow-minded commoner's knowledge (*obivatel'shina*[7]).

Andrei was also the only interviewee who reported not watching any state-owned television channels. He reported watching the *Dozd'* channel, at the time of the fieldwork the only remaining anti-establishment independent channel[8]. Other participants reported watching television every day, ranging from 30 minutes to four hours. Most commonly watched programs were the news on channels such as *Perviy Kanal, NTV, RTR,* and *Zvezda*, which are famous for being a bullhorn of state propaganda.

[7] Other translations of *obivatel'shina* include: household inertia, vulgarity, narrowness of public views and interests, and babbittry.
[8] At the time of the interview *Dozd'* was still legally operating in Russia. It shut down in 2021 after getting labeled "foreign agent".

Discussion: Here, There, and Scapegoat Ecology

This research contributes to the literature on the relationship between authoritarian populism and the environment by presenting an analysis of the environmental beliefs and perceptions prevalent among the logging industry workers in the Russian Northwest. The findings demonstrate a process of hybridization between scapegoat ecology, supported by populist environmental narratives and loggers' science-based knowledge and experiences. This hybridization is rooted in the mental division of the country by workers into two regions: "here"—workers' regions of work, and "there"— regions of no personal experience to the workers.

Table 1: Emerging Themes

	Here	There
Masterless Forest	● Poor infrastructure and a lack of government help in building roads. ● Problems caused by the underdeveloped 2006 Forest Code and institutional reorganizations: ○ Bureaucratization of the logging industry and responsibility shifting. ○ Absence of needed forest management operations and undeveloped silviculture. ○ Powerless and underfunded leskhozy. ○ Inability of small companies to compete with large corporations. ● Comparison to the gold standard: Nordic countries' forestry. ● Changing winter weather conditions (warmer weather).	● Geopolitical colonization by China. ● Damansky battle. ● Lake Baikal destruction. ● Local enterprises working for China prioritizing profit instead of forest management. ● Chinese profiteering from Russian forests. ● Forest fires.

Workers' geographic division of the country into "here" and "there" among the workers is unsurprising given the physical distance, centralized Moscow-based governance structure, and the long history of portraying Siberia as the "mythical other" (Diment and Slezkine 1993), contributing to what Lewis and Wigen (1997) call "metageography"—simplified perceptions of land shaped by politics, culture, and media. This metageography may also explain the "home bias", similar to that described by Valasiuk et al. (2023) as the preference for and higher valuation of the domestic parts of nature protected areas. Neither the metageography nor the home bias, however, can explain the workers' inability to understand the problems of the local region as relevant to distant regions or their failure to see beyond China-centered blame narratives.

Unlike the climate change effects that are often abstract and distant, the issues faced by logging and forestry have more immediate and apparent consequences that facilitate workers' conceptualizations of the crisis within the "here" region, supporting the prior literature on the environmental risk perception (Lujala, Lein, and Rød 2015; Howe et al. 2019). Workers' firsthand accounts of the Northwest's forestry highlight concerns about the quality of the standing stock and undeveloped silviculture, issues well-represented in the academic literature and industry circles, as shown by multiple publications by Dobrynin et al. (2021), Angelstam and colleagues (2017, 2019), Kozyreva et al. (2019), Potapov et al. (2012), and Shwartz et al. (2023) among others.

The absence of logging infrastructure emerges as a prevalent theme across all interviews. Unlike the academic researchers, who explain that the absence of roads is a major issue for the logging activities and environmental management (Bartalev, Shvidenko, Held 2020), loggers focus on the financial implications of these issues. Similarly, financial considerations take precedence in respondents' comments on changing weather patterns and "bad" winters, shortening the logging season—a climate trend previously noted by Goltsev and Lopatin (2013).

The issues described by workers as prevalent in the Northwest are rooted in the problematic reorganizations and responsibility transfers within the forestry institution as well as the consequences of the 2006 Forest Code. These led to increasing power of large corporations and a condition that workers term "forest has no master", where the guidelines are not clearly defined, not all aspects of the forest policy are covered by law, and environmentalism is suppressed by market interests. These issues have garnered academic attention in recent decades (Sokolov and Onuchin 2019; Angelstam et al. 2019; Hitchcock 2011; Varaksa and Klyueva 2020; Dobrynin, Smirennikova and Muhtalahti 2020).

In contrast to the many science and experience-based issues highlighted by workers in the Northwest, their understanding of areas outside the Northwest was shaped by China-centered populist narratives—scapegoat ecology set forth by the state and media during Putin's early terms (Burrett 2019; Kolosov and Zotova 2021). Scapegoat ecology motivates extractive industry workers to perceive "there" regions as space victimized by China, aligning with prior literature on the role of populist narratives in reshaping environmental beliefs (Kulin, Seva and Dunlap 2021; Marquart-Pyatt et al. 2014).

Scapegoat ecology redirects attention towards an external enemy, hindering potential measures to improve ecological conditions and strengthen environmental regulations (Grant-Smith 2015; Okeke-Ogbuafor and Gray 2021). Seemingly coming from both nowhere and everywhere, scapegoat ecology has become a commonly accepted truth—commoner's knowledge among loggers that coexists with personal experience and science-based environmental knowledge. This emphasizes the hybridization of scientific knowledge and experience on one hand and populist narratives on the other.

Industry conditions limit workers to months-at-a-time work shifts that assume co-living in trailers, and access to the outside world which primarily consists of television filled with state-sanctioned populist propaganda—an undeniable characteristic of the Russian media landscape today (Lewis 2020; Gudkov 2021). The influence of media consumption patterns is evident in Enisey's previously quoted statement about the most harmful force for forests: “China… I think. They say that on the news, so that's probably right.”

Only the youngest and most well-educated worker was able to distinguish that China-centered blame narratives are not rooted in objective reality, but are instead the result of misperceptions. This situation signals that comprehensive industry-specific environmental education might serve as a micro-level solution to addressing environmental misconceptions. Previous research on policy-oriented learning warns against relying solely on new scientific information in changing loggers' beliefs about forest management (Lange, Ryan, Thomas 2022). This suggests a need to facilitate the gradual transformation by building parallels between “here” and “there” regions, potentially through trans-regional visits that have proven useful to reduce home biases in environmental attitudes (Valasiuk at al. 2023).

Given the impacts of accelerating global climate change, the vastness of Russia’s natural resources, and changes in environmental policy, environmental discourses and narratives have long-term consequences not both industry workers and the Russian population as a whole. Though based on a single case, the findings of this research are relevant to the larger fields of studies because Russia is an illustration of the global crisis of liberalism (Lewis 2020) and, relatedly, the demise of environmentalism.

Conclusion

This case study of logging industry workers in Russia adds to the literature on authoritarian populism and the environment. The research finds that scapegoat ecology facilitates a hybridization of the within-industry and science-based knowledge on one hand, and the populist narratives on the other hand. China-centered scapegoating narrative, discussed at the federal government level and perpetuated by the media was accepted and promulgated across the logging industry, resulting in its adoption by workers and their application of it towards the regions outside of their expertise. This hybridization turns the forestland into a political object and prevents workers from recognizing institutionalized deficiencies, resource mismanagement, and environmental problems as nationwide issues. As a result, this breaks the logical connections between local and distant regions' problems within the country.

Several policy implications and research recommendations emerge from this case study. The findings of this project and the prior literature suggest that to improve the conditions of Russian forestland and the logging industry, the state must: officially recognize the consequences of forest mismanagement, address the deficient 2006 Forest Code at the federal level, and initiate institutional reforms. By taking these steps the state would consequently facilitate the wider public's understanding of ecological issues faced by different regions. Further, the state needs to be more involved in the development of logging infrastructure.

Additionally, legalization of employment for workers would secure their rights and would help create space for the workers to voice concerns and form committees and unions, which potentially would allow for more environmentally-conscious and fair labor practices. The creation

of industry-specific environmental education programs and cross-regional visits for forest workers would help build resistance to scapegoat ecology.

Empowering and prioritizing the voices of environmental scientists and creating space for civic engagement and activism would rebuild the system of checks and balances that the authoritarian populist regime has undermined for years. However, given the major role of extractivism in Russia's authoritarian populist regime and the absence of near-term prospects for democratization, the outlook on positive changes is bleak.

Since authoritarian populism and its various forms are burgeoning around the world, the study of scapegoat ecological discourses and environmental governance within these regimes offers a timely path for broader research on climate change, resource exploitation, and environmental pollution. Future research would benefit from developing studies of scapegoat ecology across other extractive industries. Articulating a link between environmental beliefs and socially-constructed narratives will improve the understanding of mechanisms behind politicization and objectification of the environment in illiberal populist regimes.

Framings of Forestland and Performative Blame Attribution in Russia. The Case of Forest and Logging Discourse in Federal Newspapers of the Past Twenty Years.

Abstract:

The primary analytical contribution of this qualitative study is the evaluation of the changes in Russian main federal newspapers' discourse on forestland presented in the articles published between 2000 and 2021. Findings indicate a connection between an overall power centralization and changes in the nature of forest discourse and its economic, environmental, and political framings. Newspaper analysis shows that depersonalization of the central government's blame for the spread of illegal logging and deforestation accompanied the objectification of timber poachers—"black loggers" and China as the main source of loss of revenue and forestland for over a decade. Prompted by the recent political confrontations between Russia and the West of the past few years, and Russia's political and economic need of strengthening its ties with China, media portrayal of China has changed dramatically, including direct exoneration of China's role in Russian forest degradation in the years leading to 2021. Results also indicate that narratives of environmental and ecological problems associated with the forestland and logging industry are by far overpowered by economic and political narratives, a finding that aligns with the prior literature on fossil fuels and climate change discourses in Russia.

Keywords: Russia, forest, logging, deforestation, newspaper discourse, China, media.

Introduction

Though studies of Russian media discourses on the environment and climate change is a fairly recently emerged branch of the general scholarship on Russia, it already can boast a rich and diverse literature studying national discourses on climate change and fossil fuels. It is not surprising that these topics find wide representation due to the fact that the Russian economy is built on extractives and fossil fuels: Russia is the largest single exporter of oil to international markets, and oil and gas industries constitute approximately 20% of the country's GDP (The Federal State Statistics Service 2022). While the climate and fossil fuel discourse studies are widely available, research on discourses involving other resources, however, is not sufficiently developed.

Russia has massive forest resources that account for approximately 20% of the global forest reserves and take up more carbon than is lost due to deforestation across the entirety of the tropics, making the Russian boreal forest one of the largest carbon sinks in the world. This global role of Russia's forests prompted ex-president Dmitriy Medvedev to name Russia an "environmental donor" at the Rio Summit. In the era of global warming awareness Russian forests attain a significant role in sequestering carbon and slowing down climate change, but they also are gradually becoming a bargaining chip for Russia in fossil fuel production and international climate negotiations (Rowe 2013), which in case of Russia follow the "image-seeking and benefit-seeking" political program that overpowers environmentalism (Korppoo, Tynkkynen, Honneland 2015). An illustration for this can be found directly in Putin's comment on the Kyoto Protocol:

Russia will support a new global climate deal only if major powers also sign up and take into account the role Russia's giant forests play as the lungs of the world.

Without the Russian government's support and adoption of sustainable environmental regulations, climate protocols, and, most importantly, comprehensive forest management and protection policies, the international movement to mitigate the worst effects of global climate change will be less likely to achieve its goals. Despite this and the fact that the logging industry's share of the country's GDP has been growing and is further expected to increase as a response to the international sanctions imposed on Russian oil and gas, currently, there are no studies exploring discourse that surrounds the forestland. In my research, I address this gap in the literature by exploring the intersection of political, economic, and environmental framings and the many narratives that populate them within the national discourse centered forestland.

This article contributes to the environmental sociology and environmental communication literature through the contextualization of environmental frames and narratives distributed by the media in Russia. The current research provides rich contextual material for understanding how the meaning and value of forestland has been framed by environmental, economic, and political needs of the state, and how the narratives that fill these frames have changed over the past 20 years. The current study, through the critical analysis of the newspaper publications, provides an insight into how the state shapes its citizens' environmental knowledge through influencing the public's perception of forestland and logging. This paper further explores the discursive conditions of cultural knowledge production and provides an interpretation of how the state articulates dangers to, benefits of, and the future of the natural forest landscape.

This research takes up the discussion by analyzing the narratives that permeate the environmental, economic, and political framings of the forestland in 136 Russian-language newspaper articles published between 2000 and 2021 by the largest national newspapers. The paper provides a qualitative analysis of the shifts in narratives among Russian national newspapers—it does not, however, seek to provide easily quantifiable content analysis data. This research seeks to answer three questions central to understanding the national environmental discourse on forestland and logging. *How did the discourse change over the last 20 years? How can we understand the mechanisms behind the change of the dominant narratives? What prevails in the deforestation discourse today: economic, political, or environmental frames?*

In the sections that follow, I first provide analytical background by reviewing recent studies that shed light on the environmental discourse and media in Russia. Following the literature review, I describe the research methods and continue with the findings section that I divide into three subsections. Since the media in modern Russia is more similar to a theatrical performance directed by the state than a facts-based issue reporting, I call these three subsections "acts". The three "acts" are based on the general temporal periods (the first few years of the 2000s, mid-2000s, and a couple of years leading to 2020) that correspond to the changes in emerging themes. I intentionally do not divide the findings into exact year-to-year time periods to provide space for fluidity in reporting and narrative transformation. This need for offering flexibility is illustrated by the fact that the second act has multiple narratives from the first and the third acts causing the acts to overlap and blur together.

Literature Review

Environment in Russia

It is critical to study environmental resources to understand larger social and political issues because resources, including forests, are not just parts of cultural and state identity, but are "constitutive of the material and ideological nature of nations and states", they are the material basis for state power (Koch and Perreault 2019: 616). In the case of Russia, energy, fossil fuels and other natural resources have been turned into identity-constructing and ideology-promoting tools (Wilson 2019; Graybill 2019; Rowe 2013; Bouzarovski, Bassin 2011; Tynkkynen 2019) that are supposed to reconstruct the nation through what Graybill (2019: 386) calls the "becoming great-again discourse". This ambitious national objective drives the "Great Power"—*Velikaya Derzhava* and the "Energy Superpower"—*Energeticheskaya Sverhderzhava* (Rutland 2015; Kuteleva 2020) metanarratives that were developed in Russia in early 2000s to unite the nation around extractivism as the central point of progress and stability that groomed the citizens to associate Russia's power with its resources (Graybill 2019). As Kuteleva aptly summarizes: "Constructing Russia as an energy Superpower is one of the central themes of this [Putin-constructed] ideology" (2021:63).

By positioning the extractive industry as the main driver of development, "Putin implicitly reverted to a pre–sustainable development model" (Henry 2009:60), regressing the previous environmental movements and initiatives born out of the newly evolved civil rights society that came as a successor of the late Soviet regime. Russia saw the active growth of the pro-environmental movement and the popularization of the sustainable development agenda in late 90s-early 2000s (Yanitskiy 2012); this period of environmental awakening and liberalization of

society and the media was quickly reversed, however. Multiple waves of bureaucratic reorganizations on the state and local levels in late 1990s and early 2000s have significantly damaged environmental institutions in Russia (Newell, Henry 2016), a process that Mol (2009) calls "environmental deinstitualization" that led to the repositioning of the extractives as the central driver of prosperity. This overlapped with the larger regime's power centralisation that further contributed to politicization of the discourses, including the environmental ones.

The centralisation of power under Putin has turned ecological knowledge and environmental reporting into an instrument of gaining power: it has replaced environmentalism by propaganda rhetoric and manipulation of the public opinion orchestrated through mass media (Yanitsky 2002: 34). This is not surprising due to the fact that the most reputable and popular national media outlets, whether tv channels or newspapers, are either under direct control of the government and pro-regime politicians, or belong to or are managed by individuals or corporations tied to extractive industries, such as Gazprom, Metalloinvest, ONEXIM Group, Interros, SOGAZ, and others (Poberezhskaya 2016; Boussalis et. al 2016).

In modern-day Russia "politico-economic spaces overcome environmental spaces of action" (Tynkkynen 2014: 674). This is relevant not only for understanding the issues of domestic environmentalism, but also for understanding international environmental negotiations and Russian interference in them, which is an illustration of the larger political agenda that follows the "image-seeking and benefit-seeking" program (Korppoo, Tynkkynen & Honneland 2015:3). Western climate change knowledge is widely rejected because climate-change in Russia is mostly a political issue (Rowe 2013: 24).

Media in Russia

Just like the news analysis programs on TV, newspaper articles are "cultural artifacts that construct and promote an utterly simple schema for understanding the news" (Norton 2011: 317). In the case of modern Russia, these cultural artifacts are further reduced, presenting the consumer with the selected facts and ideas regurgitated by the authoritarian regime that limits deviations from the censored version of the reality, condition that prompted Oates (2007) to call the media system "neo-Soviet" and Guriev and Treisman (2019) to call Russia "informational autocracy". Within this media environment, more reporting flexibility is allowed for non-political topics, while political and budgetary topics are controlled the most (Frye 2021; Orrtung, Walker 2013). Findings of this research, however, show that environmental narratives surrounding the logging industry and forestry institution were not considered political, thus were not subjected to censorship up until the mid 2000s—a time boundary illustrating the commencement of the wider political and discursive anti-liberalization campaign.

Central to this political and discursive anti-liberalization campaign are two state-constructed and promoted metanarratives—the previously mentioned Great Power metanarrative, and the Outside Enemy metanarrative (or what Gudkov (2005) calls "Outside Enemy Mythologem") that grooms the conspirological beliefs about outside enemies represented by the EU, the US, and the NATO that are trying to take Russia down and instill the "rotten" culture to destroy the "traditional values" that have for centuries supported the nation. Both of these metanarratives have been flourishing in the past decade, which can be traced in the media, the laws, officials' speeches, and public opinion polls (Volkov 2016; Laruelle 2020; Gudkov 2021; Frye 2021).

The centralization of power and decline in media freedom are rooted in Putin's sanctioned takeover of media during his early presidential terms. Initiated in early 2000s, the takeover started with the tv stations controlled by Berezovsky and oligarch Gusinskiy (Gehlbach 2010), as well as the appointment of many "trusted" generals as heads and directors of other tv channels (Simmons 2010). The state takeover of media outlets continued with the newspapers *Itogi*, *Segodnya, Kommersant, Vedomosti* (Kovalev 2021), followed by a close friend of Putin purchasing the controlling shares of the TV-channel *REN-TV* in 2007 (Khvostunova, Voinova 2009) among other outlets.

The state control and pressures on journalists increased significantly after the annexation of Crimea (Kovalev 2020; Schimpfossl, Yablokov 2014), and further upsurged with the enactment of the "Foreign Agents" law that adversely affected human rights-centered and environment-centered organizations and outlets (Tysiachniouk, Tulaeva, Henry 2018). The list of "agents" grows weekly, many grassroots-level organizations shut down soon after being added to the list—the most recent example being "The Sakhalin Environmental Watch" that ended its 27 years-history of environmental service the day after getting labeled as a "foreign agent".

The volume of censorship, multi-level top-down mechanism of pressures in the media system, and direct threats to careers prompt journalists to preemptively self-censor (Bodrunova, Litvinenko, Nigmatullina 2020; Kovalev 2021). The self-censorship applies not only to political and economic reporting, but also is evident in climate reporting in the largest national outlets (Poberezhskaya 2016). The much smaller regional outlets are also strongly affected by politicization, control, and, even more so, by the severe dependence on the authorities for funding initiated through the official "state contracts for information coverage" (Kiriya 2020). Sharkova et

al. (2017), for example, found that in regional Arkhangelsk press, environment-related reporting was one of the most rarely covered topics, which is directly related to the the region's economy being based on the extraction, local media financially being dependent on the regional government, and many outlets being owned by the people close to the local politicians. Whenever ecological issues were brought up, however, they were defined as inevitable consequences of economic development—unfixable byproducts of progress.

The central concepts for the regime and ideology metanarratives—the *Great Power*, *Outside Enemy*, and the *Energy Superpower*, which trace through the public discourse today, should be understood as what Goffman calls "primary frameworks". Goffman explains that the primary framework "allows its user to locate, perceive, identify, and label a seemingly infinite number of concrete occurrences defined in its terms" (1986: 21). While the consumers and users of these frameworks might not be able to define or describe a primary framework, they will be able to subconsciously apply it to the plurality of incoming information to digest it (Ibid). The three aforementioned metanarratives are promoted by the state to bring to the forefront certain aspects of politics, economy, and the environment, while severely diminishing the role of other aspects and drawing attention away from domestic issues. Keeping these primary frameworks in mind will help us better understand the more specific, forestland-centered discourse that is the focus of this paper

Data and Methods

The content used for this research comes from Russian federal newspapers that are a part of the EastView repository. For the purposes of this project, I chose articles published between January 1st, 2000 and December 31st, 2020. Local regional newspapers, as well as the specialist newspapers, such as the logging industry or environment-centered newspapers, were eliminated intentionally, in order to trace the *central, state-wide narrative*. Search terms included "лес", "рубки", "Китай" ("forest", "fellings/logging", and "China" respectively) and their divergent grammatical forms. Only those articles that had all three terms used in text simultaneously were selected for the analysis. The three search terms help translate the larger categories that are critical to Russia today—the environment, economy, and politics—into more easily analyzable, lower-level constructs, where the environment is represented by *forest*, economy is represented by *logging industry*, and politics is represented by *China*. China was chosen for this project because it is the most important political ally and economic partner of Russia today, a bilateral relationship with which is used by the Russian government to symbolically confirm its great power status (Wilson 2019; Kaczmarski 2019).

The newspapers included in the corpus represent big publishing houses, including those that officially belong to the Russian government—*Rossiyskaya Gazeta* (*RG*)—or that have very close ties to the top-level politicians and oligarchs—*Nezavisimaya Gazeta* (*NG*); communist newspapers, such as *Trud* and *Sovetskaya Rossiya* (*SR*); popular tabloids—*Argumenti i Facti* (*AiF*), *Komsomol'skaya Pravda* (*KP*); liberal anti-establishment *Novaya Gazeta* (NoG)*;* as well as a few smaller circulation newspapers. Excerpts presented are fragments of newspaper articles translated into English to remain as close to Russian original in meaning and tone.

All articles that were selected for the analysis were read and evaluated in Russian language. The native language of the researcher. Article selection consisted of two stages. During the first stage I used a combination of three search terms (*"лес", "рубки", "Китай"*) to establish the initial sample of 347 publications that I downloaded to the desktop. Most of the articles were in digital text format and some were photocopies of the physical papers. During the second stage of the selection process I read each of those publications to eliminate articles that were thematically unrelated, articles that were presented in different formats multiple times, and articles mentioning logging in passing. The final analytical sample included 136 articles.

