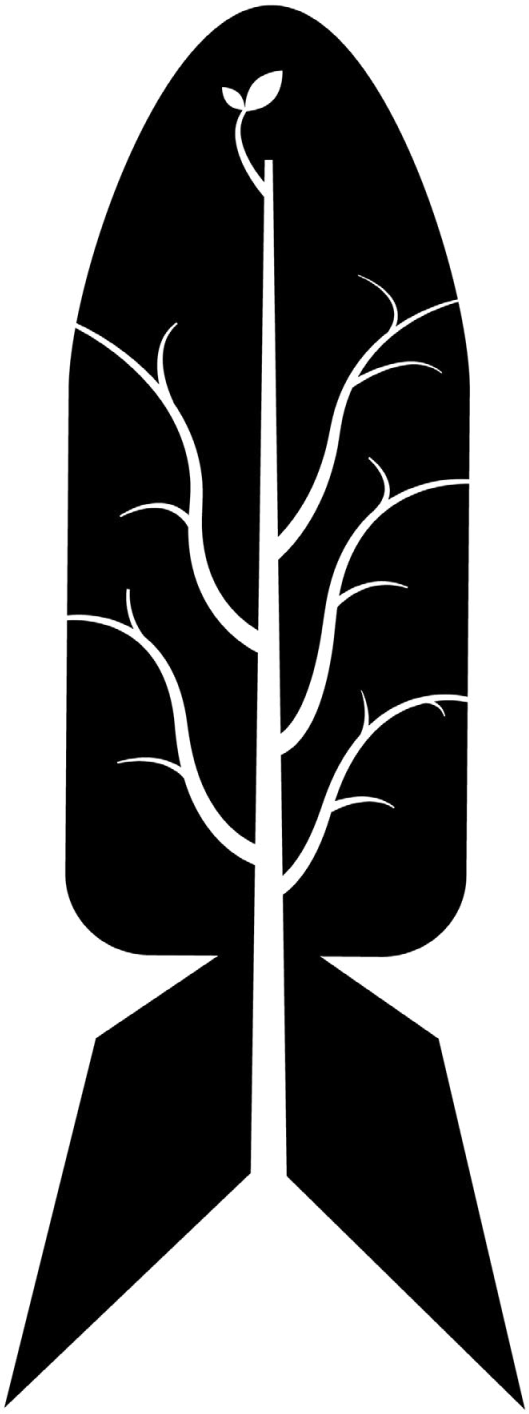

UWEC

Ukraine War Environmental Consequences Work Group

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Dear Friends!

On September 19, the European Union approved a new package of sanctions against Russia. In particular, this package envisages a complete ban on imports of Russian liquefied natural gas into the EU starting in January 2027 (previously, the ban was planned to be introduced the following year), as well as more severe sanctions against intermediary companies, Russia's "shadow fleet", and Russian companies Rosneft and Gazprom Neft. Earlier, on September 9, the European Parliament noted Ukraine's progress towards European integration, while also calling on the country not to lower its ambitions. For example, it encouraged the Ukrainian government to pay attention to compliance with European environmental and nature conservation standards. European MEPs called for all possible support for initiatives and organizations involved in analyzing the environmental consequences of the war. In August 2025, the Ukrainian government presented a 2025-2026 action plan, aimed at further progress toward European integration. Ukrainian environmental organizations have critically assessed it and noted areas for improvement. Read more about these events and decisions, as well as how Kamianska Sich National Park is experiencing Russia's full-scale invasion, in our regular review:

- **Environmental consequences of the war in Ukraine. August-September 2025**

Sanctions against Russia will be effective when Ukraine itself reduces its dependence on fossil fuels. However, this is not an easy decision for a country that has relied on the wealth of its coal industry for many years. The abandonment of fossil fuel production should not be accompanied by the destruction and stagnation of coal-mining regions and single-industry towns. To this end, just transition programs are needed. Read about just transition strategies being implemented in Ukraine, despite the ongoing full-scale Russian invasion, in Inga Pavliy's article, part of our series examining Ukraine's coal industry:

- **Just transition for coal-mining communities: What is it and how does it work in wartime Ukraine?**

We are also launching a series about how environmental activists and organizations in Eastern Europe are surviving amid war, repression, funding cuts, and political pressure. The first article focuses on the situation in Belarus. In 2021, following the protests in 2020, most environmental organizations in the country were forced to shut down. Some activists, experts, and journalists were arrested, while others were forced to leave Belarus to continue their work, and still others went into hiding, refusing to engage in any visible activity. Almost five years have passed, and the situation in the country has not improved. There are still over 1,200 recognized political prisoners, among them environmental activists. Read about how Belarusian environmental organizations are coping with repression, the war in Ukraine, and their own challenges in the first article in this series:

