

U W E C

Ukraine War Environmental Consequences Work Group

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Dear Friends!

Of late, we have been hearing less and less about important happenings related to the war in Ukraine. Reports of mass shelling, fighting around nuclear power plants, destruction of forests, and water pollution caused by shelling of industrial centers have practically disappeared from mass media. Nevertheless, the war's destructive "work" continues. We must remain vigilant. While events may not be visible to the media, they play a key role in understanding the environmental consequences of Russia's invasion of Ukraine.

At the end of March, we learned that the Russian invaders had established their own occupier administration of a protected area for crucially important steppe grasslands and one of Europe's oldest nature reserves – Askania Nova Biosphere Reserve. This necessarily ended Ukrainian and European collegial support (including monetary) of the reserve. UWEC Work Group expert and leader of Ukrainian Nature Conservation Group Oleksiy Vasyliuk tells us about current events in Askania Nova and how the reserve is surviving:

<u>Askania Nova Biosphere Reserve seized by invaders</u>

Unfortunately, even areas of Ukraine liberated from the invaders cannot currently fulfill their ecosystem functions. Almost 40% of Ukraine's territory has been covered with land mines, meaning local residents have lost access not only to nature reserves and national parks, but also simple forests. It is difficult to imagine the damage that results from lost ecosystem services, sometimes many years into the future. We can only begin the conversation:

• Military combat impacts on ecosystem services in Ukraine

Russians are also losing access to ecosystem services. In early 2023, under the guise of strengthening Moscow's air defenses, forests adjacent to the UNESCO "Church of the Ascension, Kolomenskoye" World Heritage Site were destroyed. This is an illustrative example of how natural landscapes in Russia can be destroyed under false pretenses today. UWEC WG expert Evgeny Simonov shares his analysis:

• Moscow turns rocket sights on its own heritage?

Landscapes occupied for some time are especially impacted by intensive use resulting from the war. Today, we review the war's impacts in Donetsk and Luhansk Oblasts. UWEC WG experts Oleksii Vasyliuk and Yulia Spinova analyze the consequences of unregulated coal mining for the region, and UWEC WG's Valeriia Kolodezhna's infographic clearly reflects this multi-year process:

• Unregulated coal mining destroys Donbas nature

As we have reported more than once, the war also affects international environmental policy, including the Sustainable Development Goals (SDGs) adopted by United Nations member states. The Regional Forum on Sustainable Development Goals organized a discussion of the war's impacts on achievement of SDGs, including expert Oleksii Vasyliuk. Representatives of Belarus' current regime made a surprise attempt to block the event itself, resulting in only greater attention to the interplay of SDGs and the war. Learn more about the event and its results in coverage by Nelya Rakhimova, coordinator of Russia's Coalition for Sustainable Development (KURS–Russia) and event co-organizer:

• War at the Regional Sustainable Development Forum

The longer the war goes on, the more "fake news" related to its environmental consequences we encounter. Russian propaganda makes especially active use of misleading news. UWEC WG expert Oleksii Vasyliuk examines stories about combat mosquitoes and lizards capable of spreading viral diseases, flooding Energodar, and errors by Ukrainian journalists:

• <u>Environmental fakes: How false environmental news is used in the information</u> <u>war</u>

In addition to our reporting and analysis, we are launching a special webinar series to counter misinformation about the war's environmental consequences in Russian-speaking spaces. Although these webinars will be offered in Russian, we will, of course, share key conclusions and expert reports in both Ukrainian and English. Register for the seminars:

• <u>2023 Journalism Webinar Series. Environmental Consequences of Russia's</u> <u>Invasion of Ukraine</u>

<u>R</u>RR

We continue to track the war's environmental consequences on our <u>website</u> and on our social media (<u>Twitter</u> and <u>Facebook</u>). Join the conversation!

Wishing you strength and peace! Aleksei Ovchinnikov Editor, UWEC Work Group



The year of Ukraine's full-scale invasion

Falz-Fein Askania Nova Biosphere Reserve announced the establishment of de facto control over its administration by the occupying authorities. Simply put, the reserve's administration <u>has been captured</u> by the invaders.

Some readers may be surprised by this news, since the southern part of Kherson Oblast, where the reserve is located, was captured by Russian troops in the first months of the invasion. Despite that, until March by Oleksii Vasyliuk Translated by Nick Müller

2023 the reserve remained the last Ukrainian state organization operating as an "island of Ukraine" within the occupied territory. Prior to March, its employees went to work in a building flying the Ukrainian flag and received a Ukrainian salary.

Askania Nova Reserve has always been special. The very first reserve created in Ukraine, it was established on the privately-held lands of European landowner Friedrich Falz-Fein in 1898. In 1919, it was also the first land to receive legal status as a reserve in Ukraine.

Askania Nova survived two world wars and the almost complete elimination of its employees during the repressions in the 1930s. In particular, Vladimir Stanchinsky, one of the founders of Soviet ecology and director of the reserve, was subject to repression and died in prison. The reserve was repeatedly plundered and destroyed. But both before these challenging events and after them to the present day, Askania Nova remains the most famous nature reserve both in Ukraine and throughout Eastern Europe. Now, these protected lands have attained the status of UNESCO Biosphere Reserve and are on a provisional ("shadow") list of UNESCO World Heritage Sites (the only natural site from Ukraine on that list). Additionally, Askania Nova is the

largest area of virgin steppes, preserved without ever being cultivated, in Ukraine.

Askania Nova as an ecological experiment

The reserve's tourism appeal consists of herds of ungulates gathered on different continents, living in semifree conditions on several thousands of hectares of protected steppes. It is likely that some of the animals are not even aware that they live in captivity thanks to the vast size of the Askanian enclosures. More than 1500 ungulates living here are descendants of animals brought to the Black Sea steppes under Friedrich Falz-Fein.

Ongoing for over 120 years, Falz-Fein's concept behind the experiment in the reserve was to learn how to breed



Saiga antilope in Askania Nova. Source: Wikimedia



Przewalski's horse in Askania Nova. Source: Wikimedia

rare ungulates in protected areas, so that in the event of their extinction in nature, he could restore their populations. This incredibly progressive 19th century goal required acclimatization of the animals to captivity.

generations So, many of non-American bison, non-African zebras, non-Kazakh saigas, and non-Mongolian Przewalski's horses have lived in the reserve. These Askanian zebras, bison, saigas, horses, and other animal species have adapted to both the climate and Ukrainian steppe landscapes over a long period of time. Askania also has a century-old arboretum containing many tree species from all over the world and maintained by constant irrigation using artesian waters. Those artesian waters also feed lakes in the reserve - waters used by birds during migration.

2022 military invasion and the reserve

The captive breeding operation did not cease even during Kherson's occupation, supported by thousands of benefactors who sent donations United States, from the Canada, Germany, Poland, Britain, and many other countries to help the animals and employees of Askania Nova. And that is quite apart from the support of the Ukrainian people, who are most aware of the ramifications of Askania's potential loss.

Over the past year, all urgent needs and current expenses for feed, fuel, medications, equipment, creature comforts, spare parts and items necessary for current nature conservation work, materials for maintaining animal enclosures and premises, and maintenance of the zoo and arboretum have been met.

It must be acknowledged that the presence of Russian troops in the reserve's immediate vicinity could not pass without lasting damage. Askania Nova has been facing the occupation's consequences since the invasion began. According to Ukrainian media, the invaders removed two cars from the reserve, a tractor with a trailer, research equipment, and firearms that belonged to the state conservation fund enforcement service. They also blocked access to part of the arboretum, began to drive heavy equipment through protected steppe areas, and dug trenches.

The invaders caused three fires on the territory of Askania Nova, burning almost 1,400 hectares in 2022. Military aircraft constantly overfly the protected area at low altitudes, causing panic among the wild animals, sometimes even resulting in their death. Despite this, life in the reserve continued.

Complete occupation of Askania Nova: adding tourism

On 20 March 2023, visitors arrived at the reserve without prior warning or official introduction: First Deputy Head of Russia's Presidential Administration Sergey Kiriyenko, collaborator and "acting Governor" of Kherson Oblast Volodymyr Saldo, and D. V. Meshcheryakov, a previously unknown person appointed to serve as the reserve's "director" by the "Kherson Oblast" Ministry of Natural Resources and Ecology. It has not yet been established where this functionary came from, but he clearly has nothing to do with protected areas work. In his welcoming speech, the new "director" allegedly promised to develop tourism in nature conservation areas in every possible way.

"Apparently, Meshcheryakov is unaware that Askania Nova is an environmental research institution of international importance and not an entertainment facility. Our reserve begins with the steppe and ends with the steppe. Despite many problems, its employees continue to care for the protected area's thousands of hectares. Yes, before the occupation, excursions happened here, but only to the extent that it was safe for nature. So, only people who are very far from all of this can seriously talk about tourism," anonymously <u>commented</u> residents who had witnessed the arrival of Askania Nova's new "overseer".

