

U W

E C

**Ukraine War
Environmental
Consequences
Work Group**

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Dear Friends!

Unfortunately, the [ecocide](#) in Ukraine is ongoing. In June, we experienced the latest example of how military actions can impact not only human lives, but also how they have extremely negative consequences for the natural environment. Specifically, the breaching of the dam at **Kakhovka Hydropower Plant (HPP)** this month. That tragedy is a vivid reminder of the need to openly and loudly discuss ecocide occurring in Ukraine at the level of international law. It is even more relevant to climate change, when climate adaptation becomes the sole strategy for humanity's survival.

It is important for the Kakhovka HPP to remain a topic of discussion. We will only be able to analyze and understand the real consequences of this dam's destruction a few months from now, and understanding consequences of the disappearance of Kakhovka Reservoir will require a year or more. For now, we can only survey the near-term consequences, as described by UWEC Work Group journalist **Viktoriya Hubareva**:

- [Explosion of the Kakhovka Hydropower Plant: What are the environmental consequences?](#)

It is also important to note that the HPP itself is used to artificially regulate the Dnipro River. The United Nations is of the [opinion](#) that, in the very near future, the destruction of dams could become a serious problem not only for human society, but also for nature. It is for this reason that experts recommend abandoning the concept of restoration of the Kakhovka HPP and the reservoir that feeds it and instead finding more sustainable modern solutions that will also meet the principles of a "green economy". Community organizations created an open petition (to which UWEC Work Group is a signatory) seeking to prevent the HPP's restoration:

- [Blasting of Kakhovka Dam – a “green choice” test in Ukraine’s revival efforts](#)

We continue efforts to draw global attention to under-examined environmental consequences of Russia's invasion of Ukraine, issues not widely covered, but nevertheless important to discuss. One such example is the **Kerch bridge**. Construction of this "object of the century" has already caused serious damage to the unique peninsula's protected areas and affected the Black Sea's entire hydrological regime and marine ecosystem. Unfortunately, it is highly likely that the bridge will continue to have negative impacts. Given its role as a strategic target, it will be part of the process to free occupied territories. Our experts **Oleksii Vasyliuk** and **Valeria Kolodezhna** write the latest article in our series on the negative consequences of the invasion for Crimea, focusing this time on environmental aspects of the Kerch Bridge's construction:

- [The Crimean Bridge: Environmental impact of Russia's 'project of the century'](#)



*The war is also weakening environmental policy within Ukraine. Vulnerable sectors suffer in particular, including, for example, forestry. Special for UWEC Work Group, Valeria Kolodezhna interviewed Ukrainian Nature Conservation Group's **Yehor Hrynyk**. Hrynyk describes how the war has affected forestry management in Ukraine, including "hot spots" of confrontation between activists and government authorities. One example – the Svydovets mountain range – is particularly relevant:*

- [Protecting the environment in times of war: An interview with environmentalist Yehor Hrynyk](#)

As we have previously examined, the war has extremely negative consequences for Russia's environmental practices as well. Gradual recognition of environmental organizations as "undesirable" is ongoing, not only blocking their work, but also the possibility of cooperation. Bellona, Greenpeace, and recently WWF have all been declared "undesirable". UWEC expert Eugene Simonov shares his assessment:

- [Greenpeace: Instead of an epilogue](#)

*UWEC Work Group not only publishes articles but hosts discussions about the environmental consequences of Russia's full-scale invasion of Ukraine. In addition to UWEC's [webinars](#) organized jointly with **Reporters Without Borders** (RSF)–Sweden and the **Svea Green Foundation**, our experts also recently participated in a webinar hosted by University of New South Wales–Canberra. Learn about the topics and discussion in a commentary by UWEC author and expert Viktoriya Hubareva:*

- [500 days of war: Experts discuss the war's environmental impacts](#)

Discussion during the UNSW webinar inspired UWEC experts Eugene Simonov and Angelina Davydova to explore prospects for Russia's "green future". The editorial was prepared and published jointly with [Kedr.Media](#):

- [Does Russia have a "green" future?](#)

As always, we track and analyze the invasion's environmental consequences on our [website](#), [Twitter](#) and [Facebook](#). Join the conversation!

Wishing you strength and peace!

Aleksei Ovchinnikov

Editor, UWEC Work Group



Explosion of the Kakhovka Hydropower Plant: **What are the environmental consequences?**

*by Victoria Hubareva
Translated by Jennifer Castner*

Ukraine's Security Service (SBU) [confirmed](#) that at 02:50 am on 6 June Russia's occupying forces detonated explosives at the dam containing Kakhovka Reservoir, one of the largest reservoirs not just in Ukraine, but also across Europe. Although immediate responsibility cannot be confirmed at present, experts are already comparing this week's events with the Chernobyl

catastrophe and describe what happened as "the greatest man-made disaster in recent decades."

The explosion destroyed 11 of the dam's 28 sections and the estimated width of the rupture is 177 meters. The reservoir's vast contents – on average, 18.2 billion cubic meters of water – began to rush downstream, flooding all of the settlements in its path. Ukrainian

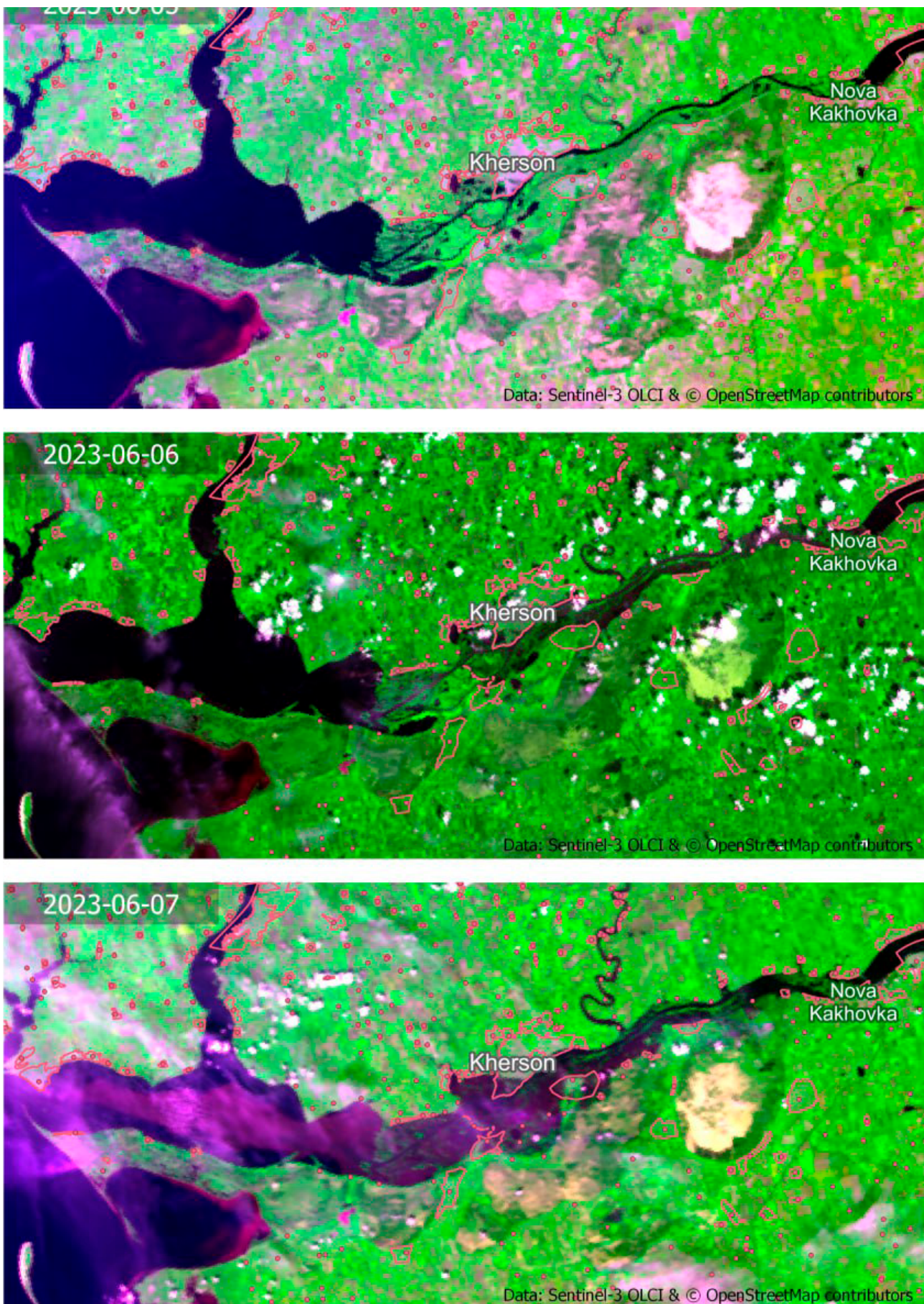


Fig. 1. Comparison of satellite imagery on 5 June (before the explosion), 6 June, and 7 June.
Source: [SCGIS Ukraine, UNCG](#).



officials assert that the dam's destruction in Nova Kakhovka is a war crime under the Geneva Convention. According to [Article 56](#) of the 1997 Additional Protocol I, the deliberate destruction of dams and dikes is considered a weapon of mass destruction and an indiscriminate war crime.

Ukraine's Office of the Prosecutor General has already confirmed that a potential [ecocide](#) investigation has been launched into the Kakhovka dam explosion.

This catastrophe was anticipated. How do the presumed and actual

In a [recent study](#), Associate Professor of Public Administration Dr. Serhii Zelinskyy, foreseeing a similar terrorist attack by Russian troops and speaking about the use of water as a weapon, shared a model of the potential consequences of blasting dams on Ukraine's reservoirs.

If Kakhovka HPP dam were destroyed, the scientist predicted that an estimated 340 km² of land with 43 settlements and home to 125,000 people would be completely or partially flooded. Zelinskyy's calculations assumed that the dam would be

THIS ARTICLE WILL EXAMINE THE PRELIMINARY CONSEQUENCES THAT HAVE ALREADY BEEN CONFIRMED IN THE FIRST DAYS AFTER THE INCIDENT. ALTHOUGH THESE DATA ARE ALREADY TERRIFYING, AT LEAST A MONTH WILL PASS BEFORE IT IS POSSIBLE TO THOROUGHLY ANALYZE THE CONSEQUENCES.

consequences of the catastrophe compare?

According to a statement by Volodimir Zelenskyy, Ukraine had prepared for the potential destruction of Kakhovka Hydropower Plant's (HPP) on the basis of intelligence that the Russian occupiers had deployed mines in the plant over the previous year. The Ukrainian leader [announced](#) this fact during a press conference dedicated to Journalism Day on 6 June.

completely destroyed, while the actual explosion destroyed less than half of the dam's sections.

UWEC Work Group experts [discussed](#) the potential consequences of the dam's destruction in October 2022.

To date, the precise area of flooded territories is unknown. The reservoir was forecast to continue to draw down for several days, after which the waters will begin to recede. However, preliminary estimates



indicate that the number of people affected by the disaster is much higher: environmentalist Maxim Soroka [called](#) on other regions of Ukraine to be ready to accept up to 400,000 refugees.

“These are the people whose lives directly depend on Kakhovka Reservoir and its water level. If the reservoir is gone, socio-economic and, accordingly, demographic changes will occur. These people will be forced by the situation to leave their native lands as a result of these new unbearable circumstances. When calculating, I used a demographic reference guide and reviewed all the communities that depend on the reservoir. I subtracted 40% of that figure,” Zelinskyy explained

General director of state-owned company Ukrhydroenergo, Kakhovska HPP’s operator Ihor Syrota also [confirmed](#) the oil leak that originated in the plant’s electrical aggregators and transformers:

“There were over 450 tons of oil products in aggregator units and transformers at the station. Today we can confirm that at least 150 tons have already reached the river. As for the rest of these compounds, we will only be able to make a determination after we learn the fate of the transformers and turbines. That is where the products are located. And this, of course, will have environmental consequences.”

UP TO 280 METRIC TONS OF REFINED OILS LOCATED IN AGGREGATORS AND TRANSFORMERS AT THE HPP ENTERED THE RIVER, CREATING A FILM ON THE WATER’S SURFACE BEFORE THEY EVENTUALLY SETTLE ON THE FORMER RESERVOIR’S FLOOR AND THE FLOODED LANDSCAPE.

his calculation of the number of victims of the HPP’s explosion.

At a 6 June meeting convened in response to the explosion of the Kakhovska HPP, Ukraine’s National Security and Defense Council of Ukraine (NSDC) noted that 150 tons of fuel and lubricants had already entered the Dnipro River. Additional leakage of an additional 300 tons into the river is possible.

Soroka explains that the oil products in question are a large quantity of fuel, lubricants, and coolants used in the hydropower plant’s turbines and mechanical aggregators.

According to him, 150 tons is a realistic and even underestimated figure: “If we take the minimum volume of lubricants in all units, then there should be somewhere around 280 tons. In any case, it’s a lot.”



Secondary consequences: Epidemiological risks, chemical pollution, nitrogen and phosphorus compound pollution

Sweeping away everything in its path, the floodwaters are washing over businesses and settlements, where they are further polluted by chemicals and sewage. As a result, epidemiological and pollution risks increase significantly.

Two days after the initial tragedy, Soroka drew the following initial conclusions:

- Flooding of pit latrines, sewage networks, drainage systems, and other treatment facilities will inevitably contaminate the floodwaters (although this is not the worst scenario).
- The specifics of the agro-industrial landscape and unexpected nature of the events, as well as the warehouses and other facilities housing plant protection chemicals and fertilizers that were flooded, must also be considered. This is already bad, especially in terms of the resulting fertilizer pollution, and assessing the damage is extremely difficult.
- Flooding and water erosion will inevitably lead to secondary pollution of the floodwaters with suspended solids and biogenic elements (nitrogen

and phosphorus compounds). Whether this will have serious consequences will only be clear in another 5-10 days.

Flooding contaminates territories with substances that accumulated over decades at the bottom of Kakhovka Reservoir.

Ukraine's Ministry of Health [noted](#) that, in addition, the reservoir floor of Kakhovska HPP could contain many substances hazardous to human health, and which, as a result of the explosion, may pose a significant danger to people located in flooded areas.

That pollution includes heavy metals and other industrial pollutants emitted in Zaporizhzhya, Dnipro, and Kamenskoye that accumulated at the bottom of the reservoir. In a commentary to BBC, environmentalist and UWEC Work Group expert Eugene Simonov [explained](#):

"It can be assumed that the dam's failure will result in the downstream movement of toxic deposits that were located directly at the bottom of the reservoir. The rest (toxic sediments) will remain along the banks of the Dnipro on the former bottom of the reservoir, and they will begin to be transported by dust storms before vegetation covers these territories."

