

The state of environmental protection in the Russian Federation: a review of the post-Soviet era

Joshua P. Newell & Laura A. Henry

To cite this article: Joshua P. Newell & Laura A. Henry (2017): The state of environmental protection in the Russian Federation: a review of the post-Soviet era, Eurasian Geography and Economics, DOI: [10.1080/15387216.2017.1289851](https://doi.org/10.1080/15387216.2017.1289851)

To link to this article: <http://dx.doi.org/10.1080/15387216.2017.1289851>



Published online: 10 Feb 2017.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

The state of environmental protection in the Russian Federation: a review of the post-Soviet era

Joshua P. Newell^a and Laura A. Henry^b

^aSchool of Natural Resources and Environment, University of Michigan, Ann Arbor, MI, USA; ^bDepartment of Government and Legal Studies, Bowdoin College, Brunswick, ME, USA

ABSTRACT

In the 25 years since the dissolution of the Soviet Union, sweeping political, economic, and social changes have profoundly influenced environmental protection in Russia, the world's largest country and one of global importance with respect to natural resources, biodiversity conservation, wilderness preservation, and climate change mitigation. This paper reviews the state of the environment by assessing post-Soviet era changes to legislation, government regulatory institutions, and civil society. A gulf exists between Russia's formal environmental laws and state agency capacity and interest in enforcing them. This stems, in part, from repeated bureaucratic reorganizations that have progressively eroded environmental institutions. The Russian environmental movement, which blossomed during Gorbachev's reforms in the late 1980s, struggled in the 1990s to mobilize the broader public due to economic hardship and political instability. Since then, the Putin administration has labeled many environmental groups "anti-Russian" and used aggressive tactics such as raiding NGO offices, intimidating journalists, and instituting severe legislative measures to quash advocacy and dissent. Post-Soviet environmental successes have been relatively few, with expansion of the protected area system and forest certification notable exceptions. These successes can partially be attributed to efforts by large environmental organizations, but expansion of certification and corporate social responsibility is also tied to Russian business interests dependent on natural resource export to global markets increasingly sensitive to environmental concerns. The paper concludes by illustrating how corruption, poor enforcement, and the muzzling of civil society render the state incapable of resolving arguably its most significant environmental challenge: illegal and unregulated resource use.

ARTICLE HISTORY

Received 25 January 2017
Accepted 30 January 2017

KEYWORDS

Russia; environment;
institutions; civil society;
Putin; corruption; illegality

Introduction

In the pages of this journal, dating back to when it was *Soviet Geography* and then *Post-Soviet Geography* and continuing into its current form, researchers and

scholars have written extensively on environmental degradation in the vast swath of territory that now constitutes the Russian Federation. Readers are now familiar with the country's past and current environmental blights (oil and gas spills, radioactive waste, air and water pollution) and to a lesser degree the wanton waste of resources caused by inefficient extraction and manufacturing processes (Backman and Zausaev 1998; Barr and Braden 1988; Feshbach 1995; Feshbach and Friendly 1992; Petersen, Bielke, and Peterson 2002; Peterson 1995; Pryde 1972, 1991; ZumBrunnen and Osleeb 1986).

But scholars have largely been far less attentive to what may be Russia's greatest legacy to the planet: wilderness. Within the borders of the Russian Federation are some of the most extensive (largely roadless) wilderness areas remaining on Earth. This is vividly illustrated by a nighttime view of Eurasia, with the dark vast swaths of Siberia and the Russian Far East in stark contrast to the brightly lit cities and infrastructure of Eastern China, Japan, and the Republic of Korea (Figure 1). Lake Baikal alone holds one-fifth of the world's fresh water. Russia's forests comprise an astounding 20% of the world's remaining "frontier forest" (Potapov et al. 2008). Siberian tigers roam the Ussuri taiga forests along the Sikhote-Alin' Mountain Range, a region with the richest terrestrial biological diversity in Russia (Krever et al. 1994). While the forests of central Kamchatka Peninsula protect rivers containing some of the world's largest salmon runs, the oceans surrounding Russia are some of the most biologically productive waters on the planet (Newell 2004).



Figure 1. Nighttime view of Eurasia. In addition to cities, fires, fishing boats, gas flares, oil drilling, and mining operations can show up as points of light. Source: NASA Earth Observatory 2012.

Russia's wilderness plays a globally important role in mitigating climate change, protecting biodiversity, and generally ensuring ecosystem function, particularly of the polar Arctic.

It is also notable that, for centuries, Russia's economy has been highly dependent on this rich natural resource base. In the era of the tsar Peter the Great (who ruled from 1682 to 1725), Siberia and the Russian Far East became a military outpost and supplier of raw materials for the rest of Russia (Newell and Wilson 1996). Soviet industry, like that which came before, exploited the region's precious metals, minerals, fisheries, and timber supplies and exported these raw materials to the rest of the Soviet Union (Bradshaw 1997; Bradshaw and Lynn 1998). Today, natural resources continue to form the basis of the Russian economy, with much of the oil and gas, precious metals, fish, and timber exported abroad (Bradshaw and Connolly 2016). One of the ironies associated with the sheer inefficiency of the Soviet command economy, which caused horrendous pollution and environmental degradation in accessible areas, is that large areas of wilderness remain intact. During both the Soviet era and the present day, the state has simply lacked the technology and capital to build the infrastructure necessary to extract natural resources in many of these areas (Barr and Braden 1988; Bradshaw and Lynn 1998).

Thus, environmental protection and the trajectory of the Russian economy and political system are deeply intertwined. Waves of economic and political restructuring in the 25 years since the dissolution of the Soviet Union have brought a series of challenges that will have to be addressed to ensure the sustainability of these globally important ecosystems. Russia's most intractable environment challenge may indeed be illegal resource harvest (Henry and Douhovnikoff 2008; Newell 2004). But identifying underlying causes and strategies to address this problem quickly leads to evaluation of the sweeping political, social, and economic changes since the perestroika reforms of the Gorbachev era and, later, the integration of Russia into the global economy.

With this context in mind, the purpose of this essay is to take stock of and assess key changes associated with environmental protection in the Russian Federation since the dissolution of the Soviet Union. First, we provide an overview of notable reforms to Russian legislation and relevant government oversight agencies, followed by a brief assessment of Russia's protected area system given these changes. Then, we evaluate the level of participation of the Russian Government in international environmental treaties (in particular, climate change agreements), as well as the Russian private sector in environmental certification systems and corporate social responsibility (CSR) initiatives. This is followed by an assessment of civil society and the environment, with a particular focus on how these groups are increasingly targeted as adversaries of the state. In the final section, we return to the question of illegal and unregulated resource harvest (some of which occurs in wilderness and protected areas) by reflecting on interconnections with these changes to Russian environmental regulation to the restriction of civil society, as

well as broad economic shifts spawned by privatization, trade liberalization, and the rise of export markets, especially in Asia.

State environmental protection in Russia

Two consistent themes characterize Russia's approach to environmental protection in the post-Soviet period. First, the law tends to be prescriptive and complex, articulating relatively high standards, but it is often not effectively implemented and enforced. Second, there has been a high degree of instability with respect to which state agencies have the authority over the environment.

Russia possesses a comprehensive body of environmental legislation. The Russian Constitution proclaims, "Everyone shall have the right to a favorable environment, reliable information about its state and restitution for damage inflicted to health and property from ecological transgressions" (Chapter 2, Article 42). One of the first laws passed by the newly independent Russian Federation was the 1991 Federal Act on the Protection of the Natural Environment (Bond and Sagers 1992). Russia's major environmental legislation mandates a high level of environmental protection and asserts the country's commitment to sustainable development (Henry 2009; Oldfield and Shaw 2002).