According to open source information from the "Extract from the Unified State Register of Legal Entities of the Russian Federation", D.V. Meshcheryakov D.V. (TIN <u>910403459172</u>) registered "Askania Nova Biosphere ReserveState Autonomous Institution" (omitting Falz-Fein's name) on 7 March 2023.

This changed everything, given that it is unacceptable to support, including by charitable contributions, an organization created by the occupiers in any form, since such activity can be directly equated with financing the occupying power.

Alongside the impossibility of using charitable donations to support the reserve's operations until Kherson's left bank is fully liberated, a new need arose for the material support of workers refusing to cooperate with the occupation administration. As a result, Askania's actual administration (currently located on Ukraine-controlled territory) will direct all financial support received in the near future to help employees forced to temporarily leave the institution. Such aid is no less important, given that the reserve's post-liberation restoration will depend on these people.

Prospects for Askania Nova's near future

Further preservation of Falz-Fein Askania Nova Biosphere Reserve as an environmental research institution of international importance (UNESCO and the Biosphere Program Man designated in 1985) cannot be ensured by the Ukrainian administration and the reserve is under direct threat. Communication with the reserve has been almost entirely lost and, most likely, these events will lead to a mass layoff of employees who are unwilling cooperate with the occupying to authorities. Meanwhile, staff continue to partially perform functional duties



Askania Nova. Source: Wikimedia

and provide the necessary care for wildlife.

The appointment of an "overseer" at the reserve resembles seizure for the purpose of thievery, not protection. <u>There are fears</u> that the Russian invaders are preparing to remove animals from the reserve. In early November 2022 prior to Kherson's liberation, the invaders <u>plundered the local zoo</u>, and in December they <u>took animals</u> to Crimea from a mini-zoo located at a station run by young naturalists associated with Kakhovka City Council on the left bank of Kherson. This cannot, of course, be compared to the scale of the larger Askania Nova reserve's wildlife.

While leaving Askania in 1943, German invaders stole the library and museum. However, the animals have remained to this day. Today, there is a risk of losing Askania Nova's main value – herds of rare ungulates living free-range in the steppe. •

Main image: Askania Nova, spring steppe. Source: Wikimedia



Military combat impacts on ecosystem services in Ukraine

by Oleksiy Vasyliuk Translated by Nick Müller

Military hostilities have a significant destructive effect on nature. They not only cause the death of living organisms, but also lead to the destruction of natural ecosystems. As a result, ecosystems lose their ability to support biological species, including humans.

Loss of ecosystem services

All our needs for everyday living depend on the state of the environment: air quality, temperature, precipitation, and food, all of which are directly related to natural ecosystems. For example, 60% of everything that humanity consumes originates from plants pollinated by wild insects. Virtually all plant foods consumed by humankind are grown on soils, while animal-based foods (except seafood) come from animals that rely on fodder also grown on soils: a complex and important ecosystem. It is also not hard to imagine what would happen if plants did not have time to restore the oxygen supply in our planet's atmosphere. All of these factors point to the fact that the quality of our life and the suitability of lands for our existence depend on the preservation of ecosystem functions.

All ecosystem services can be divided into several groups: supply services (or natural resources), regulatory services that support the natural living conditions for biological species, and cultural and social services, including the cultural (spiritual, aesthetic, etc.) significance of nature for people.

Fires, pollution of rivers and soils, explosions and the destruction they cause, and acid rain all damage ecosystems. The total volume of land burnt in Ukraine as a result of the war already exceeds 100,000 hectares. A significant part of that area is forests, some of which are located in the Chernobyl exclusion zone. Waste from destroyed sewage treatment plants and industrial enterprises ended up in rivers and soils, as did all the toxic contents of each of the shells, rockets and mines used during combat.

Before the start of the war, climatic conditions were largely mitigated by previously artificially grown forests and forest belts, which together form the microclimate. The invasion's disruption of ecosystem services especially affected inhabitants of Ukraine's steppe zone, a region particularly impacted by recent hostilities. The destruction of forest belts leads to large-scale wind erosion and the devastation of entire regions. Losses of even artificially created but healthy forests in the south and east of Ukraine will result in arid, windy conditions, as well as a significant increase in summer temperatures and a drop in winter temperatures. In the current climate, it is

highly likely that it will not be possible to restore these lost forests to their previous condition. Loss of ecosystem service regulation can be felt in the form of declining living standards, increased costs for comfort and health care, and increased food costs. Communities are often left with destroyed and damaged infrastructure and housing.

Another challenge for ecosystem services is the issue of the soil erosion caused by hundreds of thousands of explosions, construction of military defenses, and the passage of heavy military machinery.

Ecosystems are also losing their cultural and social functions. Human visitation of forests and parks contributes to the prevention and treatment of mental health issues, an effect that was most recently on view during the acute stage of the Covid-19 pandemic. Opportunities for enjoyment, spiritual enrichment, inspiration for creativity, obtaining scientific knowledge, and identity formation for social and ethnic groups are also important but unquantifiable ecosystem services.

Who depends the most on ecosystem services?

The impacts of ecosystem services are either concentrated within the ecosystem (for example, peace and quietude) or extend a certain distance away (wind carries cool air formed in the forest to the nearest settlement in summer). In addition, some services are provided by many ecosystems around the world, while others (primarily aesthetic, social, and curative) are unique. It may only be possible to experience their significance (for example, to see natural views) from within. We all use many ecosystem services without noticing: we breathe clean air, admire the horizon, or find peace listening to birdsong after a busy day. When we want to lie on a seaside beach or go mushroom-picking on a damp autumn morning, we go places where nature provides these specific services.

We can identify core groups of ecosystem service consumers: permanent local residents, informed temporary visitors, and consumers of global regulatory services (climate formation, atmospheric precipitation, air chemistry, etc.). Ultimately, the latter group includes all of Earth's inhabitants.

Long-term area residents are part of the positive impact of each ecosystem service. They are consumers of these regardless whether services, of consumption conscious the is or unconscious. For ecosystem locals, services are an integral part of their quality of life.

When a natural area ceases to provide services for regulating socio-cultural life, local residents tend to suffer the most of all. For example, during combat, ecosystems are partially destroyed and some land becomes inaccessible due to mine deployment. An ecosystem's destruction (for example, by forest fire) ends provision of most such services. Minefields offer consequences of a different nature: elimination of the direct use of sociocultural services, without stopping ecosystem processes.

Regardless of mines, trees continue to generate oxygen, bumblebees pollinate plants, and moist cool air forms under forest canopies. Residents living adjacent to mined areas also do not experience deteriorating conditions, natural although, if they profit from ecotourism, their income will inevitably decline. When people are forced to relocate, they not only lose a whole range of familiar ecosystem services, but also income from the influx of tourists. So, those involved in local recreation businesses in southern Ukraine are among the hardest hit by Russia's invasion.

Overall, the importance of sociocultural services should encourage local residents to revitalize and protect nature in order to maintain reliable income in the community. Restoration of recreational opportunities in the wartorn south and east of Ukraine appears to be a more realistic short-term objective than complete revitalization of housing and industrial infrastructure.

Overcoming consequences naturally

Of course the war's consequences not only affect nature, but nature can

also influence the war's consequences, reducing its negative impact on humans.

Everyone knows about the Chornobil nuclear power plant and its exclusion zone, an area abandoned by people fleeing radiation pollution after the 1986 accident. This incident is a globallyrecognized example of nature's ability to heal in areas where all human activity ceases. Today, its exclusion zone contains the wildest forest in Central Europe; a biosphere reserve has been created on its territory, and many scientists seek entry in order to study wildlife.

Aside from the obvious benefits for wild plants and animals that have regained enormous habitats, reforestation in the exclusion zone is also very beneficial for people. Despite radiation contamination of the territory, local forests provide people with most of the ecosystem services inherent in other forests. They support a mild and humid microclimate in the Polesye region, extract carbon dioxide from the atmosphere, and form clean, oxygenated air that is transported south to Kyiv. It is the exclusion zone's natural ecosystems that prevent the spread of radionuclides. In addition, this territory is a sort of reservoir, since the regulation and purification of water flowing through its wetlands provide Kyiv with clean water over a long timespan. And, of course, these forests are home to millions of living organisms. While the previously polluted territory may not currently be suitable for human life, it does make life safer and more comfortable for all living organisms.