The catastrophe carries additional challenges for residents: there may no



longer be safe drinking water available in the region. In its Telegram [channel](#), the Ministry of Health reported that chemicals and pathogens from cemeteries, toilets, and landfills may end up in wells and open water bodies in flood zone following the HPP dam's destruction.

Everything will ultimately end up in the Black Sea. What will be the consequences?

The first wave of [news](#) concerning the environmental harm from the HPP's explosion contained information about the floodwater's desalination of the Black Sea. Some environmentalists, including Soroka, were skeptical about this statement. Soroka explains his doubts, saying that freshwater from the Kakhovka Reservoir will literally become a "drop in the ocean".

Chair of Ukrainian Nature Conservation Group and UWEC Work Group expert Oleksii Vasyliuk also commented that freshwater in and of itself does not threaten the Black Sea:

"The release of such a large amount of river water can temporarily desalinate certain sections of the Black Sea. That said, given that we are discussing the waters of the Dnipro-Bug estuary, a water body that has been filled with water from the Dnipro and the Southern Bug rivers for millennia, they are unlikely to have catastrophic consequences", the environmentalist [writes](#).

Significantly greater damage to the Black Sea's ecosystem will result from the ingress of a large volume of waters containing impurities, as mentioned above:

- Fuels and lubricants are toxic to aquatic organisms and can form a film on the water surface;
- Pollutants from sewers, agricultural enterprises, etc., can affect living organisms, from plankton to cetaceans;
- Combined with hot summer conditions, heavy metals and other pollutants accumulated at the reservoir's bottom can provoke massive overgrowth of microorganisms and algae and affect the formation of cyanobacteria blooms with all the attending negative consequences;
- Increased algae blooms and decreased salinity, [according](#) to director of the Ukrainian Scientific Center for Ecology of the Sea Viktor Komorin, will affect zooplankton, fish, and dolphins. Dead phytoplankton will sink to the sea's lower water layers and absorb "a large amount of oxygen", turning oxygen zones into hydrogen sulfide zones. This will affect the sea's benthic organisms.



Absolutely all living creatures that inhabited the reservoir area or lived downstream along the Dnipro River will suffer from the explosion of the Kakhovska HPP.

Due to the dam's failure, hundreds of species may be threatened with destruction, including 71 species of animals and 32 plant species listed in the International Union for Conservation of Nature's (IUCN) Red List, as well as the European Red List, Ukraine's Red Book, and the local Kherson Red List.

Environmentalist Vladislav Balinsky [said](#) that exploding the Kakhovka Reservoir's dam will have global environmental consequences for the Black Sea region. According to him, within the larger Dnipro River basin, the floodplain's unique natural ecosystem stretches from Nova Kakhovka to the Dnipro-Bug Estuary and includes over 80,000 hectares of Nizhnedneprovsky Nature Park, and has actually been destroyed.

"A human-made disaster on this scale greatly exceeds the adaptive capacity of a floodplain biotope. Hundreds of islets, areas of a unique floodplain forest, wetland meadows, and steppe areas on lower slopes have been washed out to sea, along with their inhabitants," the ecologist commented.

That is another factor that can affect the destruction of various animal

species, particularly given the capacity of the ongoing hostilities in southern and eastern Ukraine to also affect the populations of various animal species. UWEC recently [investigated](#) the potential harm to small mammals.

"There has been a catastrophic impact on populations of rare mammal species. The habitat for 70% of the global population of Nordmann mouse is flooded, which could potentially lead to its complete extinction in the future. Up to 50% of the sand mole rat and up to 50% of thick-tailed three-toed jerboa have been destroyed," Vasyliuk noted, [commenting](#) on the threats of the dam's destruction for small mammals.

A number of birds that nest in the Kherson region could vanish from the area and a decade could be needed to restore its nesting colonies

Balinsky is also concerned about this new threat to the mating and nesting seasons of birds in general. Vasyliuk reached the same conclusion. In its [report](#) on the consequences of the dam's explosion, Ukrainian Nature Conservation Group predicts that the almost complete disappearance of Kakhovka Reservoir will result in the disappearance of a number of bird species that previously generally nested in the area. Birds in the flood zone also suffered, totaling tens thousands of individuals:



Fig. 2. Fish dieoff in Maryienske, Dnipropetrovsk Oblast. Source: [Insider UA](#)

“The largest colonies of herons and other birds in the region are concentrated in the Lower Dnipro’s floodplains. To make matters worse, the flood waters caught the birds during their nesting phase and some clutches had already hatched. There is not enough time this year to create new colonies or start a new clutch, because repeated nesting will not produce chicks capable of migrating by the end of summer,” the expert explained.

Vasyliuk noted that some birds will lose their nesting colonies, but they may be able to restore their numbers in 3-7

years. More time – 5-10 years – will be needed to restore raptor populations, for example, harriers.

Ukraine has already lost huge freshwater fish populations: decades will be needed to recover

On 6 June, Ukraine’s Ministry of Health warned that residents in the Kherson and Zaporizhzhya Oblasts would see fish dieoffs due to the rapid decline in water levels. Very quickly, that statement was borne out, and the next day the Ministry announced the start of



a massive fish dieoff in Dnipropetrovsk Oblast.

Vasyliuk agreed, asserting that the disaster's impact on fish resources is one of the greatest consequences. UNCG also addressed this concern in its report:

"The Kakhovka Reservoir, as well as the Lower Dniipro floodplains, contain one of the largest concentrations of freshwater commercial fish species in Ukraine. At the time of the terrorist attack, there were at least 43 species of fish in Kakhovka Reservoir alone, of which 20 species are of commercial value (annual catches as high as 2,600 tons). At least 7-10 years will be needed to restore these reserves."

Vasilyuk also concluded that all spawning sites were destroyed. As fish habitat, the reservoir has ceased to exist. Spawning of most species occurs in late spring and early summer. It is at this time of year that a "spawning ban" on human activity is in effect - a special annual "quiet" regime, particularly near water bodies: fishing is not allowed at that time and motorized vessel movements are restricted, etc.

"As a result of the rapid drawdown of the reservoir's water, almost all young fish in shallow water areas found themselves on dry land, doomed to death. This will undermine spawning success in the long term," he observed.

In addition, the deep wintering pool that many fish depend on for shelter in Republican Bay in Kamyanska Sich National

Park will most likely cease to exist. The same is true for wintering holes in the waters of Gavrilovsky, Dudchansky bays and the bay near Novovorontsovka (adjacent to Kamyanska Sich National Park).

Vasyliuk believes that, "The majority of all fish that were living in the reservoir will be swept into the Black Sea to die in its salty waters."

The dam's destruction could result in nuclear catastrophe. Avoided so far, but risks remain

The hydropower plant is located alongside the reservoir used to cool Zaporizhzhya Nuclear Power Plant (ZNPP), the largest NPP in Europe and one of the ten largest in the world. Water from Kakhovka Reservoir is needed to cool the station's turbine condensers and the ZNPP's safety systems.

ZNPP operator Energoatom's website [announced](#) that the drawdown in Kakhovka Reservoir did not result in a drawdown of water in ZNPP's cooling pool. Energoatom President Petro Kotin is quoted in the announcement:

Both in the pond itself at the ZNPP and in the pool basins... normal water level is maintained, which was in them before the Kakhovka HPP Dam was blown up. If the water in the ZNPP cooling pond 'decreases', it will need to be topped off, and there are certain algorithms for how to do this (sic).



ZNPP power units have not been operational since September 2022; therefore active water collection from the cooling ponds does not occur and there has been no need to feed it yet. And even if there will be no water in the Kakhovka Reservoir at all, the design provides measures to replenish it. One of the latter is the use of underground water from wells at the ZNPP site. (sic)

Together with other international organizations present at the plant, Energoatom is monitoring the situation and tracking the Russian occupiers'

actions at ZNPP. Monitoring agencies include the International Atomic Energy Agency (IAEA). Risks do, however, remain.

Soroka notes "The ZNPP is not the main problem right now. The very fact that the NPP is occupied by the people who blew up the hydroelectric dam threatens both the safety of the nuclear power plant and the entire world. The sharp drawdown of water in Kakhovka Reservoir creates risks and problems for the NPP's safety engineering networks."

Victoria Hubareva is a Ukrainian environmental journalist, expert, and author of EkoRubric. •

Read more about the consequences of the destruction of the Kakhovka HPP dam prepared by UWEC Work Group experts and contributed to other media:

[SBS](#), [Radio Liberty](#), etc. published comments by Eugene Simonov

[Report on consequences for natural ecosystems](#) was published by Ukrainian Nature Conservation Group

Main image source: CNN



Blasting of Kakhovka Dam – a “green choice” test in Ukraine’s revival efforts

Blasting of the Kakhovka Dam shocked the world as the extreme example of weaponization of civilian infrastructure, but it also raised questions about available paths for truly sustainable recovery after the war. This man-made disaster provides opportunities to rethink river management options in changing climate, as well as to pursue sustainable nature-based solutions and promote most efficient technologies in the process of rebuilding Ukraine. These future challenges are important not only for Ukrainians and citizens of nearby Europe, but also draw attention and sympathy from environmental NGOs around the world.

Today, in a special statement twenty four civil society organizations from twenty different countries condemned the destruction of the Kakhovka dam and called on officials meeting at the Ukraine Recovery Conference (URC 2023) [in London this week](#) to pursue sustainable options to address pressing energy and water needs while restoring natural ecosystems in Ukraine.

URC-23 is a high-level international event for benchmarking progress on the reforms agenda, which also represents the central forum for the international community to support Ukraine in its recovery and reconstruction efforts in the face of Russian aggression and the immense scale of damage and losses inflicted upon Ukraine resulting from the Russian invasion.



In July 2022, the Ukrainian government presented its Plan for Ukraine's Reconstruction During and After the War at an international conference in Lugano, Switzerland (URC-2022). At that time, [experts](#) from several Ukrainian environmental NGOs observed that the plan is replete with damaging "dirty" projects, lacks a constructive approach to Ukraine's green recovery, and ignores environmentally-friendly recovery principles jointly [proposed](#) in June 2022 by 25 environmental organizations.

Looking at the London conference web-site one may fear that the same anti-environmental Reconstruction Plan will be presented for discussion in 2023.

Environmentalists hope that this review of development alternatives presented by the Kakhovka Dam blast may force decision-makers in London to start thinking "out of the box" and come up with sustainable solutions.

Sustainable recovery issues always have been at the focus of attention of the UWEC Work Group. Hence, we publish below the Kakhovka Dam statement and the list of signatories.

Statement on Kakhovka Dam disaster and restoration challenges

Ukraine Nature Conservation Group, International Rivers, and the undersigned organizations condemn

the weaponization of the Kakhovka hydropower dam, whose destruction has precipitated the [manmade](#) disaster unfolding in Ukraine, the impacts of which will be experienced by the environment and people for generations to come. Dams must not be used as a weapon of war.

The destruction of the Kakhovka dam has severely affected the lives of hundreds of thousands of people upstream and downstream, impacted over 40 protected natural areas with dozens of endemic species, exposed or carried to the sea the toxic sediments accumulated in the reservoir over the dam's 70-year history, inundated at least 50 settlements on both banks causing mass displacement, and cut off water up to 500,000 hectares of irrigated fields, among other impacts. Restoring a new liveable environment will take many years if not many decades.

This destruction of the dam represents the most serious single blow to the environment during this war, constituting a war crime that should be investigated by the International Criminal Court as "ecocide" or another appropriate article of international law. The international community should hold Russia accountable for all the myriad environmental and humanitarian crimes committed during this war.

The unfolding tragedy has not prevented the dam industry from



promoting its services, even while the flood waters were still drowning towns located downstream. The International Hydropower Association (IHA), in a [statement](#) that conspicuously avoided mention of Russia starting the war, pledged to support “*the redevelopment and reconstruction process as and when the time comes,*” hinting at future lucrative contracts. The day after the blast at the Kakhovka dam, the IHA [celebrated the release](#) of the new “Hydropower Outlook,” calling for doubling the world’s hydropower fleet while ignoring the negative impacts of this industry and the catastrophe underway in Ukraine.

Meanwhile, the bursting of the Kakhovka dam caused by the brutal Russian military invasion in Ukraine has reminded humankind that large dams can often be a weapon of mass destruction. Building dams upstream of populated areas can threaten the lives of thousands – in the case of Kakhovka, 40,000 people live in harm’s way, at least 50 of whom have been already confirmed dead and up to a thousand are still missing. The deluge has also taken a heavy toll on [natural ecosystems and biodiversity](#) of the unique wetlands and valleys of the Lower Dnieper – one of Europe’s largest rivers. Unsafe in times of peace, these dams become a mortal danger in times of war, civil unrest, and terrorist insurgence.

This disaster also represents a glaring reminder of the [dangers that dams can](#)

[pose](#). In addition to warfare, dams are increasingly at risk of failure as decades-old dams reach the end of their lifespans, and climate change-induced floods threaten dams and communities located downstream. By 2050, most people will [live downstream of a large, aging dam](#).

More than ever Ukraine needs support for its speedy and sustainable recovery. However, the destruction of obsolete Soviet infrastructure also brings an opportunity for economic, social, and environmental improvements by using new efficient and nature-friendly approaches and technologies while avoiding mistakes of the past.

The restoration of the 350 MW Kakhovka hydropower plant has been [estimated to cost over €1 billion](#), though the full cost is likely to be much greater when factoring in the restoration of the vast reservoir. It would also take years to complete, and [restoring water supply from the reservoir to Crimea](#) may take over a decade. Rebuilding the dam and its 2000 km² reservoir would not represent the best path forward given its extraordinary expense, high environmental impacts, climate vulnerability, remaining threat of destruction, and availability of more sustainable solutions.

A comparable solar power plant, for example, would occupy less than 1% of the former reservoir area, cost a fraction of restoring the hydropower facility, and could be completed in less than two years.



Dedicated water supply systems and more water-efficient irrigation schemes that do not require restoring the dam can and must be undertaken immediately, rather than choosing an option that would take many years to complete. These efforts are already [underway](#).

Developing solar energy in the former reservoir could serve to power pumps for new water systems while protecting native vegetation from drought. This could be complemented by wind farms to harness naturally strong winds in the valley. The emergence of over 1000 km² of vacant land is a real opportunity to develop renewable energy and other nature-friendly economic activities.

Sustainable and beneficial alternatives are possible if supportive governments and international companies genuinely decide to help the sustainable development of Ukraine, not just see a future “recovery” as a business opportunity for industries no longer welcome at home.