Prior to coding I read all of the articles of the final sample to get a general feel for the changes in the newspaper narration and to create a coding plan. While reading the articles of the final corpus I detected the general trend in the emerging themes—the changing nature of the narratives emerging across the 20 years. Journalism of the national forestry sector problems was shifting: first, from very critical reporting of the early 2000s to more racialized sensational reporting in the mid 2000s, and, later, to more careful reporting of the late 2010s showing the government in a much more positive light.

To better capture the specifics of the emerging themes and narratives that morph or disappear, I proceed to code the articles with the Nvivo application and also complemented it with extensive hand-written notes. While reading and coding each of the articles I noted how the articles generally framed the concept of forestland from economic, political, and environmental angles, as well as how the specific narratives changed across time. This type of coding allowed for the recording, evaluation, and comparison of the themes that were emerging and receding over time.

To make sense of the data, in this research, I analyze the text through the lens of two complementary frameworks: the Critical Discourse Studies (CDS) school and Structural Hermeneutics (SH) approach which study discourse and text as collections of rich meaningful data for the semiotic and hermeneutic analysis. CDS is a general category of methods for analyzing power relations, ideologies, and the process of construction of social problems within semiotic data (Wodak, Meyer 2015). CDS sees "language as a social practice" (Fairclogh, Wodak 1997), hence, it aims at evaluating manifest and latent messages, it allows for attention to the ways that a particular phenomenon is represented beyond the text, how sentiments, attitudes, and meanings are created, and how inequalities social and political are intertwined into this representation process. Structural Hermeneutics approach typical for cultural sociology emphasizes the value of recontextualizing the narratives within the rich and complex cultural text. Looking at the inner meaning of the text and evaluating the "webs of significance" (Alexander, Smith 2005) allow for the deeper insight into the mechanisms of culture production, popularization, and the application to the newly evolving discursive spaces. By combining together the notions behind the meaning of the text and written communication, as well as the social, cultural, and political meaning beyond the text, CDS and SH guide the following sections of the paper.

The chosen methods of data selection and analysis are best fit to provide answers for the three research questions central to this project. The sections following provide answers to these three questions by engaging with the emerging themes and providing excerpts illustrating the shifts in the narration. The main potential drawback of this study is the three search terms chosen to select the articles. While I maintain that the chosen terms illustrate the three main national interests:

environment (forests), economy (logging), and politics (China), some might argue that the terms are too specific. In the section below I articulate the reasons why I chose these three terms which I accompany by brief descriptions of the role of each of the three social constructs.

The first search term—"Forest"

Forests in Russia cover over 800 million square kilometers comprising over 20% of the world's forest stock. Researchers have repeatedly emphasized the breadth and severity of problems associated with forestland and forestry institution, which require serious state attention, including: poor institutional organization, inadequate funding, bad forest management, exploitative forest use, outdated statistics on forestland, corruption, and illegal logging, (Hitchcock 2010; Pyzhev, Gordeev, Vaganov 2020; Russian Academy of Sciences 2019; Knize, Romanyuk 2005). Many of these issues are rooted in numerous bureaucratic reorganizations initiated in Russia in the late 1990s and early 2000s, all of which were further aggravated by rewriting of the main set forestry regulations—the Forest Code in 2006 (Kozyreva et al. 2019; Kotilainen et.al 2008; Sokolov, Onuchin 2019; Pyzhev, Zander, Pyzheva 2020). Additionally, studies have shown that the timber-cutting frontier is moving fast in the Siberian region (Gustafson et. al 2011), and in Northwestern Russia there are almost no intact forests left (Aksenov et. al 2002). Annually massive volumes of forestland are lost to uncontrolled wildfires and invasive beetles: between 2014 and 2017 damage to the forestland was caused by fires (63%), insects (15%), weather (11%) and other disturbances (Leskinen et al. 2019).

The second search term—"Logging"

Exports of timber products brought $12.5 billion in 2020, which constitutes close to 2% of the GDP of the country. The economies of some Russian regions, such as Arkhangelsk Oblast, Zabaikal'skiy Kraj, Irkutsk Oblast', are almost fully built on logging.Currently, the logging sector in Russia is experiencing many difficulties, including the lack of transportation infrastructure (Mokhirev, Medvedev 2020), exhausted repeatedly logged forest stock with low productivity (Newell, Simeone 2014), outdated logging techniques and equipment (Nordberg et al. 2013; Potapov et al. 2012; Gerasimov, Seliverstov 2010; Crowley 2005), as well as weak replanting programs (Romanyuk 2013; Angelstam, Naumov, Elbakidze 2017). All of these diminish the potential revenue from logging, a problem that is further exacerbated by corruption, lack of a receptive modern control system, and a weak market for wood by-products (pellets, shavings, mulch, etc).

The third search term—"China"

Currently, the largest importer of Russian timber is China, with whom Russia has been strengthening political and economic ties over the last 20 years. This culminated with a major "pivot towards China", after Russia annexed Crimea in 2014, and continued after China announced its plans to develop the New Silk Route (One Belt One Road Program or OBOR). Today China is the one of the most important for Russian regime states. Its relevance is emphasized by the shared borders and the massive volumes of exports from Russia that consist of energy resources and raw materials. Researchers explain that this cooperation model is used by the Russian regime to symbolically confirm its great power status (Wilson 2019; Kaczmarski 2019), which in the domestic arena serves as a "fundamental tool of regime legitimacy" (Wilson 2019: 778). China

remains one of the most devoted and powerful economic partners and political supporters of Russia and it is projected that after the war in Ukraine, China will significantly strengthen its ties with Russia. While Russian trade with the Western world declined dramatically after the invasion of Ukraine, China's trade with Russia grew by 31% in the first eight months of 2022, including increasing volumes of exports of extractives.

Findings

Act I: Problems All Around

Unlike the climate change discourse that started to repeatedly appear in the newspapers around 2009 as a response to the UN Climate Change Conference (Poberezhskaya 2016), logging and deforestation discourse was prevalent in the newspapers already in 2000. The first act discusses the forestland through economic and political frames, but the articles do not suggest newspaper division across the political lines or the nature of the ownership of the publishing houses. All publications are rife with the discussion of unofficial logging, illegality, timber smuggling, corruption, poverty, forest sector mafia, and other issues, which are critically noted to be the logical result of the governmental mismanagement.

Various neighboring countries, including China, appear in the articles as an explanation for timber demand prompting illegal logging. At this stage, however, China does not appear in the articles alone; it is always accompanied by other countries, most often Japan, Korea, Finland, Sweden, or a combination of those. Besides the different neighboring states prompting logging and illegal logging in Russia due to market demand, the articles also mention a few regions in the Russian Northwest where massive legal and illegal logging is taking place. By doing it, these

articles emphasize the wide geography of illegal logging without drawing all of the reader's attention to one specific locality and one particular country that is affecting the Russian forest. *Profil'* (05/15/2000) for example lists Leningrad, Arkhangelsk, Novgorod, and Vologda regions as the epicenters of illegal logging. *SR* points towards two widely separated regions of the country that outsource the most timber:

> In Russia, two regions play the role of forest donors for the rest of the world: Northwestern Russia is the main supplier of timber to Europe, and primarily to our northern neighbors—Finland and Sweden. And the Russian Far East and Eastern Siberia are stuffing wood into the insatiable belly of our eastern neighbors —China and Japan (*SR*, 04/24/2004).

The early 2000s articles show that the Russian forest's problems are severe and widespread. Many articles spent considerable time explaining the collapse of the logging industry, absence of centralized management, and the inability of the state to create any other jobs in the region to give a chance to locals to find legal ways of earning money. *Segodnya* (04/24/2000) states that it is poverty that pushes locals into illegal logging industry: "the brigades [of timber poachers] are made up of impoverished peasants who have not been paid for 5 years and therefore willingly cut down timber for ridiculously small money." *AiF* (03/13/2002) emphasizes that the same reasons explain the forestry workers' willingness to participate in illegal operations: "With the meager wages that the state pays to foresters, staying honest is almost a feat."

In the 2000s Russian forestry was in a dire situation due to the fall of the state and collapse of its institutions. Commonly occurring at the time threats, assaults, and killings also happened in the logging industry and forestry institution. *NI* (03/11/2000) related that the director of the

Kaimonovsky forestry department had been shot on the threshold of his house and another forestry worker's car was blown up. As explained by the newspapers, these kinds of crimes not only target the specific unwanted individuals, but also serve to scare others: "The forest guard workers are afraid to get involved with criminals….The most obstinate [forest workers] get tamed by the bandits" (*NG*, 01/19/2001).

Continuing the journalistic discussion of the demise of civil society and institutions, the authors also point out the issue of corruption. The articles fully acknowledge the wide specter of corruption, involving such actors as: timber truck drivers, customs officers, and, what is especially notable here—policemen, traffic cops, and local and regional officials: "More and more often, the names of the full-time defenders and keepers of the taiga field appear among the bribe-takers…" (*NI* 03/11/2000). Some newspapers go on to describe to the reader the mechanisms of the timber poaching system, and even provide details of the pricing scheme:

> "Permanent" poachers pay the police a regular salary, for the passage of an accidental timber truck (without a trailer, that is, 7-10 cubic meters) a fee of about $100….. So the policemen will not give up their "business" (*MN*, 07/31/2001).

Another notable characteristic of the early 2000s articles is the wide presence of criticisms of the government for the mismanagement of the institutions, the demise of the wood processing industry, and corruption—all three are distinctive narratives that disappear in the later stages. *Zavtra* (05/20/2005) paint a vivid picture where instead of development and economic profits from industrial logging "our long-suffering Motherland" receives "a dead dump of wood waste that is not subject to clearing or restoration". It goes on to call this the "face of the new Russian

capitalism", "a real 'Satan's ball' to which the Kremlin's 'power vertical' enthusiastically plays along with all its legislative, executive and judicial instruments".

While some articles critically discussed the regional or federal government's role in degradation of the forestry, *SR* went as far as transparently accusing Putin, whom it titles "tsar", and his prime minister of doing anything to fill their own pockets with money from the extraction of the nation's forests:

> On the whole, this [new Forest Code] clearly shows how anxiously our rulers take care of the neighboring forest and, it seems, care nothing for ours. We can say that they are ready to take off their last pants in order to please Europe. The only trouble is that they take off the last pants not from themselves, but from their subjects, since our forests are mostly still in federal ownership, and, therefore, both the tsar and the prime minister are selling potatoes not from their own garden. They are like federal foresters, or, more simply, storekeepers with our common green pantry (07/24/2004).

The first act is characterized by economic and political framing of the forestry institution, forestland, and logging industry. Many narratives used by the newspapers assume the responsibility of the state and the central government for the failing industry, illegal logging, corruption, and poverty, among other failings. Another characteristic of this stage is the descriptions of the wide geography of illegal logging and deforestation within Russia, as well as the variety of neighboring states that actively buy legally-sourced Russian timber and create high demand that prompts illegal logging. The discussion of these many socio-economic issues is coupled with strong critical language and emotionally-charged adjectives.

Act II: Chinese Threat

While continuing to provide an overview of the issues existing in the forestry institution and logging industry, second act articles begin to be more actively report through the political frame—newspapers are becoming increasingly more preoccupied with China's impacts. In a few years, almost all mentions of other neighboring countries and Russian regions fade away to make place for a discussion of China and border regions facing Chinese threats, especially the Irkutsk region that practically becomes a synonym of what authors repeatedly call "savage logging" (*varvarskiye rubki*) associated with PRC. This is notable given the fact that there was never a time in Russian history where logging volumes in the Far East and Siberia were ever larger than in the European part of the country (Leskinen et al. 2020).

China's presence in the newspaper articles is in most cases articulated with the help of antithesis, which is one of the most common tools of persuasion used by Russian politicians (Gimranova et. al 2019). The contrasting Us vs. Them structures, made to foster feelings of anger from the injured national pride and the abused national resources, are most of the time exemplified by phrases like: *they make tremendous money on reselling our timber that they bought extremely cheaply; they have a logging ban —they protect their forests by logging ours; their whole timber processing industry works on our wood; they buy huge volumes of timber illegally sourced in our country; they intentionally lower prices for our timber*, etc.

These linguistic structures help to reconstruct the reader's identity by creating the second-person position through establishing the emotional bond with "Us" and strengthening the ideological connection with the larger cultural community by implying exploitation of

"ours". This type of "ritual effectiveness" (Alexander 2011) emphasizes the wrongful actions and points of view of the opponents, especially the foreign ones, strengthens the process of othering, while at the same time, justifies one's own position.

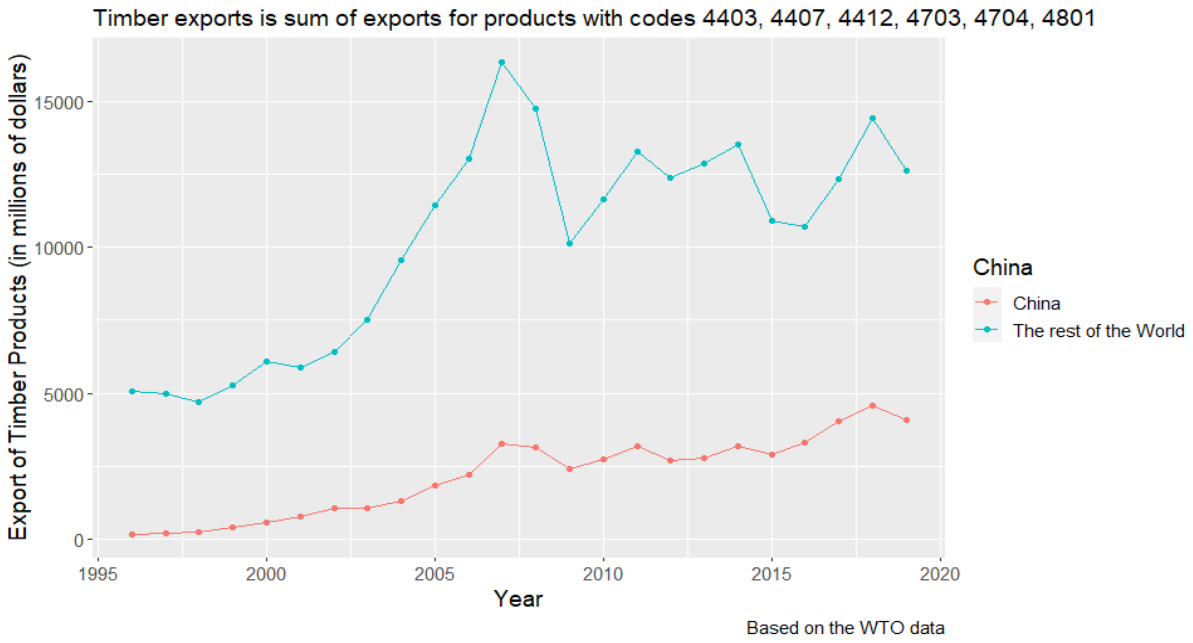
The presence of antithesis in political and resource discourse can further be connected to the development of the "Outside Enemy" and the "Great Power" metanarratives that took place in the mid-2000s. Us vs. Them environmental storylines are symbolic power representations supported through culturally and historically-embedded representations of Chinese as sly profiteers that are up to make money out of anything, let it be resources, land-grabbing or selling low-quality consumer goods (Rulyova, Zagibalov 2012; Dyatlov 2012a, 2012b; Kuteleva, Ivanov 2022). It follows that the narrative of the China-caused demise of the Russian forests was often generously articulated with hints towards or even open accusations of wider-planned colonization:

> The Russian Federation accounts for over 50% of the world's reserves of valuable coniferous species. It is not surprising that the Chinese are so actively developing our vast natural spaces (*prostori*). At the same time, they feel like owners here.... Guides from China tell tourists with might and main that Lake Baikal was once part of the Celestial Empire and was called the North China Sea. Tourists dreamily smile—someday it will be so again (*NV* 09/09/2018).

It is true that the share of Russian timber in Chinese imports has been growing over the years due to such factors as the reorganization of the timber market and degradation of the timber processing industry in Russia, and China's National Forest Protection Program (NFPP). NFPP introduced harvesting limitations and logging bans in certain environmentally-vulnerable provinces and natural forests, prompting an increase in exports (Forest Trends 2016). The WTO

data, however, shows that the growth in China's demand for Russian timber is consistent with the global trend, and is not an exceptional case (*See figure below*).

Figure 2: International timber exports from Russia (1996-2019)



China's growing demand for timber is explained in Russian newspapers as a cause of illegal logging and deforestation, which is an interesting way of using attribution and justice to justify environmental degradation. Shifting the blame onto China also signifies, among other things, the influence of intergroup attribution bias—it exonerates the in-group members while blaming the outsider as being the direct reason behind an issue (Jang 2013). Given the rich culturally-embedded prejudices, anger, and fears of China, this helps explain the wide adoption and promotion of the narrative that accuses China of deforestation and illegal logging in Russia.

The change in objectification of the blame in Russian deforestation discourse paralleled media takeover, power centralization, and growing national anxiety. Instigated by the promotion

of the “Great Power” and “Outside Enemy” national narratives, the idea of outside, China-caused, misfortunes, and environmental destruction became great material for filling in the holes left by the removal of the discussions of the central government’s failures. Indeed, non-military threats, such as environmental ones, are highly beneficial to strengthening and reinforcing the country’s identity and regime’s authority (Kuus, Agnew 2008:100).

The construction of China as the major environmental villain usurping Russia's resources also fits in well with the fear-mongering stories of China that have been appearing in Russian media with high frequency in the past years. Such articles are characterized by migrant-phobia and exaggeration of the number of migrants which are used to draw support for politicians and to misdirect public concern from the pressing socio-economic issues (Deng 2005; Golunov 2008; Balzer, Repnikova 2010).

Another notable narrative that appears in articles is the amount of caught “black loggers” *chyorniye lesorubi*—illegal loggers, and the hard work of the police and various investigation organs fighting to protect the nation’s resources. These illegal loggers are dehumanized: they are not described as impoverished locals that lack other sources of income, but they are defined as shameless killers of the trees who would do anything to get profits. These narratives stand in contrast to the description of overwhelming poverty prompting the locals to engage in timber poaching and policemen to actively partaking in illegal logging and corrupt operations, both of which were characteristic of the first act. The new narratives aimed at raising public trust towards and support of the security organs develop in the end of the second and fully blooms in the third act, a timeline that aligns with the achievements of the “Outside Enemy”, and the “Great Power” narratives (Gudkov 2021).

The commonly repeating forest fire narrative illustrates the upward trend in the size of fires and spread of megafires that characterize the "extreme years" such as 2012, 2016, 2018, and 2019 (Leskinen et.al 2020). Though the fire narrative becomes a common occurrence in reporting, it is typically portrayed as a result of "black loggers" hiding the illegally harvested areas, but it is almost never approached from the position of climate change and global warming. Quite often the line between "black loggers" and Chinese loggers also becomes rhetorically blurred, and in some cases authors openly accuse Chinese of setting the Russian forests on fire:

> The Chinese are setting up (out of sight) their offices in railway dead ends, which the railway gives out on long-term leases. The policemen who examined the "forest dead ends" believe that the Chinese are setting fire to the forest in collusion with the foresters .... By the way, the death penalty is applied for such a crime in China … (*Zavtra* 04/15/2015).

As shown by Levada center's poll (2014), there is a parallel between the objectification of the West as an outside enemy and objectification of China as such: among those who believed that the West is hostile to Russia, the majority of the respondents explain it as: 1) the West's desire to acquire Russian natural resources, 2) the West's fear of Russian military power, 3) Russia and the West traditionally being incompatible due to different cultures, religions, and traditions, and 4) Western countries being jealous of Russia (Gudkov, 2021). In the second act's articles we find a ubiquitous representation of the first point, followed by the third and fourth beliefs. This overlap between the perceptions of the West and China as enemies further signifies the role of the domestic political agenda constructing the "Outside Enemy" and outside dangers for the Russian citizens.

The second act forms a very simplified mental model of forest-related problems in Russia that explains it as an antagonism of "bad"—"black loggers" and Chinese, versus "good"—Russia. This perfectly illustrates the larger picture of the world painted by Russian propaganda, where "Russia is on the side of goodness, peace and order, and all its opponents are on the side of evil, chaos and violence" (Volkov 2016: 150), and further promotes the *Outside Enemy* metanarrative. The bifurcation of the environmental blame also helps understand why it is only the illegal logging that is explained in the newspapers as environmentally-harmful, and legal, state-regulated logging is positioned as the source of revenue that doesn't receive negative environmental reporting.

This kind of blame mis-attribution has major environmental consequences: it poses as a barrier for not just environmental literacy and pro-environmental behavior, but logging and aforestation policies development, support, and application. This stage of environmental anti-China sentiment explains why the loggers in Northwestern Russia have fragmented understandings of the forestland and logging problems where the Siberian and Far Eastern forests are perceived as isolated areas suffering from China, and are not seen as representations of larger nation-wide forestland problems. This kind of misconstructed environmental knowledge further contributes to environmental degradation and climate inaction (Yang et.al 2015; Jang 2013; Huggel et.al 2016).

Act III: Selective Problems and Economic Threats

The last observed years, 2019 and 2020, stand in sharp contrast to the objectively critical first act and fear-mongering and agitated second act. The third act is characterized by the articles that are moderate in their language and messages. Many more articles start to mention and some, like *NoG*, *LG, and Profil'* strongly emphasize various science-based environmental issues, such as: forest fires, beetle outbreaks, diminishing forest quality, bad reforestation programs, loss of

habitat due to logging, and others. These science-based articles, however, are common to the non-governmental newspapers and do not characterize all publishing houses. Just like in the previous act, forest fires in this act are not explained from the perspective of climate change or global warming, except for in the publications of *NoG* and *LG*.

It can be generally noted that the majority of most recent articles discussing logging and deforestation in one way or another point out that China is not the sole reason for illegal logging. *Profil'* (2019) emphasizes the negative role of the 2006 Forest Code, and the most Kremlin-loyal newspapers blame ostracized corrupt officials and "black loggers" for the loss and degradation of the forests. *NoG*, which for years has been the strongest of the Moscow critics, through reporting trying to challenge the central government's overarching power, offers the most critical description of the central state's forest mismanagement and lack of funding for the forest institution. One of the 2019 articles goes on to critically note that Moscow's absence of understanding of the forestry problems is combined with the extraction of revenue from the FE and spreading of the China-centered and "black logger" blame narratives, all of which significantly benefit the Kremlin:

> Once again, loggers didn't turn "black" because they like to cheat (scam). But because the Russian state drove them into darkness (*zagnalo v chernotu*). How is China related to this? (*NoG, 08/19/2019*).

Another group of newspapers, consisting of high-circulation houses as *MK*, *AiF*, as well as *KP*, present narratives that emphasize the role of Russian corruption, Russian illegal logging, and timber poaching, as well as the destructive role of the underdeveloped Forest Code that was adopted in 2006. In their articles authors specifically note that illegal logging is a result of our actions, and is *not* the fault of China. This narrative is at the same time combined with showing

how much profit China is making by buying cheap Russian timber or buying illegal timber, alluding to the culturally-embedded perceptions of profiteering Chinese.