Eliminating the war's consequences is a much more difficult task. Explosions of ammunition, passage of heavy equipment, construction of defense lines, fires in forests, and minefields all destroy nature and limit access. War brings the most devastating losses to forests, secondarily so to steppes and meadows, and only then to other biotopes. That said, wetlands avoid most suffering, as they are usually bypassed by military activities. When risked, wetlands are barriers to enemy vehicles, sometimes absorbing them forever. All important wetland functions that play a role in climate formation, regulating water content in rivers, and the preservation of organic matter accumulated in peat for thousands of years remain intact. The same is true for the services of all flooded ecosystems.

Minefields can block access to favorite places, with devastating morale impacts: no more silent walks in search of mushrooms, journeys along welltrodden routes on weekends, or camping overnights with friends. Scientists (even those who study the effects of war) will no longer be able to access sites for nature studies. Teachers cannot conduct trips for students, and university professors cannot organize hands-on training for students. All the beneficial properties of nature that require human presence in

ecosystems are completely eliminated where landmines are present.

Ecosystems also help to overcome the war's consequences, and such natural processes cannot be replaced with technological ones.

Plants, soil organisms, bacteria, and even some animal species carry out biological remediation, such as extracting hazardous substances from soils and water bodies accumulated during munitions explosions when manmade objects burn. Reservoirs, wetlands, and floodplains filter polluted and accumulate pollutants. waters Waterways help dilute those pollutants and transport them downstream to sea. En route, some substances are absorbed and processed by aquatic organisms into less toxic compounds. Forest ecosystems filter out atmospheric pollution and improve the quality of air polluted during combat. Grassland biotopes protect damaged soils from wind and water erosion, restore soil formation, and store atmospheric carbon dioxide. Thus, the restoration of grass cover not only improves the process of soil formation and elimination of pollutants, but also

stabilizes climate. Grass-covered soil blocks surface runoff, a process which could carry pollutants into water bodies.

All of this immense work is carried out simultaneously by billions of living organisms, and they do this work simply because they are living their lives. The best solution for war-affected areas should be renaturalization natural restoration of biotopes - in other words, rewilding. Only in this way will it be possible to effectively overcome the mechanical and chemical consequences of the hostilities that made the land unsuitable for further use. This strategy can be applied to both natural and heavily polluted economic areas as well, generally improving the state of Ukraine's environment, while increasing the surface area of natural landscapes and ensuring clean air, water, and a more comfortable microclimate. In seeking natural restoration strategies, Ukraine will more effectively achieve the nature conservation goals laid out in the framework of international treaties, in particular, the Convention on Biological Diversity.

Main image source: texty.org.ua



Moscow turns rocket sights on its own heritage

A year ago, when Russian tanks were heading for Kyiv, the international community voiced concern about many Ukrainian historic heritage sites and cultural relics threatened by the invasion. In March 2022, UNESCO adopted the Declaration on the protection of cultural heritage in Ukraine and started systemic support for preservation, damage assessment, and evacuation of cultural relics. As of 8 March 2023, UNESCO has verified war-time damage to 246 by Eugene Simonov

cultural sites since 24 February 2022 – 107 religious sites, 20 museums, 88 buildings of historical and/or artistic interest, 19 monuments, and 12 libraries in Ukraine. (Sources in Ukraine <u>list</u> at least 550 damaged cultural sites). According to UNESCO none of Ukraine's seven cultural sites inscribed on the <u>World</u> <u>Heritage List</u> before the war appear to have been damaged. Those include <u>St.</u> <u>Sophia Cathedral</u> and <u>Kyiv-Pechersk</u> <u>Lavra Monastery</u> in Kyiv, historic Old



Photo 1-2. Churches of Ascension hit by Russian War. Left: Voznesenska Tserkva, 20 km from Kyiv, March 2022. Source: Twitter <u>@TimLeBerre</u>. Right: Vozneseniya Church, 20 km from Kremlin, March 2023. Source: <u>The Insider</u>.

Town Lviv, Residence of Bukovinian and Dalmatian Metropolitans and Wooden Tserkvas of the Carpathian <u>Region</u>, and a monument marking a point of the Struve Geodetic Arc that helped determine the exact size and shape of Earth. However the Ancient <u>City of Tauric Chersonese</u> in Crimea has remained under Russian occupation since 2014 and its actual status is poorly known, while the The Historic Centre of Odesa was inscribed in 2023 on the List of World Heritage in Danger, seeking to shield it from potential damage caused by continuous Russian bombardment.

As of January 2023 we have witnessed military damage to cultural and natural relics not only in Kyiv, but also in Moscow, albeit by the same Russian army and supporting agencies. In recent months the historic Timiryazev (Petrovskaya) Agricultural Academy and Losiny Ostrov (Moose Island) National Park have suffered from placement of massive antimissile systems and other military equipment, making surrounding areas potential military targets. Additionally, a radar system was mounted on the old Salaryevo Landfill – the largest in the capital, priming a potential "dirty bomb" in case of an attack.

For many years, Russian propaganda has accused the Ukrainian army of "using civilian shields" when placing artillery near civilian buildings (e.g.



Photos 3-4.Placing missile complex in Losiny Ostrov National Park. Left: Clearing forest land, Moscow, January 2023. Source: Moskvich Mag. Right: Anti-missile rockets stationed on the cleared site, March 2023. Source: Telegram <u>@Tsaplienko</u>.

Russia's objection to the inscription of the Historic Center of the Port City of Odesa on the World Heritage List in January 2023 contains such a statement). But now Russia is adopting the same tactics it condemns in its own capital. More troubling, these actions likely serve propaganda purposes to intimidate and subdue citizens. The City of Moscow already has a comprehensive air defense system, one that is unlikely to be improved by stationing several pieces of additional equipment in highly visible locations. Moreover, any sizable longdistance rocket attack on Moscow is highly unlikely. Despite this, Muscovites see this visible "threat" and cling ever closer to the government for protection.

However the latest and greatest damage been caused has to Kolomenskove Park-Museum, the old abode of tsars and a site that hosts several outstanding pieces of architecture, including one World Heritage property. According to the Operational Rules of the World Heritage Convention, any concerned citizen or organization may relay to UNESCO World Heritage Centre information on threats and damages caused to a cultural or natural World Heritage Site, and the UNESCO has to react by verifying this information and taking measures to press the responsible State Party to remedy the situation. We did. Our letter to the Director of the UNESCO World Heritage Centre follows below.

20 March 2023 To: Lazare Eloundou Assomo Director, UNESCO World Heritage Centre

Re: The Church of the Ascension at Kolomenskoye (#634): destruction of the surrounding landscape.

Dear Mr. Eloundou Assomo,

On behalf of the **Ukraine War Environmental Consequences Work Group**, we are submitting to Your attention information on alarming developments at the Church of the Ascension in Kolomenskoye, Moscow (World Heritage property #634). In our opinion, the facts presented significantly affect the Outstanding Universal Value of the property and its connection to other heritage areas.

In accordance with §174 of the Operational Guidelines for the Implementation of the World Heritage Convention we request that the World Heritage Center verify our information.

Russian aggression in Ukraine has been long associated with the destruction of the Ukrainian people's historical and natural heritage, as noted by UNESCO on a number of occasions. <u>Our Ukraine War</u> <u>Environmental Consequences Work</u> <u>Group</u> studies and publicizes both the



Photo 5. Almost all vegetation seen in this picture (date unknown, likely 2018-2022) on the far bank of the river were hastily removed in 2023. Source: Moskvatrip.ru.



Photo 6. Riverbank in front of the World Heritage property in February 2023. Source: The Insider.

direct and indirect impacts of this war on the environment in Ukraine, Russia, Belarus, and worldwide. In particular, we have reported on war consequences for <u>Wrangel Island</u>, <u>Lake Baikal</u> and other World Heritage sites, affected by war-time policies. In January-February 2023, we witnessed unprecedented damage caused to historic and natural sites in Moscow under the guise of "defense operations".

The Church of the Ascension in Kolomenskoye is one of Moscow's most precious historical landmarks, built on a steep hill above the Moscow River floodplain. The UNESCO <u>webpage</u> describing the site's "Outstanding Universal Value" emphasizes that the "Church is of great importance for town planning, dominates the surrounding

architectural structures and landscape, and provides visual unity to all the elements of the estate." At the time the World Heritage property was listed in 1994, the opposite bank was predominantly covered by agricultural fields, which were soon abandoned and gave way to woody vegetation and tallgrass meadows. The outstanding beauty of the Church has been reinforced by the near-natural floodplain backdrop of the Moscow River, retaining wide belts of green vegetation on both banks. Those lush floodplain groves also masked the fact that the Moscow city government the giant Kuryanovo once built Wastewater Treatment Plant (including its conservation zone that extends to the riverbank) across the river from the Church.