Our hearts are with the victims of this crime. Our anger is against its perpetrators: those who started the war and, likely, blasted the dam and those who built it and then did not properly maintain it. As friends of Ukraine gather at the international [Ukraine Recovery Conference in London on June 21-22](#),

we hope the world will join Ukraine in planning and implementing a truly sustainable recovery.

- Ukraine Nature Conservation Group
- International Rivers
- Ecoaction - Centre for Environmental Initiatives, Ukraine
- CEE Bankwatch Network
- NGO “Merry Dolphin”, Ukraine
- The Corner House, UK
- Banktrack
- Save The Tigris
- Balkanka Association Sofia, Bulgaria
- Recourse, The Netherlands
- South Asia Network on Dams, Rivers & People (SANDRP)
- Waterkeepers Bangladesh
- Save Our Rivers
- Riverwatch
- GegenStrömung, Germany
- Grand Riverkeeper Labrador, Canada
- Balkani Wildlife Society, Bulgaria
- Perangua, Spain
- Ohrid SOS, Republic of Macedonia
- Tigris River Protector Association
- Mesopotamia Ecology Movement, Kurdistan
- OT Watch, Mongolia
- Rivers without Boundaries-Mongolia •



How did the Russian "Project of the Century" impact the environment?



Russia nicknamed the Kerch bridge the "Project of the Century".

Bridge with a dam effect

2017 satellite images show how the ice regime in Kerch Strait has deteriorated.



9 February



11 February



13 February

In winter and before the bridge was built, waters in the strait froze in a matter of days.

Today the bridge's narrowing of the Kerch Strait and its dozens of supports prevent ice removal.



Ice retention in the strait results in fish suffocation in the nearby bay, as well as coastal damage caused by ice surges.

Importance for biodiversity

The waters of Kerch Strait are one of 18 areas of special importance for Mediterranean and Black Sea cetaceans.

Two dolphin species live in its waters:



Common bottlenose dolphin



Short-beaked common dolphin

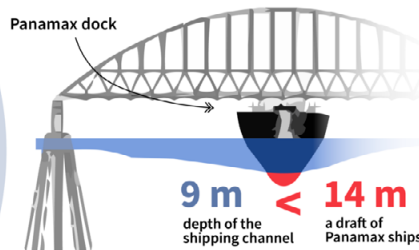
Construction vs Dolphins

Since construction of the Kerch Bridge began, the number of dead dolphins increased significantly, likely due to noise pollution.



Goal - Complete control of the Sea of Azov

Ukrainian ports on the Sea of Azov are export-oriented. Not infrequently, ships as large as the Panamax dock here.



The Kerch bridge became a physical obstacle to ships heading to Ukrainian ports in the Sea of Azov.

Results

- #1 Shipping calls to Ukrainian ports steeply fallen
- #2 Ukrainian metal exports decreased

Kerch Strait

Tuzla Island greatly facilitated construction of the bridge.

It is located at the midway point across Kerch Strait which separates annexed Crimea and Russia.

Today, Tuzla Island is essentially linked to the continent with continuous embankments.

to Azov sea

Crimea, UA

RU

Designed by Valeria Kolodezhna

Translated by Jennifer Casner

Source: Crimea SOS

The Crimean Bridge: Environmental impact of Russia's 'project of the century'

by Oleksii Vasyliuk
Translated by Alastair Gill



This article continues a series devoted to the consequences of the nine-year annexation of Crimea Peninsula by the Russian Federation. Read the first article [here](#). The seizure of Crimea and the installation of Russian-controlled authorities took place in 2014 without obvious military action. For this reason, the environmental consequences of the annexation are also not particularly obvious. However, the change in Crimea's political status and its separation from the system of Ukrainian state control and administration quickly led to unprecedented environmental disruption. The construction of the bridge and its accompanying highway have produced some of the most irrevocable changes on the peninsula.

By far the biggest changes to have taken place on the Crimean Peninsula during the years of Russian occupation are the construction of a bridge linking the Taman and Kerch peninsulas and construction of Tavrida Highway. The new route has opened up a land connection between Crimea and the Russian Federation.

The appearance of such pieces of infrastructure, built on a truly historic scale, led to many direct and indirect

changes, from the physical destruction of enormous areas of natural land (including those with protected status) and the construction of infrastructure around the new highway to the rapid development of a network of quarries for mining building materials and facilities for processing them. The greatest threat, however, is the possible changes to the biodiversity and hydrological conditions in the Kerch Strait and the Sea of Azov as a whole.



Fig. 1 – Medal “For the Construction of the Crimean Bridge” medal. Source: [Mir Faleristiki](#).



The Crimean Bridge

The structure is a transport crossing over the Kerch Strait, consisting of two parallel bridges – a railroad bridge and a road bridge – connecting the Kerch and Taman peninsulas via Tuzla Island and Tuzlinskaya spit. The construction, opening, and commissioning of the bridge were marked by the issuing of numerous state awards, medals, and commemorative coins.

The bridge's official [opening](#) took place on 15 May 2018, when its road section was unveiled to the public. The railroad section opened for passenger transport on 25 December 2019, and for freight transport on 30 June 2020.

According to Russian state media, the preliminary estimate for the project was [projected](#) to be 150 billion rubles (in 2014) for the construction of the bridge, 86 billion rubles for preparatory works and 51 billion rubles for the construction of approach roads. However, by the time the first stage of the bridge opened these costs had [soared](#) to around \$4 billion.

Russia's justification for such a colossal investment, it goes without saying, is principally of a geopolitical and military nature. This is clear not only from the vast scale of financing, but also from the approach to the development of peripheral infrastructure that has accompanied the project from the very beginning.

Analysts also note that the bridge's configuration and basic dimensions

were deliberately designed so as to cause maximum obstruction to shipping in the Kerch Strait and the Sea of Azov.

The main span is substantially shorter and lower than those of other bridges built around the world in recent decades, including Russian bridges. This limits the size of vessels that can enter Ukrainian ports in the Sea of Azov, and also makes it significantly easier for Russia to control access and close it off at any time. The road bridge sits unnecessarily low, so even smaller ships are unable to pass beneath its supports, but are forced instead to use the main channel. In building the Crimean Bridge, Russia gained full control over the entrance to the Sea of Azov. There are also several Ukrainian oil and gas fields on the Sea of Azov's coastal shelf. Construction of the bridge across the Kerch Strait means that oil and gas rigs can no longer be towed out of the Sea of Azov, since their dimensions do not allow them to pass under the arch of the bridge. With a significant part of the Black and Azov seas now empty of ships from any states besides Russia, Moscow has used the area to hold large-scale military [exercises](#), which have been one of the most destructive consequences of the Russian occupation for the area's nature.

At the same time, this construction work has created a wide range of environmental and social threats that were not taken into account even at the design stage.



Fig 2. "How did the Russian "project of the century" impact the environment?" The infographic in higher resolution

Construction of the bridge has significantly narrowed the Kerch Strait. As the [map](#) shows, a continuous bar of land around 5 km long has been reclaimed, extending from the Taman Peninsula to almost join up with Tuzla Island. In other words, land reclamation has [essentially destroyed](#)

the island, which had extraordinary natural value: according to the application for the creation of a [nature refuge](#) on Tuzla Island, it was home to [five species](#) registered in the Red Book of Ukraine. On the Crimean side an [embankment](#) roughly 1.3 km in length has also been built, with another 5 km



Fig. 3-4. Construction of the Crimean Bridge on Tuzla Island. Sources: [Viktor Babkin-Altair Studio](#) and [KerchTV](#).

embankment approaching from the Taman side.

The blocking of the strait with these embankments has undoubtedly had an impact on hydrological processes in the passage as well as affected coastal currents and plankton migration. Unfortunately, it is impossible to study these changes remotely.

Conservation-related concerns on the Russian coastline were also ignored during the construction of the bridge, which was built on an [internationally](#) recognized bird area. In order to circumvent the environmental review procedure, the Russian parliament adopted a special law (No. 221-FZ, dated 12 July 2015) and [introduced](#) amendments to legislation on environmental reviews, land management and protected areas, as well as the Water and Land codices, since it was impossible to build a bridge

here without breaking them all. This legislation, “fine-tuned” to the needs of the construction project, gave a green light for work to begin without the need to wait for any expert conclusions.

During construction, the Russian government announced that it would [resettle](#) rare animal and plant species from the construction zone. [Photographs](#) published to promote this “relocation” show students and schoolchildren in T-shirts reading “Institute of Economy and Land Use” – an institution which appears not to exist. A report on the publicized completion of the “relocation of frogs and snakes” was [delivered](#) to Putin in person (though the schoolchildren in the photo were pictured with plants in their hands).

Ironically, the rare fauna in the bridge construction zone includes dolphins, fish and crabs, as well as birds that fly



Fig. 5-6 – Tuzla Island as seen in satellite photographs from 2009 and 2019. Sources: Google Earth.

over the strait. It is hard to imagine how these animals could be “relocated.”

Construction of the Crimean Bridge has resulted in a range of threats to the local environment, hazards that can already be substantiated without the need for laboratory studies.

Hydrology

In 2018, experts from the Moscow-based Institute of Water Problems prepared a detailed study of the impact of the construction of the Crimean Bridge on the unique hydrology of the Kerch Strait and the Sea of Azov. Over the course of the year, the water level, salinity, and current undergo significant seasonal fluctuations. In the summer the water temperature rises to 30 °C, while in the winter the sea can [completely](#) freeze over. As water exchange worsens, the water temperature will increase in the summer and drop in the winter, which will create substantially [harsher](#) ice conditions.

A study carried out in February 2017 using data from NASA showed that ice had already begun to drift out of the Sea of Azov in the first part of February, driven by northern winds. Consequently, in a matter of days the entire northern part of the strait was covered in ice, blocked as it was by the bridge.

Peculiarities in the bridge’s design mean that ice cannot pass between the supports and instead builds up instead. The bridge essentially replicates the effect of a dam. This serious threat has been highlighted by not only Ukrainian, but also [Russian](#) hydrologists. The buildup of ice will make the [suffocation of fish](#) in the Taman Bay a common event, and could also lead to the shoreline suffering damage from surging ice.

As in all of the world’s shallow waters, rich and distinctive fauna have developed in the Sea of Azov, and a change in the seasonal dynamics of any



Fig. 7a-c. Rapid buildup of ice in the Kerch Strait in February 2017 (a – satellite image from SPOT 7 (AIRBUS Defence & Space) 09.02.2017; b – satellite image from SPOT 7 (AIRBUS Defence & Space) dated 11.02.2; c – Sentinel 2A (ESA) 13.02.2017). Source: [Mykhailo Romashchenko](#).

of the factors listed above is very likely to be critical.

Given the thick layer of silt in the strait, clearly visible in satellite photographs, [dredging](#) was necessary before the pilings could be installed in order to remove silt from the target area. The action of driving bridge pilings into the sea bed also caused bottom sediments to rise into the water column.

Ukrainian academics from the Institute of Biology of the Southern Seas have pointed out that construction of the Crimean Bridge has polluted the waters with fine sand, which destroys fish eggs and plankton organisms. This is also happening near sand excavation [sites](#) on Lake Donuzlav and in the Karkinytska Gulf, which are also important fish spawning habitat.

Dolphins

The Sea of Azov is home to two species of dolphin. Both are rare species,

registered in the Red Book of Ukraine and protected by the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and contiguous Atlantic area (ACCOBAMS). The Kerch Strait is one of 18 especially [important zones](#) for Mediterranean and Black Sea cetaceans.

Sea pollution caused by the transport corridor and changes to the migration routes of the fish on which dolphins feed have a negative effect on the activity of these mammals, and the constant noise from trains and vehicles on the bridge complicates their migration. There are serious concerns that sound pollution in the Sea of Azov and the Kerch Strait resulting from sand extraction, construction of the bridge (the [installation of pilings](#) with pneumatic piledrivers), and traffic have been key factors in causing the deaths of dolphins. There have been [no studies](#) on cetacean

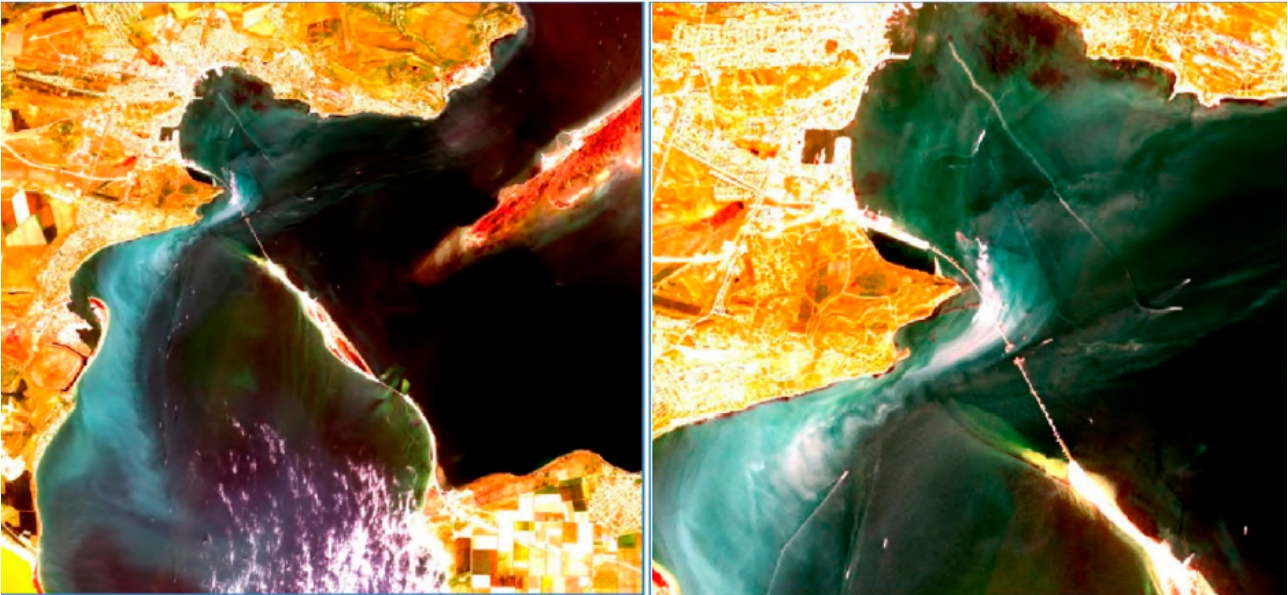


Fig. 8-9. Satellite photographs of silting resulting from land reclamation for the Crimean Bridge. Source: [Mykhailo Romashchenko](#).

deaths in the occupied territories. But experts specializing in the study of dolphins assert that since construction began on the Crimean Bridge there has been a significant [increase](#) in dolphin deaths.