Other newspapers shift the blame for illegal logging and deforestation: some use a scapegoat—a politician prosecuted for bribery and timber-laundering, while others quite blatantly accuse the Forestry ministry of corruption and bad forest management. *SR* blames the faceless "official" (*chinovnik*) and the capitalist system in general, which contrasts the early 2000's direct accusations of the top of the state: "*the tsar and the prime minister selling potatoes not from their own garden"*. The 2020 *AN* goes on to shame the Forestry Ministry for asking for more funding to fight fires. The state newspaper *RG* is approaching deforestation through moderate, economy-centered language, emphasizing that China receives almost all of Russian illegally logged timber.

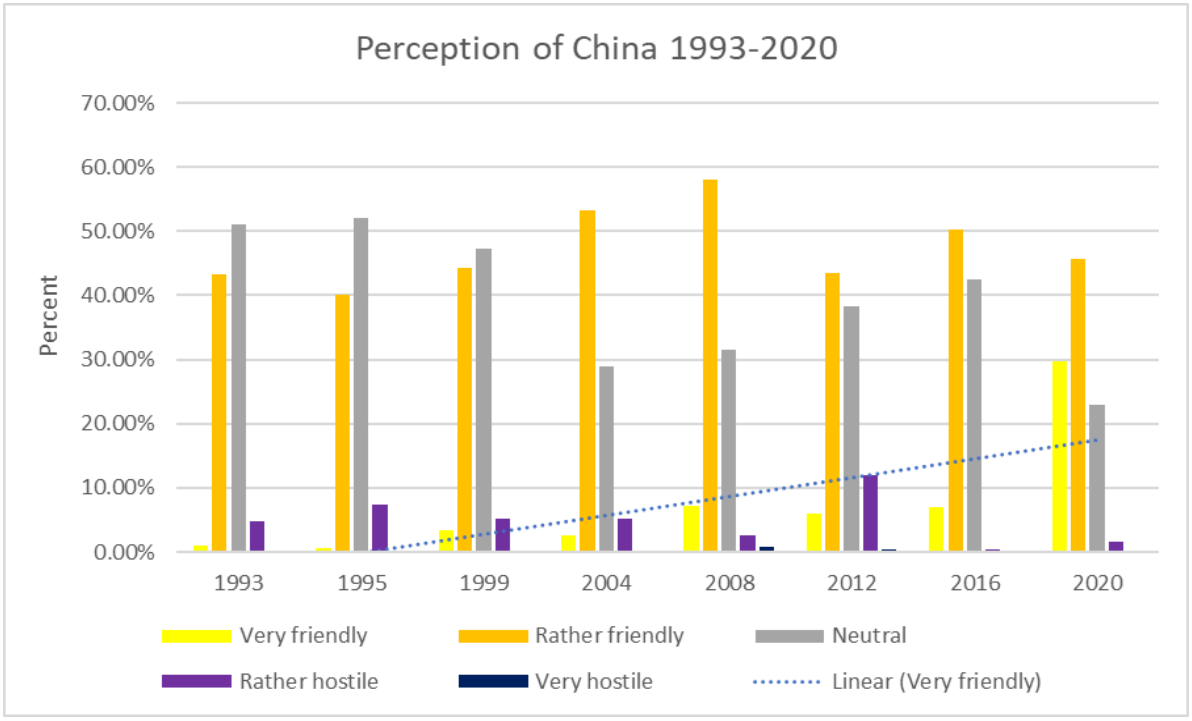
The aforementioned narratives illustrate what Toepfl (2011) calls corruption "scandal management"—media tactics aimed at redirecting the media consumers' attention and shifting the blame onto lower level officials and an "outside enemy", while raising support of the ruling regime's domestic politics. This type of targeted anti-corruption media campaign or what Mancini (2018) calls "assasination campaign" is a common occurrence in autocratic states, where it often is connected to intrastate power competition and the politicians' desire for increasing public support (Kazyrytski 2020; Pei 2018).

China was used for over a decade as one of the environmental enemies within the national "Outside Enemy" metanarrative, but with Russia's need for strengthening the ties with China, it was gradually reshaped and admitted into the "Great Power" domestic metanarrative as a strategic partner. The alleviation of China's blame coincides with the general shift in media portrayal and

public perception of China. This is well illustrated by the *Survey of Russian Elites* (2022) which shows that in 2020 almost 30 percent of the survey respondents believed that China is a very friendly to Russia state, versus 7 percent in 2016 (*See figure below).*

Burrett (2019) shows that Putin's first two presidential terms are associated with strong anti-China sentiment, whereas during the last two terms China is portrayed in a very positive light, defining it as a friendly state with similar values. This change is crucial to successfully using Russia-China cooperation to uphold the current ruling regime's legitimacy (Wilson 2019; Kaczmarski 2019). The overlap between the environmental discourse and political discourse further shows that environmental issues are deeply politicized in Russia, and are tightly connected to the changes in the state agenda.

Figure 3: Changes in Perception of China among Russian Elites



In the years leading to 2021, we see authors avoiding any mentions of the role of the government, the Kremlin and Putin, in the ill-fated Russian forest industry and forest institution. This fits into the larger Russian media picture where bad news gets framed as a result of external factors, while good news gets framed as the Russian government's victories, especially Putin's (Rozenas, Stukal 2019), who is positioned as an "indispensable figure" (Frye, 2021:136). This is also in line with Poberezhskaya's (2016: 112) findings of climate change reporting where the government, but not its leaders, are questioned, and the president's behavior is described as "absolutely correct".

Table 2: Emerging Themes

Issue	The First Act	The Second Act	The Third Act
Illegal logging	a) Massive problem that involves everyone, and occurs everywhere b) Loss of revenue	a) Black loggers", Chinese loggers, China-sanctioned poaching b) Loss of revenue	a) Black loggers" b) Loss of revenue
Corruption	Massive problem, prevalent at all levels, across all institutions	Mix	Specific cases, criminals are named
Mafia	Massive problem, involves murders and threats	Some mentions	None
Police	Police is a part of mafia and illegal logging business	Mix	Police is a threat to mafia and illegal operations
Poverty	Devastating poverty in rural areas	Mix	More funding would be good
Role of the government	Strong criticisms of the government	Mix	The government is not at fault, but specific people are
Logging and wood processing	Industry is completely destroyed, workers are abandoned	Mix	Wood processing industry will be created soon

Heads of the state	Blaming the Kremlin	Mix	The heads of the state are improving the situation
Forest fires	Almost no mentions	Many mentions	Many mentions
Other countries and illegal logging	Mix of foreign countries prompting illegal logging	Chinese logging and geopolitical occupation	China is not the culprit
Russian regions involved in illegal logging	Mix of Russian regions, including the Northwest	Only regions close to China	Only regions close to China
Forest degradation, environment	Some mentions	Some mentions	Some mentions

Discussion and Conclusion

The analysis of the 20 years of newspaper reporting has shown a few general trends. First, economic and political frames overpower environmental framing of the forestland: environmentalism and forest science remain the least important arguments within national forest discourse across the central federal newspapers. Second, the criticisms of the central government and heads of state for the problems in the logging industry and forest institution that were the focal point of the discourse in the early 2000s faded in the mid 2000s: the criticisms were replaced by shifting the readers' attention onto specific corrupt politicians, "black loggers", and China. Third, China-centered blame narrative bloomed for over a decade coinciding with the development of the "Outside Enemy" and "Great Power" narratives, but in 2019 articles started to exonerate China. Some issues, such as: illegal logging, corruption, the need for a better funding of the forestry institution, and the creation of a wood-processing industry, thread through the 20 years analyzed in this project. These narratives, despite being prevalent across all newspapers, are approached

from different angles across the three acts. The first act's newspapers simultaneously blame the government for the persistent issues, many are open in their criticisms of the state that has abandoned the forestry industry, failed to recognize regional problems, and failed to invest in the forest, people, and infrastructure. The strong criticisms of the central government of its inability to listen to the regions, its ineptitude in solving the pressing issues, and its greed, appeared repeatedly in the articles from the period.

The third act's papers are visibly divided in their opinions across political lines. Pro-government newspapers use corruption to point out specific geographic areas and prosecuted officials to localize and specify the villains, which is also similar to their use of "black loggers" for explaining illegal logging and deforestation. These newspapers also tend to provide very hopeful pictures of the future of the wood processing industry, and describe government plans on building factories, plants, and sawmills. Newspapers that lie on the other side of the political spectrum use the topic of corruption to emphasize inadequate government policy and the pervasiveness of bribery on all levels. They also show that the promised "holy grail"—modern wood processing industry, despite the promises of the government of the past 20 years, hasn't been created. The contrasting position of the papers not controlled by the government today also make them the most similar to the critical first act.

The narrative blaming China for the destruction of Russian forests and illegal logging developed in the mid 2000s and went through a stage of massive popularization that further strengthened it by adding negative racial, historical, and geopolitical fear-mongering aspects. Collectively, these replaced the criticism of the government by colonization-exploitation socio-environmental narratives, putting China at the center of the discourse on Russian forest

problems. This portrayal of China as the source of Russian forest problems politically benefitted the central government and allowed for public attention to be drawn away from the analysis of the ill-designed national forest policy and state mismanagement of the forestland. The last couple of years of the analyzed period, however, showed the opposite trend in portrayal of China: gradual media absolvation of China's role in Russia's deforestation—a pattern which illustrates a wider political shift in Russia, and overlaps with the changes in propaganda presentations of China.

Whenever the environment was discussed, it was usually done in a superficial way. Typically an article spent one to three sentences centered on the consequences of logging for the environment and species, such as: endemic bears, tigers or birds struggling because of loss of habitat; water bodies becoming more shallow; or forest fires appearing more often. These sentences are always used to give moral justification to the authors' points, and very rarely an article went beyond this facade to explain the mechanisms or gravity of environmental degradation and climate change. Over the 20 years, only in a few articles using interviews with the WWF, Greenpeace, or Academy of Sciences representatives can we find a thorough description of the ecological consequences of massive logging and deforestation. In all other articles, the pretextual environmental sentences are used when discussing illegal logging. Legal logging, on the other hand, is not portrayed as causing any environmental harm.

A similar lack of serious environmentalism characterizes the discussion of logging methods. When discussing clear cutting, no author mentioned the fluctuations in atmospheric carbon, carbon stored in soil, or differences in carbon sequestration in old versus young trees. There is one exception to the lack of references to forest carbon that can be found across many newspapers: emphasis on the greatness of Russian forests' ecological service to the world, which

authors repeatedly assert with the phrase "*lungs of the planet*" (*lyogkiye planeti*). This common metaphor illustrates the influence of the national identity and public consciousness reconstruction achieved by the "Great Power" narrative. It further demonstrates the state position of using the forestland as a signifier of Russia's environmental wealth in domestic politics, as well as employing it as a leverage tool in international negotiations.

Whenever authors approached clear-cutting, they discussed it from the position of profit, especially loss of such due to the logging sites' natural aforestation with the "cheap" types of trees—birch, aspen, and willow, which grow fast, lack the massive trunks so valued in the coniferous family. Scandinavian and Canadian examples of intensive logging were commonly used to show a comparison of how much more timber, hence profit, can be collected from a site of the same size, a volume which is usually said to be two-three times more than can be harvested in Russia. This further confirms the centrality of economic framing in forestland discourse.

In the future we might expect further disappearance of the environmental framing and all mentions of negative environmental consequences from the national forest and logging discourses, as well as other natural resource discourses. This would be furthered by economic consequences of the war in Ukraine, Russian engagement in the One Belt One Road Program, and increase in dependence on trade with China. Future research projects, thus, would benefit from an analysis of media discourses on non-timber and non-fossil fuel resources that would help build theoretically-informed comparisons across discourses on different categories of extractives.

Environmental Injustice in Russia: Ethnic Diversity and Internal Colonialism in The 21st Century Extractivist Empire.

Abstract:

Understanding ethnicity-based environmental inequality in modern Russia requires an environmental justice lens.Russia's historical exploitation of indigenous lands, diverse ethnic landscape, centralized environmental regulations, and reliance on extractive industries provides a unique context for this study. This paper aims to introduce the broader field of sociology to environmental injustices in Russia while emphasizing the ongoing relevance of internal colonialism and a geography of extractivism rooted in Russian history. Supported by statistical analysis of Russian Federal State Statistics Service (Rosstat) and Census data, this work contributes to the discourse on Russia's regional pollution and ethnicity-centered environmental injustice. The findings provide support for the notion that ethnic diversity changes the relationship between resource extraction and pollution and that regions of the traditional residence of indigenous people experience more pollution. This research offers practical implications and avenues for future research in this underexplored area.

Keywords: Russia, settler colonialism, environmental injustice, Siberia, environmental inequality, ethnicity, ecological violence.

Introduction:

Russia has a long history marked by colonialism and resource exploitation, an issue never officially recognized as a pivotal aspect of its political heritage. Beyond fleeting moments of recognition, the extensive chronicle of colonization—from the "fur rush" of the 16th to 18th centuries, through the vast peasant relocations of the 19th century, to the Soviet era's collective farming and industrialization—remains unacknowledged as colonization by the modern Russian state. Despite the relentless drive for natural resources that has historically characterized the Russian state—spanning sable, gold, arable land, oil, gas, coal, diamonds, and other natural resources—it's surprising that even the research community, including Environmental Sociology as the discipline, has largely overlooked Russian environmental colonialism.

While the term "Russian environmental colonialism" sporadically pops up in the area studies literature (Tysiachniouk et al. 2018; Zabelina 2021), it has yet to become a well-developed topic within environmental academic discourse. Environmental scholarship focusing on Russia is not well developed, in part due to data availability problems (Henry and Douhovnikov 2008) and a language barrier that Western-based academics face. As noted by Shorkowitz (2015:131), "[Russia] is still a multinational state with a peculiar colonial legacy, rarely the focus of the Western discourse of postcolonial studies."

While there exists a number of rich and detailed English language studies on resource extraction within specific indigenous communities (Crate 2009; Garipov 2014; Tysiachniouk 2018), alongside more technical strands of literature on environmental pollution and health outcomes in particular extractive regions (Reshetin and Kazazyan 2004; Sharov et al. 2016; Walker et al. 2006), there aren't any quantitative studies in Environmental Sociology or Russian

Area Studies that look at ethnicity-based environmental injustice in Russia. This paper aims to address this empirical gap and introduce the topic of environmental justice within the context of Russia to the field of Environmental Sociology—a field that is yet to adequately address the Eastern European cases .

Russia presents a rich case for the studies of environmental inequality, settler colonialism, and ecological violence for multiple reasons. *First,* throughout Russia's long history, indigenous land was positioned as a resource bank originally for furs and later on for timber, gold, oil, gas, coal, and other resources. *Second,* Russia has one main ethnic group (which gave the name to the official state language) and nearly 190 smaller ethnic groups, including a long list of indigenous peoples, most of which do not have an official status of indigenous protected people—"*korennoi narod*"—due to many legal and political barriers. *Third,* the majority of Russian natural resources are concentrated in areas populated by indigenous people (Garipov 2014). *Fourth,* environmental regulation in modern Russia is characterized by high levels of political and financial centralization and low regional autonomy: policy decisions are made in the Kremlin with low regard for the regions' concerns and needs (Martus 2017; Vornovytsky and Boyce 2010; Hartwell, Otrachshenko, and Popova 2021). Despite the fact that the majority of Russia's economy-supporting natural resources are concentrated in Siberia[9], the absolute majority of the profits settle down in Moscow (Kazarkin 2008:37). *Lastly,* extractivism—integral to Russia's economy and identity politics strive for and dependence on extraction of natural resources—not only denies space for the discussion of pollution and environmental degradation, but also fosters the

[9] Siberia contains 85% of Russia's prospective gas reserves, 75% of coal, 65% of petroleum, 80% diamonds, 75% gold reserves, and 65% of Russia's forest area (Groisman et al. 2013:8).

persecution of environmental activists and organizations (Zmyvalova 2020; Tysiachniouk, Tulaeva, Henry 2018; Tynkkynen 2019).

The objective of this paper is threefold. First, it introduces the broader field of sociology, with a particular focus on environmental sociology, to the history of internal colonialism and environmental injustice in Russia. Second, employing Russian Federal State Statistics Service (Rosstat) and Census data to research the relationship between atmospheric pollution, ethnic diversity, and extraction across Russian regions, it highlights the disproportionate exposure of ethnic minorities to environmental pollution rooted in policies of internal colonialism. Lastly, this research calls for a need to develop the area of environmental injustice studies in Russia with particular attention to the relationship between ethnicity, indigeneity, and pollution.

This research doesn't claim to be an exhaustive study, but rather it seeks to initiate a dialogue between Russia's environmental colonialism and ethnicity-centered environmental injustices within the broader domain of sociology. To achieve this, the article starts with a historical overview of *settler colonialism* and rooted in it resource extraction and land dispossession. It continues with a discussion of the of collectivisation and industrialisation and a summary of socio-environmental problems that resulted from the Soviet era formation of the *internal periphery*, as the historical context of industrial development is an important factor in understanding the modern patterns of disparities (Mohai and Saha 2015). After an overview of data and methods, the paper proceeds with the discussion of the current study's data and methods. The paper proceeds with discussing the findings and a conclusion that offers practical implications and directions for future research.

Russian Case Study

Note on Terminology

Considering the colonial nature of Russia's resource-driven territorial expansion over several centuries (Slezkine 1995; Remnyov 2003; Morrison 2016), the Soviet-era industrialization that treated the periphery as a resource pool for the core (Gouldner 1977; Viola 2007; Loring 2014), and the absence of established racial classifications in modern Russia, in my analysis I use four main EJ terms. Namely: *settler colonialism, internal periphery and internal colonialism, as well as environmental inequality.*

Environmental inequality implies the systemic, disproportionate, and continuous exclusion of certain disadvantaged groups from access to, control over, or fair treatment within resource extraction, policies, and decision-making processes, highlighting the unequal distribution of environmental benefits and burdens within the social hierarchy system (Pellow 2000). Unlike in the US, Russia doesn't have a defined racial hierarchy. Instead, there is a pronounced distinction between Slavic Russians (*Russkiy*) and ethnic minorities, a disparity deeply rooted in the historical context of colonial expansion. The term "*ethnicity*" (ethnic affiliation or identity) has almost the same meaning as "*nationality*" (national affiliation or identity) (Ryazantsev, Tikunov, Timonin 2012); race is not recorded in Russia's Census, suggesting that *environmental inequality* would be more appropriate for an analysis of the Russian case than environmental racism.

Environmental inequality in modern Russia should not be understood in isolation from the history of *settler colonialism*, a process where settlers, mainly peasants from the overpopulated European part of Russia, displaced local populations by taking over the "empty" lands, or the Soviet-era industrialisation shifting extraction and pollution onto the resource-rich historically

non-Slavic lands—*internal periphery.* All of which perpetuated a larger structure of *internal colonialism* keeping the internal periphery at a disadvantage politically, economically, and environmentally. Below I outline the consequences of the main historical periods of environmental colonialism central for understanding environmental injustice in today's Russia.

Early Tsarist Yasak and Imperial Settler Colonialism

Unlike many Western states, Russian settler colonialism lacks a clear starting point; it crawled along the continent for many centuries, and unlike in North America, colonization didn't have a pronounced racial ideology (Morrison 2016; Sunderland 2003). Early[10] colonization was aimed at the extraction of a fur tribute—*yasak*—imposed on indigenous peoples of Siberia (Slezkine 1995; Morrison 2016). Yasak was to be exchanged for military protection and goods. The earliest infrastructure of colonization comprised wooden forts-winter stations, from which tsar-appointed governors exerted control, often through raiding parties to threaten, kidnap or kill those refusing to pay yasak (Slezkine 1995; Forsyth 1992). Yasak, paid in sable pelts, fueled Russia's international fur trade and provided huge state revenue in the 16t-17th centuries (Willerslev and Ulturgasheva 2006) serving as the driver of further physical, cultural and military colonization.

[10] While some researchers argue that Russian colonization had occurred as early as the 11th century (Forsyth 1992), it is more commonly dated to the late 16th century due to a lack of earlier historical evidence.

While yasak is not widely taken to represent colonization in Russia, many researchers find that it was central exploitative and devastating[11] for indigenous communities (Morrison 2016; Slezkine 1994). Etkind summarizes the process: "Russians exterminated, absorbed, or displaced many of their neighbors (2013:65). **"**The 'Fur Rush' was as frantic as the Gold Rush in Alaska" (Bobrick 1992:68 cited in Willerslev and Ulturgasheva 2006) causing displacement, internecine wars, and the spread of smallpox that dramatically diminished the numbers of indigenous people (Slezkine 1994; Sablin and Savelyeva 2011). The excessive state-driven hunting led to shifts in traditional hunting grounds, inter-tribe land conflicts, and a dramatic depletion of sable populations by the 18th century (Slezkine 1995). In the 1920s and under Stalin, the fur trade was industrialized and collectivized, becoming a part of the planned economy and one a major source of state revenue (Willerslev and Ulturgasheva 2006).

Siberia, long seen as a land of involuntary exile or the haven for the persecuted community of "old believers[12]" started to become understood as a land of opportunity in the 19th century when gold deposits were discovered. Settler colonialism boomed after the abolition of serfdom in 1861. Aust (2004) shows that the major role of forced convict labor in the development of mining and metallurgy making Russian Imperial politics in Siberia consistent with (though slightly different in its particulars) European colonialism. Rethinking of Siberia as a source of land and resources led to a different type of colonization—a massive agrarian migration prompted by the severely overpopulated and agriculturally exhausted lands in European Russia. This prompted the state to reluctantly permit, and then to legally encourage peasant relocation—*pereselenie*.

[11] See Morrison (2016), Forsyth (1992), Kivelson (2007), Etkind (2013), and Vershinin (2018) for an overview of literature on Siberian colonization.

[12] Old Believers are Orthodox Christians that maintain practices of the pre-reform Russian Orthodox Church.

By the end of the 16th century the ratio of Russian and the indigenous population was one to 100, and at the end of the 18th century it was already four to one (Kazarkin 2008). By the 19th century, resettled Russians outnumbered the indigenous people due to the government's attempts to develop Siberia and Central Asian by offering tax and military service exemptions for the moving peasants. Pereselenie, besides resolving agricultural crisis and developing new land, was also providing national security, addressing the fears promoted by the "Yellow Peril"—moral panic regarding upcoming Chinese colonization of Russia (Remnyov 2003) (which resurfaced again in the 1930s when state propaganda encouraged nearly 300,000 people, mostly women and young married couples to migrate to the Far East (Shulman 2007:215)).

The late imperial government saw the steppe as arable land that would source massive volumes of grain for the population to make up for the exhausted land in the European part of Russia. The intensified agricultural usage of the new lands, also, served important ideological purposes:

> Some of the views about the appropriateness of the steppe environment for arable farming by Slav settlers and on nomadic pastoralism as an activity for "less civilized" peoples clearly reflected notions of "cultural superiority" of the Slavs over the nomads, and the Russians' "rightful" appropriation of their land (Moon 2007:90) .