In late January, Moscow municipal government sent logging machinery and bulldozers to clear approximately hectares of the forested area 100opposite the Church of the Ascension. Before this clearing, the destroyed vegetation, along with natural waterworks. and Nikolo-Pererva Perervinsky Monastery were forming a single scenic complex that served as historical riverscape surrounding а Park-Museum, Kolomenskove the including the Church of the Ascension.

Now barren land and wastewater ponds form the backdrop for this majestic architectural ensemble. At present, construction rubble is being brought from other locations to fill the floodplain and then the area will be paved over with asphalt. Neither the expert community nor local residents has been consulted prior to this radical alteration of the landscape. The damage occurred over fewer than ten days (January 25-February 5), so quickly that concerned citizens were unable to organize a meaningful response to halt the clearing.

This area falls into several legally established national and municipal protection zones, which partially compensate for the absence of a World Heritage "buffer zone", the creation of which was <u>requested</u> by the WH Committee in 2014. In 2018, Moscow's municipal government refused to establish a special "buffer zone" for

the World Heritage (as reflected in bureaucratic correspondence appended to the 2018 WH property's Management Plan). The entire affected area fell within the conservation zone No. 350 of the federal heritage site <u>"Ensemble</u> of Kolomenskoye Estate, XVI-XVII centuries". The devastated area has also been protected since 2012 by Moscow as "Green zone in natural complex #127" and constitutes part of a 200-meterwater-protection wide zone along the Moscow River. All those legally bunding protection regulations have been violated by the destruction of riverside landscape.

Municipal officials verbally made excuses for hasty devastation to concerned citizens, asserting an alleged need to protect Moscow from air enemy raidsbyinstallinganti-missilecomplexes. So, if this "military" explanation is truthful, the UNESCO World Heritage property is being converted into the most visible military target in front of a giant militarized complex, occupying up to 100 hectares (the World Heritage site is 7 hectares, Kolomenskove Park-Museum is 250 hectares in size). Such use likely conflicts with the Second Protocol of the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict signed in 1999, which prohibits "using cultural property under enhanced protection or its immediate surroundings in support of military action."



Figure 7. Protection zone # 350 (blue contour) surrounding Kolomenskoye Park-Museum (grey contour). Source: Open Data Portal, Moscow City Government.

However, no presently known antimissile complexes require more than 1-3 hectares of land (as illustrated by machinery already placed at other locations - see The Insider article from March 14), while 100 hectares have been hastily cleared under this disguise. Eight weeks after the barbarous activity started, no official explanation has been offered, but journalists found out that Moscow Municipal Utilities Department plans to use those riverside lands to station machinery and equipment for a dozen different municipal services: gasification, water supply, wastewater repair and sludge burning, general machinery repair, etc. So, it is quite possible that, under the guise of "military necessities", a large land grab for municipal needs has been undertaken, while military needs are 5 hectares at maximum (see 14 March article in <u>The</u> <u>Insider</u>). This seems to be the most likely hypothesis for the cause of this massive destruction. An alternative hypothesis regarding a land-grab for residential development near a giant wastewater treatment ponds is less likely, while development of a municipal transport system is planned on other land plots.

There was also <u>information in the</u> <u>media</u> that the Head of the Investigation Committee of Russian Federation Mr. Bastyrkin ordered a special investigation



Photos 8. Before: Sentinel satellite image shows abundance of dark vegetation, 20 December 2022. Source: Sentinel Hub. Photo 9. After: barren, snow-covered field, 7 March 2023. Source: Sentinel Hub.

of this case. However, no further detail was provided, and illegal filling of the floodplain continues.

This illegal activity must be stopped, and a remediation plan must be developed and implemented. The best outcome at this point is to halt construction of municipal park services and revegetate the area as a green zone. This may partially restore the landscape and visual perception of the Church of the Ascension and Kolomenskoye Park-Museum. To ensure that these remediation measures are completed and restored and that landscape is included into a new World Heritage buffer zone, we suggest enlisting this property in the List of World Heritage in Danger, a move which will spur development of a rectification plan. •

Eugene Simonov, Expert, Ukraine War Environmental Consequences Work Group Eugene Simonov is listed as a "foreign agent" by the Ministry of Justice of Russian Federation. Main image source: <u>Zabytye Moryaki</u> <u>blog</u>.



Unregulated coal mining destroys Donbas nature

by Oleksii Vasyliuk Translated by Nick Müller and Jennifer Castner

he occupation of eastern L Ukraine by Russian troops in 2014 and subsequent fighting in caused power outages 2014-2017 and, as a result, flooded coal mine shafts that are concentrated in this region. This, in addition to ongoing unregulated and illegal coal-mining, poses a significant threat to the environment. The Donbas's future complex and requires careful is planning and investment to address social, geopolitical, industrial, and environmental challenges.

Southeastern Ukraine is called <u>Donbas</u>, an abbreviation for "Donetsk Coal Basin". Before the war, the vast majority of this region's population was in one way or another involved in the mining industry, an important force for the entire socioeconomic future of this region. Until 2014, over 6 million people lived here. Coal mining shaped the region and the conditions of its human settlement.

History of the problem

Its ancient mountain landscapes, aged at 150 million years, are today called the



Photos 1-2. *Typical natural landscapes along the Donetsk Ridge consist of vast, rugged plains with rocky steppes. Source: Vladimir Bysov.*

<u>"Donetsk Ridge</u>", thanks to ancient largescale erosion processes that resulted in easily accessible and large deposits of coal (including at near-surface level).

The Donetsk coal basin has been exploited since 1796. Since then, more than eight billion metric tons of coal have been mined here with the remaining reserves estimated at over 90 billion tons. With an annual production of 100 million tons, the reserves could be exploited for another 570 years.

At the same time, it was precisely this specialization of the local economy that for a long time preserved Donbas' wild nature in the best possible way, better than in other areas. There was no agricultural development in the region, and wild natural landscapes often border directly on industry. Despite this, attempts to develop tourism in this region before the war were unsuccessful.

In 2013, the volume of illegal coal extraction had already reached millions of tons and, by some estimates, accounted for up to 10% of the country's entire <u>coal</u> <u>production</u>. At the time, <u>kopanka</u> and mine covered <u>roughly 2,500 hectares</u> in total, but UWEC experts believe the size of the area to be at least 5,000 hectares. Almost all of them were in occupied territories. The largest concentrations of surface mining



Photo 3. Kopanka mini-mines in Donbas. Dozens of such structures are sited along a coal seam. The distance between pits indicates the approximate coverage of underground works. Source: BBC.

sites are located within the Shakhtersk-Torez-Snezhnoye agglomeration.

The most active, large-scale illegal open-pit coal mining began in 2010-2013, when <u>Viktor Yanukovych</u> was Ukraine's president. An analysis of historical satellite images shows that it was during this period that most modern open pits began to be exploited and then they expanded in number from there.



Photos 4-5. Coal mining pits, as a rule, consist of a 40-meter pit with sheer walls, surrounded by areas covered with rock spoil heaps. Source: Organized Crime and Corruption Reporting Project



Infographic in better resolution

Open-pit coal mining marks a new era of industry in Donbas

Development continues almost everywhere where seams can be dug up with excavator buckets. Targeted areas are found in steppes, forests, fields, and protected areas.

Since these are completely illegal activities, it is not surprising that no one is addressing the legal status of mined land

or its real owners (shareholders). Large <u>kopankas</u> essentially consist of territorial squatting controlled by the criminal world. As a result, kopankas and open-pit mines stretch for kilometers, destroying roads, forests, steppes, and reservoirs.

Flooded mines: causes and effects

Power outages in early 2014 caused the mines to flood when power outages



Photo 6. Mine water pollution of the Luhan River in 2021. Source: 0269com.ua.



Photos 7-8. Land saturated with mine waters near the town of Yenakiyevo. Source: Twitter user @*hochu_dodomu.*

in lower levels of mines disabled entire water pumping systems. Everything else that occurred resulted from that process, which started nine years ago in the first days of the war.

Groundwater, if not pumped out, fills voids in mine shafts and <u>leaches</u> heavy metals and salts from rocks. This is the origin of "mine water" and it needs somewhere to go. Making its way as best it can through underground workings and passages, it filters through sandstone and then mixes with clean underground water, forming a toxic cocktail.

In many places, mine waters leach toxic substances out of the rock at different depths. The final phase of flooding is when mine waters reach the surface of the earth and enter into rivers, and – eventually – the <u>Sea of Azov</u>.

The more mines are flooded, the more kopanka mines are created.

Much of what is known about the consequences of mine flooding in Ukraine comes from the speeches of hydrogeologist and Doctor of Technical Sciences Evgeny Yakovlev. He is one of the few experts who comprehensively studies mine flooding in the country.