Tavrida Highway

In addition to the bridge itself, the project also involved construction of road infrastructure totaling 250.75 km in [length](#), linking it to the Crimean cities of Kerch, Simferopol, and Sevastopol. Construction of Tavrida Highway took place between May 2017 and [August](#) 2020. The highway project did not undergo environmental review. According to the Crimean “Ministry of the Environment”, this was unnecessary, since the highway did not pass through any [territory](#) of special natural value. Of course, this is not the sole reason for

holding an environmental review: the purpose of such a review is also to certify that the construction site is safe and that the construction process presents no danger to the local population. Environmental issues aside, a whole host of other aspects were not taken into account, among them the fact that the new fenced highway isolated eight settlements with a total population of [12,000](#). Since no access roads were built onto the highway, these settlements ended up completely cut off from civilization.

Construction work on the highway began in the summer of 2017 on the Crimean side. The first high-profile incidents were the demolition of 80 residential buildings in the town and the Zaliv dacha housing cooperative and the routing of the highway through an [ancient burial mound](#).



Fig. 10-11. Construction of the highway was accompanied by the destruction of natural landscapes. Sources: [Krymoved](#), [Vesti Sevastopol](#).

As construction continued to expand, it became clear that damage to the local environment would be significant. Unfortunately, the vast majority of news coverage at the time was devoted to the [felling of windbreaks](#) along existing roads widened to build the highway, though this was one of the less serious consequences. At the same time, the publicity given to this issue led to demonstrative statements from the Kremlin-controlled Crimean authorities and the Russian federal authorities, promising that windbreaks would be [planted](#) along the entire length of the highway.

Yet the media almost completely ignored the destruction of natural landscapes, including the rapid growth in the size and number of quarries. And no proper coverage was given to the large-scale deforestation that accompanied construction of the highway (the media kept quiet about places where intensive logging occurred, knowing the kind

of unwelcome attention that even damage to windbreaks attracted).

The environmental ministry of the “Republic of Crimea” reported that it had issued permission for the felling of 133,849 trees and 121,749 bushes (it would be interesting to know who counted these “bushes”, and how) and that once the highway was finished, new [trees](#) would be planted along the road. This populist promise is easy to refute by analyzing the route followed by the Frontovoye-Inkermanska Dolina section of the highway, where it passes directly through forest, which led to the deforestation of 180 hectares (see. Fig. 7).

Here, the number of trees for which felling permission was supplied is at least 10-13 times greater than the forest section in question – the only designated forest area the road was to pass through. In other words, no one carried out any counts or removal of trees for felling, and thus none of the figures supplied by the Kremlin-installed authorities have any relation to reality.



Fig. 12-13. Construction of Tavrida Highway in the vicinity of Frontovoye (coordinates 44.653873, 33.706005) as seen in satellite photographs (left – before construction began; right – after). Source: [KrymSOS](#).

The populist nature of this promise is also evident in a different regard: deforestation essentially took place only in the vicinity of Sevastopol, while the promise was to compensate for this by planting windbreaks in the flat Crimean steppe, through which the main part of the highway passes. Trees have almost no chance of surviving in this kind of landscape.

So in reality the logging was not offset as the Russian-installed authorities promised. And promises to plant trees in the Crimean steppe, the most arid territory in Ukraine, merely highlight the complete incompetence of those responsible for construction.

Mining of building materials for the ‘project of the century’

It was to be expected that Russia would make the most possible use of

local resources for this giant building project. The inexpediency and costs of transporting such huge quantities of building materials from Russian territory, combined with Moscow’s purely strategic interest in Crimea, quickly led to extensive mining activity in different parts of the peninsula. Meanwhile, the Russian Ministry of Transport was actively promoting the enterprise, branding it the “Project of the Century.”

In the initial phase of the occupation, subsoil resources were extracted without permission, since there was no longer any need to acquire it from Ukraine. Despite the fact that the self-proclaimed Crimean authorities passed their own law [“On subsoil resources”](#) back in 2014, a year later the Russian parliament passed a federal law governing the legal regulation of the use of resources in Crimea, which handed full control



over decision-making on Crimean subsoils to Russian federal authorities and Moscow's local proxies. Because of this, it is impossible to determine who initiated the use of resources in any given situation.

One of the threats that attracted the most attention during the bridge's construction was revealed in a remark by Yury Yuryev, a deputy in the Crimean parliament, who said that sand contaminated with waste from the chemical industry was used in the construction of facilities on the Kerch Peninsula. His conclusions were supported by results of the analysis of [samples](#) taken from waste at the Nizhne-Churbassky waste storage facility from the Komysh-Burun Iron Combine, an iron enrichment plant located on the Kerch Peninsula.

During the construction of the Crimean Bridge, sand was excavated

from the embankment of a tailings dam. This is a massive earthen embankment around an open storage area for chemical and radiation waste that cannot be recycled. This excavation took place despite the fact that, according to industrial standards, even driving along the dam should have been prohibited.

Analysis of satellite photographs shows that the extraction of sand from the tailings dam began in the second half of 2014.

The problem is not only that chemically contaminated sand was used during construction, but also that significant rainfall may now wash waste from the tailings dam into the Black Sea in the immediate vicinity of the municipal beach of Kerch, a tourism destination.

In February 2018 the Ministry of Temporarily Occupied Territories

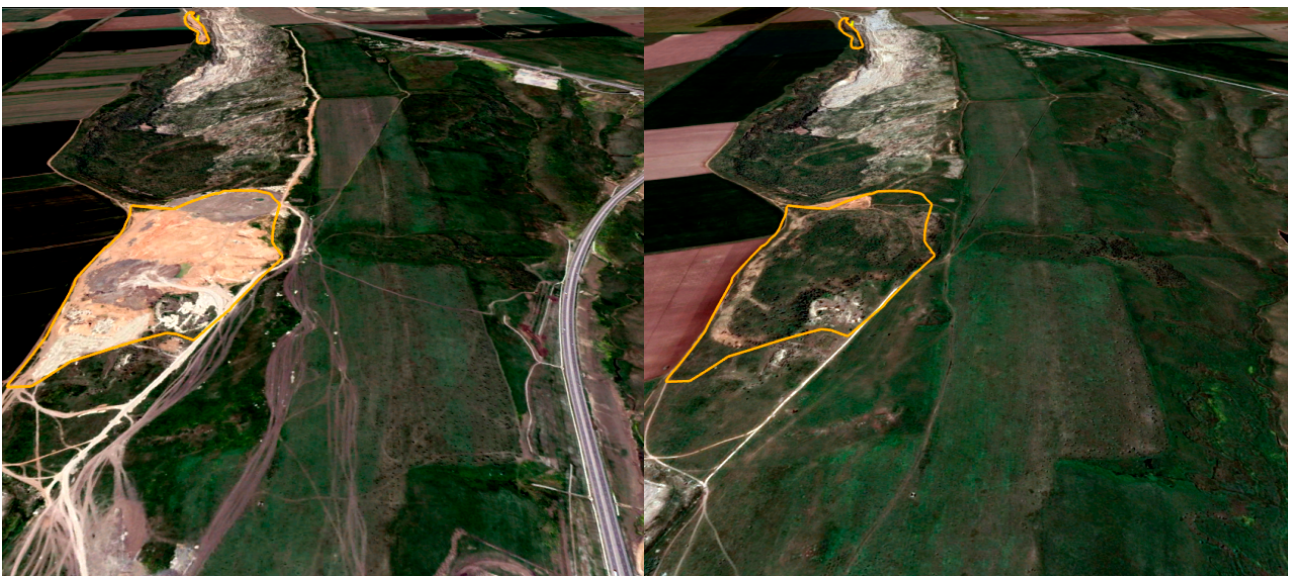


Fig. 14-15. Construction of the Tavrida Highway and excavation of a quarry of over 30 hectares beside it near the city of Kerch (coordinates: 45.316726, 36.393265) in satellite photographs (left – before the beginning of construction; right – after). Source: KrymSOS.



Fig. 16-17. Excavation of sand from the Nizhne-Churbassky tailings dam in 2016. Sources: [Crimea Gates](#), [Kerchnettv](#).

and Internally Displaced Persons of Ukraine [reported](#) that the amount of arsenic in that waste exceeded the maximum permissible concentration by 500 times, antimony levels by three times, vanadium by three and a half times, chromium by 1,420 times, and phosphorus and iron by 341 and 370 times, respectively. [Analysis](#) showed that the sand immediately bordering the waste has an arsenic concentration 377 times above the maximum permissible level. The concentration of dangerous

compounds is lower inside the embankment, but is still [40 times over](#) the maximum limit.

In May 2017 the local environmental prosecutor's office [prohibited](#) the excavation of sand from the tailings dam. The territory was then just abandoned, leaving toxic sand to be freely dispersed by the wind. According to our estimates, over 600,000 cubic meters of sand had been removed by the time excavation work concluded at the site. Yet (as the above satellite images show) in 2019



Fig. 18-19. Sand excavation from the tailings dam in satellite photographs from 2013 (left) and 2019 (right). Source: [KrymSOS](#).



Fig. 20-21. Sand removal from the bed and banks of the bypass channel of the tailings dam with the help of a dredger in 2019. Sources: [Krym.realii](#), [Mikhail Dneprovsky](#) (LiveJournal nordstrim).

excavation began again in eight places along the banks of the bypass canal of the tailings dam – just 50 meters from the previous excavation site.

Satellite images show the presence of dredgers, which indicates that sand was being extracted not only from the banks of the canal (in these places the width of the canal increased substantially in the course of a year), but was also being scooped from the canal bed, thereby deepening it.

Although the prosecutor's office and even the Russian secret services (FSB) appear to have taken an [interest](#) in the excavation at the tailings dam, the extraction of so much toxic sand just 50 meters from the dam did not arouse significant public concern, also because it wasn't reported in local media, and investigations were shelved. [Documents](#) from the Russian-controlled Crimean prosecutor's office are available online.

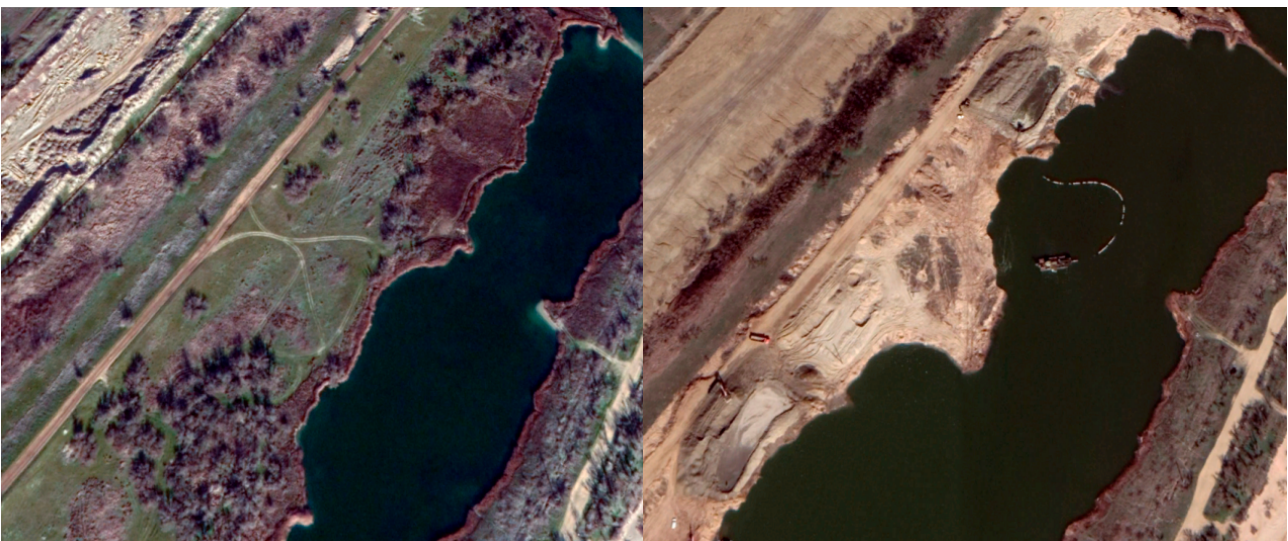


Fig. 22-23. Satellite images from 2018 (left) and 2019 (right) showing the results of sand extraction on the bypass channel of the tailing dump. Source: [Krym.Realii](#), [Mikhail Dneprovskiy](#) (LiveJournal nordstrim)

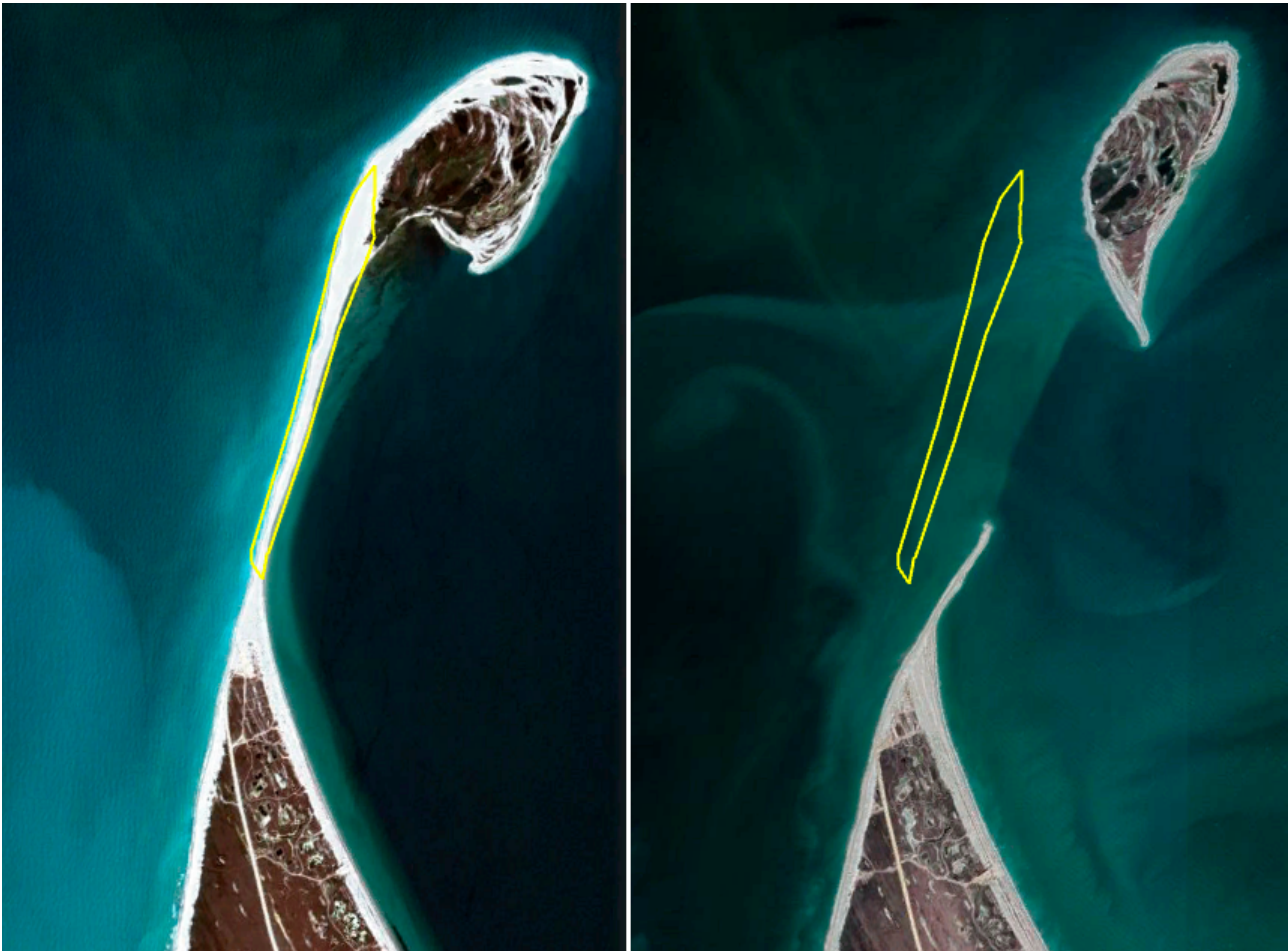


Fig. 24-25. Bakalska Spit as seen in satellite photographs from 2013 (left) and 2019 (right).
Source: [KrymSOS](#).