Active appropriation of indigenous lands, logging, and destruction of grass steppes by plowing and livestock raising led to massive erosion, droughts, and harvest failures, which started to become a topic discussed in educated circles in the late 19th century. Anthropogenic environmental change and desertification of land became a new national question after 1890, but it didn't affect pereselenie politics and the volumes of peasant relocations (Moon 2007).

Colonization of Siberia and resettlement peaked with the 1906 law allowing migration to any peasant (Steinwedel 2007), and the later Trans-Siberian Railway opening. Prussian experience of Germanizing the Polish provinces through construction of schools and churches along the railway was used as an example for promoting Russification (Remnyov 2003). By 1912, nearly 3.5 million people legally resettled in Siberian and Central Asian regions, with actual numbers likely much higher[13] due to unofficial migration (Morrison 2016). Late Imperial colonization was "embraced with enthusiasm", it was synonymous to the "historically predetermined and utterly triumphant march of progress, civilization, Russianness, and imperial unity" (Sunderland 2000:231). Extraction of natural and social resources, displacement, and Christianisation of the locals were central characteristics of the "internal peripheralization" process that served the Imperial state for centuries (Nolte 1995) .

The absence of a natural border, like mountains or oceans, led colonists and the government to view Siberia and Central Asia as a natural extension of Russia. Sparse nomadic and semi-nomadic populations allowed the state to claim that the lands were free. Early "Muscovite documents made note of the clearing of land, and unsettled and unfarmed spaces were indicated as 'empty lands' or 'wastes'" (Breyfogle, Shrader, Sunderland 2007). Due to scarce indigenous populations, whose numbers were diminished by disease and internecine wars (Morrison 2016; Sablin and Savelyeva 2011), later centuries' pereselenie in Siberia was seen as populating the "empty lands." In Central Asia, where indigenous populations were more significant, lands were

[13] Steinwedel (2007: 130) points out that illegal migration accounted for between 60-85% in the late nineteenth century. Sunderland (2003), estimates that the total number of migrants was close to 15 million, and Sablin and Savelyeva (2011:86) claim that the total population of Siberia had reached 9.4 million by 1911, of whom the unassimilated native peoples constituted only about 11.5%, Aust (2004) puts this number at 14%.

often reclassified as 'public' or 'extra' to legitimize their allocation to Slavic migrants (Morrison 2016; Laruelle 2015). Russian historians viewed resettlement as a development of Russia's own lands, not colonization. Prominent Imperial historian, Vasiliy Klyuchevskiy, claimed in 1904 that "the history of Russia is the history of a country that colonizes itself" (Sunderland 2003: 112), this idea led to the creation of a whole imperial historiography school dominated by the self-colonization narrative (Etkind 2013). The lack of natural borders and sparse indigenous populations historically enabled the Russian government to deny settler colonialism—an ideological tool that lived through the Soviet era and that is still present in modern Russia.

Environmental and Social Consequences of The Soviet Industrialisation

In the early Soviet period "all Russian colonizers—plebeian colonists included—were chastised for exploiting non-Russian peoples" (Breyfogle, Shrader and Sunderland 2007:3). As explained by Etkind (2013: 71) colonial terminology disappeared from the official discourse in the early 1930s when "Marxist historiography was swiftly replaced by patriotic history, the dogma of peoples' friendship, and the personality cult of 'Great Leader' Stalin" (Schorkowitz 2015: 129).

Later Soviet historiography used neutralized language to replace "subjugation" and "conquest" (*pokoreniye* and *zavoevanie*) by annexation or assimilation/exploration (*prisoedineniye and osvoeniye*) (Schorkowitz 2015:126), denying the colonial character of the USSR. Furthermore, the term "indigenous people" was replaced by "titular nations" by Soviet officials, reflecting the official stance that "indigenous" applied only to countries with a colonial past (Khanolainen, Nesterova, Semenova 2022:769). "The Bolsheviks claimed to dissolve the old bonds of colonial domination and promised national self-determination" (Teichmann 2007:499).

Decolonization and emancipation of the peasants was to be achieved through monumental economic development, which, however, quickly developed into politics of terror, coercing indigenous populations into locally-bound extraction and manufacturing (Teichmann 2007).

Under Stalin, what would be categorized as colonization by most researchers, was portrayed as economic development of Russia's own land, aimed at bringing civilization, culture, and socialist progress to "backward" natives (Willerslev and Ulturgasheva 2006). This colonization was achieved through industrialisation, creation of collective farms and monocities[14] (*monogoroda*), a vast network of labor camps filled with prisoners, as well as remote "special villages" (*spetsposeleniya*) filled with "enemies of the state", such as *kulaks,* anti-socialists, and ethnic minorities, under brutal totalitarian control.

The human toll of Stalin's policies in the 1930s was enormous, as Josephson et al. (2013:97) explain: "about 10 million peasants were displaced from their villages and deported into exile…. About 4 million people were imprisoned, about 200,000 were shot, and as many as 3 million more died in the famine of 1932–1933." Between 1930 and 1931 nearly two million people were forcibly sent to the North, the Urals, Siberia, and Kazakhstan to work in logging, agriculture, and construction (Viola 2007). Prisoners were used as slave workforce in construction and extraction industries, such as *Dalstroi* in the Far East specializing in gold, platinum, and molybdenum operations; *Baikal-Amur Mainline* railroad*; White Sea-Baltic Canal* construction; fluorite and rare earth mineral mining on the Arctic coast; logging in the Urals and Siberia, and

[14] Monocities are single industry towns that were populated by the workers and their families—most often Slavic settlers moved by the state to replace indigenous populations. Today, approximately 1100 monotowns still remain in Russia (Shastitko and Fatikhova 2015).

numerous others. Throughout the 1930s, 9,000 major industrial enterprises were established that would use the environment and nature almost exclusively as a consumable resource (Josephson et al. 2013).

The rates of deportations were tremendous. For example, all Kalmyks were deported to Siberia within 4 days in 1943 under charges of treason ranging from collaboration with Nazis to protesting against state politics (Waylen et al. 2012; Richardson 2002). In Kazakhstan, collectivisation-caused famine and forced out-migration resulted in a 1.2 million drop in the population of native Kazakhs (Shayakhmetov 2007), a number that was "adjusted" by over 136,000 of exiled kulaks, Germans, Poles, Ingush, and Chechens sent in to work in agricultural labor camps in the region (Pohl 2007).

Stalin's regime repurposed nature for the needs of the state. Nature, like people, was to be tamed, reengineered, and molded by humankind (Josephson et al. 2013; Venovcevs 2013; Richter 1997). The regime extracted the maximum social and environmental resources; environmental degradation and social losses were not interesting to the Party, prioritizing five-year plans over sustainability (Josephson et al. 2013: 73). Essentially, as Peterson (1993:61) states, "projects often were praised more for their daring and scale than for their practicality or effectiveness. Ultimately, ecological concerns were eclipsed by planners' and engineers' ambitions".

Stalinism represented a system of *internal colonialism* where the periphery was used as a resource tap serving the core. According to Alvin Gouldner (1977) and Viola (2007) this system of internal colonialism mainly subordinated and exploited rural populations to benefit the urban working class. Loring (2014) puts forth that internal colonialism emphasized the cultural and linguistic distinctions between the dominating group—"Europeans" and the subordinate groups inhabiting the periphery—indigenous people (Central Asians, buddhists, and muslims), further

strengthening the ethnic division of labor (Loring 2014:84). The center-periphery production-consumption system represented what Teichman (2008) calls the "indigenization of economic modernization" where periphery populations were to extract, produce, manufacture, and export specific commodities such as: cotton in Central Asia *(see Figure 3, a Stalin-era propaganda poster)*, timber in Siberia, and oil in the North, further exposing certain indigenous populations to specific types of ecological violence and environmental pollution.

Figure 4. Soviet Propaganda Poster "The Friendship of The Peoples of The USSR is Strong and Inextricable".

(Slavic Russians on the left and Central Asians on the right)

Indigenization of economic modernization (Teichman 2008) is evident in the creation of massive cotton farms in Tajikistan that resulted in Tajik migration and forced repopulation of the region by Tajiks traditionally living in mountainous areas, importation of thousands of labor camps workers, and arrival of many—often tricked into voluntary labor migration Slavic Russians (Peterson 2019). Similarly, the development of oil, gas, and mining industries in the 1930s destroyed fragile tundra, displaced indigenous peoples, especially Komi, Nenets, and Saami, which combined with nationalization and collectivization policies led to massive famines and disease outbreaks (Josephson et al. 2013). The economic development of Northern Russia was accompanied by a mass migration of workers, dilution of local populations, and the marginalization of indigenous peoples and their cultures (Stammler and Forbes 2006). Disastrous environmental consequences of the development of extractive industries are still hard to fully estimate.

In Tatarstan oil extraction caused significant runoff and the pollution of surface waters; by the mid-1980s, catastrophic salinization affected the main regional rivers and deteriorated the soils (Kalimullin 2006). Diamond mining in Viliui Sakha restructured local indigenous livelihoods around collective farms, effectively recolonizing them as "industrial servants" of meat- and milk-producing collective farms serving the diamond industry workers (Crate 2009: 192). This destroyed the traditional subsistence livelihoods, disturbed the clan family structure, and contaminated soil and watersheds (Crate 2009). The collectivization and industrialization in Kalmykia led to both cultural and linguistic erosion and extreme environmental degradation (including desertification of land, destruction of pastures, and pollution from pesticides, among others), as indigenous lands were repurposed and resettled by ethnic Russians and Ukrainians

(Waylen et al. 2012; Richardson 2002). The percentage of Kalmyks who resided on their ancestral lands fell from 75.6% in 1926 to 45.4% in 1989.

Perhaps the most famous case of Soviet era industrialisation-caused environmental catastrophe, the demise of the Aral sea, is similarly rooted in the notion of remastering nature. To develop massive irrigation projects for cotton producing farms in Central Asia, the Soviet government redirected water from the rivers feeding into the sea, which resulted in the sea losing over half of its size between 1960 and 1991 (Richter 1997). This further contributed to socio-economic crisis, climate change, and land desertification. These were accompanied by severe pollution from fertilizers, pesticides, and defoliants similar to Agent Orange, resulting in the Aral sea region having one of the highest child mortality rates in the world today (White 2012).

This "violent industrialization" (Richter 1997) urbanized and economically developed the Soviet Union, but it did so at the cost of people's lives, environmental quality, and indigenous cultures. "Modernization through decolonization" (Teichmann 2007) led to dramatic negative economic, social, and environmental changes, yet "the Party's claim of infallibility made impossible the correction or confession of mistakes or failures" (Richter 1997:80). Soviet-era industrial development and dependency on hydrocarbons that were a primary source of economic prosperity of the Soviet Union (Buccellato and Mickiewicz 2009) had caused widespread environmental damage (Udachin et al. 2003), so much so that the real volumes of pollution are hard to estimate.

Environmental regulation was virtually nonexistent in the Soviet Union until the 1960s (Kalimullin 2006). Only in the 1980s the state started to introduce environmental regulations for industries (Thomas and Orlova 2001). Even after the introduction of cleaning and neutralizing systems, oil and chemical spills resulting from corrosion and outdated equipment occured

regularly: pipeline ruptures in Samarskaya Oblast' alone in the 1980s came close to 70,000 per year, releasing salt brines and oil products polluting up to 100–200 hectares of arable land annually (Kalimullin 2006: 200).

While attention to the topic of colonization and pereselenie has increased in the 1950s, the perception of settler colonialism remained highly contested, with most authors rejecting it, and some accepting but applying it only to certain categories of people or specific time periods (Bennigsen 1969; Vershinin 2018). Only during the more free Perestroika times (late 80s), did the researchers start to criticize Soviet colonialism with forced collectivization and industrialization (Breyfogle, Shrader and Sunderland 2007). "Secrecy of colonialism"—denial of its existence, has always characterized Russia (Leiserovich 2001 in Kuznetsova 2003). Up until Perestroika, many issues rooted in violent industrialization and indigenization of economic modernization, such as massive environmental pollution, destruction of the hunting grounds and pastures, decline in wild species, ethnic cleansings, forced deportation, life-shattering resettlement or loss of traditional knowledge and languages[15] were not publicly known (Slezkine 1995; Laruelle 2015; Richardson 2002).

The usage of the word "colonization" is still highly contested due to the many differences in the nature of the "classic versions" of colonization—British and Spanish and Russian, but also due to the economic dependence on extraction**.** The term "colonization" is still not used in the history textbooks except for when applying it to European states. As explained by Schorkowitz

[15] At the early stages of conquest Russians encountered at least 120 languages and many dialects in Siberia, in the late twentieth century there remained only 35 indigenous languages and up to 18 dialects (Sablin and Savelyeva 2011). At the end of the Soviet period, only one indigenous group-Nenets had schools in their national language (Laruelle 2015: 35). Many native languages and scripts, such as Kalmyk, were intentionally destroyed by the Soviet government.

(2015: 10), “to characterize Russia as an empire of internal colonies would always challenge the cultural, hegemonic, and supranational construct of ‘Russia united and inseparable’”—one of the essential narratives promoted by the current regime. Some authors, like Bovdunov (2022) claim that the terms “colonialism”, “internal colonialism”, and “decolonization” are tools used by the West, financed by the Department of State to undermine Russia: “we see a convergence of postcolonialist discourse with the mainstream of Western-centric philosophical thought: feminism, cosmopolitanism, relativism, criticism of onto-theo-teleo-phallo-phonological centrism” (2022: 651).

Indigenous Land Rights Today

The concept of natural resources as a “national heritage” (*natsionalnoye dostoyanie*), as Gazprom advertisements proudly claim, contrasts sharply with the reality of resource distribution, particularly regarding indigenous communities affected by extraction. Modern Russia’s extractivist economy represents what Tysiachniouk et al. (2018) call a “(neo)colonial model of resource development” where the profits bypass the regions and indigenous communities where the extraction is occurring due to the many imperfections and biases of the political and legal systems. The legal system in Russia significantly limits the rights of indigenous people in Russia. The majority of indigenous communities cannot achieve the protected legal status of “indigenous people” (*korennoi narod)* because Russian legislation requires indigenous people to a) be small-numbered—up to 50,000 people, b) maintain the traditional lifestyle, economic activities, and crafts, and c) live on the traditional lands settled by their ancestors (Federal Law “On Guarantees of the Rights of Indigenous Peoples of the Russian Federation”). These criteria become

"bargaining chips in local struggles over political power, resources, and identities" (Donahoe et al. 2008:994). Without *korennoi narod* (*KN* hereafter) status, communities are not able to obtain legal protection, state funding, and benefits from local extractive industries (Plotnitskiy and Chowdhurry 2022; Overland 2009; Rowe 2010), leaving their relations with industries "dependent not on law but on the good will of local authorities and the representatives of the oil and gas businesses" (Garipov 2014:75).

The law's criteria artificially reduces the number of *KN* (Overland 2009; Donahoe et al. 2008) and excludes groups that are larger than 50,000 people (such as Komi, Buryat, and many others) or those that live in the "non-traditional" lands, such as cities, from getting legal protection. Moreover, the "maintain the traditional lifestyle, economic activities, and crafts*"* adds ambiguity allowing the government to use the very definition of the *KN* against the communities that lost their traditional culture due to historical displacement. Today, only 47 indigenous people groups in Russia have KN status, 40 of these indigenous peoples reside in territories of the North, Siberia and the Far East (Zmyvalova 2020).

While there is a plurality of federal laws protecting the environment and indigenous communities, most of these laws aren't followed, implemented regionally or simply explained to local communities (Donahoe 2009; Henry 2009). Mechanisms of application are unclear and some laws expire before they are acted upon while others are expeditiously pushed through Duma without much discussion in order to not draw the attention of civil society (Tysichniouk et al. 2018). In modern Russia the legal system is more of a tool of state power, much less so a mechanism of protecting the rights of the indigenous people, upholding environmental justice, or promoting sustainable development policies (Donahoe 2009; Crate 2009). As explained by Kryazhkov (2013: 147):

> Certain standards are decorative legislation only (in the sense that they do not work, no actual legal relationships arise from their basis). This relates, for example, to provisions on authorized representatives of indigenous peoples, ethnological expertise, participation of representatives of said peoples in environmental and ethnological expertise, and an obligatory consideration of customs and traditions when making judicial or other decisions.

Internationally-ratified laws and regulations aimed at protecting rights of indigenous people are not accepted in Russia, like the ILO's agreement on the right to self-determination for indigenous people (Laruelle 2015). This allows the Russian government to deny indigenous people the right to control their lands and resources. This situation is further exacerbated by the fact that the UN's definition of "colonized people" is mainly centered on cross-ocean colonization, and much less so on the type of colonization that characterized the Imperial and Soviet expansion (Donahoe 2009), which allows Russia to argue that colonization had never occurred. Since Russia still has not ratified ILO Convention and has not supported the UN Declaration on Rights of Indigenous Peoples, there are no international legal guarantees for indigenous people concerning extractivism on their lands in Russia today (Garipov 2014).

Environmental Inequality And Russia

Resource-based environmental inequality research has emphasized the disproportionate environmental burdens borne by socio-economically disadvantaged communities in regions dependent on resource extraction (Freudenburg 1992: Greenberg 2017; Liévanos, Greenberg, and Wishart 2018). Resource-dependent regions, while receiving significant economic benefits in the short term perpetuate the "addictive economy", which in the long term eventually leads to economic decline and significant ecological problems, negatively affecting the health of local

populations (Freudenberg and Gramling 1998). Resource-rich regions often end up becoming victims to "resource curse" where dependence on extraction overshadows development of other industries and environmental concern, and increases economic inequality across and within the communities.

Russia, as a "petronation" (Rutland 2014), has an "addictive economy"—it undeniably has been reliant on resource rents. Much of the extraction occurs in resource-rich regions, especially Siberia (Kazarkin 2008; Groisman et al. 2014), contributing to pollution and toxic elements contamination negatively impacting health of citizens residing in industrial centers within those regions (Gilmundinov, Kazantseva, and Tagaeva 2014; Venovcevs 2021; Matveeva et al. 2022; Bachina et al. 2015). Despite the evidently prevalent issues related to resource-based environmental inequality, quantitative environmental justice research focusing on Russia is not sufficiently developed.

Currently available quantitative studies include research centered on more "traditional" measures of disparity—economic inequality and pollution. Davidson, Mariev, and Turkanova (2021), for example, show that CO2 emissions increase in tandem with growth in income inequality between 10% of people with the lowest income and 10% of people with the highest income (decile ratio). Vornovitsky and Boyce (2010) find that greater income inequality within the same Federal District is associated with more uncontrolled air pollution—"pollution shifting"—with the poorest regions experiencing the most pollution within the same Federal District. Burakov and Bass (2019), on the opposite, show that income inequality does not affect carbon emissions across Russian regions. No quantitative studies so far have looked at the relationship between extraction, pollution, and ethnic composition of the regions on a cross-regional scale in Russia.

Studies on exposure and slow violence (Nixon 2011), or the way toxins and environmental pollutants poison human bodies have also overlooked the nature of ethnic composition of the regions. For example, Gilmundinov, Kazantseva, and Tagaeva (2014) find that increase in industrial pollution significantly affects health, with people residing in industrial centers of Irkutsk, Kemerovo, Murmansk, Chelyabinsk, Krasnoyarsk, Nenets, and Khanti-Mansi regions facing the most negative consequences. Toxic contamination of the environment and its effects on human health is especially pronounced in the extraction monocities, such as Monchegorsk, Nikel, and Zapolyarny producing nickel, copper, and cobalt; Olenegorsk and Kovdor producing iron; Kirovsk, Titan, and Kovshva sourcing apatite; and Revda producing rare earth minerals (Venovcevs 2021).

In the Oryol region bronchitis and asthma, skin diseases, and dysfunction of endocrine system, digestive system, and circulatory system are all associated with the high industrial pollution rates, especially pollution from heavy metals and radionuclides (Stepanova et al. 2019). In Kemerovo region—one of the major national centers of extraction and industrial production, many cities experience toxic pollution from VOCs, contributing to growing rates of birth defects (Bachina et al. 2015) and one of the highest infertility rates in Russia (Ustinova et al. 2010). While some studies demonstrate that indigenous people are at serious risk, such studies do not make a cross-regional connection between representative instances of ethnicity-centered environmental inequality. Notable case, for example, is mining of chromite, oil and gas extraction in Yamal Peninsula, Usa Basin, and Vorkuta that contribute to the heavy metal pollution and bioaccumulation of toxic elements in lichens, soils, water, and animals within the Russian Arctic region, leading to significant health risks to people, especially Nenets and Komi communities

whose sustinence and cultural practice rely significantly on reindeer meat consumption (Ji, Abakumov, and Polyakov 2019; Walker et a. 2006).

Contaminants and eco toxicants, such as nickel, copper, and lead, can travel to non-industrial zones, polluting the neighboring regions via atmospheric migration and waterways (Baklanov et al. 2013). Heavy metals from Noril'sk[16] and Ural industrial zones, for example, were found to travel via atmosphere and rivers long-distance across Siberia (Vinogradova, Maksimenkov and Pogarskii 2009). Global warming-caused rising water flow will also likely carry toxic chemicals much further away from the contaminated industrial zones in the near future (Matveeva et al. 2022).

High volumes of pollution in Russia are attributed to outdated equipment, lack of continuous observations, deteriorating treatment facilities installed at factories and in industrial production zones, and deficient and outdated measuring tools (Martynenko, Vershinina 2018; Kalimullin 2006; Baklanov et al. 2013). Illustrative of that are industrial disasters, like the 2020 Noril'sk oil spill of approximately 20.000 tonnes of diesel oil caused by the corroded tank. In West Siberia, "up to 35,000 breaks of oil pipelines occur annually; about 300 accidents are officially registered with oil spills bigger than 10000 tons each (Groisman et al. 2013:12). What exacerbates pollution from active industrial and extractive centers is the abandoned Soviet-era industrial sites and neglected dumps of toxic byproducts of extraction—what Walker et al. (2006) call a "legacy of pollution".

Heavy metal bioaccumulation continues to pose long-term environmental and health risks (Barsova et al. 2019). Sites that cause hazardous pollution include burials of radioactive waste,

[16] The city of Noril'sk grew out of the Norgulag labor camps.

landfills of pesticides, abandoned mines, refineries, and storage sites still filled with the toxic waste. Examples include Usolie-Sibirskoe, Kemerovo oblast', and the Karabash region, where abandoned industrial mines and plants still leak toxic substances (Kholodova et al. 2022; Semenova et al. 2018; Rybnikova and Rybnikov 2017; Udachin et al. 2003). Karabash region of Southern Urals deemed by the state an "environmental disaster zone" in 1995 today has a working copper smelter, abandoned and active mines, large waste dumps, tailings dams and ore stockpiles, all of which leak heavy metals and emit extraordinary volumes of SO2 that cause acid rains killing all vegetation around (Udachin et al. 2003).