But large gaps exist between Russia's formal environmental laws on the books and state agencies' capacity to and interest in carrying them out. Despite a solid legal foundation, critics charge that environmental law and regulations often are not sufficiently specific, lack mechanisms for their implementation, and are not enforced in practice (Kotov and Nikitina 2002; Potravnyi and Weissenburger 1997, 288). For example, many programs designed to achieve sustainable development have suffered from "inadequate finance and weak coordination" (Oldfield 2005, 75). In 2010, while president, Dmitry Medvedev acknowledged that Russia's strict environmental laws are often fragmented and contradictory, resulting in "unsolved problems, unfulfilled instructions and unaccomplished tasks" (President of Russia 2010). Russia has experimented with the recentralization of authority in environmental protection previously devolved to the regions, a trend that at least some regional leaders found objectionable due to "criss-crossing jurisdictions and emphasis on raising revenues" (Crotty and Rodgers 2012, 25). These problems continue to limit environmental protection in Russia.

In the 1990s, Russia introduced a variety of new mechanisms for environmental governance, including a new system of permitting and pollution charges and requirements for environmental impact assessment (Kochtcheeva 2010). Kotov and Nikitina (2002, 1) argue that these new instruments were "deformed by corruption, weakness of the government at all levels, shadow economy, impacts of the interest groups, and low public control over environmental decision-making." Other analyses of Russia's environmental policies have found a number of problems. A 2014 World Bank report on environmental regulation prior to Russia's WTO entry concluded,

The legislative system includes over 4000 federal-level regulatory legal documents, and is thus difficult to follow as quite a few of them contravene one another. So even if industrial compliance were genuine, the rules of the game are too difficult to follow. (World Bank 2014, 20)

The report also found that charges for pollution are low compared to other states and that the system of fines for polluters is ineffective “because it targets too many pollutants, and consequently results in insufficient capacity for monitoring and enforcement” (22). Medvedev also cited the lack of environmental monitoring and data gathering as key problems (President of Russia 2010). The punishment for environmental crimes, such as poaching, illegal timber harvesting, and illegal waste disposal, tends to be so feeble that “perpetrators do not fear getting caught” (Stoecker and Shakirova 2014, 11; see also, Bellona 2013; Braden 2014).

Currently, the Ministry of Natural Resources and the Environment is responsible for laws and regulations related to the use and conservation of natural resources, as well as environmental monitoring and pollution control. Other federal-level agencies charged with aspects of environmental protection include the Federal Service for Supervision of Natural Resources (*Rosprirodnadzor*), the Federal Service for Hydrometeorology and Environmental Monitoring (*Rosgidromet*), the Federal Supervisory Service for the Environment, Technology, and Nuclear Management (*Rostekhnadzor*), and smaller agencies focused on water, forests, and mineral resources. The current division of authority for the environment among state institutions is the result of repeated bureaucratic reorganizations in the post-Soviet period that progressively lowered the status of environmental protection.

In 1991, the Russian Government established a Ministry of Ecology, and Alexei Yablokov, one of Russia’s leading environmentalists, was invited to serve as an advisor to President Yeltsin. However, in 1996, Yeltsin demoted the ministry to a less powerful State Committee on Ecology (Figure 2). Then, in May 2000, President Putin signed a decree to dissolve the state committee as well as the Federal Forestry Service, transferring their responsibilities to the Ministry of Natural Resources (Figure 2). Environmentalists challenged what they saw as the continued downgrading of environmental protection. Igor Chestin of WWF-Russia argued that putting the Ministry tasked with utilizing natural resources for economic growth in charge of the environment “is like putting a goat in charge of the cabbage patch” (Cockburn 2000).

The funds allocated by the government for environmental protection have declined as well. The portion of the federal budget dedicated to the environment decreased from 0.4% in 2001 to 0.1% in 2007, even as the overall size of the budget grew (Yablokov 2010, 3). A Ministry of Natural Resources report contends that the Russian Government allocates roughly 0.5% of the federal budget for environmental protection, still relatively low compared to other states (Ministry of Natural Resources and Ecology, Russian Federation 2012, 5).

During his relatively brief tenure in office from 2008 to 2012, President Medvedev introduced new environmental priorities related to his broader agenda

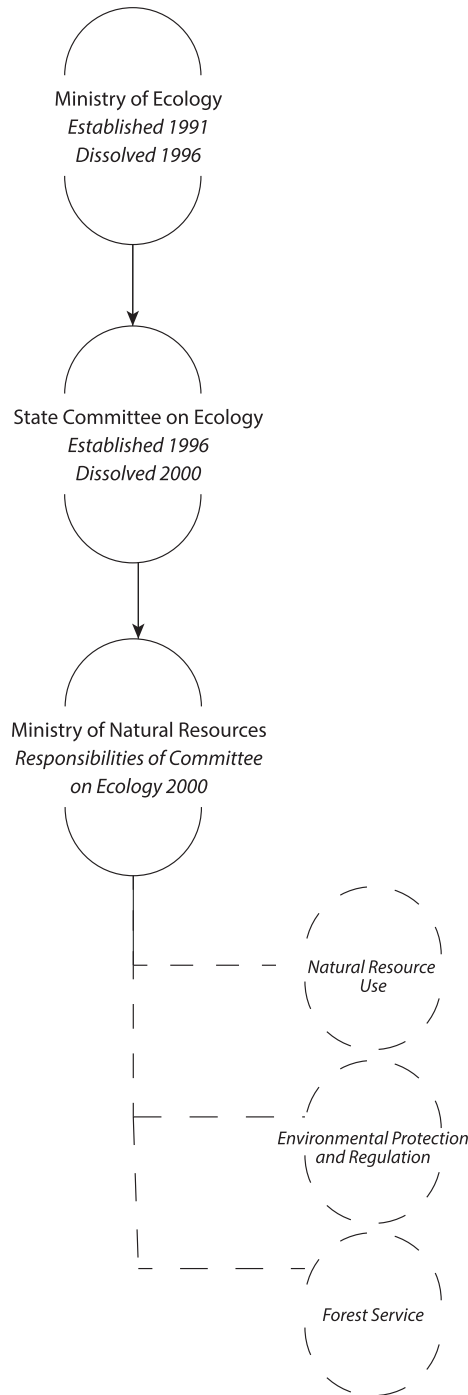


Figure 2. The devolution of environmental protection and regulation in the post-Soviet era. Since 1996 through bureaucratic reorganization, the Russian government has progressively weakened the primary institution responsible for environmental management and protection.

of modernizing the Russian economy. These priorities included a 2009 law on energy efficiency and other energy savings measures. In a 2010 speech at a State Council Presidium meeting, Medvedev asserted, “Our society has finally come to understand that if we take no account of the current state of environment, if we fail to strictly abide by environmental standards, we simply have no future” (President of Russia 2010). In 2012, as the outgoing president, Medvedev approved the “Basic Principles of State Environmental Policy to 2030” (President of Russia 2012). This guiding document sets out the following objectives:

environmentally oriented economic growth; the preservation of the environment, biodiversity and natural resources to meet the needs of present and future generations; the realization of the right of everyone to a favorable environment; and the strengthening of the rule of law in the areas of environmental protection and environmental safety (2012).

Environmentalists praised these goals, but criticized the strategic plan for lacking specific measures to achieve these objectives (Oliphant 2012). Since his return to the presidency in 2012, Vladimir Putin has made only token remarks about the importance of environmental protection.

Overall, the erosion of institutions of environmental protection and weak law enforcement throughout the post-Soviet period – despite recent initiatives – have led to the charge that Russia is in a period of “de-ecologization” (Yanitsky 2000). Mol (2009, 231) labels this phenomenon the “de-institutionalization” of environmental policy, arguing that throughout the early 2000s, “the institutional structure showed all signs of erosion, degradation and delegitimation, developing into but a shadow of its powerful predecessor in the early 1990s.” Yablokov (2010, 3), who until his death in January 2017 played an important role in the environmental movement, explained, “The logic of de-environmentalism ... is that Russia will start dealing with environmental problems once it is rich.” This attitude in part stems from the state’s reliance on oil and gas revenue, in addition to lesser income from mining, forestry, and other natural resource industries, all of which could be threatened by strict environmental protection.