Another area used for sand excavation was the Bakalska Spit. Located on the diametrically opposite side of the Crimean Peninsula, this spit is in fact part of a Crimean strict nature reserve (at present, Lebyazh'i Ostrova Reserve). Any form of subsoil resource extraction here is categorically forbidden. Although instances of sand excavation were recorded here before the occupation, large-scale removal of sand from the spit [began](#) with the construction of Tavrida Highway. Even major Russian state media warned that the spit was under threat of [destruction](#), but excavation continued. An analysis

of satellite photographs shows that Bakalska Spit has now vanished, leaving just a small island.

Quarries for excavating building materials began to appear in different parts of Crimea during construction of the bridge and the highway. While there are no official statistics for the number and total area of these quarries, there are now up to 260 of them on the peninsula. A significant number of them reopened or were opened when building work began on Tavrida Highway – crushed rock is an especially [important](#) resource for construction. The opening of the quarries was accompanied by protests



by the local population, many of which were [suppressed](#).

Conclusions

The Crimean Bridge was one of the largest construction projects in Russian history, but it was also one of the most dangerous for the surrounding environment. Changes to the hydrology of the Kerch Strait, the damage inflicted on the Crimean peninsula's geology as a result of stone quarrying and

sand excavation, and construction of the Tavrida Highway – have all permanently mutilated Crimea's natural environment. If the bridge is destroyed, these threats will only grow. The hope is that once Ukrainian experts regain access to Crimean territory, a study of the environmental consequences of the annexation will be carried out, beginning with a detailed study of the threats described in this article. •



Protecting the environment in times of war: An interview with environmentalist Yehor Hrynyk

by Valeria Kolodezhna
Translated by Alastair Gill

UWEC Work Group member Valeria Kolodezhna sat down with Yehor Hrynyk, a biologist and specialist at Ukrainian Nature Conservation Group, to talk about changes to conservation legislation in Ukraine, as well as environmental campaigns and activism in the country during wartime.

Hrynyk's work involves anything related to Ukraine's forests, from uncovering and documenting illegal logging to facilitating the creation of protected areas. Since Russia's full-scale invasion of Ukraine, unauthorized logging has increased, and lobbyists hoping to develop one of the best-preserved mountainous areas in Ukraine's



Carpathian Mountains are also becoming more active.

What main trends in nature conservation in Ukraine have you observed since the beginning of the war?

Since the beginning of the war, nature conservation in Ukraine has witnessed a serious regression. Even if the war ends in victory for us tomorrow, we would need several more years to return to pre-war conservation levels.

Laws are now being passed that essentially destroy wildlife – for example, forest management is being [reformed](#) and all forestry enterprises are being merged into one. Meanwhile, they are giving everyone the impression that this is being done solely in order to produce more timber.

National parks and nature reserves are also being told to earn as much money for themselves as they can. And even in reserves where regulations prohibit almost any activity, they are finding ways around this by doing things like making fire breaks – thereby cutting down huge areas of the forest.

Fire breaks are cleared areas in the middle of the forest that act as a barrier, stopping fires from spreading in a particular direction. But felling sections of forest to create cuttings is not the only way of fighting fires, and clearly a last resort when it comes to protected areas. The cases that we are now seeing bring only economic benefits.

Logging is even taking place in areas that have been mined. Just like last year, there were frequent cases of foresters





being [blown up](#) by mines in 2023. Our [report](#) “How corruption threatens the forests of Ukraine: Typology and case studies on corruption and illegal logging,” which we prepared together with the Basel Institute on Governance, outlines the reasons loggers go to such great risk. To sum up, in the course of the investigation we came to the conclusion that the situation with illegal logging has only worsened in Ukraine since the outbreak of full-scale hostilities. And the main parties responsible for this logging are the foresters themselves.

The European Union (EU) assesses that Ukraine’s environmental protection legislation currently meets only the bare minimum of standards compliance. How would you evaluate the country’s European integration process when it comes to environmental law?

In my view, there’s no interest in this on the part of the government. We hear a lot of declarations, a lot of pretty phrases, but in reality no one in the government is working on integration. And now it turns out that the Minister of the Environment and Natural Resources (Ruslan Strelets) [is claiming](#) that in the environmental sphere Ukraine is 63% integrated, while the EU assesses our efforts at one out of five.

How can Ukraine bring its legislation into full compliance with the European Union under the Association Agreement

between Ukraine and the EU in just a few years? For example, an [Emerald Network](#) was supposed to have been created at the legislative level in Ukraine by 2019. This will be a network of nature protection areas along the lines of the EU’s NATURA 2000, protecting vulnerable plants, animals, and their habitats in the region. Yet it is already 2023, and the relevant law has not even passed its first reading. The Ministry wants to get the job done, but the law faces opposition from numerous parties, including foresters, farmers, hunters, and the mining industry.

Another case in point is the obligatory adoption of a whole legislative package regulating invasive species under EU rules – on which work has not even begun. There are a few rare exceptions – for example, in the form of a list of non-indigenous species of trees that are forbidden for use in forestry.

Have you noticed a change in the formats, focus, or funding for environmental organizations recently?

Many organizations or individual activists are focusing on the impact of military activities on nature, and on the challenges of rebuilding the country. Correspondingly, they are paying less attention to “traditional” problems. For example, our organization has [devoted](#) a lot of time and effort to helping protected areas that have suffered from the Russian invasion.



In addition, many activists have emigrated, either internally or beyond Ukraine's borders. Many are serving on the front lines, which, of course, doesn't make our movement's activities any more effective.

As for financing, unfortunately very few people are making donations to environmental organizations at present. For most the priority is still to support the army. But in any case donations were often not the main source of funding for environmental organizations. Perhaps this will change after the war: the culture of supporting social initiatives has grown significantly over the last year.

But it's very pleasing that most of the activists who continue to work are finding the strength to support "pre-war" issues, often on a voluntary basis. An example could be the [Free Svydovets](#) movement,

in which I'm also participating. Its aim is to protect the Svydovets mountain range – one of the best-preserved ranges in Ukraine's Carpathian Mountains – from development.

This year the Free Svydovets initiative got a lot of media publicity in Ukraine. The plans to develop the Svydovets range were announced quite a long time ago, so why has this become a hot issue only now?

That's true. The Free Svydovets movement began sometime in 2016, which was when civil society first learned of Ukrainian oligarch Ihor Kolomoisky's plans to build a ski resort at Svydovets.

Before the full-scale invasion, there was a drawn-out legal challenge on the issue in the courts: local residents and NGOs

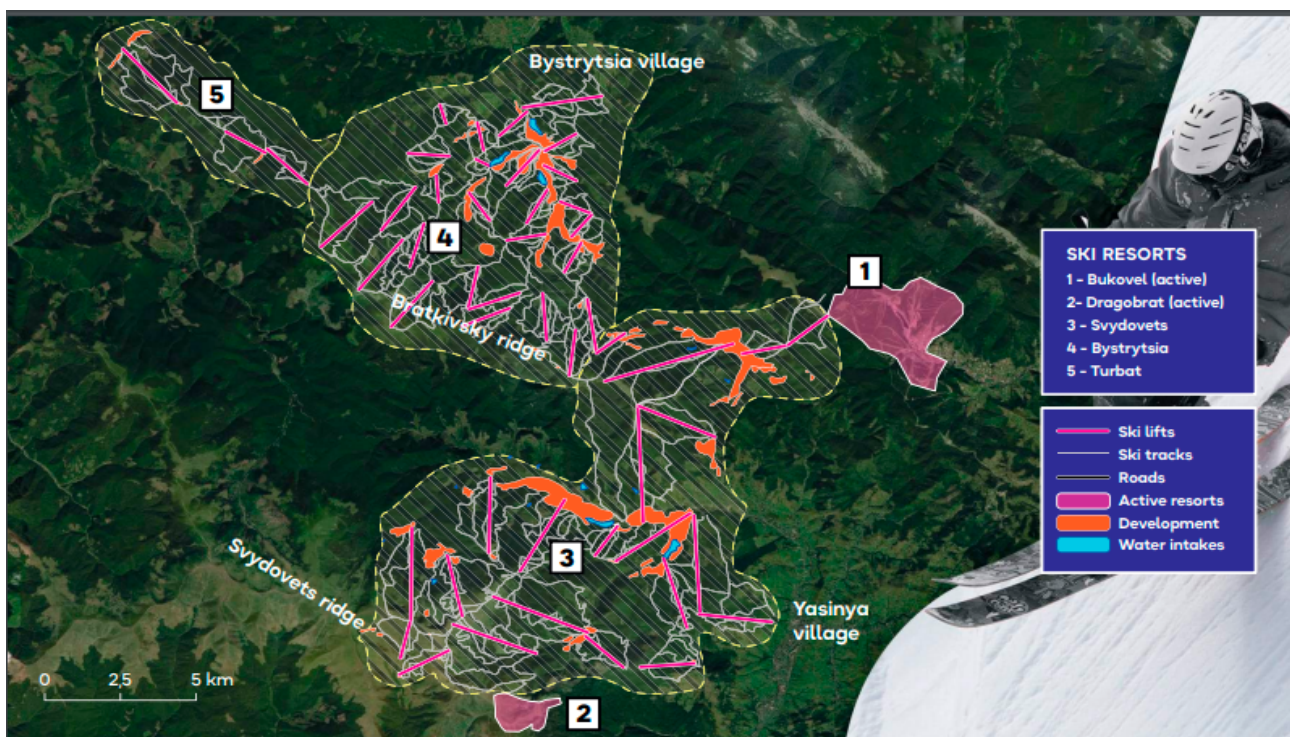


Fig. 1. A map of the planned ski resort at Svydovets. Source: Free Svydovets.



were suing the district authorities, which were acting as the nominal representative for the resort project on behalf of Ihor Kolomoisky. The defense has now become more active in the courts, anticipating that Free Svydovets activists will be otherwise occupied while the country is at war.

Another argument for lobbyists is the fact that the country's borders are currently closed for men. In peacetime, the majority of the able-bodied population in the Carpathian region went to work in Europe. Now that this possibility no longer exists, jobs need to be created in rural communities, and they see the resort as a great opportunity.

How did you manage to put together and promote a media campaign in such a difficult time for the country?

FreeSvydovets is a movement in which a lot of people are involved – the success of the media campaign is also down to them. Our initiative is also supported by the European Parliament: their reports on Ukraine mention the project.

In the last few months we've been trying to get the Svydovets story highlighted in the media. For example, we've created a [petition](#) to President Zelinskyy with a request to ban construction at Svydovets. As a result, it collected the required number of signatures (25,000), and the issue was also widely covered in the media.

Many media outlets have picked up on the topic – even people's deputies

have written articles about the problem, highlighting the risks of building a resort. At some point, the authorities will have to make a decision for or against the project – the more they talk about the problem of Svydovets, the more difficult it will be for the ministry to greenlight the project.

As for next steps, we're planning to create a nature refuge at Svydovets. Working alongside several other organizations, including the international NGO [Environment People Law](#) and WWF Ukraine, we have prepared a package of documents and are beginning to cooperate with government agencies with the aim of creating a protected area. Unfortunately, the authorities remain silent at the national level.

In parallel with this, other activists from the Free Svydovets movement are now actively participating in legal proceedings.

On the whole, we feel positive. As one of my university teachers once said: "The effectiveness of nature conservation should be measured by the answer to the question 'Has the life of the hedgehog improved as a result of this?'" The life of a hedgehog at Svydovets has not yet changed. But we are gradually getting closer. •

You can follow the Free Svydovets initiative on [Instagram](#) or on their [website](#): <https://freesvydovets.org/>

Find out more about the work being done by Yehor and his colleagues on the Ukrainian Nature Conservation Group's [website](#).



Greenpeace: Instead of an epilogue

by Eugene Simonov

The author's opinions and views do not necessarily reflect those of UWEC Work Group.

This text is a joint publication of UWEC Work Group and Kedr.media.

What will the Russian environmental movement look like after Russia's largest environmental organization is banned?

Two weeks ago Russian authorities declared Greenpeace an "undesirable organization", putting its workers, supporters, and sympathizers at risk of persecution. The withdrawal of major international organizations – Bellona was named undesirable just prior to Greenpeace, and WWF was declared a "foreign agent" – will greatly impact the Russian

environmental movement and probably lead to its restructuring. Now more than ever helping environmental activists to continue their work, find (as necessary) new focus areas, and strengthen connections within the overall "green" movement is critically important.

On May 22, nearly all employees of Greenpeace Russia lost their jobs. Not because they had displeased their employer; no, the Russian branch liquidated itself in order to avoid endangering staff and supporters,



after the Russian prosecutor's office declared the international organization "undesirable" on May 19. In today's unfortunate circumstances, I was not at all surprised.

Over the last few days, commentators have speculated about who stands to benefit most from Russia Greenpeace's liquidation.