Over 400 toxic sites are located in the former Soviet countries of Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan (Sharov et al. 2016). Over 3 million people are at risk due to the hazardous pollution of soils and waters, close to one third of all toxic sites are contaminated with Pb, As, and Cd (Sharov et al 2016: 348-349) in Russia today. Based on Roshydromet data for 1993-1998, Reshetin and Kazazyan (2004) estimated that between 219,000 and 233,000 premature deaths or 15–17% out of the total annual mortality might be caused by air pollution.

This research draws on an extensive body of literature on settler colonialism, internal peripheralization, pollution, and experiences of indigenous communities in present-day Russia. The central question of this research asks if there is a connection between extraction, atmospheric pollution, and ethnic composition of regions. As such, this research puts forth the following hypotheses:

H1: Regions with more resource extraction will experience increased atmospheric pollution.

H2: The ethnic diversity of regions modifies this relationship, such that regions with more ethnic diversity intensify the impacts of resource extraction on atmospheric pollution.

H3: Regions recognized as the traditional lands of legally-registered indigenous peoples will experience more pollution than regions that are not recognized as such.

Data and Methods:

Statistical Modeling:

To estimate the relationship between ethnic diversity and environmental inequality, I employ the STIRPAT (stochastic impacts by regression on population, affluence and technology) model (York, Rosa, Dietz 2003) and conduct multiple linear regression to estimate the relationship between regional pollution volume, ethnic diversity (EDIR), and the share of natural resource extraction in the regional GRP. I use data for 2017–a year that has the most available data for the dependent and the independent variables of interest with the EDIR calculated based on the 2020 Census data.

I transform all but two variables into a natural logarithmic form. The variables not transformed into a natural logarithm is EDIR and a bivariate variable showing the indigenous status of regions. EDIR is normally distributed and since I do not expect its direct effect on pollution, I do not transform it into a natural logarithm. I estimate the models for 83 administrative regions, except for Crimea and the city of Sevastopol. I estimate models with interaction terms to assess whether the association between pollution volumes and natural resource extraction varies by ethnic composition across the regions.

Since the biggest limitation of this study is its cross-sectional nature, to demonstrate the reliability of the results, I also estimated the similar models on data from 2011 with EDIR calculated based on the 2010 Census data. Coefficients for the interaction term remained significant across all the four models. As another test of the results, I estimated models for 2017 data with the EDIR transformed into a categorical variable (consisting of low, medium, and high categories) and with EDIR transformed into a natural logarithmic form. OLS regression results are attached in the appendix[17].

Dependent variable:

The dependent variable is represented by the volume of pollution, specifically, the "pollutants released into the atmosphere from stationary sources" (pollution from stationary sources or PFSS hereafter) measured in tons (Fedstat.ru 2023). According to Rosstat (2022), all pollutants entering the atmospheric air are taken into account both after passing through dust and gas treatment plants (as a result of incomplete capture and purification) at organized sources of pollution, and without purification from organized and unorganized sources of pollution.

According to Rosstat's "Environmental Protection in Russia" (2022)[18] collection discussing the main environmental protection measures for 2017-2021, PFSS consists of five main compounds: sulfur dioxide (SO2), nitrogen oxides (NxOx), carbon monoxide (CO), volatile organic compounds (VOCs) (VOCs include such compounds as: propane, butane, methyl chloride,

[17] The models show significant coefficients for the interaction terms of natural resource extraction and most ethnically diverse regions, supporting the findings of the main models based on the data from 2017.

[18] Rosstat. 2022. Environmental Protection in Russia. Accessed 11/21/2023. Access link: https://rosstat.gov.ru/storage/mediabank/Ochrana_okruj_sredi_2022.pdf

formaldehyde, pesticides, plasticizers, and others (EPA 2023[19]), and ammonia (NH3), with CO having the biggest share in the total PFSS volume. Besides these five, PFSS also includes pollutants that are classified as "Hazard Class 1 and Class 2", such as: mercury, lead and its inorganic compounds, chromium, manganese and its compounds, copper oxide, formaldehyde, hydrogen sulfide, and phenol (Rosstat 2022). PFSS as an aggregate of the emissions is commonly used in studies tracing the role of industrialisation (Bityukova and Kasimov 2012) in emissions, resource extraction and pollution within specific regions (Petrov, Mamaeva, Narushko 2019), pollution in urban centers (Petrov and Petrova 2017), and impact of pollution on health (Gomboev et al. 2022).

Independent Variables

Across all model specifications I include the total population of each region, Gross Regional Product per capita (GRP), share of revenue from natural resource extraction as a percentage of GRP, share of manufacturing revenues as a percentage of GRP, urbanicity level, share of the working population age 15-72, and *decile ratio*—ratio between the average levels of monetary income of 10% of the population with the highest incomes and 10% of the population with the lowest incomes. Additionally, I use ethnic diversity index to account for ethnic composition of the regions and a dummy variable that records the presence of the status of traditional land of *KN*.

[19] EPA. 2023. "Technical Overview of Volatile Organic Compounds." Accessed 11/21/2023 at https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds

Table 3: Summary statistics of the variables

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
Pollution from stationary sources	83	238	427	1.1	37	235	2370
GRP per capita	83	595714	836459	125668	283169	523308	6045236
Population size	83	1768	1812	44	753	2382	12444
Manufacturing as % of GRP	83	16	10	0.2	9.2	23	39
Natural resource extraction as % of GRP	83	11	18	0.01	0.31	16	73
Ethnic diversity index	83	66	5.5	53	61	69	79
Urbanicity level	83	71	13	29	65	78	100
Working population, age 15-72	83	64	4.8	50	61	67	78
Decile ratio	82	5.9	1.1	4.8	5.3	6.4	14
Korennoi narod traditional residence	83	0.33	0.47	0	0	1	1

Ethnic Diversity Index

Ethnic diversity index, which is used to estimate the relationships of interest, is a census data-based index first proposed by Tikunov, Ryazantsev, and Timonin (2013)—the "ethnic diversity index adjusted for the ability to speak Russian" (EDIR). In my application of this index, I consider people who did not identify their ethnicity (although they reported their ability to speak Russian) as its own category in the construction of the formula. This treatment of the Census data follows from the fact that some regions (*see Table 4 below*) have substantial numbers of people that did not choose their ethnic affiliation that also do not speak Russian, suggesting that considerable numbers of ethnic minorities and indigenous people are "hiding" in this category, refusing to identify their ethnicity for various reasons, a point that is as briefly mentioned by Tomaselli and Koch (2014). According to the journalists and researchers, growing xenophobia and

the fear of being prosecuted are one of the main reasons for high non-response rates in Russian surveys (Reisinger, Zaloznaya and Woo 2023; Coalson 2023[20]).

For the purposes of this research, ethnic minorities that are accounted by the EDIR index include legally recognised indigenous people—*korennoi narod*, indigenous groups that do not have the protected status, and non-indigenous ethnic groups, such as Koreans, Germans, Tadjik, Georgians, Ukrainians, and others. Only one national affiliation for each person was chosen during the Census. In the 2020 Census there were 145 groups and 49 subgroups of nationalities recorded and 145 groups and 48 subgroups in 2010.

Table 4: Example shares of the "hiding" ethnic minorities

(Based on 2020 Census).

Region	Total Population	Share of respondents that identified their ethnic affiliation	Share of respondents that didn't identify their ethnicity and indicated that they don't speak Russian
Kostromskaya Oblast'	580,976	81.5%	16.6%
Kurskaya Oblast'	1,082,458	86.3%	11.5%
Lipetskaya Oblast'	1,143,224	89.7%	8.2%
Moskovskaya Oblast'	8,524,665	87.5%	5.9%
Yaroslavskaya Oblast'	1,209,811	85.2%	11.3%
Udmurt Republic	1,452,914	85.5%	12.7%

[20] Coalson, R. 2023. "Russia's 2021 Census Results Raise Red Flags Among Experts And Ethnic-Minority Activists." Radio Free Europe. Accessed at: https://www.rferl.org/a/russia-census-ethnic-minorities-undercounted/32256506.html

Traditional Lands of Korennoi Narod:

To provide more context on the relationship between ethnic diversity and pollution I created a dummy variable that records the presence of the status of "traditional residence of indigenous people". I refer to the Decree of the Government of the Russian Federation on "Traditional residence and traditional economic activities of *korennoi narod*" (Code of Northern People 2023) that establishes the status of "traditional residence of indigenous people" for Russian regions. List of territories of traditional residence and traditional economic activities of *KN* of the North, Siberia and the Far East of the Russian Federation was approved by Decree of the Government of the Russian Federation dated May 8, 2009 No. 631-r[21]. Based on this decree, regions recognised as the territory of traditional residence of indigenous people are spread across the total of 28 Republics, Krais, Oblast's and Autonomous Regions (*see table 5 below*).

Table 5: Regions of the traditional residence of indigenous people (*korennoi narod*)

Republics:	Altai, Buryatiya, Komi, Kareliya, Sakha-Yakutiya, Tiva, Hakasiya.
Krais:	Altaiskiy, Zabaikal'skiy, Krasnoyarskiy, Kamchatskiy, Promorskiy, Khabarovskiy
Oblast's:	Amurskaya, Vologodskaya, Irkutskaya, Leningradskaya, Murmanskaya, Magadanskaya, Sakhalinskaya, Sverdlovskaya, Tomskaya, Tyumenskaya, and Kemerovskaya.
Autonomous Regions:	Nenets, Khanti-Mansi, Chukotskiy, Yamalo-Nenets.

[21] List of Places of Traditional Residence and Traditional Economic Activities of Small-numbered Indigenous Peoples of The Russian Federation. Accessed on 1/2/2024. Access link: https://mid.ru/en/foreign_policy/position_word_order/1901278/

Results

The results of the estimation where all dependent variables besides EDIR are defined in terms of natural logarithms is presented in Table 6 below, which allow the estimated coefficients to be interpreted as elasticities (the percentage change in the pollution variable in response to a one percent increase in the independent variable), all else equal. Models 3 through 5 include decile ratio to test the previous findings stating inequality as the driving force of the increased pollution (Davidson, Mariev, and Turkanova 2021). Models 4 and 5 include interaction terms for the share of natural resource extraction in local GRP and the ethnic diversity index. Model 6 includes a dummy variable recording the status of traditional regions of residence for *korennoi narod*.

Coefficients for the population size, GRP per capita, share of manufacturing and natural resource extraction in regions' GRP are positive and significant across all models across Table 4. This suggests that a larger population, higher economic output per person, and a higher proportion of manufacturing and resource extraction in local economy are all associated with higher pollution. Urbanicity level, similar to the inequality level measured by decile ratio, shows insignificant results across all of the models. R squared values are consistent across the models (ranging from 0.71 to 0.82).

Across multiple models, regions with higher share of natural resource extraction show higher average PFSS. This pattern is observed with controls for total regional population, GRP per capita, urbanicity level, share of working population, share of manufacturing in local GRP, and income inequality measured by Decile Ratio. This finding supports *H1* and suggests that regions that serve as resource taps also serve as pollution sinks. Income inequality measured by decile ratio does not have an effect on atmospheric pollution, inconsistent with prior research findings of

Davidson, Mariev, and Turkanova (2021), and consistent with Burakov and Bass' (2019) finding on the absence of the relationship between economic inequality and emissions.

Table 6: Regression models for 2017 data

(all variables besides EDIR and the binomial variable showing the legal status of indigenous lands are in logarithmic form).

Regression Models for Atmospheric Pollution from Stationary Sources

	Model1			**Model2**			**Model3**			**Model4**			**Model5**		
Coeffcient	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*
Intercept	-7.11	-18.55 – 4.32	0.219	-3.92	-15.43 – 7.59	0.499	-2.40	-13.96 – 9.17	0.681	-1.90	-12.97 – 9.17	0.733	-1.88	-11.69 – 7.93	0.703
Population	0.69	0.47 – 0.92	**<0.001**	0.73	0.51 – 0.95	**<0.001**	0.85	0.58 – 1.13	**<0.001**	0.86	0.60 – 1.12	**<0.001**	0.84	0.61 – 1.07	**<0.001**
GRP per capita	1.42	0.90 – 1.93	**<0.001**	1.59	1.07 – 2.12	**<0.001**	1.90	1.25 – 2.55	**<0.001**	1.74	1.11 – 2.37	**<0.001**	1.61	1.05 – 2.17	**<0.001**
Share of manufacturing in GRP	0.49	0.22 – 0.75	**0.001**	0.46	0.20 – 0.73	**0.001**	0.43	0.17 – 0.70	**0.001**	0.43	0.18 – 0.68	**0.001**	0.49	0.27 – 0.72	**<0.001**
Urbanicity	0.41	-0.99 – 1.80	0.563	0.15	-1.23 – 1.53	0.830	-0.34	-1.84 – 1.16	0.653	-0.18	-1.62 – 1.26	0.804	-0.44	-1.72 – 0.84	0.493
Share of working population, age 15-72	-3.52	-7.40 – 0.35	0.074	-4.00	-7.81 – -0.20	**0.040**	-4.09	-7.86 – -0.32	**0.034**	-3.87	-7.49 – -0.26	**0.036**	-3.47	-6.68 – -0.26	**0.034**
Share of natural resource extraction in GRP	0.21	0.11 – 0.30	**<0.001**	0.21	0.11 – 0.30	**<0.001**	0.20	0.11 – 0.29	**<0.001**	-0.84	-1.58 – -0.09	**0.028**	-0.82	-1.48 – -0.16	**0.016**
Ethnic diversity index EDIR				-0.04	-0.08 – -0.00	**0.029**	-0.04	-0.08 – -0.01	**0.015**	-0.05	-0.09 – -0.02	**0.005**	-0.06	-0.09 – -0.02	**0.001**
Inequality measured by decile ratio							-1.44	-3.26 – 0.38	0.119	-1.31	-3.05 – 0.44	0.140	-0.84	-2.40 – 0.72	0.286
Interaction term Extraction:EDIR										0.02	0.00 – 0.03	**0.006**	0.01	0.00 – 0.02	**0.005**
Legally recognised indigenous land													0.87	0.49 – 1.25	**<0.001**
Observations	83			83			83			83			83		
R^2 / R^2 adjusted	0.716 / 0.693			0.733 / 0.709			0.742 / 0.714			0.767 / 0.738			0.820 / 0.795		

Next, I do not find a positive association between ethnic diversity and PFSS across Russian regions, on the contrary, the coefficients for EDIR and PFSS are negative and significant. I expect this to be related to the complex historical patterns of migration, as well as forced displacement and repopulation of the regions. I argue that a more complex relationship needs to be examined, specifically an interaction effect between extraction and diversity. Models 4 and 5 showing that there is a positive and significant result for the interaction term between EDIR and the role of extraction in local GRP. This suggests that as ethnic diversity increases, the effect of extraction on pollution intensifies. And, vice versa, as extractive activity increases, the effect of the ethnicity

index also intensifies pollution. Model 4 suggests that a ten-point increase in EDIR of a region is associated with 200 extra tons of emissions per year, showing evidence in support of *H2*.

Since the EDIR index can not separately measure indigeneity of regions, in Model 5 I add a dummy variable recording the status of the regions in respect of KN residence. I estimate the relationship between pollution and the presence of status of the regions and find positive and significant results. This suggests that regions that are home to *KN* on average experience more pollution than regions not registered as traditional lands of *KN*, more specifically having the status of indigenous region is associated with 870 tons more emissions per year. This finding suggests the role of settler colonialism, internal peripheralization, and extractivism in institutionalizing environmental injustice in modern Russia.

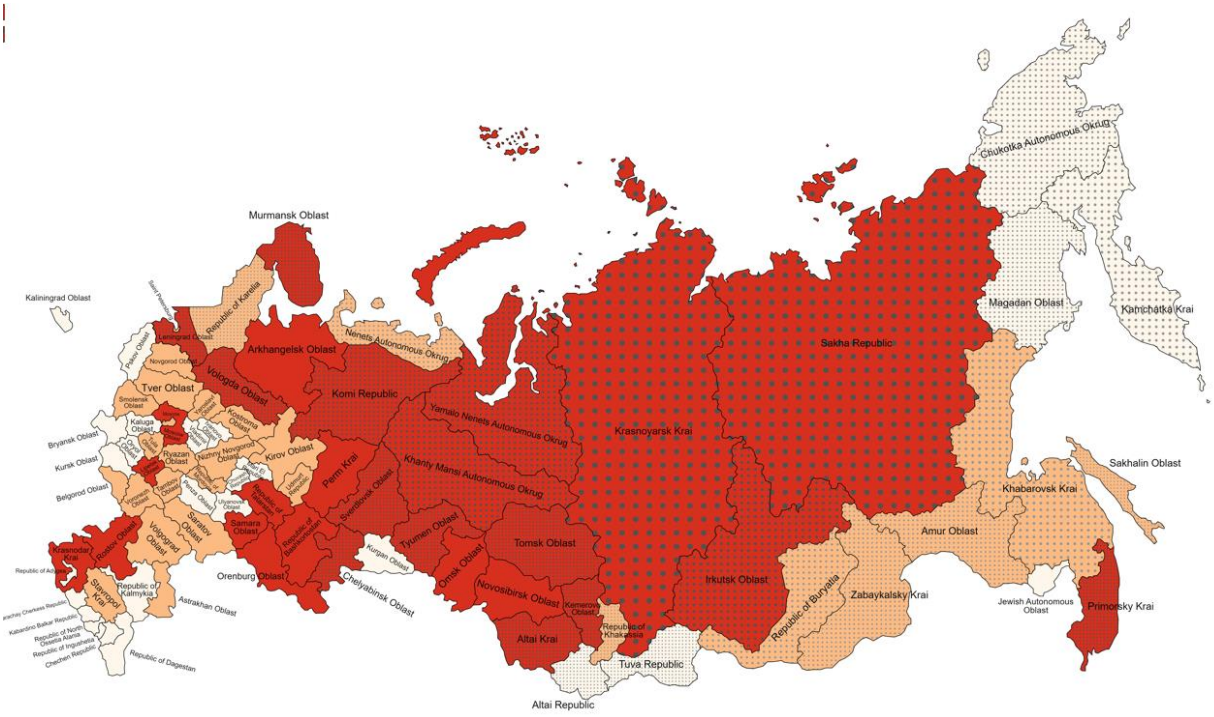
Discussion and Conclusion

This study not only sheds light on the intricate dynamics between resource extraction, ethnic diversity, and atmospheric pollution within the regions of Russia but also deepens our understanding of the socio-environmental repercussions of these interactions. The findings reveal that ethnic diversity changes the relationship between resource extraction and atmospheric pollution. Regions characterized by greater ethnic diversity intensify the impact of resource extraction on air pollution. And conversely, oblasts with more resource extraction intensify the ethnic diversity's association with atmospheric pollution. In general, oblasts with higher levels of ethnic diversity and resource extraction face more pollution relative to those with lower levels of each. Additionally, I find that the regions that have a legal status of traditional residence territories

of KN experience, on average, more pollution than regions that are not registered as traditional KN lands (*see figure 4 below*).

Figure 5: Map of Russian regions by volumes of pollution from stationary sources.

(Based on the author's estimations of the data)



High volume of pollution, Medium volume of pollution, Low volume of pollution

Dotted areas: traditional territories of legally recognized indigenous people (korennoi narod).

The evidence supports the notion that Russia's economic dependence on extractivism, a legacy of its Soviet past, has fostered a system of internal environmental colonies that disproportionately affect minorities, in this case the non-Slavic citizens in regions populated by indigenous people and ethnic minorities, regions that were industrialized during the Soviet era. This path dependency supports a system of internal environmental colonies serving as resource

taps and pollution sinks in modern Russia, further illustrating the relevance of Teichman's (2008) idea of "indigenization of economic modernization", Tysiachniouk et al.'s (2018) conceptual framing of extractivism in Russia as a "(neo)colonial model of resource development". The material reality on the ground illustrates the consequences of the colonial projects institutionalized by the Imperial, Soviet, and the current government. The findings of this research challenge the national "hegemonic and supranational construct of Russia united and inseparable" by illustrating the regional extraction and pollution disparities.

This research has introduced the broad field of environmental sociology to the historical context of internal colonialism and environmental injustice in modern Russia. By employing data from the Russian Federal State Statistics Service and Census, it has illuminated the disproportionate exposure of ethnic minorities to environmental pollution, a consequence deeply rooted in the state practices of the past and the modern Russia's economic dependence on resource rents. This research reaffirms the need to develop environmental injustice studies in Russia, with a focused attention on the relationships between ethnicity, indigeneity, and pollution.

Russia is a multi-ethnic country whose economy relies heavily on extraction that is concentrated in regions populated by indigenous people and ethnic minorities, regions that were industrialized during the Soviet era. This path dependency supports a system of internal environmental colonies serving as resource taps and pollution sinks in modern Russia, further illustrating the relevance of Teichman's (2008) idea of "indigenization of economic modernization", Tysiachniouk et al.'s (2018) conceptual framing of extractivism in Russia as a "(neo)colonial model of resource development". The material reality on the ground illustrates the consequences of the colonial projects institutionalized by the Imperial, Soviet, and the current

government. The findings of this research challenge the national "hegemonic and supranational construct of Russia united and inseparable" by illustrating the regional extraction and pollution disparities.

A few research implications emerge from this study. First, since regions having more extraction are experiencing more pollution, the government needs to support the pollution mitigation problems and invest in more advanced air pollution control devices in these regions. Second, Russia will not likely have alternatives to fossil fuels in the near future, its economy will remain dependent on extractivism, and pollution levels will remain high. Additionally, since the complications of the current political climate, including Russia's exclusion from many international organizations, "witch hunt" for "foreign agents", and the war-induced outmigration of highly skilled professionals, environmental organizations and civil society in general will remain relatively powerless. Third, the insights derived from this study call for an expanded dialogue across currently disconnected disciplines of sociology, political studies, Russian studies, anthropology, history, and environmental studies, to address the multifaceted issues of environmental injustice.

It is clear that there remains a substantial gap in our understanding of the long-term effects of pollution and extraction on ethnic diversity and health outcomes within Russian regions. The limitations of this cross-sectional study highlight the necessity for longitudinal research and more detailed emissions data to further elucidate the environmental injustices detailed herein. As such, future inquiries should aim to expand the scope of environmental inequality research in Russia, employing a variety of pollution measures and exploring the effectiveness of regional environmental programs, federal funding of these programs, and the role of pollution and ethnic

composition in health outcomes across regions. In order to contribute to the decolonization of Russian studies, future research needs to focus on the disparate exposure to pollution and its consequences, as “pollution is colonialism” (Liboiron 2021).