The protected area system in the post-Soviet era

The erosion of environmental protection and decrease in law enforcement, combined with budget shortfalls, has proven to be a formidable threat to the health of Russia’s nature reserve system and to the ecosystems and wildlife that it protects. This protected area system can be traced back to prerevolutionary nobility, whose members set aside land for hunting reserves. These reserves set temporary restrictions on land use or hunting during breeding seasons in order to protect important game populations. After the revolution, beginning in 1917, nature reserves (*zapovedniki*) were established, and in 1921, Vladimir Lenin established a formal statute for them (Shtilmark 2003). The *zapovedniki* grew rapidly, particularly in European Russia, so by 1951 more than 128 of these reserves protected over 12

Table 1. Protected Areas of the Russian Federation, 2014, by type and area.

Type of protected area	Number	Total area	% of total area of Russian Federation
<i>Federal level</i>			
Strict nature reserve (<i>Zapovednik</i>)	103	33.8 million hectares (ha)	1.6
National park	46	12 million ha	0.8
Wildlife refuge (<i>Zakaznik</i>)	71	13 million ha	0.8
Natural monument	28	.04 million ha	0.002
<i>Subtotal</i>	248	58.84 million ha	3.2
<i>Regional level</i>			
Wildlife refuge, natural park, territory of traditional nature use, natural monument	11,148	125.8 million ha	7.3
<i>Local level</i>			
Wildlife refuge, natural park, territory of traditional nature use, natural monument	1598	27 million ha	1.6
<i>Protected area systems with international status</i>			
Natural world heritage site	10	11 strict nature reserves, 4 national parks, 3 wildlife refuges	
UNESCO biosphere reserve	38	33 strict nature reserves, 6 national parks	
Ramsar wetland of international importance	35	12 strict nature reserves, 11 wildlife refuges, 1 national park	
Transboundary protected area	4	4 strict nature reserves	

Source: WWF (2015).

million hectares (ha) of land. In 1952, citing economic need, Stalin's government dissolved more than 70% of the reserves, shrinking their total land area to 1.5 million ha (Newell 2004). Over time, many reserves were reestablished, but not before many were logged, mined, or otherwise degraded. Only in the mid-1980s did the figure again reach 12 million ha, as in 1951. Today, Russia has a range of protected area types at the national, regional, and local levels (Table 1). Federal-level protected areas total roughly 3.2% of the total land area of the country, with regional- and local-level protected areas covering 7.3 and 1.6%, respectively.

There are numerous forms of protected areas, each with a different purpose (Pryde 1997). Federal- and regional-level *zakazniki* (wildlife refuges) protect more area in Russia than *zapovedniki* but suffer the reputation of being "paper parks" because of inadequate protection (Newell 2004). Due to the inability to patrol reserve boundaries, illegal logging, mining, and poaching are far too common.

National parks, first established in 1983, have become an important tool in protecting Russia's wilderness and biodiversity (Fiorino and Ostergen 2012; Ostergren and Shvarts 1998). Other forms of protected areas include natural monuments, regional natural parks, and territories of traditional nature use (TTPs). *Zapovedniki* were primarily created to protect samples of a particular ecosystem or landscape (steppe, central taiga) and, less frequently, to protect a particular species' breeding or wintering grounds (Shtilmark 2003). The most important type of protected area in Russia, *zapovedniki*, falls under World Conservation Union (IUCN) Category 1a, the strictest designation possible under this system. Economic activity is forbidden,

but due to declining budgets, some *zapovedniki* have opened up to tourism. Reports of logging, grazing, and other industrial activity on protected lands have increased in the post-Soviet era. This system is perpetually understaffed and ill-equipped to provide a comprehensive management program for the *zapovedniki*. Directors of individual *zapovedniki*, therefore, have incurred increased managerial responsibility, and many actively seek international contacts, organize eco-tours, and pursue other avenues to secure funding to pay staff and continue research. The total area of protected land under the *zapovednik* system is 1.6% of the Russian Federation (Table 1). These *zapovedniki* are a potent legacy, as they comprise more than 40% of the world's strict scientific nature reserves (Newell 2004).

Budget cuts for all forms of protected areas arguably pose the greatest threat to Russia's reserve system (Newell 2004; Ostergen 1998; Wells and Williams 1998). Many *zakazniki* have no full-time staff and lack basic infrastructure. *Zapovedniki* generally have full-time staff, but some have crumbling facilities, no funds for scientific research, and inadequate equipment and fuel to patrol the reserve (Ostergen 1998). Lack of law enforcement, coupled with poverty and disregard for laws and regulations in Russia, has led to an escalation of illegal logging, poaching, and mining within reserve boundaries (Newell 2004). Lack of funds has led to squabbling between Moscow and regional governments: the latter complain that money earmarked for the region never arrives, while Moscow complains that money delivered to the regions is not spent properly. A secondary problem facing the reserve system is the conflicting priorities of the government bodies involved in their management; this problem hinders the development of a coherent management structure and conservation plan.

The protected area system remains poorly understood by the public. In Soviet times, *zapovedniki* were for scientific research, not tourism (Wells and Williams 1998). Many citizens still consider them reserves for the scientific elite and resent the loss of land for commercial use. There was no form of protected area allowing recreational use until the Soviet government created the national park system (Ostergren and Hollenhorst 1999). The public, however, generally resists the concept of a designated area for activities such as relaxing, picking mushrooms, and fishing: many Russians see the *taiga* as a common resource (Newell 2004).

Despite inadequate funding and structural flaws, the Russian reserve system has expanded significantly in the post-Soviet period. New forms of protected areas have been developed, particularly on the regional level, giving both governments and NGOs the flexibility necessary to further expand the system. A recent analysis of the country's system noted this success in terms of expansion and correspondingly better protection of Russia's ecological and cultural assets (Krever, Stishny, and Onufrenya 2009). But it also identified key gaps in the system by identifying ecosystems, landscapes, and species that need better protection. In general, the Arctic regions (where population and resource extraction pressures are relatively low) are fairly well-protected, while deciduous forests and steppes are not. With respect to biodiversity, there are significant gaps as well. The study found that

51% of rare and threatened mammal species (excluding whales and dolphins), 41% of rare and endangered birds, and 36% of endangered reptiles are protected (2009). This necessitates continued expansion of the nature reserve system despite persistent challenges discussed earlier.

Russian Federation and international treaties

Internationally, Russia participates in a number of global conventions on environmental issues (Hønnelund and Jørgenson 2003). In the 1990s alone, Russia signed on to more than 30 bilateral and 25 multilateral environmental protection agreements (Funke 2005, 261). Korppoo and co-authors suggest that Russia's participation in global environmental governance and vision of itself as a global "environmental donor" are part of the country's efforts to project its "soft power" internationally (Korppoo, Tynkkynen, and Hønneland 2015, 19). International agreements do not always lead to domestic action, however, and Russia's participation can be limited. For example, in 2011, the Public Chamber, a group of representatives from civil society that advises the government, advocated without success Russia's ratification of the Aarhus Convention, a global agreement that commits signatories to ensuring the rights of citizens to have access to information on the environment and to participate in environmental policy-making (Tumanov, Shapovalov, and Davydova 2014). Russia continues to participate in other environmental initiatives in a modest way, including providing \$15 million to the Global Environmental Facility in 2014 (RIA Novosti 2014).

Russia's ratification of the Kyoto Protocol allowed the climate agreement to come into force in 2005. Yet, after ratification, domestic climate policy developed at a glacial pace (Henry and Sundstrom 2012, 2014). In part, this inaction was because Kyoto's generous emissions targets for Russia did not require the country to curb greenhouse gasses further. In addition, many Russian policy-makers and scientists remained skeptical about the causes of climate change and the ability of governments to slow the process. Early in the debate, some officials argued that a general trend toward warmer temperatures could benefit Russia. In 2003, at the World Conference on Climate Change in Moscow, President Vladimir Putin acknowledged that climate change is an important issue, but then joked, "an increase of two or three degrees wouldn't be so bad for a northern country like Russia. We could spend less on fur coats, and the grain harvest would go up" (Pearce 2003). After only lukewarm participation in Kyoto's joint implementation mechanism and the decision not to take part in the second commitment period of the Kyoto Protocol, Russia renewed its engagement in global climate negotiations at the Paris Climate Summit in 2015. At the talks, President Putin pledged that Russia would reduce its greenhouse gas levels by 70% from 1990s levels by 2030; critics argued that, given the post-Soviet industrial collapse of the 1990s when emissions dropped dramatically, this pledge allows Russia to actually *increase* current emissions by as much as 40%.