The organization effectively [resisted dilution](#) of the "Law on Lake Baikal protection", instead advancing reasonable alternatives and garnering thousands of votes on petitions against the legislation's weakening. One lobbyist for the dangerous bill is quasi-hereditary parliament member Alexander Yakubovsky, a politician who boasts publicly that Greenpeace was declared undesirable on the basis of his petition. But the organization also shielded many other protected areas from attempts to destroy, privatize, or weaken protections. The Defense Ministry may have been offended by criticism of their encroachment on [Wrangel Island Reserve](#); the Russian Forestry Agency may have been offended by public monitoring of catastrophic fires; and various other ministries and departments could have been offended by regular constructive and [effective criticism](#) of ill-conceived draft laws. Greenpeace's list of enemies is formidable.

What does Greenpeace's undesirable status mean for the Russian

environmental movement and civil society as a whole?

Undesirable risks

The decision to recognize an organization as undesirable is made non-judicially by the Prosecutor General in consultation with the Ministry of Foreign Affairs, however absurd that may sound. In the eight years since this regulation came into effect more than [80 organizations](#) have been labeled undesirable, but only three of those organizations have had an environmental focus: Pacific Environment (an NGO engaged in supporting grassroots environmental activism), Bellona (an NGO addressing nuclear waste disposal and providing legal assistance to communities on environmental issues and environmental education), and Greenpeace.

The recognition of organizations as undesirable is regulated by Article 3.1 of the "Law on measures to influence persons involved in violations of fundamental human rights and freedoms, rights and freedoms of citizens of the Russian Federation", introduced in 2015. An undesirable organization is "a foreign or international non-governmental organization whose activities pose a threat to the foundations of the Russian Federation's constitutional order, the country's defense capability, or state security".

Amnesty International [stated](#) that the purpose of the "Law on undesirable



organizations” is to “isolate active people in Russia, create an atmosphere of fear and uncertainty, and minimize Russian cooperation with European, American, and international organizations”. The United Nations Human Rights Committee recommended that Russia repeal or revise its legislation on undesirable organizations.

Organizations whose activities are considered undesirable cannot, in principle, operate in Russia. All Russian citizens and legal entities, as well as other persons permanently residing in Russia, are prohibited from participating in the activities of undesirable organizations. This includes distributing materials produced by undesirable organizations.

Reprinting or even sharing virtual links to their publications is subject to administrative liability under Article 20.33 of the Code of Administrative Offences (participation in the activities of an undesirable organization): individuals face a fine of 5,000-15,000 rubles and legal entities, 50,000-100,000 rubles.

Article 284.1 of the Criminal Code of the Russian Federation provides for criminal liability in cases of more serious “involvement”. Repeated administrative violations can result in up to four-years’ imprisonment, financial support of an undesirable organization – up to five years. Those found guilty of “organizing activities” for an undesirable organization face as many as six years of imprisonment.

Now, people supporting Greenpeace domestically in Russia and those Russians who do so abroad are subject to criminal prosecution. In other words, if I, a Russian citizen living in Australia, make a donation tomorrow to Greenpeace Australia’s campaign to protect platypuses, then criminal proceedings could potentially be initiated against me for funding an undesirable organization.

In other words, the consequences are broader and more dangerous for others than in the case of recognizing an organization or individual as a “foreign agent”. Affixing undesirable status to Greenpeace is a tremendous blow to the environmental community as a whole.

Unlike foreign agent World Wide Fund for Nature (WWF), an expert organization that actively finances joint projects with nature reserves and other environmentally-focused government agencies, Greenpeace is a grassroots organization that works with frontline community activists. Tens of thousands of active supporters and hundreds of thousands of people motivated to use Greenpeace’s methods and educational materials or simply signed their petitions and distributed their materials on social networks were associated with it.

Greenpeace’s undesirable status will force its allies to remove all useful information obtained “from” or produced “jointly” with Greenpeace from their websites and social



networks. Meanwhile, Greenpeace is the undisputed leader of advocacy, education, and programs for the protection of World Heritage sites, waste reduction, recycling programs, addressing plastic pollution, protection of natural landscapes from fires, protection and management of forest areas, and a number of other topics in Russia. Now that everything created by Greenpeace is undesirable and banned from distribution, there may be a shortage of quality materials to support a wide range of environmental campaigns and projects throughout the country.

It is only natural that the environmental movement has strong global ties; there can be no “sovereign environmental conservation” in a global world. It is thus not surprising (and quite encouraging) that international environmental organizations that arrived in Russia 20-30 years ago enjoyed great authority: [WWF](#), Greenpeace, [Bellona](#), and others. These organizations were an important link between the Russian environmental movement and their counterparts in other countries, and their national chapters played an important role in coordinating the Russian environmental movement. This was especially true after most of the large, independent, domestic NGOs were recognized as foreign agents starting in the 2010s. Today,

this cross-country coordination has been dealt a very painful blow.

Struggles for Baikal without Greenpeace

At noon on May 23, the day after the mass dismissal of Greenpeace staff, the Commission on Ecology and Environmental Protection under the Public Chamber of the Russian Federation and the Duma’s multi-partisan “Baikal Working Group” met to discuss proposed amendments of the “Law on Lake Baikal protection”. During the bill’s first hearing in the State Duma, elected deputies and senators with political and economic interests in the Baikal region proposed a draft law to radically weaken World Heritage site Lake Baikal’s conservation regime. The bill would greenlight wholesale logging along the lake’s shores and rezone forest areas into other land categories allowing tourism and infrastructure development. Naturally, the lands would be simultaneously privatized as well. Private interests have been hidden behind demagoguery regarding the needs of the population suffering under excessively strict conservation rules, for example, preventing municipalities from expanding cemeteries near shoreline villages. In their agitation, representatives even suggested deleting the reference to “natural World Heritage Sites”



During a meeting of the Russian Public Chamber environmental commission, Buryatia Republic governor Alexei Tsydenov and former Greenpeace employee and current expert of the Coordinating Council for Ecological Wellbeing Mikhail Kreindlin, engage in productive conversation. Source: [Russian Federation Public Chamber](#).

from the “Law on environmental protection”, calling the term a concept alien to contemporary Russian law.

This was the moment when it became clear that eliminating Greenpeace did not do lawmakers any good at all. At the moment of their expected triumph, their whole scheme began to crumble.

Apparently impressed by UNESCO’s harsh promise to transfer Baikal to its List of World Heritage in Danger, the Russian Foreign Ministry opposed drastic reductions to the lake’s protection at the last moment and advised Duma members that such amendments would permanently undermine the country’s reputation and only contribute to

Russia’s ouster from international mechanisms. [Note: the author is in possession of this letter.].

On the morning of May 23, instead of supporting the initiative, State Duma Chair Vyacheslav Volodin clearly ordered the bill’s initiators to postpone its first hearing and to moderate their appetite for privatizing Baikal’s shoreline and erasing the concept of natural “World Heritage” from Russian environmental law. As seen in a [video](#), during the May 23 meeting of the [Public Chamber of the Russian Federation](#) (PC RF), Buryatia Republic governor Alexei Tsydenov sat down alongside newly-unemployed Greenpeace expert



Mikhail Kreindlin. At the beginning of the event, Kreindlin was introduced by Commission chair Elena Sharoykina as an “expert for the Coordinating Council for Ecological Wellbeing under the PC RF”. The two leafed through documents together, and after a brief dialogue, Tsydenov commented that he “supports Kreindlin’s version”, the essence of which is a ban on clear-cutting forests and making it possible to create new cemeteries and connecting roads near coastal villages.

Several former Greenpeace employees now turned experts associated with other respected domestic environmental organizations spoke out and were also supported during the Commission meeting. In essence, the deputies actually denounced their original text in the bill dismantling Baikal legislation and instead called on the public to engage in dialogue to “improve the bill”. It is, of course, too soon to celebrate a victory, but it is clear that the previously proposed dismantling of Baikal conservation laws will not go to a first hearing in the State Duma for the time being. And the most bloodthirsty version has certainly been taken off the table.

After Greenpeace

The events in the Public Chamber inspire cautious optimism, but let us not underestimate the risks and difficulties that await the environmental community.

The destruction of Greenpeace is just one factor in the current dismal geopolitical situation affecting the Russian environmental movement. Today, the primary challenge is the war that the Russian authorities have unleashed on both foreign and domestic fronts. Where in times of peace the government did not love, but tolerated these groups, today, ramped-up wartime repressions have hit WWF, Greenpeace, and Bellona.

Wartime suppression of civil society is a safe and inexpensive way for the government to blatantly “strike a blow against Western enemies”, when in actuality it is acting out an entirely different slogan of “beat your own, so that others may fear”. Whether the authorities’ aggression will spread to more local environmental movements remains to be seen. Before the war, environmental NGOs were thinned out by branding over 30 organizations as foreign agents. So far, individuals have only twice been recognized as foreign agents, in October 2021: Elena Solovieva and the author of this text, and both specifically for their work as environmental journalists. It is not yet clear whether the state will intensify individual [persecution of environmentalists](#).

Fellow UWEC Work Group colleague and climate journalist Angelina Davydova believes that local environmental activists and



their groups won't disappear, because environmental problems are worsening everywhere. Many activists have left the country amid the hostilities against Ukraine, but most local activists and experts will remain in Russia, because their activities and civic motivation are firmly tied to challenges and values within Russia and to abandon them would be to betray themselves. But the movement will be more decentralized, with a partial withdrawal from public activities and reduced opportunities for communication and coordination at the national level. The power structure and pseudo-environmental organizations it has created to imitate true activism and advocacy are actively engaged with local groups. We know from Soviet-era experience that even such officious organizations as the All-Russian Society for Nature Conservation, for example, often played a key role in upholding specific environmental values during the darkest periods of Soviet history. Other "hotbeds" of environmental

freethinking were scientific institutions, ranging from strict scientific nature reserves to academic institutions.

Strong horizontal layers and interconnectivity have always been an advantage for the environmental movement. Strong ties between those who left and those who stayed remain intact, but whether they can replace the expert and organizational support provided by national branches of major international NGOs is unknown.

As we see in the recent Baikal example, much depends on the position and fate of specific leading experts and leaders in different spheres of environmental work. If they manage to continue to lead and coordinate their activities informally, the environmental movement will survive and adapt as new conditions arise. It is more important than ever to support both the activists who have left Russia and those who remain to find new niches and to strengthen interconnectedness in the shared movement. •

Main image source: [France24.com](https://www.france24.com)



500 days of war: Experts discuss the war's environmental impacts

*by Viktoria Hubareva
Translated by Alastair Gill*

Experts have been studying the direct and indirect environmental damage caused by Russia's invasion of Ukraine since the very beginning. However, new aspects of the conflict's disastrous influence on the environment continue to emerge. To mark World Environment Day on 5 June, experts from the UWEC Work Group made a series of reports in a webinar titled "[The Natural Cost of War](#)", held by the University of New South Wales (Canberra, Australia).

The seminar was led by the environmental philosopher [Anthony Burke](#), who is well known for his work on the establishment of international [environmental law](#) and supervisory institutions.

Watch a [recording](#) of the seminar, or familiarize yourself with the main points made by the speakers in [this article](#).



Protected areas in Ukraine may lose their value

Environmentalist Oleksii Vasyliuk, head of the Ukrainian Nature Conservation Group, talked about the challenges now facing nature reserves, national parks, and other protected areas in Ukraine.

“There is a small number of protected zones in Ukraine, covering around 6.8% of the country’s total land area,” said Vasyliuk. “Around half of them – 44% – are either located in occupied territory or have suffered from military activity. Unfortunately, this is very relevant for the most valuable and oldest protected areas.”

“However, we can safely increase this figure, since in fact there are more protected areas in Ukraine. The fact that they are not yet under legal protection in Ukraine is just down to a gap in the legislation,” he explains.

“Ukraine has numerous sites within Europe’s [Emerald Network](#), which provides international protection, although they still haven’t received conservation status within the country. All these territories have also suffered greatly, but we still don’t have a legal mechanism for their restoration. We’re doing all we can to adopt the necessary legislative acts that will protect these areas in the future.”

At the same time, many protected areas are still under occupation.



Fig 1. Two conservation areas, divided by the Siverskyi Donets river. These territories have been under protection since 1927, but now, as a result of many months of military activity, they have been almost completely ruined. Source: Leonid Dovguy (Леонід Довгий) CC-BY-SA-4.0



Drawing an analogy between these territories and those already liberated, Vasyliuk explains that in protected areas temporarily occupied by the Russians, the entire administrative infrastructure has been destroyed.

“On top of that, all of this land is mined, which prevents national park employees from carrying out their jobs. In territories still occupied, conservation activity has completely ceased,” he says, adding that the war is inflicting immense damage on biodiversity. *“The war has affected rare plant, animal, and bird species, a number of them super-endemic species. Often, 100% of their populations were located in a combat zone, and we can’t be sure that they haven’t almost – or even completely – disappeared.”*

Assessing environmental damage

According to Vasyliuk, it is almost impossible to fully assess the war’s environmental damage, given that it is not feasible to carry out the necessary research and analysis while hostilities continue. We will only be able to reach final conclusions after the end of the war and the complete withdrawal of Russian troops from Ukraine.

“There’s a high chance that the work will be less about counting quantifiable losses, than about recording environmental changes, work that is necessary in order to understand what actions are important for preventing catastrophic consequences,” he explains. In his opinion, this will make it

easier to carry out a financial assessment of the damage inflicted.

“Right now,” says Vasyliuk, *“It is important to concentrate on already liberated areas, prioritizing soil testing to find out if it is safe to use.”*

As for national parks, now is an optimal time for them to send their employees to other countries on experiential exchanges, bringing that learning home to Ukraine.

“In fact, there could be far more solutions – I’ve only named the most obvious scenarios for how things might develop,” he said.

Who should help preserve the most valuable ecosystems until the state takes concrete action?

Vasyliuk points out that landscape changes due to explosions and fire, destruction of ecosystems, and the scattered remains of abandoned military equipment have stripped many of Ukraine’s national parks of the value that previously justified their conservation status.

Although compensation mechanisms for environmental damage resulting from military action are yet to be fully worked out, Ukraine already has a solution to the problem. Vasyliuk sees assistance from public organizations to national parks and reserves as vital. This was the principle over the last year that guided the Ukrainian Nature Conservation Group to support [Askania Nova Biosphere Reserve](#), under occupation



since the full-scale invasion began. This unique case demonstrates the ability of such community organizations to support nature conservation institutions. Vasyliuk believes this experience will be invaluable in the future to both help create new nature conservation areas and restore those damaged by the war.

Can war inflict indirect harm upon the environment? Yes, if it's a 4,000-kilometer wall that effectively creates an animal reserve.