Yakovlev <u>assumes</u> that mine waters prop up underground and ground waters from below. As a consequence, the water table rises and seeps into the houses. The cities and towns of Donbas are doomed to flooding, and it is impossible to assess the pace of this seepage, since Ukraine currently does not have access to flooded mines in temporarily occupied territories.

Scientists are predicting even more <u>alarming forecasts</u> about future changes in Donbas' ecological state related to flooded mines over the next 10 to 50 years:

- <u>Land subsidence</u> and the flooding of soils, rendering land unsuitable for agriculture;
- Pollution of drinking water in wells and reservoirs with heavy metals and minerals;
- Surface methane emissions and its entry into basements. Methane gas is combustible;
- Sinkhole formation over ore subsidence areas in mines;
- Man-made earthquakes; and, consequently,
- Mass migration of people out of the region.
- •

Impact of open pit coal mining in protected areas

Today, unofficial open-pit coal mining is becoming the most environmentally destructive form of mining Ukraine has ever known.

Why is this happening? Take a mine shaft as an example. Its interior stretches underground for kilometers, while at ground level, one sees a spoils heap and single trunk shaft, visible from afar, at the entrance. Consider also industrial



Photos 9-10. Instead of creating a large rock spoils heap in a smaller area, the kopanka owners simply dump waste rock into natural areas, thus occupying large areas. Source: Ecoaction.



Photo 11. Today, the area of such dumps in the Luhansk region and Donbas is approaching 8,000 hectares. The first mines opened before the war, but in recent years, they have begun to become truly noticeable. Source: Google Earth Space Images.



Photo 12. Surface mining leads to additional environmental pollution with heavy metals, including cultivated agricultural land. Source: Google Earth satellite images.



Photo 13. Illegal kopanka mines in Illyriysky Refuge in Luhansk Oblast. Source: Dzhos Anatoliy, CC-BY-SA-4.0

open-pit mining of ores, say, in <u>Kryvyi</u> <u>Rih</u>: a bottomless open pit with a gigantic spoils heap alongside. However, even that still occupies a limited area.

This "endless lunar landscape" forms precisely on Donetsk Ridge, where an unofficial open pit coal mine has now unfolded (the largest open pit that can be seen on remote-sensing images stretches for 15 km!). Coal is mined by an extensive surface method, digging everything that can be reached with a bulldozer, generally dozens of meters deep. They extract available material and then move on.

Such unofficial mining does not involve the construction of infrastructure or a centralized approach to managing spoil heaps. As a result, spoils are unloaded, load after load right next to the mine. In the end, the surrounding area is converted into endless heaps of stone.

Unfortunately, a number of protected areas have already been damaged in this way, including, for example, Belorechenskiy, Illyriyskiy, and Perevalskiy Refuges. These protected areas are located in the most extensive stony steppe grasslands in the Donbas, and each of them contain as many as 20 species of rare plants listed in Ukraine's <u>Red Book</u>. In addition, rare snake species live here, including two snake species found only in Donbas in Ukraine. Water-filled kopankas are deadly traps for reptiles.

In terms of the extent of its ecological footprint, open mining cannot be compared to any other type of natural resource use. Indeed, in addition to development of fossil fuels, spoils storage destroys an area of wilderness at least ten times the size of the mine itself.

The main focus here is on intact natural areas, which are thick on the ground on Donetsk Ridge. Natural environments only undergo this mining method in the occupied territories. There are no kopankas anywhere else in Ukraine and there have never been because coal seams run more deeply elsewhere.

Consequences of surface coal mining for community life in Donbas

The loss of mining jobs, which for several generations served as the

primary occupation among a significant part of the population, left people with nothing but to work in the kopankas, as most of them cannot imagine another life. Mining work is also very dangerous and unhealthy.

Aside from the absence of other employment opportunities in occupied territories, there are also psychological factors to consider. For generations in the Donbas, propaganda has portrayed miners as the chosen ones, heroes, and incredibly courageous people. It was also extremely difficult for many to refuse this imposed heroic "calling". In reality, this dangerous and healthdestroying profession simply exploited millions of workers.

Illegal coal mining is carried out in the absence of any labor safety standards, either in kopankas or in abandoned



Photo 14. Child laborers at a kopanka in Donbas. Kopanka design does include safety measures for workers; it is simply a hole in the ground. Source: Postimees.

mines. These inhumane work conditions were even used to represent suppression of the psyche and the instinct of selfpreservation from hard work in the scandalous film <u>"Death of a Worker"</u> directed by Mikhail Glavogger (2005).

In the past, there were also known cases of minors working in kopankas. There have been <u>reports</u> about child labor (boys aged 13 to 15 years) in kopankas in the cities of Anthracite, Rovenki, Makiivka, and Snezhnoye.

Kopankas in geopolitics

The situation in the coal industry changed dramatically in 2014. Not as a result of any reforms, but in connection to military operations in Ukraine. When the part of Donbas where kopankas were distributed fell under the control of illegal armed groups in the socalled Luhansk and Donetsk Peoples' Republics (LPR/DPR), the issue of illegal coal mining moved to another level for Ukraine. Now, coal mining has become officially illegal not only in artisanal mines ("holes"), but also in state mines seized by illegal armed groups located in occupied territory.

There are also many nuances to consider as well. Indeed, there is still no law that would clearly regulate the country's relations with parts of Ukraine where Kyiv has lost control. As a result, trains bearing coal traveled into Ukraine from the occupied territories almost daily until 2017.

Until a certain time, there were no formal reasons for a ban on coal imports from LPR/DPR. Both places – here and there - are Ukrainian territory. Most of the enterprises operating today on the other side of the front line possessed Ukrainian registration documents. Ukraine's government But simply did not have the capacity to monitor mines producing coal imported from LPR/DPR or to know who runs these businesses.

As a result, a logical question arose as to what extent the existence of the occupation regime depends on coal sales earned from coal sales on territory controlled by Ukraine. After all, the true owners of the various LLCs operating on separatist-controlled territory were most often field commanders of the selfproclaimed republics or businessmen close to them, paying lucrative sums to criminals for the opportunity to trade.

Of the 14 thermal power plants (TPPs) that operated in Ukraine before the full-scale invasion, seven are fueled by grade A anthracite, coal that is largely mined in the eastern part of the country, including in the calamitous kopankas. Coal mining in mines previously closed comprise another shadow segment of the coal industry. The seams in these had not yet been fully exploited before closing, but all the equipment necessary for the mine's operation and safety was removed.

For some time the Ukrainian

government has argued that buying coal from illegal armed groups was a necessary measure, without which the nation's power plants could not function and people would freeze in the winter months. However, it quickly became clear that coal was purchased not only to fuel thermal power plants, but also for industrial use in other parts of the country, and train cars of coal crossed freely over the demarcation line in response to demand.

Since 2014, the armed groups in the LPR/DPR have also controlled surface mining operations. Unlike official mines that have significantly reduced production due to occupation, flooding, and fighting, barbaric surface mining has maintained the industrial scale it achieved under Yanukovych and now represents a significant share of coal production in the self-proclaimed republics.

In March 2017, units of Ukraine's National Guard began to <u>block coal</u> <u>trains</u> coming from occupied territories. This blockade was motivated by the understanding that purchasing coal from the self-proclaimed republics (which "nationalized" all mines) is essentially financing separatism and the war against Ukraine. In response, coal from occupied territories but <u>registered</u> as having been produced in the Russian Federation <u>began to be</u> <u>exported</u> to Central European nations. This occurred despite the fact that most mines, including the largest, were no longer operating.

A significant share of the coal was obtained by unregulated, illegal coal mining in both open pits and in makeshift <u>kopanka mines</u>, often created by Donbas residents not only in natural areas, but even just in their own backyards.

The mines that continued to operate used the same illegal re-export channels via Russia and Belarus to reach the European Union. European journalists often, for example, in 2019, <u>counted</u> as many as 5,250 train cars of coal per day leaving occupied territory and heading for Russia. Interestingly, falsification of coal product origins means that Belarus, which does not possess a single coal mine, has become one of the largest <u>exporters</u> of coal to Europe.

While the loss of mines, infrastructure destruction, and blockade of re-export opportunities, has changed big business interests in Donbas coal, life has become ever more challenging for residents who remained in mining towns and villages. As a result, in recent years, illegal coal mining has developed such that instead of a small number of large mines requiring heavy equipment, enormous numbers of illicit digs (or, as local residents call them, "holes") began to arise.

The events of 2022 greatly altered the situation. Mass conscription among the Donetsk residents living in occupied territories for military service in the DPR



Figure 15. Emerald Network member sites on Donetsk Ridge (green – adopted, pink – nominated). Source: https://emerald.eea.europa.eu/.

armed services has occupied most of the region's able-bodied male population. Russia sends these military units to battle against Ukrainian troops, and, as a result, they have suffered almost the greatest losses. It is likely no men are available to work in the kopankas. Apart from children...