Instead, the Russian Government has focused on other benefits from participation in environmental regimes, such as achieving great power status, among other foreign policy goals, and obtaining economic advantages. Reflecting on Russia's participation in the Paris agreement, Sergei Donskoi, the head of the Ministry of Natural Resources, emphasized associated benefits that Russia expected to receive:

[the agreement] is a very good way to stimulate production, modernize the economy and so on. ... In the plan to implement this agreement, we will undertake preparations and changes to the law from the point of view of the best technologies that have fewer emissions. In my opinion, it also will have a positive effect in terms of the modernization of production. (TASS 2016)

Russia also has attempted to shape emerging aspects of global governance in its favor, such as in determining the role of forests as carbon sinks in climate negotiations (Wilson Rowe 2013). Considering other international agreements, such as regional efforts to protect the Baltic Sea through the Helsinki Commission, Korppoo, Tynkkynen, and Hønneland (2015, 80) argue that "environmental protection may at times be seen as a relatively easy field of interstate cooperation, and can therefore be used as a way of projecting an image of cooperativeness and eliciting cooperation in non-environmental areas of greater interest."

As Russian companies seek international investors and become players in the global market, they increasingly need to abide by global rules and norms in sourcing and manufacturing their products. A number of Russian forestry and fishing companies have been active participants in the product certification systems of the Forest Stewardship and Marine Stewardship Council (Tysiachniouk 2012). Environmentalists often promote these global standards inside Russia. For example, World Wildlife Fund (WWF) has been the primary promoter of Forest Stewardship Council (FSC) certification; Russia is now the country with the second highest acreage of forested territory certified as sustainably managed under FSC, following Canada. The global initiatives may have ancillary effects in the political sphere more broadly. FSC, for example, has introduced new ideas of equity into Russian discourse (Tysiachniouk and McDermott 2016) and has promoted new models of citizen participation (Henry and Tysiachniouk 2015).

Russian companies also have developed internal corporate social responsibility (CSR) policies and participate in global standards organizations such as the Global Reporting Initiative, International Organization for Standardization (ISO) certification, and the UN Global Compact. Russia may engage with the concept of CSR selectively, neglecting factors such as corruption and stakeholder consultation, for example (Preuss and Barkemeyer 2011). Crotty (2016) explores what CSR means in an economic context characterized by the legacy of state planning and high levels of corruption. She finds that CSR is often conflated with philanthropy and does not indicate robust connections to civil society, but may serve to demonstrate compliance with the law (2016, 846). A number of Russian NGOs promote CSR as a means of going beyond state regulations of companies. Recently, WWF initiated another effort to promote higher standards in the oil and gas sector through the

creation of a rating system for the environmental responsibility of oil and gas companies in Russia (Shvarts, Pakhalov, and Knizhnikov 2016).

Certain regions of Russia are disproportionately affected by natural resource extraction, notably the Arctic region. Currently, the Arctic region is slated for significant development, including expansion of the oil and gas industry, mineral smelting, military installations, and shipping; by early 2014, “about 25% of the Russian Arctic shelf had been licensed to permit exploration and production” (Josephson 2016). Much of this activity is undertaken by companies that are least partially state-owned and that often evade environmental regulation (2016). Indigenous people in the Arctic suffer the greatest impact from this activity and often find it challenging to utilize domestic laws and global standards that are designed to protect their traditional practices, including fishing, hunting, and reindeer herding. In interviews, reindeer herders in the Nenets Autonomous Okrug recounted challenges with air pollution, trash, and pipelines blocking traditional herding routes and their difficulties negotiating with companies for compensation (Henry et al. 2016). Wilson Rowe and Blakkisrud (2014) find that Russia is more willing to engage multilaterally in the Arctic than in other regions and issues, noting that the region has been “successfully ‘branded’ as a zone of peace and cooperation in the diplomatic framing.” Thus far, however, this framing has not had significant impacts on environmental or indigenous policy.

Civil society and the environment

The history of the Russian environmental movement reflects the challenges faced in general by civil society actors in Russia. In the Soviet period, a small but dedicated network of scientists and university students rallied around the issue of environmental protection. During Gorbachev’s reforms in the late 1980s, environmental concern fueled a mass movement in Russia and other Soviet republics. However, economic hardship and political instability in the 1990s drove many citizens away from activism. The largest environmental NGOs survived the 1990s, in many cases by relying on funding from foreign governments and foundations to continue their work; small grass-roots groups also persisted, working on local issues. However, the movement could no longer mobilize a broad swath of the public. Since 2012, environmentalists who are critical of the Putin administration or who challenge the state’s economic development plans are increasingly targeted as adversaries of the regime and so find it difficult to influence the state.

Although Russia has a rich history of environmental philosophy and science (Oldfield and Shaw 2016), the Soviet regime effectively limited the development of an independent civil society in the USSR because the state controlled virtually all resources, spaces, and media that might have been used by citizens to facilitate collective action. Top-down state mobilization of the public largely substituted for independent activism, and there were few outlets for publicly expressing concern about the environment. The exceptions were state-sponsored

scientific organizations such as All-Russian Society for Nature Protection (VOOP) and the Moscow Society of Naturalists (MOIP). Centered in the universities, the student-led *Druzhina* nature protection brigades gathered young scientists to conduct environmental inspections and education campaigns, offering a venue for more grass-roots activism (Weiner 1999). Beginning the late 1980s, Gorbachev's policy of glasnost (openness) allowed public discussion of environmental issues and resulted in the emergence of citizens' associations known as "informals," some focused on environmental conditions. In the wake of the 1986 Chernobyl nuclear disaster, anti-nuclear movements mobilized to oppose the construction of new atomic energy stations and the continued operation of existing facilities. Environmental activists served as influential critics of the Soviet regime, and in Ukraine, the Baltic republics, and Georgia, activists embraced "eco-nationalism," movements that combined environmentalism with demands for autonomy from the Soviet state (Dawson 1996). However, once the 15 Soviet republics achieved independence, they became absorbed in transforming their political and economic institutions, so much of this environmental activism sharply diminished.

Public concern about the environment has remained high from the late Soviet period to today. A 2010 Public Opinion Fund poll found that 79% of respondents are personally concerned with the environmental situation in their region (FOM 2010). The issues of greatest concern for respondents included garbage disposal, water pollution, and the impact of industrial activities, followed by air pollution, deforestation, and the loss of green spaces. A number of non-governmental environmental organizations working on these issues exist in Russia, although they do not attract broad participation. By 2015, economic issues such as high prices for goods and services, low wages, and the quality of state-provided welfare had largely crowded out environmental concerns in many regions (FOM 2015). In January 2013, a Ministry of Justice registry listed more than 400,000 non-governmental organizations in all categories, registered and unregistered (Public Chamber (Obshchestvennaia Palata Rossiiskoi Federatsii) 2013). However, a 2012 Public Chamber report cautions that only about 40% of social organizations actively operate and that NGOs generally are not well known or trusted by the general population (Public Chamber (Obshchestvennaia Palata Rossiiskoi Federatsii) 2012).

Within the broader environmental movement, environmental organizations tend to fall into three broad categories (Henry 2010). First, there are a limited number of "professional" environmental organizations, such as WWF and Greenpeace, which are based in Moscow or regional capitals. In the second category are grass-roots environmental organizations – the numerous small green clubs and community initiatives that operate at the local level, often without formal registration and are based entirely on volunteer labor. Russian sociologist Irina Khalii has argued that since Russians are generally unlikely to relocate, their civic identities are strongly rooted in localities, leading to a type of environmentalism that focuses on local economic and social problems (Khalii 2004). The actions of grass-roots

groups tend to be practical, such as tree planting and trash cleanup in local recreational sites. Finally, in the third category are a number of government-sponsored environmental NGOs that receive funding from state programs and that work closely with state agencies to help them achieve their goals. EKA, one of the largest environmental networks with affiliates across Russia and a model of this type of organization, is avowedly apolitical, stating on its webpage, “EKA does not support and will not support in the future any political parties, political associations or specific political leaders. ... EKA is not involved in political activities, such as election campaigns, debates, rallies, pickets, meetings, conferences, etc. [sic]” (EKA Zelenoe Dvizhenie Rossii 2012).