Appendix

1. Data Description and Sources

Variable	Description	Unit	Source
Pollution	Pollutants released into the atmosphere from stationary sources	1000 tons	https://fedstat.ru/indicator/40642
EDIR	Ethnic diversity index	Points	https://rosstat.gov.ru/vpn/2020/Tom5_Nacionalnyj_sostav_i_vladenie_yazykami Riazantsev, S., Tikunov, V., and Timonin, S. (2013)
GRPPC	The volume of gross regional product per capita of a constituent entity of the Russian Federation is calculated as the ratio of gross regional product in current basic prices to the average annual resident population.	Rubles	https://fedstat.ru/indicator/42928
Inequality measured by Decile coefficient	Is defined as the ratio between the average levels of monetary income of 10% of the population with the highest incomes and 10% of the population with the lowest incomes.	Points	https://fedstat.ru/indicator/31170
Population size	Average annual resident population	1000 people	https://showdata.gks.ru/report/278930/
Manufacturing	Share of manufacturing in the local GRP.	Percent	https://fedstat.ru/indicator/59450 https://fedstat.ru/indicator/43890
Natural resources	Share of natural resource extraction in the local GRP.	Percent	https://fedstat.ru/indicator/43890 https://fedstat.ru/indicator/59450
Urbanicity level	Ratio of urban population to total population.	Percent	https://fedstat.ru/indicator/36057
Working population	Employment level is the ratio of the employed population of 15-72 years of age group to the total population of the corresponding age group.	Percent	https://fedstat.ru/indicator/34027
Legally recognised indigenous lands	Traditional lands of indigenous people (korennoi narod)	Yes/No	https://mid.ru/en/foreign_policy/position_word_order/1901278/

2. Results of the OLS regression with the Ethnic Diversity Index transformed into a categorical variable for 2017.

Regression Models for Atmospheric Pollution from Stationary Sources

	Model1		Model2		Model3		Model4		Model5	
Coeffcient	*Estimates*	*P-Value*	*Estimates*	*P-Value*	*Estimates*	*P-Value*	*Estimates*	*P-Value*	*Estimates*	*P-Value*
Intercept	-7.11	0.219	-5.61	0.327	-5.00	0.417	-6.49	0.283	-9.26	0.081
Population	0.69	**<0.001**	0.69	**<0.001**	0.69	**<0.001**	0.69	**<0.001**	0.76	**<0.001**
GRP per capita	1.42	**<0.001**	1.49	**<0.001**	1.61	**<0.001**	1.44	**<0.001**	0.96	**0.002**
Share of manufacturing in GRP	0.49	**0.001**	0.49	**<0.001**	0.47	**0.001**	0.47	**0.001**	0.56	**<0.001**
Urbanicity	0.41	0.563	0.32	0.651	0.24	0.752	0.35	0.634	-0.01	0.981
Share of working population, age 15-72	-3.52	0.074	-3.95	**0.044**	-4.23	0.058	-3.53	0.108	-1.50	0.436
Share of natural resource extraction in GRP	0.21	**<0.001**	0.22	**<0.001**	0.21	**<0.001**	0.12	0.076	0.11	0.056
Ethnic diversity index (EDIR) Medium			-0.42	0.064	-0.42	0.063	-0.40	0.087	-0.38	0.059
Ethnic Diversity Index (EDIR) High			-0.47	**0.041**	-0.48	**0.039**	-0.51	**0.026**	-0.58	**0.004**
Inequality measured by decile ratio					-0.32	0.697	-0.18	0.828	0.38	0.601
Interaction term (Extraction:Medium EDIR)							0.09	0.384	0.00	0.994
Interaction term (Extraction:High EDIR)							0.21	**0.016**	0.18	**0.021**
Legally recognised indigenous land									1.09	**<0.001**
Observations	83		83		82		82		82	
R^2 / R^2 adjusted	0.716 / 0.693		0.735 / 0.707		0.737 / 0.704		0.758 / 0.720		0.821 / 0.790	

3. Results of OLS regression with the EDIR as a natural logarithm for 2017 data

Regression Models for Atmospheric Pollution from Stationary Sources with EDIR logged

	Model1			Model2			Model3			Model4			Model5		
Coeffcient	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*
Intercept	-7.11	-18.55 – 4.32	0.219	4.54	-10.72 – 19.81	0.555	7.20	-8.27 – 22.67	0.357	8.31	-6.60 – 23.22	0.270	9.35	-3.88 – 22.58	0.163
Population	0.69	0.47 – 0.92	**<0.001**	0.73	0.50 – 0.95	**<0.001**	0.85	0.58 – 1.12	**<0.001**	0.85	0.59 – 1.11	**<0.001**	0.84	0.61 – 1.07	**<0.001**
GRP per capita	1.42	0.90 – 1.93	**<0.001**	1.59	1.06 – 2.11	**<0.001**	1.90	1.25 – 2.55	**<0.001**	1.74	1.11 – 2.38	**<0.001**	1.61	1.04 – 2.17	**<0.001**
Share of manufacturing in GRP	0.49	0.22 – 0.75	**0.001**	0.47	0.21 – 0.73	**0.001**	0.44	0.18 – 0.70	**0.001**	0.44	0.18 – 0.69	**0.001**	0.50	0.27 – 0.72	**<0.001**
Urbanicity	0.41	-0.99 – 1.80	0.563	0.16	-1.22 – 1.53	0.822	-0.34	-1.83 – 1.16	0.654	-0.19	-1.63 – 1.26	0.798	-0.45	-1.73 – 0.84	0.489
Share of working population, age 15-72	-3.52	-7.40 – 0.35	0.074	-4.00	-7.81 – -0.19	**0.040**	-4.09	-7.86 – -0.32	**0.034**	-3.85	-7.48 – -0.22	**0.038**	-3.45	-6.68 – -0.22	**0.036**
Share of natural resource extraction in GRP	0.21	0.11 – 0.30	**<0.001**	0.21	0.11 – 0.30	**<0.001**	0.20	0.11 – 0.30	**<0.001**	-4.03	-7.22 – -0.83	**0.014**	-3.76	-6.60 – -0.92	**0.010**
Ethnic diversity index EDIR				-2.64	-5.00 – -0.28	**0.029**	-2.98	-5.35 – -0.61	**0.015**	-3.24	-5.53 – -0.95	**0.006**	-3.55	-5.59 – -1.51	**0.001**
Inequality measured by decile ratio							-1.46	-3.28 – 0.37	0.115	-1.33	-3.09 – 0.42	0.134	-0.87	-2.44 – 0.70	0.273
Interaction term Extraction:EDIR										1.01	0.25 – 1.78	**0.010**	0.93	0.26 – 1.61	**0.008**
Legally recognised indigenous land													0.88	0.49 – 1.26	**<0.001**
Observations	83			83			83			83			83		
R^2 / R^2 adjusted	0.716 / 0.693			0.733 / 0.709			0.742 / 0.714			0.765 / 0.736			0.818 / 0.792		

4. Results of OLS regression for 2011

Regression Models for Atmospheric Pollution from Stationary Sources

	Model1			Model2			Model3			Model4			Model5		
Coeffcient	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*	*Estimates*	*CI*	*P-Value*
Intercept	-28.86	-37.89 – -19.82	**<0.001**	-26.51	-35.52 – -17.49	**<0.001**	-29.00	-38.49 – -19.51	**<0.001**	-28.16	-37.35 – -18.98	**<0.001**	-26.83	-35.42 – -18.23	**<0.001**
Population	0.71	0.45 – 0.98	**<0.001**	0.76	0.50 – 1.03	**<0.001**	0.81	0.50 – 1.12	**<0.001**	0.79	0.50 – 1.09	**<0.001**	0.80	0.52 – 1.08	**<0.001**
GRP per capita	1.13	0.55 – 1.70	**<0.001**	1.11	0.55 – 1.67	**<0.001**	1.33	0.67 – 1.99	**<0.001**	1.17	0.52 – 1.83	**0.001**	1.12	0.51 – 1.73	**<0.001**
Share of manufacturing in GRP	0.52	0.16 – 0.88	**0.005**	0.45	0.10 – 0.80	**0.014**	0.47	0.11 – 0.83	**0.012**	0.49	0.14 – 0.84	**0.007**	0.55	0.22 – 0.88	**0.001**
Urbanicity	-0.51	-2.02 – 1.00	0.505	-1.01	-2.54 – 0.52	0.193	-0.96	-2.49 – 0.56	0.212	-1.00	-2.47 – 0.48	0.182	-1.25	-2.64 – 0.13	0.075
Share of working population, age 15-72	2.43	-0.57 – 5.43	0.111	2.98	0.02 – 5.93	**0.048**	3.20	0.18 – 6.21	**0.038**	3.63	0.70 – 6.56	**0.016**	3.55	0.81 – 6.28	**0.012**
Share of natural resource extraction in GRP	0.30	0.20 – 0.41	**<0.001**	0.32	0.21 – 0.42	**<0.001**	0.30	0.20 – 0.41	**<0.001**	-0.89	-1.84 – 0.06	0.065	-1.03	-1.92 – -0.14	**0.023**
Ethnic diversity index EDIR				-0.05	-0.09 – -0.01	**0.023**	-0.04	-0.08 – 0.00	0.063	-0.05	-0.09 – -0.01	**0.015**	-0.05	-0.09 – -0.01	**0.008**
Inequality measured by decile ratio							-0.99	-2.69 – 0.71	0.248	-0.86	-2.50 – 0.79	0.302	-0.71	-2.24 – 0.83	0.360
Interaction term Extraction:EDIR										0.02	0.00 – 0.04	**0.013**	0.02	0.01 – 0.04	**0.005**
Legally recognised indigenous land													0.76	0.32 – 1.20	**0.001**
Observations	83			83			82			82			82		
R^2 / R^2 adjusted	0.728 / 0.707			0.746 / 0.723			0.755 / 0.728			0.775 / 0.747			0.808 / 0.780		

CONCLUSION

This dissertation has embarked on a comprehensive exploration of Russia's environmental politics and policies through the analysis of three cases, those of forest sector workers, media, and environmental injustice in a modern authoritarian state. The research combines analysis of the historical legacies and contemporary challenges, revealing the depth of the strategic manipulation of environmental narratives, and the stark realities of environmental injustice rooted in Soviet legacy of extractivism.

Chapter One laid the groundwork by analyzing the complexities surrounding the management of Russia's vast forestlands, unveiling a narrative strategy that deflects blame from the central government onto external entities such as China and internal "enemies" like the "black loggers." This chapter highlights the role of scapegoat ecology in shaping environmental discourse and affecting environmental perceptions of the logging industry workers. The case of Russia's forest management exemplifies the challenges of enforcing sustainable practices within a framework where political expediency, blame shifting, and resource nationalism trump ecological considerations.

Chapter Two delved into the evolution of environmental discourse in Russian newspapers, pinpointing the gradual shift from a critical perspective on government policies to a narrative that foregrounds economic development and national stature. The analysis illuminated the intricate overlap of state power, media narratives, and environmental problems, demonstrating how ecological considerations are often relegated behind economic and political ambitions. This chapter underscores the pivotal role of authoritarian populism in shaping environmental discourse, where the state leverages media channels to craft a narrative that supports its agenda, often at the expense of ecological integrity and public scrutiny.

Chapter Three presented an analysis of ethnicity-based environmental injustice in Russia offering statistical insights into the intersection of resource extraction, atmospheric pollution, and ethnic diversity. This chapter elucidates the enduring impact of internal colonialism on environmental injustice, showcasing how extractivist policies perpetuate disparities in environmental quality among Russia's ethnic groups. It draws attention to the critical need for integrating environmental justice into policy-making, advocating for a shift towards policies that recognize and address the historical and contemporary injustices faced by indigenous and minority groups.

Building upon the insights from the three charters, I find it is imperative to continue the research on the ramifications of authoritarian populism on environmental policies and the broader implications for global environmental governance and environmental inequality. Authoritarian populism, characterized by a centralization of power and a top-down approach to policy-making, has profound implications for environmental regulation. In Russia, this political framework has facilitated the emergence of environmental policies that prioritize national economic interests and geopolitical ambitions over ecological sustainability. This governance style often neglects the complex and multidisciplinary nature of environmental challenges and the multifaceted social problems rooted in it. The Russian case exemplifies how authoritarian regimes can exploit environmental narratives and policies to consolidate power, often at the expense of environmental justice, public participation in environmental decision-making, and the scientific information about the pressing socio-environmental issues. This scenario underscores the need for a global rethinking of environmental governance models, advocating for more inclusive, transparent, and participatory approaches that empower local communities and prioritize long-term ecological sustainability over short-term political and economic gains.

The field of Russian environmental studies requires further development, potentially through fostering dialogue among currently disparate research areas such as sociology, political studies, anthropology, history, and environmental studies. Since in the foreseeable future, Russia will not be adopting a holistic approach to environmental governance that recognizes the intrinsic value of natural ecosystems and the rights of all communities to a healthy and sustainable environment, environmental inequality will remain in strong need of research attention. Given the current alienation of Russia from the West provoked by the war in Ukraine, the eradication of civil activism and free speech, as well as the drastic changes in the country's economy, future studies would benefit from the research on the demise of environmentalism: suppression of environmental activism, shifting environmental laws and policies, and environmental injustice in general.

More specifically, the almost complete shutdown of the logging industry in the Russian Northwest due to the closure of the EU wood markets for Russian timber, as well the country's complete reorientation towards the Eastern wood markets and especially China, calls for a close attention to the extraction-dependent communities in the Northwest that will bear most of the consequences for the leaving industry, as well as the communities in Siberia and the Far East that will face more pressure to log and transport the timber to the easternmost borders. Additionally, Russia's exacerbated economic dependence on natural resources further points to the need of developing the area of environmental justice studies with the particular attention paid to the already disadvantaged populations that reside in the resource-rich regions. Similarly, the discourses surrounding the closure of the Western markets for Russian resources, resulting in increasing nationalistic propaganda of Russian power and the "gas-hungry cold Europeans" offer a rich source for the studies of environmental communication and its usage for the purposes of the current authoritarian populist regime in Russia.

The study of Russia's environmental governance and pollution offers crucial insights into the challenges and opportunities of managing natural resources in a geopolitically sensitive and ecologically significant region and opens the door to the future research. Russia, with its vast expanses of forests, massive reserves of natural resources, and, generally pivotal role in global carbon cycles, occupies a central position in the global ecological balance. The lessons learned from Russia's experience with centralized environmental governance, internal colonialism, and the manipulation of environmental narratives have far-reaching implications not only for the future generations of Russians, but also for the neighboring state's environmental balance. The case of Russia is useful to understand the cases of other countries grappling with similar political regimes and extraction dependency.

In conclusion, this dissertation deepens our understanding of the current dynamics of Russia's environmental politics and policies, and also sets the stage for future sociological research aimed at illuminating socio-environmental inequalities. The dissertation calls for the development of the Russian environmental justice studies and suggests the need for a critical reevaluation of how environmental policies are formulated and implemented on a national scale in Russia, advocating for a paradigm shift that prioritizes ecological integrity, social equity, and the well-being of ethnic minorities and indigenous communities marginalized and disproportionately affected by the consequences of an "addictive economy."

REFERENCES CITED

1. Adaman, F., and B. Akbulut. 2021. Erdoğan's three-pillared neoliberalism: Authoritarianism, populism and developmentalism. Geoforum, 124, 279-289.
2. Aksenov, D., D. Dobrynin, M. Dubinin, A. Egorov, A. Isaev, M. Karpachevskiy, L. Laestadius. 2002. Atlas of Russia's Intact Forest Landscapes. Moscow: International Socio.
3. Angelstam, P., M. Elbakidze, R. Axelsson, A. Khoroshev, B Pedroli, M. Tysiachniouk, E. Zabubenin. 2019. Model forests in Russia as landscape approach: Demonstration projects or initiatives for learning towards sustainable forest management?. Forest Policy and Economics, 101, 96-110.
4. Angelstam, P., V. Naumov, and M. Elbakidze.2017. Transitioning from Soviet wood mining to sustainable forest management by intensification: are tree growth rates different in northwest Russia and Sweden? Forestry: An International Journal of Forest Research 90, (2), 292-303.
5. Ard, K. (2015). Trends in exposure to industrial air toxins for different racial and socioeconomic groups: A spatial and temporal examination of environmental inequality in the US from 1995 to 2004. Social Science Research, 53, 375-390.
6. Aust, M. 2004. "Rossia Siberica: Russian-Siberian History Compared to Medieval Conquest and Modern Colonialism." Review (Fernand Braudel Center), 181-205.
7. Bachina, A., E. Koskina, L. Glebova, L. Popkova. 2015. "Ecological and Hygienic Aspects of Congenital Malformations Forming in Kuzbass (Ekologo-gigienicheskiye

Aspekti Formirovaniay Vrozhdennikh Porokov Razvitiya v Kuzbasse)." Mother and Child in Kuzbass, (1), 48-52.

8. Bakhrushin, S. V. 2016. "Yasak (Fur Tribute) in Siberia in the Seventeenth Century." Translated by Ryan Tucker Jones and Andrian Vlakhov, Alaska Anthropology, 14, 41-70.
9. Baklanov, A. A., Penenko, V. V., Mahura, A. G., Vinogradova, A. A., Elansky, N. F., Tsvetova, E. A., ... & Zakey, A. 2013. "Aspects of Atmospheric Pollution in Siberia." Regional Environmental Changes in Siberia and Their Global Consequences, 303-346.
10. Balzer, H., Repnikova, M. 2010. Migration between China and Russia, Post-Soviet Affairs, 26:1, 1-37
11. Barsova, N., Yakimenko, O., Tolpeshta, I., Motuzova, G. 2019. "Current State and Dynamics of Heavy Metal Soil Pollution in Russian Federation—A Review." Environmental Pollution, 249, 200-207.
12. Bartalaev, S., A. Shvidenko, A. Held. 2020. Natural Forest Disturbances. In P. Leskinen et al. Russian Forests and Climate Change, pages 21-27.
13. Bell, S. E., and York, R. 2010. Community economic identity: The coal industry and ideology construction in West Virginia. Rural Sociology, 75(1), 111-143.
14. Bell, S. E., and York, R. 2012. Coal, injustice, and environmental destruction: Introduction to the special issue on coal and the environment. Organization & Environment, 25(4), 359-367.
15. Bennigsen, A. 1969. "Colonization and Decolonization in the Soviet Union." Journal of Contemporary History, 4(1), 141-151.

16. Bergen, K. M., T. Loboda, J. Newell, V. Kharuk, S. Hitztaler, ... & E. Gargulinski. 2020. Long-term trends in anthropogenic land use in Siberia and the Russian Far East: a case study synthesis from Landsat. Environmental Research Letters, 15(10), 105007.
17. Berberian, A. G., Rempel, J., Depsky, N., Bangia, K., Wang, S., and Cushing, L. J. 2023. Race, Racism, and Drinking Water Contamination Risk From Oil and Gas Wells in Los Angeles County, 2020. American Journal of Public Health, 113(11), 1191-1200.
18. Blyakher, L. E., and K. V. Grigorichev. 2015. Looking into mirrors: semantic transformations of China's image in Russian society (Vglyadyvayas' v zerkala: smyslovye transformacii obraza Kitaya v Rossiyskom sotsium). Journal of Political Philosophy and Sociology of Politics Politia. Analysis. Chronicle. Forecast", 1 (76), 24-38.
19. Brown, P. 1995. Race, class, and environmental health: a review and systematization of the literature. Environmental Research, 69(1), 15-30.
20. Bodrunova, S. S., Litvinenko, A., Nigmatullina, K. (2021). Who is the censor? Self-censorship of Russian journalists in professional routines and social networking. Journalism, 22(12), 2919-2937.
21. Boussalis, C., Coan, T. G., Poberezhskaya, M. (2016). Measuring and modeling Russian newspaper coverage of climate change. Global environmental change, 41, 99-110.
22. Bovdunov, A.V. 2022. "Thematic Dossier: Postcolonialism and Anti-colonial Struggle." Vestnik RUDN. International Relations 22 (4), 645-658.
23. Breyfogle, N., Schrader, A., & Sunderland, W. (Eds.). 2007. Peopling the Russian Periphery: Borderland Colonization in Eurasian History. Routledge.
24. Brulle, R. J. 2014. Institutionalizing delay: foundation funding and the creation of US climate change counter-movement organizations. Climatic change, 122, 681-694.

25. Buccellato, T., & Mickiewicz, T. 2009. "Oil and Gas: A Blessing for the Few. Hydrocarbons and Inequality within Regions in Russia." Europe-Asia Studies, 61(3), 385-407.
26. Burakov, D., & Bass, A. 2019. "Institutional Determinants of Environmental Pollution in Russia: A Non-linear ARDL Approach." Entrepreneurship and Sustainability Issues, 7(1), 510.
27. Burrett, T. 2015. Russia's competing nationalisms and foreign relations with Asia. In Asian Nationalisms Reconsidered (pp. 271-289). Routledge.
28. Burrett, T. 2019. Evaluating Putin's propaganda performance 2000–2018: Stagecraft as Statecraft. Sage handbook of propaganda, 492-509.
29. Burrett, T. 2020. Charting Putin's shifting populism in the Russian media from 2000 to 2020. Politics and Governance, 8(1),193-205.
30. Buzogány, A., and C. Mohamad-Klotzbach. 2022. Environmental populism. The Palgrave handbook of populism, 321-340.
31. Chavis, B. F., and Lee, C. 1987. Toxic wastes and race in the United States: A national report on the racial and socio-economic characteristics of communities with hazardous waste sites. Commission for Racial Justice, United Church of Christ.
32. Cortes-Vazquez, J. A. 2020. In the name of the people: The populist redefinition of nature conservation in post-crisis Spain. Geoforum, 108, 110-118.
33. Crate, S. 2009. "Viliui Sakha of Sub-Arctic Russia and Their Struggle for Environmental Justice." Environmental Justice and Sustainability in the Former Soviet Union, 189, 214.

34. Crowley, R. M. 2005 Stepping onto a Moving Train: the Collision of Illegal Logging, Forestry Policy, and Emerging Free Trade in the Russian Far East. Pacific Rim Law and Policy Journal Association, 14, 425.
35. Curtis, P., C. Slay, N. Harris, A. Tyukavina, A. Hansen. 2018. Classifying Drivers of Global Forest Loss. Science. Retrieved from Global Forest Watch: www.globalforestwatch.org. Accessed on 07/03/2021.
36. Cushing, L. J., Chau, K., Franklin, M., and Johnston, J. E. 2021. Up in smoke: characterizing the population exposed to flaring from unconventional oil and gas development in the contiguous US. Environmental Research Letters, 16(3), 034032.
37. Davidson, N., Mariev, O., & Turkanova, S. 2021. "Does Income Inequality Matter for CO2 Emissions in Russian Regions?"
38. Deng, Z. 2005. “Ruhe kan dai e yuandong qu suowei zhongguo yimin wenti (How to regard the so-called Russian Far East migrants question),” Xiboliya yanjiu, 32, 3.
39. Diment, G., Y. Slezkine. 2016. Between Heaven and Hell: The Myth of Siberia in Russian Culture. Springer.
40. Dobrynin, D., N. Y. Jarlebring, I. Mustalahti, M. Sotirov, E. Kulikova & E. Lopatin. 2021. The forest environmental frontier in Russia: Between sustainable forest management discourses and ‘wood mining’practice. Ambio, 50, 2138-2152.
41. Donahoe, B. 2009. "The Law as a Source of Environmental Injustice in the Russian Federation." Environmental Justice and Sustainability in the Former Soviet Union, 21-45.
42. Donahoe, B., Habeck, J. O., Halemba, A., & Sántha, I. 2008. "Size and Place in the Construction of Indigeneity in the Russian Federation." Current Anthropology, 49(6), 993-1020.