Conclusion

Donbas faces large-scale changes in the future, and not only in social and geopolitical terms. Rapid degradation of infrastructure, population outmigration, and likely significant changes in societal organization distance Donbas more and more from its recent industrial past. Subsequent advances of the frontline toward Ukraine's 1991 national borders will further intensify these factors. It is difficult to say how realistic it will be to restore mines in the future (or to create new ones), but interest in coal reserves will undoubtedly remain. There is a high probability that the threat of open-pit coal mining will persist, since even near-term liberation of temporarily occupied territories will not address the issue of access to flooded mines.

To prevent this threat, in 2020 Ukraine's Ministry of Ecology and Natural Resources supported scientist proposals and turned to the Berne Convention Permanent Committee with a request to include the vast natural massifs of Donetsk Ridge in Europe's Emerald Network. At the moment when Ukraine becomes a European Union member, these territories will be no less important than national parks and reserves. The proposal was accepted in 2021 and now the majority of Donbas nature is already categorized as a "Nominated" Emerald Network site, a move which requires establishing conservation measures. Unfortunately, the decision was made when the territory was already temporarily (and remains) out of Ukraine's control. Nevertheless, any and all coal mining in Donbas can already be recognized as a clear violation of international law. UWEC Work Group hopes that the resumption of Ukrainian control over its territory and its subsequent European integration will end destructive coal mining. •

Main image: The Donbas region grew up around coal-mining, and these spoil heaps became a hallmark of the local landscape. Source: Valeriy Ded, CC-BY-3.0 EFFECTS OF THE INVASION OF UKRAINE ON THE SDG IMPLEMENTATION IN THE UNECE REGION



War at the Regional **Sustainable Development Forum**

by Nelya Rakhimova Translated by Jennifer Castner

A regular meeting of the Regional Forum on Sustainable Development under the United Nations Economic Commission for Europe (UNECE) took place 29-30 March. Attended by just over 1,000 people, this year the Forum focused on <u>Sustainable Development Goals</u> (SDGs) 6, 7, 9, 116 and 17. Russia's invasion of Ukraine was less central to the event than it was in 2022. Nevertheless, the war remains extremely relevant for civil society representatives. In particular, civil society organizations and experts organized a discussion of the "Impacts of the invasion of Ukraine for SDG implementation in the UNECE region" as a forum side event.



Regional Forum on Sustainable Development (UNECE)

The Forum has taken place annually since 2016 when the "Agenda for Sustainable Development by 2030", often known as "Agenda 2030", came into force. The Forum invites participants from ECE-region countries to discuss the state of affairs for sustainable development and share the results of work done towards achievement of these goals.

In that context, the Forum presumes the active participation of civil society in all events. Civil society efforts during the gathering are coordinated by the Regional Civil Society Engagement Mechanism (ECE-RCEM).

SustainableDevelopmentGoalsaddress topics ranging from climate change and biodiversity conservation to human rights. Over the last year, discussions at the regional Forum have focused on the Russian invasion, as the war significantly influences implementation of SDGs both in Ukraine and in the region as a whole. However, while in 2022 speeches by representatives from almost all countries condemned the Russian Federation, in 2023 the statements were less harsh and called only for peace. Case in point, the Forum's chairs quoted the preamble of the Agenda 2030 several times: "There can be no sustainable development without peace, and no peace without sustainable development."

The "Impacts of the invasion of Ukraine on SDG implementation in the UNECE region" event attracted the most public attention. It was organized by the Coalition for Sustainable Development of the Russian Federation (CSD-RF) with the participation of the Ukraine Environmental War Consequences Work Group (UWEC Work Group) and with the support of ECE-RCEM. The event was also co-organized by the United States Mission to the UN and other international organizations in Geneva.

Despite that wide support, prior to the meeting's start and in an effort to cancel it, representatives of Belarus' mission (regime representatives, not democratic forces) registered an official diplomatic protest. As a result, the parallel session aroused great interest – over 50 people were in attendance. Events were held in three languages – English, Ukrainian, and Russian, and speakers discussed the situation in Ukraine, Belarus, and Russia.

Paul Stempel, Economic Officer at the United States Department of State opened the session. He spoke about how the war had impacted the state of affairs of Ukraine and in the world, noting the role of civil society in overcoming the crisis.

Representing UWEC Work Group, Oleksii Vasyliuk described Ukraine's state of affairs. His speech focused on environmental issues related to military operations. Vasyliuk stressed that the damage caused and being caused to Ukraine's ecosystems will definitely not be fully resolved in 2030, underscoring that these consequences are more longterm and that ecosystem restoration will take decades.

The situation in Russia was presented by the author of this article, Nelya Rakhimova, Chairperson of the Coalition for the Sustainable Development of Russia. She presented a report released in March this year by the Coalition on SDG implementation in Russia. In the report, 22 experts analyzed the state of affairs for all SDGs since the beginning of Russia's invasion of Ukraine. In a departure from customary practice, the report's authors refused to provide recommendations to the Russian state authorities related to achieving these SDGs, putting forward only one single recommendation: ending the war in Ukraine.

The report's authors present a dramatically worsening situation in terms of Russia's own sustainable development alongside its role as an aggressor country after a year of war.

From the authors' perspective, the Russian Federation is no longer a legal state – its legal system is only capable of creating the appearance of law. In particular, military censorship is largely the law of the land, all independent opinion is illegal, and political opposition and civil society leaders are either pushed into exile or subjected to persecution.

Rejection of international human rights standards, exclusion from the Council of Europe, denunciation of international documents in the field of human rights all contribute to the rapid degradation of legal institutions. A course has been taken toward selfisolation and away from generally accepted legal norms at the global level, affecting the ability to achieve all SDGs.

For example, over the course of this past year a decade of Russian international achievements in cooperation in the clean energy sector were destroyed. Formally, Russia has not yet abandoned renewable energy support programs adopted before the invasion of Ukraine, but their implementation and, moreover, increasing renewable energy goals in the near future will be difficult. This results from the fact that partial destruction of ties with Western countries has significantly damaged interest in Russia's energy transition, and access to technology has become more complicated while the cost of renewable energy projects has increased.

The event's third speaker was Kristina Rikhter, a lawyer in the office of Belarusian political activist Sviatlana Tsikhanouskaya (sometimes written Svetlana Tikhonovskaya). Rikhter presented about the state of affairs in Belarus. In her speech, she emphasized that SDGs implementation was already in doubt even before Russia's invasion of Ukraine, as the Lukashenka regime hindered the achievement of SDGs in a variety of ways, especially as related to protecting human rights. Russia's invasion of Ukraine also impacted Belarus, given that its regime backed the invasion.

Rikhter expressed her own concerns about the decision to deploy tactical nuclear weapons in the country, where such a deployment will affect both international relations and the state of the environment. She also opined that it is currently not possible to negotiate with the Lukashenka and Putin regimes, at a time when international law defines both regimes as criminal and thus it would be seen as illegal to be seated with them at a negotiating table.

Civil society openness and collaboration

The event drew a great deal of attention from a number of diplomatic missions based in Geneva. This was partially due to limited discussion of the war overall at the Forum, this event being the only platform there for the issue. Civil society remains prepared to an open discussion of the war at a time when government representatives seek to avoid direct confrontation with Russia and its important role in the function of the UN's Economic Commission for Europe.

In addition, this event also illustrated the potential for the cooperation of civil society in Ukraine, Belarus, and Russia. Community organization and expert openness and cooperation can play a key role in peace-building and restoring relations between those societies after the war is over. •

Dr. Nelya Rakhimova is a public figure and analyst in the field of sustainable development. She is founder of the Open School for Sustainable Development, Coordinator of the Coalition for Sustainable Development of Russia, Board member for the UNECE Regional Civil Society Engagement Mechanism, and consults for UNDESA, UNDP, and UNSOC.



Environmental fakes: How false environmental news is used in the information war

By Oleksii Vasyliuk Translated by Jennifer Castner

More than a year has passed since the beginning of the Russian military's full-scale invasion of Ukraine. We learn the majority of information about the war's consequences by reading mass media and the internet, and it is not always possible to verify information independently. In this article, UWEC Work Group expert Oleksii Vasyliuk discusses the most widespread cases of fake environmental news in the media, some of which are top news stories

despite their departure from reality.

The Russian side is actively using deliberately fictitious "facts" related to wildlife or environmental pollution in its war against Ukraine. This includes justifying new missile strikes as a "response" to fictitious actions blamed on Ukraine.