Many environmental NGOs in Russia were able to operate in the post-Soviet period due to foreign funding for their work from governmental donors such as USAID, the UK’s DIFD, and private foundations. Larin and his co-authors describe environmentalists’ struggle to continue their work in the 1990s as state funding for nature protection declined and few domestic alternatives emerged (Larin et al. 2003). Foreign support influenced the development of the environmental movement. To survive, NGO representatives proposed projects on issues that interested foreign funders and environmentalists who had facility in foreign languages were more likely to successfully obtain grants. Contact with foreign partners offered the opportunity to exchange ideas as well as develop organizational capacity and new kinds of expertise. Globalization, Russia’s integration into global consumer society, and the country’s emerging role as a natural resource provider also changed the “master frames” of environmentalists (Yanitsky 2010, 191–194). This international orientation also may have increased the distance between environmentalists and average Russians, however.

Environmental activists frequently have challenged state-led economic development, which they charge is often conducted without public input and with high levels of corruption. Environmentalists are working to prevent the erosion of existing laws, including laws requiring environmental impact assessments, known as *ekspertiza* in Russian, for construction. The Russian Duma has supported a “simplified” approach to environmental regulation for some economic development projects – including megaprojects such as the Sochi Winter Olympics (Bellona 2014). During the summer of 2014, the Duma considered a bill to eliminate EIAs for projects, including off-shore oil and gas drilling. The passage of the bill would mean that developers would not have to provide certain kinds of environmental information and would not have to hold public hearings on their planned projects; instead, state agencies would evaluate a project’s engineering documents. Environmentalists charged that the Russian oil industry was behind the bill, and Vladimir Putin seemed to agree (BaltInfo 2014; Greenpeace 2014). Lacking domestic channels for redress, environmentalists reach out to global organizations and global public opinion to attempt to maintain pressure on the Russian Government. Russian environmentalists fought off a similar piece of legislation once before, in part by provoking the World Bank to oppose the end of EIAs (Larin et al. 2003).

The Putin administration offers rhetorical concessions to some environmental campaigns but largely resists environmentalists' demands, in part by portraying activists as anti-Russian and by insinuating that environmental groups receiving funds from abroad do not work in Russia's national interest. In recent years, the government has attempted to more directly regulate NGOs. Among environmental NGOs, groups such as EWNC, Baikal Wave, and Greenpeace, as well as a number of regional groups have had their offices inspected and their documents and computers confiscated. Criticism of NGOs receiving funding from abroad led to the 2012 Law on Foreign Agents, which requires that public organizations receiving foreign funding and engaging in "political activity" register as "foreign agents," pay significant fines, or cease operating. In May 2015, the Ministry of Justice listed 127 NGOs on its foreign agent register, including at least 20 organizations with an explicitly environmental purpose (Ministry of Justice, Russian Federation [n.d.](#)). Technically, "the protection of flora and fauna" is excluded from the definition of political activity, but representatives of environmental groups have been cited for activities such as attending public meeting and making written appeals to the authorities. Given that the term "foreign agent" has the negative connotation of traitor or spy, most organizations have vowed that they would fight the designation in court. In July 2014, Moscow-based anti-nuclear organization Eco-Defense, which receives funding from the EU and several German foundations, was declared a foreign agent. Vladimir Slivyak, the leader of Eco-Defense, initiated a court case to have the decision overturned. The organization Bellona, based in St. Petersburg, illustrates the government's use of the carrot and the stick. Bellona has been subject to unplanned inspections of its offices. In 2014, the organization announced that the environmental movement in Russia is jeopardized by "aggressive government tactics of threats, arbitrary closures of NGOs, the jailing of environmental activists, intimidation of journalists, censorship, legislative strangleholds on NGO activity, and a general attack on anything construed by the current regime as opposition" (Bellona [2014](#)). Also in 2014, however, Bellona received a presidential grant to fund the organization's annual conference on defending environmental rights in Russia. Issues discussed by the more than 150 environmentalists who attended the conference included how to connect activists across the regions of Russia, how to cooperate with the media, and how to respond to "the Russian state's essentially anti-environmental and commercial[-]driven policies" (Bellona [2014](#)).

The increasingly constrained context for environmental activism has limited the movement. In 2015, Interfax reported that the number of non-governmental organizations in Russia has decreased by one-third in just three years (Interfax [2015](#)). Environmental concern is not easily muted, however, especially when it is rooted in local conditions. Starting in 2008, the Movement for the Defense of the Khimki Forest objected to plans to construct a new Moscow–St. Petersburg highway through a protected forest surrounding the Moscow suburb of Khimki. Activists asserted that other, less ecologically damaging routes were not chosen in part due to corruption among local officials (Evans [2012](#)). In November 2008,

Mikhail Beketov, a local journalist covering the Khimki debate, was severely beaten, resulting in brain damage and the amputation of his leg. In 2010, the leader of the Khimki Defenders, Evgeniia Chirikova stated,

We are ready for a constructive dialog. Our demands are very simple: we want our lungs, our oaks, our trees, our waters to stay untouched. We are not against the highway's construction, but we want it to bypass our forest. (Bigg 2010)

Activists collected approximately 20,000 signatures for a petition against the project. A Levada poll in September 2010 showed that 73% of Khimki residents wanted the new road to bypass Khimki forest (Levada 2010). Protesters, led by Chirikova, set up a camp on the proposed route, but they were arrested and removed in July 2010. The result of the Khimki activism offers an appropriately mixed picture of Russia's environmental movement today. Although President Medvedev briefly suspended work on the road following that incident, construction resumed and the route is now largely completed. Mikhail Beketov died in 2013, his attackers never identified. Evgeniia Chirikova left Russia to seek political asylum in Estonia. At the same time, sustained environmental activism by the Khimki community in the face of real risks was a reminder of the movement's power.

Conclusion

We conclude this essay by briefly reflecting on Russia's arguably most intractable environmental problem – illegal and unregulated resource harvest – which we introduced at the outset. This issue is well-documented in the scholarly literature, by NGOs, by the media, and even increasingly acknowledged by officials within the Russian Government. It is a problem that exists in resource-based sectors of the economy, but is especially pronounced where large-scale infrastructure is not a priori necessary for resource access (unlike oil and gas development). For example, illegal harvest of salmon and king crab in Kamchatka has forced the Russian Government to greatly reduce quotas and, in some cases, temporarily close harvest zones (Dronova and Spiridonov 2008). Illegal logging targets protected species, such as Korean pine, and quota-restricted species such as Mongolian oak and Manchurian ash (Newell and Simeone 2014; Vandergert and Newell 2003). Such logging does occur in protected areas and along protected river systems, which affects water levels and can lead to flooding (Smirnov et al. 2013). The opening of borders for export has led to a flourishing trade in endangered species and their byproducts, particularly affecting the Siberian tiger, musk deer, black and brown bears, and ginseng (Braden 2014; Kerley et al. 2002; Köhl et al. 2009; Wyatt 2009).

This illegality is concerning for many reasons. First, it threatens the integrity of Russia's ecological jewels. Illegal harvest often occurs in wilderness, from protected areas to Group 1 forests along river systems (harvest restricted designations). Second, with respect to the broader economy, this persistent inability to address it has created a vicious cycle that impedes transition to more sustainable and equitable resource use by reducing governance taxation revenue, discouraging domestic

and foreign investment, and driving down resource prices (making it harder for honest firms to compete). This retards the ability of the Russian Government's oft-stated goal to reduce the country's economic reliance on natural resource export. Such a transition would enable its anemic economy to grow more quickly, meaningfully employ a greater portion of the population, and reduce inequality. One driver of illegality is poverty, as some who are unemployed and underemployed resort to such activities in order to survive.