43. Donaghy, T. Q., Healy, N., Jiang, C. Y., and Battle, C. P. 2023. Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities. Energy Research & Social Science, 100, 103104.
44. Driscoll, A., & Kick, E. 2013. Naval stores extraction in eastern North Carolina: The historical basis of spatial inequality within a core nation. *Journal of World-Systems Research*, 1-23.
45. Dyatlov, V. E. 2012. “Zheltaya Opasnost” kak Orudiye “Mirovogo Yevreyskogo Zagovora”: na Granitse “Velikikh Ksenofobiy”. (“Yellow Danger” as a “Weapon of the World Jewish Conspiracy”). Proyekt Baykal, (31), 84-89.
46. Dyatlov, V. E. 2012. Chinese Migrants and Anti-Chinese Sentiments in Russian Society. In Frontier Encounters: Knowledge and Practice at the Russian, Chinese and Mongolian Border, p:71-87.
47. Eikeland, S., E. Eythorsson, L. Ivanova. 2004. From management to mediation: local forestry management and the forestry crisis in post-socialist Russia. Environmental Management, 33(3), 285-293.
48. Emanuel, R. E., Caretta, M. A., Rivers III, L., and Vasudevan, P. 2021. Natural gas gathering and transmission pipelines and social vulnerability in the United States. GeoHealth, 5(6), e2021GH000442.
49. Etkind, A. 2013. Internal colonization: Russia's imperial experience. John Wiley & Sons.
50. Eyerman, R. 2004. The past in the present: Culture and the transmission of memory. Acta Sociologica, 47(2),159-169.
51. Fairclough, N. and Wodak, R. 1997. Critical discourse analysis, in T. Van DIijk (Ed.) Discourse as Structure and Process, pp. 258-284. London: Sage

52. Federation Council, November 10th 2021. Accessed 11/12/2021. https://www.youtube.com/watch?v=TOzlhn0Li8o.
53. Fiorino, D. J. 2022. Climate change and right-wing populism in the United States. Environmental Politics, 31(5), 801-819.
54. Fiorino, T., and D. Ostergren. 2012. Institutional instability and the challenges of protected area management in Russia. Society & Natural Resources, 25(2), 191-202.
55. Fish, M. S. 2018. What has Russia become? Comparative Politics, 50(3), 327-346.
56. Forchtner, B., and C. Kølvraa. 2015. The nature of nationalism: Populist radical right parties on countryside and climate. Nature and Culture, 10(2), 199-224.
57. Forest Trends. 2016. China's logging ban in natural forests: impacts of extended policy at home and abroad. Forest Trends Information Brief: https://www.forest-trends.org/wp-content/uploads/imported/chinas-logging-ban-in-natural-forests-final-3-14-2016-pdf.pdf
58. Forsyth, J. 1994. A History of the Peoples of Siberia: Russia's North Asian Colony 1581-1990. Cambridge University Press.
59. Foxall, A. 2019. From Evropa to Gayropa: A critical geopolitics of the European Union as seen from Russia. Geopolitics, 24(1),174-193.
60. Freudenburg W. R. 1992. Addictive economies: Extractive industries and vulnerable localities in a changing world economy. Rural Sociology, 57, 305-332.
61. Freudenburg, W. R. (2005). Privileged access, privileged accounts: toward a socially structured theory of resources and discourses. *Social Forces*, *84*(1), 89-114.
62. Freudenburg, W. R., & Gramling, R. 1998. Linked to what? Economic linkages in an extractive economy. Society & Natural Resources, 11(6), 569-586.

63. Frye, T. 2022. Weak Strongman: The Limits of Power in Putin's Russia. Princeton University Press.

64. Gaddy, C. G., & Ickes, B. W. 2010. "Russia after the Global Financial Crisis." Eurasian Geography and Economics, 51(3), 281-311.

65. Garipov, R. 2014. "Extractive Industries and Indigenous Minority Peoples' Rights in Russia." Nordic Environmental Law Journal, 1, 67-75.

66. Gehlbach, S. 2010. Reflections on Putin and the Media. Post-Soviet Affairs, 26(1), 77-87.

67. Gel'man, V. 2015. Authoritarian Russia: Analyzing post-soviet regime changes. University of Pittsburgh Press.

68. Gerasimov, Y., and A. Seliverstov. 2010. Industrial Round-Wood Losses Associated with Harvesting Systems in Russia. Croatian Journal of Forest Engineering: Journal for Theory and Application of Forestry Engineering, 31(2),111-126.

69. Gerasimov, Yu., S. Senko, and T. Karjalainen. 2013. Prospects of forest road infrastructure development in northwest Russia with proven Nordic solutions, Scandinavian Journal of Forest Research, 28:8, 758-774.

70. Gilmundinov, V. M., Kazantseva, L. K., & Tagaeva, T. O. 2014. "Pollution and Its Influence on Health of Population in Russia." Regional Research of Russia, 4, 1-9.

71. Gimranova, T. A., E. I. Kolosova, A. Sokolova, and L. Mengyi. 2019. Antithesis as Leverage in Russian Political Discourse. Journal of research in applied linguistics, 10, 605-611.

72. Glazyrina, I. P., Zabelina, I. A., & Klevakina, E. A. 2010. "Interregional Inequalities in Russia in the Context of Nature Use and Climate Changes." Journal of Siberian Federal University 3(6), 851-863.

73. Global Forest Watch. 2022. Accessed 11/13/2023. https://www.globalforestwatch.org/map/?map=eyJjZW50ZXIiOnsibGF0Ijo1OS42NTQxODQ1NjA3OTA1MjYsImxuZyI6NjguODUwMzQwODA0MTEyMjJ9LCJ6b29tIjozLjY2MTM5NTQ5NDcyNzk2Mjh9

74. Goltsev, V., E. Lopatina. 2013. The impact of climate change on the technical accessibility of forests in the Tikhvin District of the Leningrad Region of Russia. International Journal of Forest Engineering, 24(2), 148-160.

75. Golunov, S. V. 2008. “Migratsiya i migratsionnaya politika (Migration and migration policy),” in Valeriy Tishkov and Valeriy Stepanov, eds., Etnicheskaya situatsiya i konflikty v stranakh SNG i Baltii: Yezhegodnyy doklad seti etnologicheskogo monitoringa i rannego preduprezhdeniya konfliktov. Moscow: Institut etnlogii i antropologii RAN.

76. Gomboev, B. O., Dambueva, I. K., Khankhareev, S. S., Batomunkuev, V. S., Zangeeva, N. R., Tsydypov, V. E., ... & Norboeva, B. S. 2022. "Atmospheric Air Pollution by Stationary Sources in Ulan-Ude (Buryatia, Russia) and Its Impact on Public Health." International Journal of Environmental Research and Public Health, 19(24), 16385.

77. Gouldner, A. W. 1977. "Stalinism: A Study of Internal Colonialism." Telos, 34(34), 5-48.

78. Grant-Smith, D. 2015. Implicating animals: the symbolic power of scapegoating animals in marine pollution debates. Australasian Journal of Environmental Management, 22(3), 270-284.

79. Graybill, J. K. 2020. Emotional environments of energy extraction in Russia. In *Environmental Governance in a Populist/Authoritarian Era* (pp. 82-94). Routledge.

80. Graybill, J. K. 2019. Emotional Environments of Energy Extraction in Russia. Annals of the American Association of Geographers, 109:2,382-394.

81. Greenberg, M. R. 2021. Ports and environmental justice in the united states: An exploratory statistical analysis. Risk Analysis, 41(11), 2112-2126.

82. Groisman, P. Y., Gutman, G., Shvidenko, A. Z., Bergen, K. M., Baklanov, A. A., & Stackhouse, P. W. 2013. "Introduction: Regional Features of Siberia." Regional Environmental Changes in Siberia and Their Global Consequences, 1-17.

83. Gudkov, L. 2005. Ideologeme of "Enemy": "Enemies" as Mass Syndrome and Mechanism of Social and Cultural Integration. The image of the enemy.

84. Gudkov, L. 2021. Illusions of choice: 30 years of post-Soviet Russia (Illyuzii Vybora: 30 Let Postsovetskoy Rossii). Riga:Sovremennaya Misl'.

85. Guriev, S., & Treisman, D. 2019. Informational autocrats. Journal of economic perspectives, 33(4), 100-127.

86. Gustafson, E., A. Shvidenko, and R. Scheller. 2011. Effectiveness of Forest Management Strategies to Mitigate Effects of Global Change in South-Central Siberia. Canadian Journal of Forest Research, 41(7), 1405-1421.

87. Ritchie, H. 2021. "Forest area". Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/forest-area'

88. Hartwell, C. A., Otrachshenko, V., & Popova, O. 2021. "Waxing Power, Waning Pollution: The Effect of COVID-19 on Russian Environmental Policymaking." Ecological Economics, 184, 107003.

89. Henry, L. A. 2009. "Thinking Globally, Limited Locally: The Russian Environmental Movement and Sustainable Development." Environmental Justice and Sustainability in the Former Soviet Union, 47-69.
90. Henry, L. A., & Douhovnikoff, V. 2008. "Environmental Issues in Russia." Annual Review of Environment and Resources, 33, 437-460.
91. Hitchcock, E. 2011. The 2006 forest code of the Russian Federation: an evaluation of environmental legislation in Russia. Australian Slavonic and East European Studies, 24(1–2), 19-39.
92. Hønneland, G., & Jørgensen, A.K. 2003. Implementing International Environmental Agreements in Russia. Manchester University Press.
93. Huang, H. 2021. Workers' acquiescence to air pollution: A qualitative study of coal miners in China. Society & Natural Resources, 1-17.
94. Huber, R. A. 2020. The role of populist attitudes in explaining climate change skepticism and support for environmental protection. Environmental Politics, 29(6), 959-982.
95. Huber, R. A., Fesenfeld, L., & Bernauer, T. 2020. Political populism, responsiveness, and public support for climate mitigation. Climate Policy, 20(3), 373-386.
96. Huggel, C., Wallimann-Helmer, I., Stone, D., & Cramer, W. 2016. Reconciling justice and attribution research to advance climate policy. Nature Climate Change, 6(10), 901-908.
97. Ilintsev, A., A. Bogdanov, E. Nakvasina, I. Amosova, S. Koptev, S. Tretyakov. 2020. The natural recovery of disturbed soil, plant cover and trees after clear-cutting in the boreal forests, Russia. iForest-Biogeosciences and Forestry, 13(6), 531.

98. Jang, S. M. 2013. Framing responsibility in climate change discourse: Ethnocentric attribution bias, perceived causes, and policy attitudes. Journal of Environmental Psychology, 36, 27-36.

99. Ji, X., Abakumov, E., & Polyakov, V. 2019. "Assessments of Pollution Status and Human Health Risk of Heavy Metals in Permafrost-Affected Soils and Lichens: A Case-Study in Yamal Peninsula, Russia Arctic." Human and Ecological Risk Assessment: An International Journal, 25(8), 2142-2159.

100. Josephson, P., Dronin, N., Mnatsakanian, R., Cherp, A., Efremenko, D., & Larin, V. 2013. An Environmental History of Russia. Cambridge University Press.

101. Josephson, P. R. 2024. *Hero Projects: The Russian Empire and Big Technology from Lenin to Putin*. Oxford University Press.

102. Kaczmarski, M. 2019. Convergence or divergence? Visions of world order and the Russian-Chinese relationship. European Politics and Society, 20(2), 207-224

103. Kalimullin, A. M. 2006. "Historical Study of Regional Environmental Problems (Istoricheskoye Issledovaniye Regional'nykh Ekologicheskikh Problem)." Moscow: Prometheus, 368.

104. Kazarkin A.P. 2008. "Stages of Siberian Colonization (Etapi Kolonizacii Sibiri)." Vestnik Tomskogo Gosudarstvennogo Universiteta. Istoriya. (2 (3)), p.31-40.

105. Khanolainen, D., Nesterova, Y., & Semenova, E. 2022. "Indigenous Education in Russia: Opportunities for Healing and Revival of the Mari and Karelian Indigenous Groups?" Compare: A Journal of Comparative and International Education, 52(5), 768-785.

106. Khvostunova, O., & Voinova, E. 2009. Media changes in Russia: Threats, challenges, and prospects. Perspectives to the Media in Russia:“Western” Interests and Russian Developments. Helsinki: University of Helsinki. Aleksanteri Series, 187-197.

107. Kiriya, I. 2020. Central and local media in Russia: Between central control and local initiatives. In The Routledge companion to local media and journalism (pp. 167-175). Routledge.

108. Kivelson, V. 2007. "Claiming Siberia: Colonial Possession and Property Holding in the Seventeenth and Early Eighteenth Centuries." In Peopling the Russian Periphery (pp. 37-56). Routledge.

109. Knize A.A. and Romahuk B.D. 2005. O dvuh tochkah zrenia na rossiiski les I lesnoe hozyaistvo [About two views on Russian forest and forestry] WWF Russia, 16 p.

110. Kobyakov, K. N., N. M. Shmatkov, E. A. Shvarts, M.L. Karpachevsky. 2015. Loss of intact forest landscapes in Russia and effective forest management in secondary forests as its alternative for biodiversity conservation and sustainable rural development. In XIV world forestry congress, Durban, South Africa (pp. 7-11).

111. Koch, N., and T. Perreault. 2019. Resource nationalism. Progress in human geography, 43(4), 611-631.

112. Kolosov, V., and M. Zotova. 2023. The “ Pivot to the East” and China in Russian discourse. Geopolitics, 28(2), 879-903.

113. Korppoo, A. 2022. Russian discourses on benefits and threats from international climate diplomacy. Climatic Change, 170(3-4),25.

114. Korppoo, A., N.Tynkkynen, and G. Hønneland. 2015. Russia and the politics of international environmental regimes: Environmental encounters or foreign policy? Edward Elgar Publishing.

115. Kovalev, A. 2021. The political economics of news making in Russian media: Ownership, clickbait and censorship. Journalism, 22(12), 2906-2918.

116. Kozyreva, G. B., T. V. Morozova, M. V. Sukharev, A. D. Volkov. 2019. Forest policy issues in modern Russia. In IOP Conference Series: Earth and Environmental Science (Vol.316, No.1,p.012025). IOP Publishing.

117. Kryazhkov, V. A. 2013. "Development of Russian Legislation on Northern Indigenous Peoples." Arctic Review on Law and Politics, 4(2), 140-155.

118. Krupskiy, M. 2023. The Impact of Russia's" Foreign Agents" Legislation on Civil Society. In *The Fletcher Forum of World Affairs* (Vol. 47, No. 2, pp. 55-70). The Fletcher School of Law and Diplomacy.

119. Kulin, J., I. J.Sevä, and R. E. Dunlap. 2021. Nationalist ideology, rightwing populism, and public views about climate change in Europe. Environmental politics, 30(7), 1111-1134.

120. Kulintsev, Y. V., A. A. Mukambaev, K. K Rakhimov, I. Y. Zuenko. 2020. Sinophobia in the post-soviet space. Russia in Global Affairs, 18(3), 128-151.

121. Kuteleva, A. 2021. China’s Energy Security and Relations With Petrostates: Oil as an Idea (1st ed.). Routledge. https://doi.org/10.4324/9781003128045

122. Kuteleva, A. 2020. Discursive politics of energy in EU–Russia relations: Russia as an “energy superpower” and a “raw-material appendage”. Problems of Post-Communism, 67(1), 78-92.

123. Kuteleva, A., & Ivanov, S. 2022. The Sino-Russian Rapprochement Through the Prism of the Development of the Russian Far East: Identity Contestations and Conflicting Representations of China in Russian Eastern Frontiers. In China in the Global South (pp. 233-256). Springer, Singapore.

124. Kuus, M., & Agnew, J. 2008. Theorizing the state geographically: Sovereignty, subjectivity, territoriality. SAGE handbook of political geography, 95-106.

125. Kuznetsova S. I. 2003. Book Review “Social and Economic Results of Russia’s Colonisation of Turkestan” by Leizerovitch E. E. 2001. Социальные и гуманитарные науки. Отечественная и зарубежная литература. Сер. 9, Востоковедение и африканистика: Реферативный журнал, (3), 65-71.

126. Lane, H. M., Morello-Frosch, R., Marshall, J. D., and Apte, J. S. 2022. Historical redlining is associated with present-day air pollution disparities in US cities. Environmental science & technology letters, 9(4), 345-350.

127. Lange, S., C. M. Ryan, and C.W. Thomas. 2022. Policy-Oriented Learning among National Forest Stakeholders in the Pacific Northwest: The Role of Science in Changing Beliefs about Forest Management Policy. Society & Natural Resources, 35(9), 955-972.

128. Laruelle, M. 2020. Making Sense of Russia's Illiberalism. Journal of Democracy 31(3), 115-129.

129. Laruelle, M. 2013. Russia's Arctic Strategies and the Future of the Far North. ME Sharpe.

130. Laruelle, M. 2022. Illiberalism: a conceptual introduction. East European Politics, 38(2), 303-327.

131. Leitner, J. (2004). The Political Economy of Raw Materials Transport from Internal Periphery to Core in the Early 20th Century US: The Calumet & Hecla Copper Company? s Struggle for Market Access, 1922? 39. *Journal of World-Systems Research*, 397-435.

132. Leskinen, P., Lindner, M., Verkerk, P.J., Nabuurs, G.J., Van Brusselen, J., Kulikova, E., Hassegawa, M. and Lerink, B. (eds.). 2020. Russian forests and climate change. What Science Can Tell Us 11. European Forest Institute: https://efi.int/sites/default/files/files/publication-bank/2020/efi_wsctu_11_2020.pdf

133. Liévanos, R. S. 2015. Race, deprivation, and immigrant isolation: The spatial demography of air-toxic clusters in the continental United States. Social Science Research, 54, 50-67.

134. Leskinen, P., M. Lindner, P. J. Verkerk, G. J. Nabuurs, J. Van Brusselen, E. Kulikova, et al. 2020. Russian forests and climate change. European Forest Institute.

135. Lewis, D. G. 2020. Russia's new authoritarianism: Putin and the politics of order. Edinburgh University Press.

136. Lewis, M.W., K. Wigen. 1997. The myth of continents: A critique of metageography. University of California Press.

137. Liboiron, M. 2021. Pollution is Colonialism. Duke University Press.

138. Lipman, M., 2015. Putin's 'besieged fortress' and its ideological arms. In *The state of Russia: What comes next?* (pp. 110-136). London: Palgrave Macmillan UK.

139. Liévanos, R. S., Greenberg, P., & Wishart, R. 2018. In the shadow of production: Coal waste accumulation and environmental inequality formation in Eastern Kentucky. Social Science Research, 71, 37-55.

140. Loechel, B., J. Hodgkinson, and K. Moffat. 2013. Climate change adaptation in Australian mining communities: comparing mining company and local government views and activities. Climatic change, 119, 465-477.

141. Looney, B. 2020. “Statistical review of world energy, 2020”. *Bp*, *69*, 66. Accessed at: https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf

142. Loring, B. 2014. "Colonizers with Party Cards: Soviet Internal Colonialism in Central Asia, 1917–39." Kritika: Explorations in Russian and Eurasian History, 15(1), 77-102.

143. Lujala, P., H. Lein, and J. K. Rød. 2015. Climate change, natural hazards, and risk perception: the role of proximity and personal experience. Local Environment, 20(4), 489-509.

144. Malin, S. A., and Kallman, M. E. 2022. Enforcing Hopelessness: Complicity, Dependence, and Organizing in Frontline Oil and Gas Communities. Social Problems.

145. Malin, S. A., Mayer, A., and Hazboun, S. 2023. Hydraulic fracturing and environmental inequality. In Handbook on Inequality and the Environment (pp. 531-555). Edward Elgar Publishing.

146. Mamonova, N. 2019. Understanding the silent majority in authoritarian populism: what can we learn from popular support for Putin in rural Russia? Critical Agrarian Studies, 46(3), 201-226.

147. Mancini, P. 2018. Political Scandals as a Democratic Challenge|“Assassination Campaigns”: Corruption Scandals and News Media Instrumentalization. International Journal of Communication, 12, 20.

148. Marquart-Pyatt, S. T. 2016. Environmental trust: A cross-region and cross-country study. Society & Natural Resources, 29(9), 1032-1048.

149. Marquart-Pyatt, S. T., A. M. McCright, T. Dietz, R. E. Dunlap. 2014. Politics eclipses climate extremes for climate change perceptions. Global environmental change, 29, 246-257.

150. Martus, E. 2017. "Contested Policymaking in Russia: Industry, Environment, and the 'Best Available Technology' Debate." Post-Soviet Affairs, 33(4), 276-297.

151. Martus, E. 2021. Policymaking and policy framing: Russian environmental politics under Putin. Europe-Asia Studies, 73(5), 869-889.

152. Martynenko, T. S., & Vershinina, I. A. 2018. "Digital Economy: The Possibility of Sustainable Development and Overcoming Social and Environmental Inequality in Russia." Revista Espacios, 39(44).

153. Matveeva, V. A., Alekseenko, A. V., Karthe, D., & Puzanov, A. V. 2022. "Manganese Pollution in Mining-Influenced Rivers and Lakes: Current State and Forecast under Climate Change in the Russian Arctic." Water, 14(7), 1091.

154. McCarthy, J. 2019. Authoritarianism, populism, and the environment: Comparative experiences, insights, and perspectives. Annals of the American Association of Geographers, 109(2), 301-313.

155. McKay, B. M., G. D. Oliveira, and J. Liu. 2020. Authoritarianism, populism, nationalism and resistance in the agrarian South. Canadian Journal of Development Studies/Revue canadienne d'études du développement, 41(3), 347-362.

156. Mereminskaya, E., and V. Petlevoy. 2019. Interview with the Minister of Natural Resources and Ecology. Vedomosti, August 14th. Accessed on 09/17/2020. https://www.vedomosti.ru/economics/articles/2019/08/14/808841-intervyu-ministra-prirodnih-resursov.

157. Ministry of Justice of Russia. 2022. “The list of foreign agents”: https://minjust.gov.ru/uploaded/files/reestr-inostrannyih-agentov-09-12-2022.pdf

158. Mohai, P., and Bryant, B. 2019. Environmental racism: Reviewing the evidence. In Race and the incidence of environmental hazards (pp. 163-176). Routledge.