Ukraine does not itself resort to such methods of war, but much more is written and reported in that country



Photo 1. Fleas are unpleasant for humans, as well as notorious for their ability to carry pathogenic microbes. This makes them the perfect stand-ins as bioweapon bearers. Source: Вредитель [a pest]

on the consequences of hostilities, and therefore reckless journalistic errors commonly appear in Ukrainian media. Most Ukrainian information resources focus primarily on the rapid transmission of news and not on indepth processing of verifiable facts. It is also not uncommon for journalists to favor clickbait headlines, seeking to attract the reader's attention.

For example, the media have repeatedly labeled explosions in Enerhodar as "attacks on Zaporizhzhia nuclear power plant" and rocket fire in Khmelnitskii as "attacks on Khmelnytskyi nuclear power plant". This creates a situation where mass media overlooks really important facts about the war's environmental consequences, while false or backtwisted information quickly spreads and is repeatedly rebroadcasted.

"American biolabs" and "pathogenic fleas"

From the very beginning, the most common topic for environmental fakes was the production of biological weapons in Ukraine by <u>American</u> <u>biological laboratories</u>. Over the last year, Russia has repeatedly <u>accused</u> Ukraine of this at UN meetings. Among other things, these laboratories supposedly "infected" migratory animals with "pathogens", and those, in turn, somehow infect Russian people with those same pathogens. The Russian Ministry of Defense even <u>reported</u> germs capable of selectively infecting specific ethnic groups in Russia. "Pathogens" included not only "bird flu" and diseases familiar in the modern world, but even <u>bubonic plague</u>!

In March 2022, several days after the full-scale invasion began, national Russian media <u>announced</u> that, "a project was created to transmit diseases using birds within the framework of military biological programs operated by the United States, its NATO-bloc allies, and Ukrainian laboratories. In particular, bird species with flight routes across Russia were identified."

At least 30 such "biolabs" were proclaimed to exist, and information about them was actively disseminated from the start of the full-scale invasion. As in subsequent cases, the story was distributed by Russian Ministry of Defense or Armed Forces officials.

In their announcements, Askania-Nova Biosphere Reserve was mentioned in particular: "Ringed birds released from Kherson Reserve in Ukraine during biological studies were caught in 2021 in Ivanovo and Voronezh Oblasts," reported the Russian News Agency, for example. Indeed, migratory birds have been banded each year in Askania-Nova Reserve since <u>at least 1892</u>, a point of pride for Ukrainians. The reserve is one of the oldest organizations studying migratory routes using banding. Joint studies of migratory birds have been carried out between Russian and Ukrainian reserves (in particular, Voronezh Reserve) since the Soviet era (1926).

The only bird that is truly party to this war is the predatory eagle – a critical element of Russian symbology.

Leadership within Russian the Foreign Ministry also voiced news of "American pathogens" during UN meetings. These press releases were accompanied by unequivocal rhetoric that "Russian forces are concentrated along several approaches to Kiev." Until at least until mid-March 2022, these biological laboratories were practically the sole explanation of Russia's attempts to seize Ukraine. Aside, of course, from the usual rhetoric about oppression of the Russian-speaking population in Ukraine and a supposed "desire" by Ukrainians in almost half the regions to have their regions annexed by Russia.

After a few weeks, the false story shifted to enhance the effect. In addition to birds, "American pathogens" could now be spread by other animals: fleas (<u>140 containers</u> of them were allegedly based in a bat rehabilitation center in Kharkov!), mosquitoes, bats, and lizards.

Trying choose animals that to are potentially by dislikeable the statistically-average Russian citizen, the authors forgot that lizards do not migrate seasonally, preferring to hibernate rather than migrate to Russia. And it is even harder to imagine combat mosquitoes that are trained to suck only polyethnic "Russian" blood than it is to imagine migratory lizards attacking.

In reality, during the days of the largest strikes on Kharkiv, volunteers and employees of the Ukrainian <u>Center</u> for Bat Rehabilitation <u>remained</u> within city limits on principle, continuing to feed and care for their bat patients every day. And this despite the fact that on 5 March a blast shock wave blew out the rehabilitation center's windows. Risking their lives, the volunteers succeeded in <u>saving</u> 3,200 bats. Center volunteers even recorded videos showing bats being released <u>during rocket attacks</u> and against a <u>backdrop</u> of Kharkiv burning following attacks. Note the appearance of people Russia <u>labeled</u> as "Pentagon employees" during a UN meeting in those linked videos.

In May 2022, when the topic of infected migratory birds no longer surprised anyone, Russia launched a new falsified story, accusing Ukrainian biological laboratories of launching a coronavirus epidemic! Interestingly, this information was publicized on behalf of imaginary Ukrainians and someone



Photo 2. Combat Mosquito? Nope! Holorusia Mikado is an East Asian nectar-loving mosquito. Source: Korea Boo.

even registered a corresponding <u>petition</u> on the President of Ukraine's webportal (which gained five votes, since apparently no one worked at attracting bots to sign it).

"Combat mosquitoes"

In October 2022, pathogens made a comeback, this time in new packaging. Again, the news spoke of secret Ukrainian projects led by the Pentagon. Russia filed a complaint of "combat mosquitoes" with the UN Security Council. During a speech in connection with Russia's complaints (under Article VI of the Convention on the Prohibition of Biological and Toxic Weapons) given by Russian UN Permanent Representative Vasily Nebenzya at a meeting of the UN Security Council, the Russian Federation accused Ukraine of using unmanned aerial vehicles (including famous Bayraktar surface-to-air unmanned armed drones) to distribute containers of infected mosquitoes: "drones transport containers delivering large numbers of infectious mosquitoes in a targeted area. When bitten by mosquitoes, victims are infected by pathogens of especially dangerous diseases."

The Russian Federation did not confirmed evidence provide any of spreading animals pathogens in any of these cases, emphasizing only that Ukraine had developed technologies. the corresponding Remembering March 2022 rhetoric, one might conclude that the entire war was launched with the intent of destroying imaginary drones and the Ukrainian Bat Rehabilitation Center with "mosquito containers" in Kharkiv.

"Ukraine wants to flood Enerhodar"

The big news in January-February 2023 was decreasing water levels at Kakhovka reservoir, leaking water through the locks of Kakhovska dam and hydropower plant (HPP). Russia currently controls locks, the and the dropping reservoir level leaves both Ukrainian President Zelensky's hometown of Kryvyi Rih and the Crimean Peninsula without water. The only explanation for these actions is a statement by Russian government representatives that the water was being dumped in order to prevent Ukrainians from flooding Russian armed forces positions at nearby Zaporizhzhya nuclear power plant. The creators of such propaganda suggest that Ukraine would deliberately flood the largest nuclear power plant in Europe, an idea that can only be believable for a domestic Russian audience.

Ukrainian journalist errors

Ukrainian journalists also make obvious mistakes. Unfortunately, a flashy approach often turns out to be more interesting for journalists than drier real news.

б месяцев, перевод земельного участка Cnoosouno: 11; юшений – 2 месяца, разработка проект оформление договорных от MHHHCTEPCTBO OFOPOHIN ния лесов - 2 месяца оссийской фелерация (МИНОБОРОНЫ РОССИИ) Невостребованная для Вооруженных Сил Россяйской Президенту Российской Федерации дерации древесниа, полученная на землях обороны, подлежит MHINCTP OFOPOHIA ВВЛУТИНУ реализация по средствам закрепления древеснны на пране оперативного управления за ФГАУ «Управление лесного хозяйства» r. Mocasi, 119160 марта зо 22 г н 205/599 Министерства обороны Российской Федерации, полученные средства будут задействованы в интересах обороны. Pinalla На землях иных категорий решение о реализации древесины вызется уполномоченными органами. На Ваше решение. О возможности осуществления рубки на землях обороны и ных категорий C.Illoary Уважасмый форторакационных сооружений В пелях созлания обеспечения соединений, воинских частей Вооруженных Российской Федерации, задействованных в специальной военной оверация, требуется осуществление рубки на землях обороны и иных категорий с последующим использованием полученной древесным Вооруженными Силами Российской Федерации. Действующий в Российской Федерации порядок предусматривает использование лесов, деревьев, кустарников Федерации порядок сленых насаждений в интересах обороны и Вооруженных Сил Российской Федерации. Учитывая изложенное, прошу Вас согласовать проведение сплошных и выборочных рубок любой интенсивности и любого возраста на земельных участках вне зависимости от форм собственности и категорян земель с правом использования полученной древеским. Рубка будет осуществияться по уведомленням, направляемым органами военного управления в уполномоченные органы в области лесных отношений, что позволит Вооруженным Силам Российской Федерации оперативно выполнить задачи стратегического назначения затягивание сроков на оформление документации. AL 13132

Photo 3. Document posted on the Ukrainian Ministry of Defense Intelligence Department's Telegram channel. Source: <u>Ukrainian Ministry of Defense Intelligence Department Telegram channel.</u>

"Putin and Shoigu call for clear-cutting Ukrainian forests"

This news spread in March 2022 and received so much publicity that it was thoughtlessly spread by UNIAN Ukrinform, Ukraine's and largest news agencies, as well as the country's main independent media resource, Ukrayinska Pravda. The Ukrainian of Defense Ministry Intelligence Department's possession of a letter from Russian Minister of Defense Sergei Shoigu addressed to Vladimir Putin at the very beginning of the invasion was perceived by many, including journalists, as a statement about the intention of the Russian military to clearcut Ukrainian forests for sale.