Another driver has been the reorientation of the natural resource-dependent Russian economy toward export markets, which was brought about by post-Soviet era globalization, trade liberalization, and lower domestic demand. In the heavily export-dependent Russian Far East, for example, Asian markets (e.g. China and Japan) influence what resources are extracted, where, and at what rate (Newell 2004). This pattern intensifies and localizes the harvest of certain natural resources – a process harmful to many plants and animal species as well as the natural systems upon which they depend. This is apparent, for example, in the forest sector in which Chinese demand has led to unsustainable harvest of resource-limited species, such as Mongolian oak and Manchurian ash (Newell and Simeone 2014). This is also the case in the fisheries sector, especially for species in high demand on the Japanese market.

Privatization and trade liberalization led to a flurry of new small firms in many sectors, especially fishing, forestry, and mining. These firms have proven difficult for the government to regulate effectively, for reasons discussed in this paper, including budget constraints, inconsistent enforcement of Russian laws, and the broader weakening of government environmental agencies. This has been compounded by “institutionalized” corruption that was, in part, initially spawned by budget shortfalls. To supplement budgets, some regulatory agencies have resorted to commercial activity. Numerous local branches of the Forest Service, for example, now spend less time regulating timber operators and more time harvesting timber themselves, disguising their illegal harvesting as salvage logging (Smirnov et al. 2013). Indeed, the greatest obstacle to reform may be corruption in the regulatory agencies themselves. For corrupt officials, bribes and illicit business are highly lucrative.

When political conditions permit, civil society, including environmental NGOs and the media, has played an important role as watchdogs of illegality and corruption, as well as a host of environmental transgressions. Environmental organizations often are the first to identify failures to uphold domestic laws; they also actively promote adherence to global rules and standards, such as product certification. Historically, Russian environmentalists' connections to a transnational community of activists and scientists have assisted their efforts. However, the foreign agent law imperils some of Russia's most long-standing environmental organizations – both in their work monitoring state agencies and firms and in their ability to convince the Russian public that environmental protection is in the national interest. Even under duress due to purges and harassment from the Putin

Administration, however, NGOs in Russia have been able to make their voices heard and have shaped environmental outcomes as a result of these efforts. We have highlighted a few in this essay, such as preventing the erosion of laws requiring environmental impact assessments (*ekspertiza*) and protesting road construction through the Khimki forest.

Looking forward, Russia's economic dependence on international markets for its natural resource exports provides a governance mechanism to shape how the country manages its globally important resource base. As Bradshaw and Connolly (2016, 17) note, Russia, like the Soviet Union before it, is "a price taker, not a price maker on global natural resource markets." As such, they are sensitive to the shifting demands and preferences of these consumer markets; this includes responsible sourcing practices, ranging from legality and transparency to sustainable environmental management, including certification. As noted, the expansion of forest certification and CSR initiatives provide clear evidence of this. Indeed, this complex economic interdependence with the outside world – stitched together by flows of oil and natural gas, timber, and precious metals – is as much a driver of illegal and unregulated resource use as it is a potential solution. Using these market levers represents an important (and underutilized) mechanism to foster the sustainable use and protection of one of the largest, wildest, and ecologically vital regions left on the planet.

Acknowledgments

Joshua Newell would like to thank Daniel & Daniel Publishers for allowing the authors to incorporate portions of the chapter on the protected area system from Newell's *The Russian Far East: A Reference Guide for Conservation and Development* (2004).

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Backman, Charles A., and Vadim K. Zausaev. 1998. "The Forest Sector of the Russian Far East." *Post-Soviet Geography and Economics* 39: 45–62.
- BaltInfo. 2014. "Putin Sprosil U Sechina, Ne on Li 'partizant' c Antiekologicheskimi Zakonoproektami v Gosdume [Putin Asked Sechin Whether He is a 'Partisan' with the Anti-environmental Bills in the State Duma]." June 5. Accessed August 1, 2016. <http://www.baltinfo.ru/2014/06/05/Putin-sprosil-u-Sechina-ne-on-li-partizanit-s-antiekologicheskimi-zakonoproektami-v-Gosdume-429988>
- Barr, Brenton M., and Kathleen E. Braden. 1988. *The Disappearing Russian Forest: A Dilemma in Soviet Resource Management*. Totowa, NJ: Rowman & Littlefield.
- Bellona. 2013. "Narusheniia Ekologicheskikh Prav Grazhdan Rossiiskoi Federatsii v 2012-2013 Goda [Violations of Environmental Rights of Citizens of the Russian Federation in 2012–2013]." Accessed June 2, 2016. <http://bellona.ru/publication/narusheniya-2/>

- Bellona. 2014. "Bellona Wraps up Successful Fourth Annual Seminar on Defending Environmental Rights in Russia." June 4. Accessed June 2, 2016. <http://bellona.org/news/russian-human-rights-issues/access-to-information/2014-06-bellona-wraps-successful-fourth-annual-seminar-defending-environmental-rights-russia>
- Bigg, Claire. 2010. "Russia's Khimki Forest Standoff Continues." *RFE/RL*. Accessed March 11, 2015. http://www.rferl.org/content/Russias_Khimki_Forest_Standoff_Continues/2107164.html
- Bond, A. R., and Matthew J. Sagers. 1992. "Some Observations on the Russian Federation Environmental Protection Law." *Post-Soviet Geography* 33: 463–474.
- Braden, Kathleen. 2014. "Illegal Recreational Hunting in Russia: The Role of Social Norms and Elite Violators." *Eurasian Geography and Economics* 55: 457–490. doi:10.1080/15387216.2015.1020320.
- Bradshaw, M. J. 1997. *Geography and Transition in the post-Soviet Republics*. Chichester: Wiley.
- Bradshaw, Michael J., and Richard Connolly. 2016. "Russia's Natural Resources in the World Economy: History, Review and Reassessment." *Eurasian Geography and Economics*: 1–27.
- Bradshaw, M. J., and N. J. Lynn. 1998. "Resource-based Development in the Russian Far East: Problems and Prospects." *Geoforum* 29: 375–392.
- Cockburn, Patrick. 2000. "Putin Puts Future of Siberian Tiger at Risk." *The Independent*, July 5, 15.
- Crotty, Jo. 2016. "Corporate Social Responsibility in the Russian Federation: A Contextualized Approach." *Business & Society* 55: 825–853.
- Crotty, Jo, and Peter Rodgers. 2012. "The Continuing Reorganization of Russia's Environmental Bureaucracy." *Problems of Post-Communism* 59: 15–26.
- Dawson, Jane. 1996. *Eco-nationalism: Anti-nuclear Activism and National Identity in Russia, Lithuania, and Ukraine*. Durham, NC: Duke University Press.
- Dronova, Natalia, and Vassily Spiridonov. 2008. "Illegal, Unreported, and Unregulated Pacific Salmon Fishing in Kamchatka." *WWF-Russia TRAFFIC Europe*, 52p.
- EKA Zelenoe Dvizhenie Rossii. 2012. "Politicheskaya Neitral'nost' Dvizheniia EKA [Political Neutrality of the EKA Movement]." September 27. Accessed August 1, 2016. <http://ecamir.ru/2012-07-19-13-47-40/Politicheskaya-neytralnost-Dvizheniya-EKA.html>
- Evans, Alfred B. 2012. "Protests and Civil Society in Russia: The Struggle for the Khimki Forest." *Communist and Post-Communist Studies* 45: 233–242.
- Feshbach, Murray. 1995. *Ecological Disaster: Cleaning up the Hidden Legacy of the Soviet Regime*. New York: Twentieth Century Fund Press.
- Feshbach, Murray, and Alfred Friendly. 1992. *Ecocide in the USSR: Health and Nature under Siege*. New York: BasicBooks.
- Fiorino, Theresa, and David M. Ostergen. 2012. "Institutional Instability and the Challenges of Protected Area Management in Russia." *Society & Natural Resources* 25: 191–202.
- FOM (Fond Obshchestvennoe Mnenie). 2010. "Ekologicheskaya Obstanovka v Rossii [Ecological Situation in Russia]." *Dominant No. 16*, April 29. Accessed August 1, 2016. <http://bd.fom.ru/pdf/d16eor10.pdf>
- FOM (Fond Obshchestvennoe Mnenie). 2015. "Rossiyane Nazyvayut Glavnye Problemy Svoikh Regionov [Russians Name the Main Problems of Their Region]." November 23. Accessed August 1, 2016. <http://fom.ru/Obraz-zhizni/12405>
- Funke, O. 2005. "Russian Environmental Security Issues: Competing Frameworks for the Future." *International Journal of Environmental Technology and Management* 5: 246–275. doi: 10.1504/IJTEM.2005.006852.
- Greenpeace. 2014. "Russian Deputies Making Fun of Environmental Standards." Accessed March 11, 2015. http://www.greenpeace.org/russia/en/news/23-06-2014_oil_against_envir_expertise
- Henry, Laura A. 2009. "Thinking Globally, Limited Locally: The Russian Environmental Movement and Sustainable Development." In *Environmental Justice and Sustainability in the Former Soviet*