- **Environmental and climate activism in Belarus, Ukraine, and Georgia during Russia's full-scale invasion. Part One**

Another serious problem this year for Ukraine was a locust invasion. Recalling biblical legends, it was even labeled an "Egyptian" invasion. However, as expert Stanislav Vitter notes, we are not talking about Egyptian locusts, but migratory locusts (Locusta migratoria). Apart from climate change, one factor contributing to their abnormal spread is Russia's full-scale invasion. The destruction and draining of the Kakhovka Reservoir created favorable conditions for a spike in their population. The lack of monitoring and preventive measures, as well as any management whatsoever in the occupied territories, allowed the locusts to actively reproduce and spread throughout Ukraine. If controls are not implemented in the near future, next year could also be disastrous. Read more in Viter's article:

- **Invaders from the steppes: Locusts and the war in Ukraine**

Our experts continue to analyze the consequences of Russia's demarché and its withdrawal from the Ramsar Convention. A general trend in today's authoritarian governments abandoning international environmental agreements could have serious consequences. And although the Russian government recently ordered increased domestic protections for wetlands, this does not mean that the situation has stabilized. Fifteen wetlands in occupied territories in Ukraine should continue to be protected under the Ramsar Convention, but their situation remains problematic. Eugene Simonov and Angelina Davydova examine the problem:

- **The Ramsar split—was it inevitable, and what should be done next?**

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You can read more about the environmental consequences of Russia's full-scale invasion of Ukraine on our website, Twitter (X), Facebook, Telegram and Bluesky.

We wish you strength, peace and good news!
Alexej Ovchinnikov, editor in chief, UWEC Work Group

Environmental consequences of the war in Ukraine. **August-September 2025**

Alexej Ovchinnikov

Each month, the UWEC editorial team shares highlights of recent media coverage and analysis of the Ukraine war's environmental consequences with our readers. As always, we welcome reader feedback, which you can leave by commenting on articles, writing to us (editor@uwecworkgroup.info) or contacting us via social networks.

In this review, we will examine the environmental and energy aspects of the European Union's adoption of its 19th package of sanctions against Russia and how the 2025-2026 Action Plan addresses environmental protection and the interests of civil society. We will also review the European Parliament's recommendations for Ukraine's integration into the EU (including those related to the analysis of the environmental consequences of the war). We also review the new book "Kamianska Sich National Park: War Against Nature".

European Union adopts 19th sanctions package against Russia

The European Commission issued a statement on September 19 announcing a new package of sanctions. Russia's

ongoing and intensifying attacks on Ukraine's civilian infrastructure are one reason for the EU's tightening of its sanctions policy. The EU's Kyiv office was destroyed in a recent attack.

The new sanctions focus on fossil fuels, the sales of which Russia uses to finance its military invasion of Ukraine. The EU has agreed to move up a ban on imports of liquefied natural gas (LNG) to European countries from January 2028 to January 2027. Another 118 new vessels were added to Russia's shadow fleet list, bringing the total number of sanctioned vessels to 560. The list of sanctions includes oil traders and oil refinery and petrochemical companies from third-party countries (including China). Transactions with Russian companies Rosneft and Gazpromneft face a complete ban, while the assets of other companies involved in the sale of Russian fossil fuels have been frozen. The package also bans the reinsurance of vessels included in the sanctions list.

The Commission wrote: *"Russia's war economy is sustained by revenues from fossil fuels. We want to cut these revenues. So we are banning imports of Russian LNG into European markets. It is time to turn off the tap. We are prepared for this. We have been saving energy, diversifying supplies and investing in low-carbon sources of energy like never before. Today, these efforts pay off. … In three years, Russia's oil revenues in Europe have gone down by 90%. We are now turning that page for good."*

A coalition of civil society organizations led by the Ukrainian NGO Razom We Stand called for a complete ban on EU imports of Russian LNG. Signatories of the open letter included representatives of climate and environmental organizations such as Climate Action Network (Europe), Greenpeace Ukraine, 350.org and others.

As noted in an UNIAN News Agency interview with Razom We Stand executive director **Svetlana Romanko**, sanctions can only be effective if EU countries develop energy efficiency programs and transition to renewable energy sources. Countries committed to energy transition are more prepared to impose sanctions. Countries that continue to rely on fossil fuels, such as Hungary and Slovakia, acknowledge their energy dependence on Russia and block the expansion of sanctions. The fight against Russian aggression is thus also part of the fight to achieve climate neutrality goals.

In addition to the imposition of sanctions, civil society organizations (CSOs) are also calling for the development of carbon-neutral energy to facilitate energy independence. In her article "What should carbon-neutral energy be," Svetlana Romanko discusses the basic principles of carbon-neutral energy. It should be noted that Ukraine must adopt and implement a decarbonization strategy as part of its European commitments.