During the webinar, UWEC Work Group expert Eugene Simonov, an environmentalist, specialist in the conservation of freshwater ecosystems, globalization's impact on the environment, and international cooperation among conservation organizations spoke about the indirect harm inflicted on the environment by war "behind the scenes in the military theater."

The very real environmental consequences caused by increased extraction of natural resources or large numbers of refugees passing through an area are good examples of such damage. The most vivid example, in Simonov's opinion, is the construction of a barrier stretching 4,000 kilometers along the borders between Eastern Europe's EU member states and Russia and Belarus. This barrier is being planned

as a defensive measure to protect these countries from Russian and Belarusian aggression.

Approximately 240 km of the barrier have already been built, a section that passes through a vast forest called Bielaviežskaja Pušča, on the Belarusian-Polish border.

"The harm caused by this structure is clear, since the [barrier](#) blocks animal migration and interbreeding of individuals from different populations. In addition, electrified barbed-wire barriers can also be deadly for animals. This is a big problem with big consequences," says Simonov.

The war has created risks to global food security

The outbreak of war forced Ukraine to close some ports and abandon some means of transporting grain, and as a result logistics companies were obliged to find alternative routes through new areas. However, the use of areas of high-conservation value to compensate for the lack of grain and fertilizers carries certain risks.

"Under the pretext of transporting food to Europe through the Danube [Delta Biosphere] Reserve, which is located on both Ukrainian and Romanian land, a new [transport corridor](#) was built, one which could cause irreparable damage to the environment," explains Eugene Simonov.

In addition, complications with Ukrainian and Russian exports increase the risk of famine and increase the



likelihood of over-exploitation of natural resources.

War is a convenient tool for ‘promoting’ political decisions detrimental to environmental protection and depriving civil society of mechanisms to react.

Even the indirect environmental effects of the war impact the political sphere. According to Simonov, this manifests itself in the weakening of legislative and other socio-economic mechanisms. The results are manifold: postponement or cancellation of previously adopted environmental programs, loosening of environmental and technological standards, exploitation of previously protected areas and rare species’ habitats, allocation of subsidies for hazardous and environmentally harmful activities, termination or slashing of funding for environmental and climate programs, management of environmental laws, and finally, suppression of civil society and dissent.

War can weaken the need for businesses and municipalities to follow environmental requirements and creates new incentives for activities harmful to nature. Most of the examples cited by Simonov relate to Russian and Belarusian domestic politics, where the tiny segment of civil society that could oppose such decisions is actively suppressed.

“Cases of activists being criminally prosecuted have become more frequent in Russia. You can now be charged with criminal and/or administrative responsibility for both environmental and anti-war activities. Dialogue with government and business has become even more difficult,” says Simonov, pointing out that this is not limited to Russian entities – international environmental public organizations have also been declared “foreign agents” or “undesirable” in Russia.

While not on the same scale as in Russia and Belarus, other countries are also seeing a weakening of environmental legislation and reduced opportunities for civilian oversight, including Ukraine and EU member states.

New testing grounds and a 21st-century arms race

Some countries, with an eye on the war in Ukraine, are beginning to increase their military production capacity, creating another challenge to the environment. According to Simonov, this mostly concerns European states, though it may not be limited to them alone.

In his report, Simonov drew attention to the fact that important natural areas in Ukraine and [Russia](#) are now being [used](#) for military drills and tests, underlining that military activity and a new arms race not only deplete resources needed to protect nature, but also lead to an increase in pollution and greenhouse gas emissions.



War and the climate

Environmental journalist and UWEC co-editor Angelina Davydova, an observer for the UN Framework Convention on Climate Change (UNFCCC) since 2008, member of the World Future Council and co-host of the English-language podcast The Eurasian Climate Brief, spoke about the link between war and the global climate agenda.

According to Davydova, the global green community had high hopes that sanctions on Russian fossil fuels would draw the world's attention to the necessity of reducing dependence on oil, gas and coal producers, and that sanctions should actually accelerate decarbonization efforts.

"But what did we see last year? What happened in the short term? Many countries have simply switched to other sources of fossil fuels from other suppliers. And if you look at the statistics and company reports over the past year, you'll see that oil and gas companies around the world have actually increased their profits dramatically. Obviously, this is bad news for the climate," she explained.

However, Davydova did stress that this is only a short-term effect. In the future, she explained, more efforts will be directed to the development of renewable energy sources and additional decarbonization measures, including energy and resource efficiency, and that this should bring positive results.

One indirect result of the war is that some countries have resumed the use of coal-fired power plants, and some individuals have partially returned to heating houses with wood. This is a step backwards, since it is likely to lead to greater deforestation.

Zaporizhzhia Nuclear Power Plant reveals the weaknesses of international agreements

Professor Anthony Burke devoted his brief report to nuclear safety issues at civilian sites and the reform of international law. He recently published an article about this, featuring an [analysis](#) of the situation in Ukraine.

Burke qualified his conclusions by pointing out that it is currently extremely difficult to improve international treaties, especially given that members of the United Nations Security Council (UNSC) (which includes Russia) have the right of veto.

The August 2022 five-yearly review conference of the Treaty on the Non-Proliferation of Nuclear Weapons was fractured by division and ended in a stand-off. Russia blocked the adoption of a draft outcome document that would have strengthened the treaty by considering, for the first time, the safety and security of nuclear-power plants in armed conflict zones, including Ukraine.

Nevertheless, the most urgent priority is the withdrawal of Russian



military personnel and weapons from the Zaporizhzhia NPP, and ensuring that there are no further attacks on it. The IAEA's call for the demilitarization of the Zaporizhzhia site (so called "seven pillars" or "five principles") is consistent with the Geneva Conventions and should be enacted urgently. Professor Burke believes that those principles still could be incorporated in international law despite difficulties.

Burke also noted that if there is a nuclear incident at the plant, then Russia will lose its place among the family of civilized nations forever.

Russia missing the opportunity to be an international environmental leader

The last speaker in the webinar was Freya Matthews, an Australian philosopher from La Trobe University. Matthews talked about why she had chosen to write an open letter to Vladimir Putin in December 2022, titled "[On Greatness](#)". The essence of her message was to show that the ways in which Russia is trying to assert itself in the international arena through military

force are catastrophically outdated, and the "greatness of nations" in today's world depends on what they can offer humanity in the way of a contribution to our collective survival and cooperation with nature. In this respect, Russia has [great potential](#) and significance.

But it is clear that Russia today is doing everything in its power to undermine any hopes that it can play a leading role in the future.

How can I find out more about the consequences of the war for the environment?

As we can see, the environmental consequences of Russia's invasion of Ukraine are not limited to the war zone – they touch the whole world. Experts are recording new aspects of the impact of military operations on the environment. Of course, one webinar cannot tell you everything about the environmental consequences of the war. To facilitate free access to information on the topic, UWEC Work Group has created a [catalog of over 50 resources](#) to help keep track of the environmental situation and the consequences of the war. •

Main image source: [UNSW Sydney](#)



Does Russia have a “green” future?

by Eugene Simonov and Angelina Davydova

Translated by Jennifer Castner

The authors' opinions as expressed are solely those of the authors and do not reflect the opinions and beliefs of UWEC Work Group.

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Modern politicians in Russia often talk about the need to restore the country's “greatness” and its role in the new structures of a multipolar world, an idea that was used as a partial justification for Russia's invasion of Ukraine in February 2022. The paradox is that, in the environmental and climatic sense, the Russian Federation has the potential to remain a “great power” and play an important role in humankind's survival. Significant potential for reducing

greenhouse gas emissions, the great role of forests as an element of the Earth's ecosystem, protecting one-third of the world's greatest remaining wild, undammed rivers, prudent management of half the Arctic and ongoing development of a unique system of nature reserves – all of these approaches can be of great significance for the survival of humankind and the planet. In starting a war to preserve an old world order, Vladimir Putin effectively eliminated most of these



opportunities for Russia and threatened global cooperation. Civil society must now consider a new global environmental role for Russia after the war ends.

Environmental imperative and war

The war that Russia started in Ukraine has deflected conversations and actions in a number of countries away from “thoughts on the essential”: how humanity can survive together on a shared planet. Although it is natural that growing local crises and catastrophes in different parts of the planet can completely change a planning horizon and switch nation-level management and processes over to emergency mode.

Humanity’s survival depends on the extent to which it can put the solutions to growing local crises in service to solving global challenges. In this sense, Russian aggression in Ukraine is a test for humanity.

Overall, by 2023, the dual crises of climate change and loss of the Earth’s biodiversity and their need for a unified system of actions have come into focus for humanity (or, at least, for the bureaucracies that unite it). It is a little less obvious that all other efforts to resolve simultaneous crises must also be coordinated with climate and biodiversity efforts. The role and significance of each country in that work for the future of humankind are largely determined by what each will do (or not

do) to solve global survival challenges in the years to come.

This article will examine Russia – the largest country on the planet and one of its least densely populated, a country which started a war to seize new territory and preserve an outdated management system built on quick profit from the sale of energy resources.

Who is the recipient?

Last December, Australian philosopher Freya Matthews published an open letter to Vladimir Putin, [“On Greatness”](#). The essence of the message was that the ways in which Russia is trying to assert itself in the international arena by starting a war are catastrophically outdated, and that the new greatness of nations depends on what they can offer humanity as a contribution to collective survival and cooperation with nature. Russia, the largest country in the world, has very special opportunities and value on this particular path.

In an introductory note, the author of the [Russian translation](#) of Matthews’ letter, Viktor Postnikov, harshly and clearly characterizes the situation in Russian society: “This is an outrageous letter. It is outrageous for pro-Putinists, anti-Putinists, left and right, Russophobes and Russophiles, pro-Western and anti-Western people. It is at odds with the views of politicians and the cultural elite. It’s about saving life on Earth. ...



Photos 1-2. Vladimir Putin has publicly kissed many animals in his career. Source: Ura.ru News Agency

Of course, the letter is addressed not so much to Putin, but to all free-thinking young people in Russia.”

No one has ever addressed Vladimir Putin on this sort of topic. Moreover, it’s unlikely that any Russian politicians are realistically capable of taking on this new role. While it is possible that the ostentatious “nature-loving” Putin that kissed whales, flew with cranes, and planned to become a Greenpeace volunteer in retirement is partly capable of appreciating such a message, he clearly has other priorities today.

“Green” self-awareness in Russia

Over the course of many years the political and economic elites in Russia

viewed environmental and climate issues as something less important and peripheral. For them, “environment” was largely equated with “philanthropy”. These are issues that should have been dealt with when baseline questions regarding socio-economic development, efficient extraction and export of resources, and also personal enrichment were resolved.

The trend towards the growing importance of “green” issues in the world, including on the foreign policy agenda, was gradually perceived in Russia as well. During the 2009 United Nations Climate Summit in Copenhagen, where the adoption of the so-called Copenhagen Accord was anticipated



(but was only accepted in Paris in 2015, thus becoming the “Paris Agreement”), Dmitry Medvedev, who at that time was the President of the Russian Federation, approved the [Climate Doctrine](#).

In September 2019, the Russian Federation joined the Paris Agreement. At the same time, the threat of CBAM (Carbon Border Adjustment Mechanisms) emerged in the European Union. CBAM are border payments on goods produced outside the EU in countries lacking carbon regulation systems or a “price on carbon”. In the original version of CBAM, this affected producers of metals, fertilizers, electricity, and cement. For Russia, whose exports are among the most carbon-intensive in the world (and considering that in pre-sanctions circumstances most of these goods were sent to the EU), this meant higher prices for such goods and a decrease in their competitiveness on the European market. Such threats became more and more likely in conjunction with the European Union’s new Green Deal program, and stimulated further measures in Russia in the field of carbon regulation and green policy in general.

Russian delegates have been talking for years at UN climate talks about the world’s failure to recognize the role of Russian forests and more generally about the significant underestimation of the role of Russian ecosystems in “saving global climate”. In light of the prospect of transboundary carbon regulation,

their statements have only intensified. Studies and documents also began to appear in Russia, arguing that all natural resources in the world’s largest country (in global territorial terms) can also be considered its “natural” and “foreign political” capital.

This manipulative, self-serving approach to evaluating capital and using that capital remained (and remains) instrumental. Often the essence of these statements boils down to the claim that forests and other Russian ecosystems already do everything that the world needs from an environmental and climatic point of view. And thus there can be no claims or demands (by the international community) of Russia itself.

The maximum that the Russian government is capable of is using that “green” potential as a bargaining chip in international negotiation [processes](#), to continue to receive “green” international funding from multilateral development banks and other international finance institutions and to build further dialogue and international cooperation on neutral “environmental” topics. Recent speeches by Russian Federation representatives at the last UN climate conference in Sharm el-Sheikh in November 2022 are an example of this approach.

In April 2021, Russia’s Higher School of Economics (HSE) released a [report](#) entitled “Turn to Nature: Russia’s New Environmental Policy in the Context of



the Green Transformation of the Global Economy and Politics". The report called for a radical update of environmental policy that would not only improve quality of life in the country, but also become a point of convergence with the West.

"Beginning in the 1990s, environmental policy was perceived as a burden in Russia, and sometimes even a threat to economic development," the [report contends](#). "Most obviously... This is seen in the 2017 National Economic Security Strategy, where development of green technologies is listed among other key challenges and threats to the country's economic security". This perspective is primarily due to the fact that such technologies reduce the demand for commodities exported by Russia.

However, the authors of the report called this wording "short-sighted", noting that green technologies will develop (regardless of Russia), and hydrocarbons will gradually lose their status as a strategic commodity. Building foreign policy and foreign economic policy on outdated pillars must be reconciled with the fact that Russia's role in the world economy and world politics will inevitably decline.

In the report, the authors also suggested that Russia position itself as an "ecological, clean" power, making the topic of nature conservation a priority area in foreign policy at the level

of bilateral cooperation with China, the EU, the United States, and multilateral institutions where Russia is a participant: Brazil-Russia-India-China-South Africa (BRICS), Shanghai Cooperation Organization (SCO), Russia-India-China (RIC), and the Eurasian Economic Union. They propose the adoption of a "global green deal". In particular, the proposal includes developing rules and tools for global governance that would: "emphasize responsibility for environmental pollution (including in the form of payments by producers and consumers of "dirty" products) and provide real assistance by rich developed countries for the transition of all countries of the world toward a lower-carbon, green economy".

The report itself put forward a number of fairly sensible proposals for the modernization of green policy domestically, but an emphasis on "image correction" and the need to advertise a "green" component, unfortunately, were not such good ideas. In many ways, this perspective only supported statements and actions by Russian officials when it came down to instrumentalizing the green agenda and ultimately became only a cover, at best, for inaction, and, at worst, serving as a "green" screen for other not very plausible deeds.