- Union*, edited by Julian Agyeman and Yelena Ogneva-Himmelberger, 47–69. Cambridge, MA: Cambridge University Press.
- Henry, Laura A. 2010. *Red to Green: Environmental Activism in post-Soviet Russia*. Ithaca, NY: Cornell University Press.
- Henry, Laura A., and Vladimir Douhovnikoff. 2008. "Environmental Issues in Russia." *Annual Review of Environmental Resources* 33: 437–460.
- Henry, Laura A., and Lisa Mc Intosh Sundstrom. 2012. "Russia's Climate Policy: International Bargaining and Domestic Modernization." *Europe-Asia Studies* 64: 1297–1322.
- Henry, Laura A., and Lisa Mc Intosh Sundstrom. 2014. "Climate Change Policies in the Post-socialist World." *Current History* 113 (765): 278.
- Henry, Laura A., and Maria Tsyiachniouk. 2015. "Managed Citizenship: Global Forest Governance and Democracy in Russian Communities." *International Journal of Sustainable Development and World Ecology* 22: 476–489.
- Henry, Laura A., Soili Nysten-Harala, Svetlana Tulaeva, and Maria Tsyiachniouk. 2016. "Corporate Social Responsibility and the Oil Industry in the Russian Arctic: Global Norms and Neopaternalism." *Europe-Asia Studies* 68: 1340–1368.
- Hønnelund, Geir, and Anne-Kristin Jørgenson. 2003. "Implementing International Environmental Agreements in Russia: Lessons from Fisheries Management, Nuclear Safety and Air Pollution Control." *Global Environmental Politics* 3: 72–98.
- Interfax. 2015. "Chislo NKO v Rossii za tri goda sokratilos' na tret' [The Number of NGOs in Russia in Three Years Was Reduced by a Third]." Accessed January 24, 2017. <http://www.interfax.ru/russia/471553>
- Josephson, Paul R. 2016. "Russia, State Capitalism and Arctic Degradation." *Global Environment* 9: 376–413.
- Kerley, Linda L., John M. Goodrich, Dale Miquelle, Evgeny Smirnov, Howard Quigley, and Maurice Hornocker. 2002. "Effects of Roads and Human Disturbance on Amur Tigers." *Conservation Biology* 16: 97–108.
- Khalii, Irina A. 2004. "Rossiiskaia Lokalnost': Introduktsiia Globalizatsii I Ekopoliticheskie Konfliktiy [Russian Locality: The Introduction of Globalization and Ecopolitical Conflicts]." In *Rossiiia Reformiruiushchaisia: Ezhegodnik* [Russia Reforming: A Yearbook], edited by L. M. Drobizheva, 291–317. Moscow: Institut Sostiologii RAN.
- Kochtcheeva, Lada V. 2010. *Comparative Environmental Regulation in the United States and Russia: Institutions, Flexible Instruments, and Governance*. Albany, NY: SUNY Press.
- Korppoo, Anna, Nina Tynkkynen, and Geir Hønneland. 2015. *Russia and the Politics of International Environmental Regimes: Environmental Encounters or Foreign Policy?* Northampton, MA: Edward Elgar.
- Kotov, Vladimir, and Elena Nikitina. 2002. "Reorganisation of Environmental Policy in Russia." Accessed March 11, 2015. <http://www.feem.it/userfiles/attach/Publication/NDL2002/NDL2002-057.pdf>
- Krever, Vladimir, Eric Dinerstein, David Olson, and Laura Williams. 1994. *Conserving Russia's Biodiversity: An Analytical Framework and Initial Investment Portfolio*. Washington, DC: World Wildlife Fund.
- Krever, Vladimir, Mikhail Stishny, and Irina Onufrenya. 2009. *National Protected Areas of the Russian Federation: Gap-analysis and Perspective Framework*. Moscow: WWF-Russia, The Nature Conservancy, MAVA.
- Kühl, Aline, Natasha Balinova, Elena Bykova, Yuri N. Arylov, Alexander Esipov, Anna A. Lushchekina, and E. J. Milner-Gulland. 2009. "The Role of Saiga Poaching in Rural Communities: Linkages between Attitudes, Socio-economic Circumstances and Behaviour." *Biological Conservation* 142: 1442–1449. doi:10.1016/j.biocon.2009.02.009.

- Larin, V., R. Mnatsakanian, I. Chestin, and Evgeny Shvarts. 2003. "Okhrana Prirody Rossii: Ot Gorbacheva Do Putina [Russian Nature Protection: From Gorbachev to Putin]." Moscow. Accessed March 11, 2015. <http://www.wwf.ru/resources/publ/book/73>
- Levada. 2010. "Problema Sokhraneniia Khimkinskogo Leca [The Problem of the Preservation of Khimki Forest]." Accessed March 11, 2015. <http://www.levada.ru/15-09-2010/problema-sokhraniya-khimkinskogo-lesa>
- Ministry of Justice, Russian Federation. n.d. "Svedeniya reyestra NKO, vypolnyayushchikh funktsii inostrannogo agenta [Information Registry the NKO, Fulfilling the Function of a Foreign Agent]." Accessed January 24, 2017. <http://unro.minjust.ru/NKOForeignAgent.aspx>
- Ministry of Natural Resources and Ecology, Russian Federation. 2012. "Gosudarstvennyi Doklad 'O Sostoianii i Ob Okhrane Okruzhaiushchei Sredy Rossiiskoi Federatsii v 2012 Godu' [State Report 'on the State and Protection of the Environment of the Russian Federation in the Year 2012']." Accessed August 1, 2016. <http://www.mnr.gov.ru/upload/iblock/cef/gosdokladza2012god.pdf>
- Mol, Arthur P. J. 2009. "Environmental Deinstitutionalization in Russia." *Journal of Environmental Policy & Planning* 11: 223–241. doi:10.1080/15239080903033812.
- Newell, Josh. 2004. *The Russian Far East: A Reference Guide for Conservation and Development*. McKinleyville, CA: Daniel & Daniel. <http://urbansustainability.snre.umich.edu/journal-articles/russian-far-east/>.
- Newell, Joshua Peter, and John Simeone. 2014. "Russia's Forests in a Global Economy: How Consumption Drives Environmental Change" *Eurasian Geography and Economics* 55: 37–70. doi: 10.1080/15387216.2014.926254
- Newell, Josh, and Emma Wilson. 1996. *The Russian Far East: Forests, Biodiversity Hotspots, and Industrial Development*. Tokyo: Friend of the Earth-Japan.
- Oldfield, Jonathan D. 2005. *Russian Nature: Exploring the Environmental Consequences of Societal Change*. Burlington: Ashgate.
- Oldfield, J. D., and D. J. B. Shaw. 2002. "Revisiting Sustainable Development: Russian Cultural and Scientific Traditions and the Concept of Sustainable Development." *Area* 34: 391–400. doi: 10.1111/1475-4762.00096.
- Oldfield, Jonathan D., and Denis J. B. Shaw. 2016. *The Development of Russian Environmental Thought*. London: Routledge.
- Oliphant, Roland. 2012. "Medvedev Signs off on Ecology Policy." *The Moscow times*, May 3. <http://www.themoscowtimes.com/business/article/medvedev-signs-off-on-ecology-policy/457910.html>.
- Ostergen, David M. 1998. "System in Peril: A Case Study of Central Siberian Zapovedniki." *The International Journal of Wilderness* 4: 12–17.
- Ostergren, David, and Steven Hollenhorst. 1999. "Convergence in Protected Area Policy: A Comparison of the Russian Zapovednik and American Wilderness Systems." *Society & Natural Resources* 12: 293–313. doi:10.1080/089419299279614.
- Ostergren, David, and Evgeny Shvarts. 1998. "Protected Areas in Russia: Management Goals, Current Status, and Future Prospects of Russian Zapovedniki." *Sixth World Wilderness Congress Proceedings on Research, Management, and Allocation* 1: 11–19.
- Pearce, Fred. 2003. "Global Warming 'Will Hurt Russia.'" *New Scientist*, October 3. http://www.newscientist.com/article/dn4232-global-warming-will-hurt-russia.html#.U_0WKJE73uV.
- Petersen, D. J., Eric K. Bielke, and D. J. Peterson. 2002. "Russia's Industrial Infrastructure: A Risk Assessment." *Post-Soviet Geography and Economics* 43: 13–25.
- Peterson, D. J. 1995. "Russia's Environment and Natural Resources in Light of Economic Regionalisation." *Post-Soviet Geography* 36: 291–309.