First and foremost, carbon-neutral energy must be profitable, understandable and acceptable

to everyone, from citizens to the government. Civil society organizations can act as intermediaries between government institutions and society. Romanko said, "*Part of a decarbonization strategy, just transition is a complex socio-economic process that requires political will and deep trust on the part of communities.*"

Read more:

- Just transition for coal-mining communities: What is it and how does it work in wartime Ukraine?

Romanko believes that cooperation between government and CSOs must play an important role in implementing a decarbonization strategy and developing carbon-neutral energy. This cooperation would be institutionalized through councils and by involving CSOs in the development and implementation of strategies. That work is also important for the sustainable and effective development of Ukraine's "green recovery" programs. "*Essentially, a change in the culture of interaction is necessary. The government must perceive public organizations not as opposition but as allies in achieving a common goal: an energy-independent, sustainable, climate-safe Ukraine,*" notes the Razom We Stand director.

According to Romanko, any top-down reform could provoke resistance among citizens. Here again, the role of community organizations with extensive experience working with communities (hromady) and that are more adaptive and creative in promoting carbon-neutral energy concepts is important. Education and outreach programs and local support for renewable energy development projects will contribute not only to Ukraine's integration into Europe, but also to the achievement of carbon neutrality goals and the country's green recovery.

The maximum effectiveness of sanctions will not be achieved when Ukraine and Europe finally stop buying Russian carbon fuels, but rather when there is no longer any demand for these fuels. When oil, gas and coal prices fall so low that it is no longer profitable to trade them, Russia will no longer receive dividends, no matter the mechanisms devised to circumvent sanctions.

Ukraine presents a 2025-2026 Action Plan aimed at enhancing defense, European integration, and recovery

The Ukrainian government presented the action plan on August 18. It identifies 12 priorities: security and defense, European integration, anti-corruption, macrofinance and reforms, business, social policy and restoration of frontline territories, policy on veterans, healthcare, education and science, recovery, culture and winter energy stability.

Among the operational objectives of the priority Action Plan for 2025 is the issue of environmental policy. Specifically, this refers to Operational Objective No. 4: "Ukraine uses its own resources economically and efficiently, with care for the environment and future generations." Short-term tasks for achieving this goal include the development of land reclamation systems, digitization of the fishing industry, development of a legislative framework for the demining process, rapid and effective support for farmers as part of the industry's recovery, development of a system for monitoring soil and groundwater pollution, development of an institution for state environmental protection instruction, the creation of transparent conditions for recovery, the liberalization of the land sales market, the development of new legislation on the sale of forests and timber, and so forth. In many ways, environmental issues have become intertwined with issues of resource extraction and agriculture, which may be due to the elimination of the Ministry of Environment and Natural Resources and the integration of its functions into the newly created Ministry of Economy, Environment and Agriculture.

Read more:

- Merging ministries: Will changes in the structure of Ukraine's government roll back the environmental agenda?

Environmental aspects of Ukraine's progress toward EU membership

Environmental issues are also addressed in priority areas including European integration and the country's recovery. On September 9, the European Parliament approved the European Commission's report on Ukraine's progress toward EU membership. However, as WWF-Ukraine notes, in its resolution it called for continued reforms in the field of environmental protection.

The European Parliament gave high praise to the reform of Ukraine's energy sector and its alignment with European Green Deal requirements. The development of a legal system to combat crimes against nature was also highly praised. As for the agreement between the US and Ukraine on the extraction of rare earth metals, any developments must comply with the EU's high standards.

Another section of the resolution was devoted to the environmental consequences of Russia's military invasion of Ukraine. European parliamentarians called on the international community to *"give full support to all initiatives documenting the environmental destruction caused by Russia's war and to back efforts for accountability and compensation in foreign jurisdictions,"* as well as to support a comprehensive environmental restoration strategy as part of Ukraine's reconstruction.

However, there were also criticisms. For example, the European Parliament noted in its resolution that it is unacceptable to combine environmental impact assessment (EIA) and strategic environmental assessment (SEA). These mechanisms must be improved and used as a condition for the country's sustainable recovery from the consequences of the Russian invasion.

The resolution draws attention to Law No. 12089 (Law of Ukraine No. 4292-IX of March 12, 2025), which allows private individuals to legalize land alienated from the state, including forests and water bodies. In its current wording, it does not comply with EU standards.

Members of the European Parliament called on the Ukrainian authorities to actively combat illegal logging, particularly in the Carpathians, as well as on the government to invest more actively in environmental safety and sustainable tourism infrastructure. The resolution also calls on the European Commission to support the development and protection of areas included in the Emerald Network.