In the context of the full-scale invasion of Ukraine, statements by Russian officials at international climate and environmental summits



in which they call for continued environmental cooperation “due to its global importance” are unlikely to be taken seriously. In any case, so far there have been no official reactions to such statements.

A recent [study](#) by independent news media Meduza of the HSE’s transformation specifically notes that today HSE is pursuing the topic of “potential risks for the Russian economy in the global climate agenda imposed by the West” “in the interests of the Presidential Administration”.

Recent climate policy developments in Russia since the war began

Since the war began, the Russian Federation has formally remained a party to all international climate agreements (including the Paris Agreement) and it continues to declare the importance of the climate agenda domestically and globally. That said, most attractive areas and collaborative prospects within Russian officialdom are seen in “non-Western” countries, and above all [in BRICS countries](#) as well as in the Persian Gulf, Southeast Asia, and Africa.

Russia is also [employing](#) neocolonial rhetoric, declaring the importance of building a multipolar world and creating a sovereign green and climate agenda not influenced by Western countries. There is also a great deal of talk about increased cooperation with the global

South, primarily on technological issues; Russia’s interest in exporting nuclear and exploration and extractive technologies is noticeable here.

At the same time, developing legislation regulating greenhouse gas emissions, conducting events focusing on climate, environmental policy, ESG (environment social and governance), and making political statements are ongoing. But it would be unlikely to talk about [real action](#) to reduce emissions or allocate funds for implementation of effective climate change adaptation programs.

To date, stated climate goals – including those set out in Russia’s long-term low-carbon [development strategy](#) (through 2050) and including achieving carbon neutrality – remain on paper only. Development of an implementation plan for this strategy was pushed back to 2023 and may be moved further. A whole number of other legislative acts and standards in the field of environmental protection have been [postponed](#), canceled, or put on hold. Business representatives demand additional cancellations of environmental requirements in difficult socio-economic conditions, and Russia’s access to international green technologies and finance is significantly more complicated. At present, Russia is studying the possibility of [accessing](#) non-Western sources of green financing, including in [Arab countries](#) and in



Photo 3. Putin helps to collar a polar bear on Franz Josef Archipelago. Source: [The Barents Observer](#)

Southeast Asia, as well as in stock markets where Russian companies also plan to issue green bonds.

Arctic and permafrost

Russia's Arctic and permafrost are critical "treasures", but also challenging spots for the country, including in the context of global climate change. Multiyear permafrost melts more and more, resulting in largely uncontrollable feedback effects. The higher the temperature,

the more the permafrost melts and releases CO₂ and methane. This, in turn, intensifies the global greenhouse effect. The Arctic is warming faster than anywhere else on the planet, and Arctic ice sheets are shrinking – these processes come with global consequences, including for countries at a great distance from the Arctic.

Obviously, in that context, international cooperation is extremely urgent and necessary for humanity's collective survival. How can



international cooperation be aligned with a country that is waging a war?

In March 2022, shortly after the invasion of Ukraine began, other [Arctic Council](#) member countries (it includes Denmark, Iceland, Canada, Norway, Russia, USA, Finland and Sweden) [announced](#) that they were suspending their participation in that body's work during the Russian chairmanship. This year, the chairmanship is passing to Norway and the question of the Council's ongoing work remains open.

Recently, Russia made changes to its Arctic strategy in response to the remaining members' boycott of Russian Federation leadership of the [Arctic Council](#). Russia no longer regards "observance of high environmental standards" as the most important condition when developing Arctic resources nor does it view cooperation with neighbors as a priority. The remaining priority of "sustainable development" in the text seems to include not only development of the Northern Sea Route (NSR) and building capacity for liquefaction of natural gas, but also construction of a network of small nuclear power plants and development of the Taimyr coal deposit, which produced its first coal in 2022.

Importantly, Russia is already carrying out climate adaptation programs and research that are of planetary significance, and serve as testing grounds for evaluating possible

solutions that can later be used elsewhere in the world. Among them are father and son Sergei and Nikita Zimov and their "[Pleistocene Park](#)", an initiative seeking to restore highly productive natural rangeland in the Arctic region.

The project's main idea is to [release](#) large mammals (musk oxen, deer, bison, Yakut horses, yaks, etc.) in today's tundra, the presence of which may result in the formation of steppe plant communities that last dominated the Arctic millennia earlier. It is this project that Freya Matthews describes in her "Letter to Putin" as an example of Russia's possible contribution to climate efforts. In her opinion, an important outcome of the project is that herds of herbivorous animals will trample snow cover and thus facilitate deep freezing of the soil in winter. Steppe grasses reflect the sun's rays many times more effectively while absorbing significantly less heat, but store more carbon than wetland-shrub vegetation on the tundra.

All of these processes increase permafrost resistance to global warming processes, slow biological decomposition of organic matter, and thus prevent the formation and release of greenhouse gases.

A second example is climate adaptation and biodiversity conservation programs in Russia's Arctic regions (specifically in Taimyr, in Murmansk, Nenets Autonomous Okrug, and previously also in



Chukotka) developed and implemented by World Wildlife Fund in Russia (WWF-Russia), an organization recently [recognized](#) by Russian authorities as a “foreign agent”. Initiatives underway include local community programs that support Indigenous population. They receive support in the form of security, climate change adaptation practices, and development of new types of economic activity. Prior to being named a “foreign agent”, WWF-Russia also conducted educational activities with schoolchildren and helped develop local regulations related to climate change adaptation.

Strictly protected scientific nature reserves: a Russian contribution to global biodiversity conservation

Russia has made an important contribution to global biodiversity conservation in the form of creating a network of strict scientific nature reserves (zapovednik in Russian): territories where the natural course of environmental processes and the entirety of all species living there are strictly protected, accompanied by continuous study of those natural complexes. The first such was Barguzinsky Reserve, established in 1916. Today, 103 reserves protect over 300,000 square kilometers of nature. Five additional reserves are located on Ukraine’s Crimean Peninsula, which Russia stubbornly continues to claim.

Conservation of ecosystems for the purpose of studying the processes occurring therein is a fundamental task for reserves, one that is quite distinct from the United States’ national park school of thought, institutions intended to be accessible to the public and that educate the public. The practically unattainable ideal of “absolute protection” nevertheless became Russia’s most important landmark and contribution to shared international environmental thought (and practice). The International Union for the Conservation of Nature’s (IUCN) classification of protected areas today includes Category 1a “Strictly protected scientific reserve” (in other words, a zapovednik), which is the most advanced form of protection for natural landscapes.

Over the century of its existence, the Russian reserves system has experienced several waves of contraction (primarily under Stalin and Khrushchev), more than a few scandals related to the use of remote territories for trophy-hunting or private gain, and periods of acute budget crises, but in general it has turned out to be one of the most effective forms of nature conservation.

Now, in light of the global scale [“30 by 30”](#) initiative that seeks to protect 30% of terrestrial and marine territories and restore disturbed natural processes in another 30% of Earth’s ecosystems, Russia – with its vast and sparsely populated territories and a century



Photo 4. Image of Putin posted by activists to protect forests from logging. Source: [Dialectic Club](#)

plus of conservation traditions – could become a world leader. Only 17% of the country’s territory lies within a protected area and there are fewer objective obstacles to their creation than anywhere else in the world.

In November 2014, Russia made a bid for “nature reserve greatness” by opening the richest and most informative pavilion at the [World Parks Congress](#) in Sydney. Despite that, Russian representatives were nevertheless questioned about Crimea’s annexation and not about the management of nature reserves.

In just the last two years, Russia has been actively giving up its environmental positions, weakening [protection](#) of Lake Baikal and other [World Heritage sites](#), carving out

lands within strictly protected areas and national parks for the construction of summer cottages and hotels, and weakening laws on protected areas. In March 2023, following President Putin’s clearly stated position, the State Duma [adopted](#) a law ensuring the prioritization of tourism development in all protected areas, including zapovedniks. A [protest](#) issued by the Expert Council on the Nature Reserves fell on deaf ears in the legislative Duma. Instead of improved regulation of environmental education activities, the bill focused on facilitating the transfer of territories to “investors” for the establishment of tourist facilities.

Such a poorly designed initiative will put an end to more than a century-old tradition of conservation work, radically



changing and reordering priorities. The reason for this is the desire to develop domestic tourism as quickly as possible in order to compensate the population for the reduction in opportunities to travel abroad. The second reason is a search by pro-government elites for new sources of income to replace those driven downward due to sanctions and resource depletion.

Russia – the most forested country in the world

Northern forest ecosystems are enormous but minimally productive, not to mention being significantly affected by fire and excessive logging. Nevertheless, they comprise a majority of forest ecosystems on the Eurasian continent and play a critical role in supporting balance in nature on a planetary scale, particularly when it comes to long-term carbon sequestration.

In recent years, greenwashing-style “climate manipulations” have unfortunately gained in popularity. Instead of actions to meaningfully reduce greenhouse gas emissions, corporations and states promise to “increase the absorption capacity of forests”. Most of these commitments are false promises and often involve damage to natural ecosystems, for example, in the case of creating forest plantations in steppes.

A recent example is an [investigative journalism](#) piece published at the start of 2023 in which both The Guardian and

Die Zeit participated. Its authors found that 90% of the carbon offsets (emissions offset projects achieved primarily through tree planting in the Global South) confirmed by Verra Carbon Standard (the largest independent verification company) had almost zero climate results and could indeed have resulted in additional emissions of greenhouse gases. Disney, Shell, Gucci, and others acquired comparable compensatory emission reduction units.

Russia also attempted to enter onto this playing field, announcing that the country also received an undeserved place among the leading countries in “net emissions” of greenhouse gases as a result of a “mistaken calculation” about the global role of Russian forests. To prove this, Russia developed a [new methodology](#) to calculate greenhouse gas absorption by forests and other ecosystems.

Political manipulation devalues good intentions. The campaign to “redefine the role of forests” has coincided with an increase in wildfires driven by warming temperatures, droughts, and poor forest management. In 2023, Krasnoyarsk scientists [published studies](#) clearly showing that poorly protected forests in Siberia are less and less able to absorb greenhouse gases. Some forested areas already have a negative balance, in other words, they emit greenhouse gases. If these trends continue, their share will grow rapidly.



Photo 5. "Conquered" Volga River. Nikolsky Cathedral in Uglich Hydropower Reservoir.

Source: [V.Pakhomov. Wikimedia](#)

A number of actions are needed to remedy the situation: halt logging in undisturbed forests, establish effective fire protection measures, and stimulate highly productive forestry on abandoned agricultural lands, of which there are more than 70 million hectares in Russia. Unfortunately, Russian forestry is moving in exactly the opposite direction. Unlike many countries in the world, Russia has not set a goal to end logging in natural forests, and supporting development of forestry on abandoned arable land was [blocked](#) in 2022. Owners of agricultural land overgrown with secondary forest are faced with the dilemma of cutting (or burning) the forest or giving up their plots. It should be noted that this topic, as well as that of sustainable forest management and preventing and

fighting forest fires in general, was a key focus area for Greenpeace for many years in Russia. Greenpeace's activities were labeled "undesirable" by the Russian government at the end of May, resulting in the organization [announcing](#) the end of its tenure in that country.

Empire of free rivers

What other ecosystem riches does Russia possess that are of global importance? All over the world, there are only four dozen rivers longer than 1000 km that remain undammed in their main channel and, accordingly, have preserved natural cycles for fish migration, sediment runoff, periodic flooding of floodplains, wetlands maintenance, etc. These support the most critical ecosystem function, and in particular, supply fish to the most



needy and vulnerable population groups.

Russia is home to one third of the world's largest free-flowing rivers: the Lena, Amur, Tunguska, Olenyok, Yana, Indigirka, and half a dozen other mighty rivers. These rivers are not only the foundation of natural resource use by Indigenous peoples of the North, they also support natural water regimes in oceans, especially the shallow Arctic Ocean.

On 30 December 2022, Russia adopted an energy [development program](#) that once again includes the construction of large hydroelectric dams, including previously unaffected rivers – the Tom, Timp-ton, and Selemdzha. There is no economic sense to be found in these construction projects; instead they are intended to “preserve competencies in the field of renewable energy”. Russia has many fewer competencies when it comes to creating wind farms and solar arrays that are less damaging for nature. A few years ago, Russian scholars were commissioned by the Russian Hydropower Association to produce research justifying the construction of hydropower infrastructure. The [researchers](#) found that, unlike in other corners of the world, gigantic reservoirs supporting Russian hydroelectric power stations do not emit, but rather absorb greenhouse gases. Such a conclusion seems very doubtful, because it is [well-documented](#) that artificial reservoirs

emit significant GHG emissions ([primarily methane](#)), and in particularly large amounts in the [first decades](#) after filling. This phenomenon has attracted the attention of policy makers recently, leading to the addition of hydropower and other reservoirs to GHG accounting and [reporting](#) systems.

Does Russia have a future “green greatness”?

It is more or less obvious that while the war continues, all talk about Russia's future role in the survival of humankind is rather abstract. Today, Russia has [contributed](#) significantly to undermining the building blocks of human survival, including by bringing death and destruction in the literal sense of those words. In addition, the war started by Russia has launched a new round in the global arms race, a process which radically shifts resources and attention away from solving global problems. In all the most important areas that determine Russia's environmental significance in the world, environmental conservation [rollbacks and degradation](#) are more likely to be observed than progress.

War and corruption are two determining factors which, when multiplied by the internal [colonial nature](#) of the country, presume the extraction and redistribution of natural resource rent as the leading process for cementing Russia's social structure.



As long as the basis of the country's political economy remains - divvying up (natural) resources among the elites and the corrupt - a transition to the "sustainable development" model is impossible in principle. For such a transition to occur, it is necessary that the preservation and enhancement of human capital, nature, and ecosystem services be perceived to be of greater value than the extraction of raw materials and the development (or capture) of new territories.

Some day the war will end and new Russian authorities will be forced to seek their place in the global division of "labor and glory". So this conversation is not useless; civil society needs to have answers to these questions. Preparation for the "after" is important and necessary right now.

Conversations must begin today about support for and further [professionalization](#) of environmental activists and experts in civil society, maintaining at least informal international contacts with civil society representatives and individual scientists. Development of further alternative models of "green" development, particularly in the context of global climate change, is another essential topic for discussion, as are discussion of their potential contribution to global thinking and dialogue about global development as a whole.

Voices from "unofficial Russia", are critical to these discussions: members of civil society organizations, the scientific community, journalists, publicists, and thinkers located both inside the country and those in self-imposed exile all around the world. •

Main image source: Wikimedia



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