159. Mohai, P., & Saha, R. 2015. "Which Came First, People or Pollution? Assessing the Disparate Siting and Post-Siting Demographic Change Hypotheses of Environmental Injustice." Environmental Research Letters, 10(11), 115008.

160. Mohai, P., Lantz, P. M., Morenoff, J., House, J. S., & Mero, R. P. (2009). Racial and socioeconomic disparities in residential proximity to polluting industrial facilities: evidence from the Americans' Changing Lives Study. *American journal of public health*, *99*(S3), S649-S656.

161. Mokhirev, A., and S. Medvedev. 2020. Assessment of road density in logging areas using geographical information systems. In IOP Conference Series: Earth and Environmental Science (Vol.507, No.1, p.012022). IOP Publishing.

162. Mol, A. P. 2009. Environmental deinstitutionalization in Russia. Journal of Environmental Policy & Planning, 11(3), 223-241.

163. Moon, D. 2007. "Agriculture and the Environment on the Steppes in the Nineteenth Century." In Peopling the Russian Periphery (pp. 97-121). Routledge.

164. Moon, D. 2013. The Plough That Broke the Steppes: Agriculture and Environment on Russia's Grasslands, 1700-1914. OUP Oxford.

165. Morello-Frosch, R., and Jesdale, B. M. 2006. Separate and unequal: residential segregation and estimated cancer risks associated with ambient air toxics in US metropolitan areas. Environmental health perspectives, 114(3), 386-393.

166. Morrison, A. 2016. "Russian Settler Colonialism." In The Routledge Handbook of the History of Settler Colonialism (pp. 337-350). Routledge.

167. Namsaraeva, S. 2018. Déjà vu of Distrust in the Sino-Russian Borderlands. In Humphrey Caroline, Trust and Mistrust in the Economies of the China-Russia Borderlands, 37-64, Amsterdam University Press.

168. Newell, J. P., & Henry, L. A. 2016. The state of environmental protection in the Russian Federation: a review of the post-Soviet era. Eurasian Geography and Economics, 57(6), 779-801.

169. Newell, J. P., and J. Simeone. 2014. Russia’s Forests in a Global Economy: How Consumption Drives Environmental Change. Eurasian Geography and Economics, 55(1), 37-70.

170. Newell, J. P., and L. A. Henry. 2016. The state of environmental protection in the Russian Federation: a review of the post-Soviet era. Eurasian Geography and Economics, 57(6), 779-801.

171. Nolte, H. H. 1995. "Internal Peripheries: From Andalucia to Tatarstan." Review (Fernand Braudel Center), 261-280.

172. Oates, S. (2007). The neo-Soviet model of the media. Europe-Asia Studies, 59(8), 1279-1297.

173. Ofstehage, A., W. Wolford, and S. M. Borras. 2022. Contemporary Populism and the Environment. Annual Review of Environment and Resources, 47, 671-696.

174. Okeke-Ogbuafor, and N.T. Gray. 2021. Interpreting Perceptions about Coastal Fisheries in Sierra Leone: Scapegoats and Panaceas. Sustainability, 13(13), 7292.

175. Orttung, R. W., & Walker, C. 2013. Putin and Russia's crippled media. Russian Analytical Digest, 123, 2-5.

176. Patman, R. G. 2019. The liberal international order and its populist adversaries in Russia, UK and USA. Populism and World Politics: Exploring Inter-and Transnational Dimensions, 277-303.

177. Pei, M. 2018. How Not to Fight Corruption: Lessons from China. Daedalus, 147 (3): 216–230.

178. Pellow, D. N. 2000. Environmental inequality formation: Toward a theory of environmental injustice. American behavioral scientist, 43(4), 581-601.

179. Peterson, M. K. 2019. Pipe Dreams: Water and Empire in Central Asia's Aral Sea Basin. Cambridge University Press.

180. Peterson, D.J, and E. K. Bielke. 2001. The Reorganization of Russia's Environmental Bureaucracy: Implications and Prospects, Post-Soviet Geography and Economics, 42:1, 65-76, DOI: 10.1080/10889388.2001.10641163

181. Petrov, S., Mamaeva, N., & Narushko, M. 2019. "The Impact of Technogenesis and Economic Activities of the Indigenous Peoples of the North Russia on the

Environmental Status of the Yamal Region." In E3S Web of Conferences (Vol. 91). EDP Sciences.

182. Petrov, V., T. Katkova & S. Karvinen. 2018. Comparative analysis of forestry economic indicators of Russia and Finland. HSE Economic Journal, 22(2), 294-319.

183. Pisarenko, A. I., V. V. Strahov. 2004. Forestry in Russia: From Use to Management. Yurisprudentsiya: Moscow.

184. Plotnitskiy, A., & Roy Chowdhury, A. 2022. "'Killing Nature—Killing Us': 'Cultural Threats' as a Fundamental Framework for Analyzing Indigenous Movements Against Mining in Siberia and the Russian North." Post-Soviet Affairs, 1-18.

185. Poberezhskaya, M. 2015. Communicating climate change in Russia: State and propaganda. Routledge.

186. Pohl, M. 2007. "The 'Planet of One Hundred Languages': Ethnic Relations and Soviet Identity in the Virgin Lands." In Peopling the Russian Periphery (pp. 254-278). Routledge.

187. Potapov, P., S. Turubanova, I. Zhuravleva, M. Hansen, A. Yaroshenko, A. Manisha. 2012. Forest cover change within the Russian European North after the Breakdown of Soviet Union (1990–2005). International Journal of Forestry Research.

188. Proskurina, S., J. Heinimö, and E. Vakkilainen. 2018. Policy forum: Challenges of forest governance: Biomass export from Leningrad oblast, North-West of Russia. Forest policy and economics, 95, 13-17.

189. Pulido, L. 1996. Environmentalism and economic justice: Two Chicano struggles in the Southwest. University of Arizona Press.

190. Reisinger, W. M., Zaloznaya, M., & Woo, B. D. 2023. "Fear of Punishment as a Driver of Survey Misreporting and Item Non-Response in Russia and Its Neighbors." Post-Soviet Affairs, 39(1-2), 49-59.

191. Remnev, A. 2003. "To Push Russia into Siberia: Empire and Russian Colonization of the Second Half of the 20th Century (Vdvinut' Rossiyu v Sibir'. Imperiya i Russkaya Kolonizatsiya Vtoroy Poloviny XIX–nachala XX vv)." Ab Imperio, 2003(3), 135-158.

192. Reser, J. P., G. L. Bradley, and M. C. Ellul. 2014. Encountering climate change:'seeing'is more than 'believing'. Wiley Interdisciplinary Reviews: Climate Change, 5(4), 521-537.

193. Reshetin, V. P., & Kazazyan, V. I. 2004. "Public-Health Impact of Outdoor Air Pollution in Russia." Environmental Modeling & Assessment, 9, 43-50.

194. Riazantsev, S., Tikunov, V., & Timonin, S. 2013. "Mathematical Cartographic Approaches Toward Evaluation and Forecasting of Ethnic Composition in the Russian Regions." Annals of GIS, 19(1), 17-25.

195. Richardson, C. 2002. "Stalinist Terror and the Kalmyks' National Revival: A Cultural and Historical Perspective." Journal of Genocide Research, 4:3, 441-451.

196. Richter, B. S. 1997. "Nature Mastered by Man: Ideology and Water in the Soviet Union." Environment and History, 3(1), 69-96.

197. Riedel, R. 2022. Authoritarian Populism and Collective Memory Manipulation. The Palgrave Handbook of Populism, 195-211.

198. Robinson, N., S. Milne. 2017. Populism and political development in hybrid regimes: Russia and the development of official populism. International Political Science Review, 38(4), 412-425.

199. Rowe, E. W. 2013. Russian climate politics: When science meets policy. Springer.

200. Rowe, E. W. 2010. Russia and the North. University of Ottawa Press.

201. Rowe, E. W. 2013. A sylvan superpower? Russian forests in international climate negotiations. Geoforum, 48, 216-224.

202. Rowe, E. W. 2013. Russian climate politics: When science meets policy. Springer.

203. Rozenas, A., & Stukal, D. 2019. How autocrats manipulate economic news: Evidence from Russia's state-controlled television. The Journal of Politics, 81(3), 982-996.

204. Rulyova, N., & Zagibalov, T. 2012. Blogging the Other: Construction of national identities in the blogosphere. Europe-Asia Studies, 64(8), 1524-1545.

205. Rulyova, N., and T. Zagibalov. 2012. Blogging the Other: Construction of National Identities in The Blogosphere. Europe-Asia Studies, 64(8), 1524-1545. In Rowe, E. W. Russian Climate Politics: When Science Meets Policy. Springer.

206. Russian Academy of Science. 2019. Kak reshat' problemy lesnogo khozyaistva Rossii? Vzglyad ekspertov [How to solve the problems of forestry in Russia? The opinion of experts]. Resolution of the scientific debates. Russian Academy of Science, Moscow, Tzifrovichok. http://rbf-ras.ru/wp-content/uploads/2020/05/Резолюции-научных-дебатов_брошюра.pdf

207. Rutland, P. 2015. "Petronation? Oil, Gas, and National Identity in Russia." Post-Soviet Affairs, 31(1), 66-89.

208. Rybnikova, L. S., & Rybnikov, P. A. 2017. "Hydrogeochemistry of the Abandoned Sulfide Mines of the Middle Urals (Russia)." Procedia Earth and Planetary Science, 17, 849-852.

209. Sablin, I., & Savelyeva, M. 2011. "Mapping Indigenous Siberia: Spatial Changes and Ethnic Realities, 1900–2010." Settler Colonial Studies, 1(1), 77-110.

210. Schimpfossl, E., Yablokov, I. 2014. Coercion or Conformism? Censorship and Self-Censorship among Russian Media Personalities and Reporters in the 2010s. Demokratizatsiya: The Journal of Post-Soviet Democratization, 22 (2), pp. 295-311.

211. Schmitt, C. R. 2019. Scapegoat ecology: Blame, exoneration, and an emergent genre in environmentalist discourse. Environmental Communication, 13(2), 152-164.

212. Scoones, I., M. Edelman, S. M. Borras, R. Hall, W. Wolford, B. White. 2018. Emancipatory rural politics: confronting authoritarian populism. The journal of peasant studies, 45(1), 1-20.

213. Semenova, I. N., Rafikova, Y. S., Khasanova, R. F., & Suyundukov, Y. T. 2018. "Analysis of Metal Content in Soils Near Abandoned Mines of Bashkir Trans-Urals and in the Hair of Children Living in This Territory." Journal of Trace Elements in Medicine and Biology, 50.

214. Sharkova, E. A., Nigmatullina, K., Balakhonskaya, L. V., Gromova, T. M., & Balakhonsky, V. V. 2017. Ecological journalism in regional political processes. Ecology, Environment and Conservation, 23(2), 1079-1084.

215. Sharov, P., Dowling, R., Gogishvili, M., Jones, B., Caravanos, J., McCartor, A., ... & Fuller, R. 2016. "The Prevalence of Toxic Hotspots in Former Soviet Countries." Environmental Pollution, 211, 346-353.

216. Shastitko, A., & Fatikhova, A. 2015. "Monotowns: A New Take on the Old Problem." Baltic Region, (1), 4-24.

217. Shayakhmetov, M. 2007. The Silent Steppe: A Memoir of a Kazakh Nomad Under Stalin. New York: Overlook/Rookery.

218. Shishmareva, A.V., E.E. Moiseeva. 2020. Complex Processing Assessment of Wood Waste of The Krasnoyarsk Region Forestry Complex. European Proceedings of Social and Behavioural Sciences.

219. Shulman, E. 2007. “"Those Who Hurry to the Far East': Readers, Dreamers, and Volunteers." In Peopling the Russian Periphery (pp. 229-253). Routledge.

220. Shvarts, E. A., M.L. Karpachevskiy, N.M. Shmatkov, A.S. Baybar. 2023. Reforming Forest Policies and Management in Russia: Problems and Challenges. Forests, 14(8), 1524.

221. Slezkine, Y. 1994. Arctic Mirrors: Russia and the Small Peoples of the North. Cornell University Press.

222. Snyder, S. A., C.R. Blinn, S. Roth, M. Windmuller-Campione. 2022. Gaining insights about forest health prescriptions from loggers and foresters: understudied voices in the human dimensions of forest health. Environmental management, 70(2), 215-228.

223. Sokolov, V. A., and A. A. Onuchin. 2019. On Reorganization of Forestry Management in Russia. (O Reorganizacii Lesoupravleniya v Rossii), Ekonomicheskoye Vozrozdeniye Rossii, 4 (62), 93-104.

224. Sonnenfeld, D. A., and P. L. Taylor. 2018. Liberalism, illiberalism, and the environment. Society & Natural Resources, 31(5), 515-524.

225. Stammler, F., & Forbes, B.C. 2006. "Oil and Gas Development in Western Siberia and Timan-Pechor." Indigenous Affairs (2-3), 48-57.

226. Steinwedel, C. 2007. "Resettling People, Unsettling the Empire: Migration and the Challenge of Governance, 1861-1917." In Peopling the Russian Periphery: Borderland Colonization in Eurasian History, 128-147.

227. Stepanova, L. P., Pisareva, A. V., Nechushkin, Y., & Myshkin, A. I. 2019. "The Evaluation of the Impact of Soil Pollution on Human Health." International Multidisciplinary Scientific GeoConference: SGEM, 19(5.2), 717-723.

228. Sunderland, W. 2000. "The 'Colonization Question': Visions of Colonization in Late Imperial Russia." Jahrbücher für Geschichte Osteuropas, (H. 2), 210-232.

229. Sunderland, W. 2003. "Empire Without Imperialism?: Ambiguities of Colonization in Tsarist Russia." Ab Imperio, 2003(2), 101-114.

230. Sundstrom, L. M., & Henry, L. A. (2016). Russian civil society: Tensions and trajectories. In *Russian civil society: a critical assessment* (pp. 305-322). Routledge.

231. Suutarinen, T. K. 2015. "Local Natural Resource Curse and Sustainable Socio-Economic Development in a Russian Mining Community of Kovdor." Fennia-International Journal of Geography, 193(1), 99-116.

232. Taylor, D. 2014. Toxic communities: Environmental racism, industrial pollution, and residential mobility. In Toxic Communities. New York University Press.

233. Teichmann, C. 2007. "Canals, Cotton, and the Limits of Decolonization in Soviet Uzbekistan, 1924–1941." Central Asian Survey, 26(4), 499-519.

234. The Federal State Statistics Service (2022) “Rosstat published information on the share of the oil and gas sector in Russia's GDP in the first quarter of 2022”: https://rosstat.gov.ru/folder/313/document/174229

235. The Federal State Statistics Service (2022) “Rosstat published information on the share of the oil and gas sector in Russia's GDP in the first quarter of 2022”: https://rosstat.gov.ru/folder/313/document/174229

236. Tipaldou, S., and P. Casula. 2019. Russian nationalism shifting: The role of populism since the annexation of Crimea. Demokratizatsiya: The Journal of Post-Soviet Democratization, 27(3), 349-370.

237. Toepfl, F. 2011. Managing public outrage: Power, scandal, and new media in contemporary Russia. New Media & Society, 13(8), 1301-1319.

238. Tomaselli, A., & Koch, A. 2014. "Implementation of Indigenous Rights in Russia: Shortcomings and Recent Developments." The International Indigenous Policy Journal, 5(4).

239. Treisman, D. 2011. Presidential popularity in a hybrid regime: Russia under Yeltsin and Putin. American journal of political science, 55(3), 590-609.

240. Trishkin, M., E. Lopatin, and T. Karjalainen. 2014. Assessment of motivation and attitudes of forest industry companies toward forest certification in northwestern Russia. Scandinavian journal of forest research, 29(3), 283-293.

241. Tsygankov, A. P. 2022. Russian Realism: Defending “Derzhava” in International Relations. Routledge.

242. Tynkkynen, N. 2014. Prospects for ecological modernization in Russia: analysis of the policy environment. Demokratizatsiya, 22(4), 575

243. Tynkkynen, V. P. 2007. "Resource Curse Contested—Environmental Constructions in the Russian Periphery and Sustainable Development." European Planning Studies, 15(6), 853-870.

244. Tynkkynen, V. P. 2019. The energy of Russia: hydrocarbon culture and climate change. Edward Elgar Publishing.

245. Tysiachniouk, M., Petrov, A. N., Kuklina, V., & Krasnoshtanova, N. 2018. "Between Soviet Legacy and Corporate Social Responsibility: Emerging Benefit Sharing Frameworks in the Irkutsk Oil Region, Russia." Sustainability, 10(9), 3334.

246. Tysiachniouk, M., S. Tulaeva, L. A. Henry. 2018. "Civil Society Under the Law 'On Foreign Agents': NGO Strategies and Network Transformation." Europe-Asia Studies, 70(4), 615-637.

247. U.S. Energy Information Administration (2023). "Country Analysis Brief: Russia". Accessed at: https://www.eia.gov/international/content/analysis/countries_long/Russia/russia.pdf

248. Udachin, V., Williamson, B. J., Purvis, O. W., Spiro, B., Dubbin, W., Brooks, S., ... & Mikhailova, I. 2003. "Assessment of Environmental Impacts of Active Smelter Operations and Abandoned Mines in Karabash, Ural Mountains of Russia." Sustainable Development, 11(3), 133-142.

249. Ustinova, T.A., Artymuk, N.V., Vlasova, V.V., & Pyzhov, A.Ya. 2010. "Infertility in Kemerovo Region (Besplodiye v Kereovskoy Oblasti)." Мать и Дитя в Кузбассе, (1), 37-39.

250. Uzhvak, P. 2023. Ecology of the war times (Ecologiya voennogo vremeni). IstoriesMedia, April 20th. Accessed 04/24/2023. https://istories.media/stories/2023/04/20/ekologiya-voennogo-vremeni/

251. Valasiuk, S., M. Czajkowski, M. Giergiczny, T. Żylicz., K. Veisten, I.L. Mata, ... & P. Angelstam. 2023. Attitudinal drivers of home bias in public preferences for transboundary nature protected areas. Ecological Economics, 208, 107798.

252. Varaksa, A. M., Klyueva, I. S. 2020. Economic Effects of Concentration in Russian Forest Industry Pulp-Paper Branch. Economic and Social Development: Book of Proceedings, 42-51.

253. Venovcevs, A. 2021. "Living with Socialism: Toward an Archaeology of a Post-Soviet Industrial Town." The Extractive Industries and Society, 8(4), 100835.

254. Vershinin, E. V. 2018. "Russkaya Kolonizatsiya Severo-Zapadnoy Sibiri v Kontse XVI–XVII vv." Yekaterinburg: Demidovskiy Institut.

255. Vinogradova, A., Maksimenkov, L., & Pogarskii, F. 2010. "Long-Range Atmospheric Transport of Heavy Metals from Industrial Regions of Ural and Norilsk to Siberian Environment." In EGU General Assembly Conference Abstracts (p. 3172).

256. Viola, L. 2007. The Unknown Gulag: The Lost World of Stalin's Special Settlements. Oxford University Press, USA.

257. Volkov D. V. 2016. The dynamics of anti-American sentiment in post-Soviet Russia and the main characteristics of anti-Americanism today [Dinamika antiamerikanskih nastroenij v postsovetskoj Rossii i osnovnye kharakteristiki antiamerikanizma na segodnyashnij den]. Bulletin of public opinion. Data. Analysis. Discussions, (3-4 (123)), 141-159.

258. Vornovytskyy, M., & Boyce, J. K. 2010. "Economic Inequality and Environmental Quality: Evidence of Pollution Shifting in Russia." PERI Working Papers, 189.

259. Walker, T. R., Habeck, J. O., Karjalainen, T. P., Virtanen, T., Solovieva, N., Jones, V., ... & Ingold, T. 2006. "Perceived and Measured Levels of Environmental Pollution: Interdisciplinary Research in the Subarctic Lowlands of Northeast European Russia." AMBIO: A Journal of the Human Environment, 35(5), 220-228.

260. Waylen, K. A., Fischer, A., McGowan, P. J., & Milner-Gulland, E. J. 2012. "Interactions Between a Collectivist Culture and Buddhist Teachings Influence Environmental Concerns and Behaviors in the Republic of Kalmykia, Russia." Society & Natural Resources, 25(11), 1118-1133.

261. White, D. 2013. Taking it to the Streets: Raising the costs of electoral authoritarianism in Russia. Perspectives on European Politics and Society, 14(4), 582-598.

262. White, K. D. 2013. "Nature–Society Linkages in the Aral Sea Region." Journal of Eurasian Studies, 4(1), 18-33.

263. White, K., & Borrell, L. N. 2011. Racial/ethnic residential segregation: framing the context of health risk and health disparities. Health & place, 17(2), 438-448.

264. Wilhelmsen, J., and A. R. Hjermann. 2022. Russian certainty of NATO hostility: Repercussions in the arctic. Arctic Review on Law and Politics, 13, 114-142.

265. Willerslev, R., & Ulturgasheva, O. 2006. "The Sable Frontier: The Siberian Fur Trade as a Montage." Cambridge Anthropology, 79-100.

266. Wilson, J. L. 2019. Russia's relationship with China: the role of domestic and ideational factors. International Politics, 56(6), 778-794.

267. Wilson, K. 2016. How increased competition can strengthen electoral authoritarianism: Party-system pluralization in Russia. Problems of Post-Communism, 63(4), 199-209.

268. Wishart, R., & Greenberg, P. 2023. Coal and environmental inequality. In *Handbook on Inequality and the Environment* (pp. 506-530). Edward Elgar Publishing.

269. Wodak, R., & Meyer, M. 2015. Methods of critical discourse studies. Sage.

270. Wylie, S. A. 2018. Fractivism: Corporate bodies and chemical bonds. Duke University Press.

271. Yang, Z. J., Seo, M., Rickard, L. N., & Harrison, T. M. 2015. Information sufficiency and attribution of responsibility: Predicting support for climate change policy and pro-environmental behavior. Journal of Risk Research, 18(6), 727-746.

272. Yanitsky, O. N. 2012. From nature protection to politics: The Russian environmental movement 1960–2010. Environmental Politics, 21(6), 922-940.

273. York, R., Rosa, E. A., & Dietz, T. 2003. "STIRPAT, IPAT and ImPACT: Analytic Tools for Unpacking the Driving Forces of Environmental Impacts." Ecological Economics, 46(3), 351-365.

274. Zahnd, W. E., Murphy, C., Knoll, M., Benavidez, G. A., Day, K. R., Ranganathan, R., ... and Eberth, J. M. 2021. The intersection of rural residence and minority race/ethnicity in cancer disparities in the United States. International journal of environmental research and public health, 18(4), 1384.

275. Zmyvalova, E. 2020. "Human Rights of Indigenous Small-Numbered Peoples in Russia." Arctic Review on Law and Politics, 11, 334-359.