- Potapov, Peter, Aleksey Yaroshenko, Svetlana Turubanova, Maxim Dubinin, Lars Laestadius, Christoph Thies, Dmitry Aksenov, et al. 2008. "Mapping the World's Intact Forest Landscapes by Remote Sensing." *Ecology and Society* 13: 51.
- Potravnii, Ivan, and Ulrich Weissenburger. 1997. "Russia." In *National Environmental Policies: A Comparative Study of Capacity Building*, edited by Martin Janicke and Helmut Weidner, 279–298. New York: Springer.
- President of Russia. 2010. "Consolidated State Policy is Needed to Address Environmental Problems." Accessed March 11, 2015. <http://eng.kremlin.ru/news/273>
- President of Russia. 2012. "Utverzheny Osnovy Gosudarstvennoi Politiki v Oblasti Ekologicheskogo Razvitiia Rossii Na Period Do 2030 Goda [Approved Basis of State Policy in the Field of Environmental Development in Russia in the Period to 2030]." Accessed March 11, 2015. <http://kremlin.ru/acts/15177>
- Preuss, Lutz, and Ralf Barkemeyer. 2011. "CSR Priorities of Emerging Economy Firms: Is Russia a Different Shape of BRIC." *Corporate Governance* 11: 371–385.
- Pryde, Philip R. 1972. *Conservation in the Soviet Union*. Cambridge: Cambridge University Press.
- Pryde, Philip R. 1991. *Environmental Management in the Soviet Union*. Cambridge: Cambridge University Press.
- Pryde, Philip. 1997. "Post-Soviet Development and Status of Russian Nature Reserves." *Post-Soviet Geography and Economics* 38: 63–80.
- Public Chamber (Obshchestvennaia Palata Rossiiskoi Federatsii). 2012. *Doklad O Sostoianii Grazhanskogo Obshchestva v Rossiiskoi Federatsii Za 2012 God* [Report on the Status of Civil Society in the Russian Federation for the Year 2012]. Moscow: Obshchestvennaia Palata Rossiiskoi Federatsii.
- Public Chamber (Obshchestvennaia Palata Rossiiskoi Federatsii). 2013. *Doklad O Sostoianii Grazhanskogo Obshchestva v Rossiiskoi Federatsii Za 2013 God* [Report on the Status of Civil Society in the Russian Federation for the Year 2013]. Moscow: Obshchestvennaia Palata Rossiiskoi Federatsii.
- RIA Novosti. 2014. "Russia to Allocate \$15 Mln for Global Environment Facility." *RIA Novosti*, July 21. <http://en.ria.ru/society/20140721/191075727/Russia-to-Allocate-15-Mln-for-Global-Environment-Facility.html>.
- Shtilmark, F. 2003. *History of the Russian Zapovedniks 1895–1995*. Moscow: KMK Scientific Press.
- Shvarts, Evgeny A., Alexander M. Pakhalov, and Alexey Yu Knizhnikov. 2016. "Assessment of Environmental Responsibility of Oil and Gas Companies in Russia: The Rating Method." *Journal of Cleaner Production* 127: 143–151.
- Smirnov, Denis, Anatoly Kabanets, Brian Milakovsky, Evgeny Lepeshkin, and D. V. Sychikov. 2013. *Illegal Logging in the Russian Far East: Global Demand and Taiga Destruction*. Moscow: WWF Russia.
- Stoecker, Sally, and Ramziya Shakirova. 2014. "Envisaging Environmental Crime in Russia: Past and Present Realities." In *Environmental Crime and Corruption in Russia: Federal and Regional Perspectives*, edited by Sally Stoecker and Ramziya Shakirova, 7–19. London: Routledge.
- TASS. 2016. "Donskoi: Uchastie RF v Parizhskom Soglashenii Po Klimatu Pomozhet Modernizirovat' Ekonomiku [Donskoi: The Participation of the Russian Federation in the Paris Agreement on Climate Will Help Modernize the Economy]." April 21. Accessed January 24, 2017. <http://tass.ru/ekonomika/3229384>
- Tumanov, Grigorii, Aleksei Shapovalov, and Angelina Davydova. 2014. "Grazhdan Ne Pustiat Na Stroiploshchadky [Citizens Were Not Admitted to the Building Site]." *Kommersant*, January 15. Accessed August 1, 2016. <http://www.kommersant.ru/doc/2383964?isSearch=True>
- Tysiachniouk, Maria S. 2012. *Transnational Governance through Private Authority: The Case of Forest Stewardship Council Certification in Russia*. Wageningen: Wageningen Academic Publishers.

- Tysiachniouk, Maria, and Constance L. McDermott. 2016. "Certification with Russian Characteristics: Implications for Social and Environmental Equity." *Forest Policy and Economics* 62: 43–53. doi:10.1016/j.forpol.2015.07.002.
- Vandergert, P., and J. Newell. 2003. "Illegal Logging in the Russian Far East and Siberia." *International Forestry Review* 5: 303–306. doi:10.1505/IFOR.5.3.303.19150.
- Weiner, Douglas R. 1999. *A Little Corner of Freedom: Russian Nature Protection from Stalin to Gorbachev*. Berkeley: University of California Press.
- Wells, Michael P., and Margaret D. Williams. 1998. "Russia's Protected Areas in Transition: The Impacts of Perestroika, Economic Reform and the Move towards Democracy." *Ambio* 27: 198–206.
- Wilson Rowe, Elana. 2013. "A Sylvan Superpower? Russian Forests in International Climate Negotiations." *Geoforum* 48: 216–224. doi:10.1016/j.geoforum.2013.05.003.
- Wilson Rowe, Elana, and Helge Blakkisrud. 2014. "A New Kind of Arctic Power? Russia's Policy Discourses and Diplomatic Practices in the Circumpolar North." *Geopolitics* 19: 66–85. doi: 10.1080/14650045.2013.789863.
- World Bank. 2014. *Environmental Perspective of Russia's Accession to the World Trade Organization*. Paper 83505-RU. Washington, DC: World Bank.
- WWF (World Wildlife Fund). 2015. *Annual Report*. Moscow, 26p. Accessed December 22, 2016. <http://www.wwf.ru/resources/publ/book/eng/1046>
- Wyatt, Tanya. 2009. "Exploring the Organization of Russia Far East's Illegal Wildlife Trade: Two Case Studies of the Illegal Fur and Illegal Falcon Trades." *Global Crime* 10: 144–154. doi: 10.1080/17440570902783947.
- Yablokov, Alexei. 2010. "The Environment and Politics in Russia." *Russian Analytical Digest* 79: 2–4.
- Yanitsky, Oleg N. 2000. "Sustainability and Risk: The Case of Russia." *Innovation* 13: 266–277. doi: 10.1080/713670515.
- Yanitsky, Oleg N. 2010. *Russian Environmentalism: The Yanitsky Reader*. Moscow: TAUS.
- ZumBrunnen, Craig, and Jeffrey P. Osleeb. 1986. *The Soviet Iron and Steel Industry*. Totowa, NJ: Rowman & Allanheld.