Meanwhile, a UWEC Work Group analysis found that the Russian Ministry of Defense was actually attempting to obtain carte blanche to log Russian forests. But at that "critical" moment, no journalists paused to consider that Russia has no need for Ukrainian timber when Russian forests are 74 times greater in size than



Photo 4. Russian military fuel truck disguised as a timber truck to disguise troop supply lines. It is possible that such "haulers" created the illusion of large-scale export of timber from Ukrainian forests. Source: Telegram Channel <u>LANJIEHKO_UKRAINE FIGHTS</u>.

the total area of Ukrainian forests. Additionally, the cost of Russian fuel deliveries to Ukraine for timber trucks is absurd, particularly considering that Russian tank fuel deliveries have been problematic from the very start. Wood delivered by motor vehicles over such distances could be gold-plated at that price.

Unfortunately, this particular fake news spread significantly at the beginning of the war and is occasionally mentioned even to this day. For example an April 2023 <u>Wall Street Journal</u> article discusses damage to Ukrainian forests caused by Russian occupiers, while otherwise containing more or less plausible facts regarding deforestation in occupied parts of Ukraine.

Photos of Russian "timber trucks" on Ukrainian territory can indeed be found on the Internet, but these "timber trucks" often are not burning fuel for timber exports, but rather serving as portable fueling stations disguised as logging trucks to supply fuel to the Russian armed forces.

"Russians destroyed plant gene bank"

The Yuryeva Institute of Horticulture's National Center of Genetic Resources was indeed damaged during mass shelling of Kharkiv in May 2022. But Ukrainian mass media <u>shared</u> information about the Center's total destruction and linked it to a video recorded by a Center employee.

News of the Center's destruction was also picked up by news agencies <u>Ukrinform</u> and <u>UNIAN</u>. Three days later, the video about the institution's "complete destruction" was removed from YouTube, although an <u>archived</u> copy remains available. Mass media sources <u>spread</u> a subsequent story about the actual fact that a unique collection of genetic resources was saved and only plant samples selected for seeding work were destroyed. The Center remains <u>in</u> <u>operation</u>.

"Hydrogen sulfide leaks from Azov Steel plant"

During the battle for Azovstal, news spread in Mariupol that bombing the plant could lead to a "hydrogen sulfide leak" from special tanks into the Sea of Azov. Fortunately, officials of the Ministry of Natural Resources did not take responsibility for spreading this news, recklessly spread on Twitter instead by representatives of Mariupol City Council. 1,000 km west of Mariupol, the director of the Lviv Children's Environmental and Naturalist Center. conclusions. however, leapt to Unfortunately, journalists failed to understand that hydrogen sulfide is a gas and cannot leak anywhere in liquid form. It is noteworthy that this news was published at the precise moment when negotiations were underway to end the bombing of Azovstal.

"Three million hectares of burned forest"

In September 2022, WWF-Ukraine experts first mentioned the figure "2-3 million hectares" in the context of occupied forests, or forest areas that "survived" hostilities and Russian occupation. In reality, today, these forests await demining. Access to them is temporarily lost for forestry collectives (leskhozi); tragedies have already occurred several times and leskhoz workers have been killed by mines on forest roads. This does not mean, though, that the forests are destroyed they are simply not accessible for economic activity.

Battles in the "eastern direction" (Lyman, Severodonetsk, Svyatohirsk, Lysychansk, Rubizhne, Bogorodychnoe, Bilohorivka)occurredinareassurrounded by forests, including pine plantation forests, the most fire-hazardous category of forest in Ukraine. For example, 6,000 hectares of such forests were damaged in Kharkiv Oblast and 15,000 hectares in the Donetsk region. In February 2022, the military invaded, passing through the Chornobil exclusion zone, followed by subsequent acts of sabotage launched from the Belarusian border that <u>led to fires</u> over a 22,000-hectare area. However, it was the news that three million hectares of forests were damaged or burned as a result of combat operations that <u>gained</u> <u>a foothold</u> among Ukrainian news agencies.

"50,000 dolphins die in the Black Sea"

The last and largest fake of 2022 was the information that "50,000 dolphins" died in the Black Sea as a result of Russian military activity. Indeed, maritime military activity creates a whole host of factors that endanger marine mammals. This is connected not only to munitions explosions, which rarely happen at sea in any case in this war. Chemical and, most importantly, noise pollution from military and civil ships can result in dolphins becoming unable to hunt. UWEC conducted a <u>detailed evaluation</u> of this potential issue in September 2022.

Summarizing the events of 2022, Pavel Goldin, a leading expert on cetaceans in the Black Sea region, <u>confirmed</u> that a total of about 900 dolphins had died across the entire region. That number is a tiny fraction of the figure reported in mainstream media. Unfortunately, it was this fake, spread by <u>TV channels</u> and <u>news agencies</u>, that became the most popular in 2022, and it was repeated by UAnimals, a Ukrainian animal protection organization. President Volodymyr Zelenskyy noted the exaggerated mortality in his November 2022 video addressing participants of the G20 summit.

UWEC Work Group received a document from the Ukraine State Environmental Inspection in which the Ministry officially confirmed that just eight dead dolphins were found in 2022: "... for the destruction of cetaceans in Black Sea waters within Odesa Oblast, totaling UAH 800,000 in damages, namely eight dead cetaceans (5 beluga whales and 3 bottlenose dolphins)," (Letter of Ukraine State Inspection No. 160/2.7/4-23, 12.01.2023).As a side note, the Ministry of Natural Resources' official explanation contradicts statements made by Tuzlovvskie Lymani National Park employees, who claim that 35 dead animals were found on their shoreline alone by the end of summer 2022).

Conclusions

Inwartime, intentional and unintentional dissemination of false information is inevitable. Journalists often lack access to reliable primary sources and locations of environmental damage, especially under the pressure of deadlines. Propagandists use any and all information as a weapon. Any damage can be repeatedly exaggerated or underestimated in order to blame the opponent or follow an emotional impulse. It is critical to solicit expert input and to apply common sense when evaluating facts and hastily declared "on location reports".

Main image source: MediaIQ.info



2023 Journalism Webinar Series Environmental Consequences of Russia's Invasion of Ukraine

With support from <u>RSF Sweden</u> and <u>Svea Green Foundation</u>, the <u>Ukraine War Environmental</u> <u>Consequences Work Group (UWEC</u>) is launching a webinar series for Russian-speaking journalists about the environmental and climate impacts of Russia's invasion of Ukraine.

UWEC Work Group members and invited experts will speak about the impacts of Russia's full-scale invasion of Ukraine on the environment. They will also make specific recommendations regarding ways to verify information related to the environmental consequences of combat operations and suggest different tools that can be used in such analysis.

Preliminary topics:

 Defining the environmental and climate consequences of the war. Who evaluates these consequences and what methods are used for these evaluations?

- 2. Direct environmental impact of Russia's invasion and the consequences of chemical pollution resulting from combat operations.
- 3. Nuclear safety and nuclear energy production in wartime conditions.
- 4. Destruction of forests and other ecosystems, including those within protected areas. Wartime impacts to wildlife.
- 5. Analysis of open data related to the environmental consequences of the war. How to identify errors and disinformation.
- 6. The war's influence on the global climate and energy agendas.
- Sanctions and weakening environmental and climate laws and policies in wartime. Environmental consequences for Russia, Belarus, Europe, and other nations.

8. The war's consequences for international collaboration in environmental conservation and climate change adaptation.

The first webinar will take place 29 April at 14:00 Central European Time (CET). There will be seven monthly webinars in the framework of this educational series.

The seminars will be conducted in Russian and are intended for journalists in the EECCA (Eastern Europe, Caucasus, and Central Asia) region. We invite media journalists collaborating in or focused on that region to participate, but we also welcome applications from other journalists writing for audiences in other countries.

<u>Register here</u> to participate. A Zoom link to the webinar will be sent out to registered participants a few days prior to the webinar's start on 29 April. •