Ukrainian environmental organizations are trying to ensure that European integration also complies with EU climate and environmental goals and standards. For example, Ecohome experts analyzed draft law No. 12087-d regarding the implementation of European law on energy market integration and improving supply chain security and competitiveness in the energy sector. According to environmentalists, the bill does not fully represent the interests of community associations and could be used by large players and energy companies for their own enrichment. Environmentalists sent their comments and observations to the Minister of Energy and the Verkhovna Rada Committee on Energy, Housing and Utilities.

Publication of "Kamianska Sich National Park: War Against Nature"

The environmental organization Environment People Law published this book. It examines the history of Kamianska Sich National Park, military operations on its territory, the consequences of the Russian military invasion for the park, including fires, construction of fortifications, pollution (esp. munitions and combat shells), and the destruction of equipment and infrastructure. The impact on the park of the destruction of the Kakhovka hydroelectric dam and the draining of its reservoir is also examined. A section of the book is devoted to the legal grounds for holding the aggressor accountable for these environmental consequences.

Kamianska Sich National Park was established on April 19, 2019 and covers an area of 12,261 hectares in the Beryslavska district of Kherson region. The park was created on the site of two large ravines (former river beds) – the Kamianska and Mylivska. It also includes lands along the Dnipro River.

One reason for the park's creation was the desire of conservation scientists to establish a nature conservation area on the right bank of the Dnipro River, as most nature reserves and national parks are located on the left bank (Askania-Nova, Black Sea Biosphere Reserve, Oleshky Sands National Park and others). The selected area possessed a high diversity of biotopes—aquatic, steppe, meadow, shrub, forest, rocky, and synanthropic (containing organisms that evolved to live near humans and benefit from human) landscapes. Its creation accomplished several nature conservation tasks at once and established conditions for ecosystem-level conservation. 80 species of lichens and 307 animal species, 97 of which are inscribed in the Red Book of Ukraine have been identified in the park. The national park also contains objects of historical value dating back to two periods (1709-1711 and 1730-1734) when it was the site of the Cossack's "Kamianska Sich", an administrative and military center where Cossacks gathered and lived.

On March 9, 2022, Russia occupied Kamianska Sich National Park. Despite this, work in the park continued. Employees even carried out guerrilla activities and passed on information about the occupiers to the Ukrainian Armed Forces of Ukraine (UAF). The park was liberated on November 9, 2022, during a UAF counteroffensive headed for Kherson. Despite this, the military consequences for the park did not end with that de-occupation. In December 2022, massive shelling began, attacks which intensified in 2023. In September-October 2023, villages located near the national park were subjected to active drone attacks. Local residents were forced to flee the area.

The de-occupation allowed scientists to visit the area to study the war's impacts on nature conservation areas. The first expedition occurred in December 2022. One of the most negative consequences was found to be the fortifications built by the occupiers. For example, layers of turf were removed for camouflage, leading to the destruction of rare plants such as fescue (Festuca spp.) and feather grass (Stipa spp.). Virtually every forest strip was used for military purposes. During their retreat, Russian troops left behind vast quantities of both domestic and military waste: ammunition boxes, single-use plastic, food containers, dishes, bottles, etc. Trees were cut down for use in fortifications and camouflage purposes. Researchers documented soil contamination in craters left by shelling. Damaged equipment was also abandoned during the retreat. Steppe grasslands suffered from equipment movement, especially from heavy equipment such as tanks, munitions launchers, and trucks. The park's infrastructure was damaged, and landmines were also a significant environmental consequence. As of April 12, 2024, 8,557 anti-personnel mines had been found in the park. An additional

145 metric tons of artillery shells were collected.

Located directly on the shore of the former Kakhovka Reservoir, the park was also affected by the dam breach at the Kakhovka hydropower plant on June 6, 2023. The park now serves as a base for expeditions exploring the exposed bed of the Kakhovka Reservoir. Research was also conducted in the Mylivska and Kamianska ravines, which once drained into the reservoir. First impressions were tragic—the bottom of the reservoir was covered with millions of dead mollusks. However, nature began to recover quickly, leading to the emergence of the new Velyki Luh (Great Meadow). During an October 2023 expedition, scientists discovered new biotopes forming on the exposed bed of the former Kakhovka Reservoir. Today, there is an urgent need to preserve Velyki Luh landscapes that formed after the disaster and to grant them nature conservation status.

Read more:

- Is it time to restore Velykyi Luh?

The example of Kamianska Sich National Park shows how nature conservation areas suffer during war. Created just a few years before the full-scale invasion, the national park was occupied, shelled, and used as a battlefield. Despite those challenges, scientists have managed to preserve it. The new landscapes revealed after the emptying of the Kakhovka Reservoir demonstrated nature's amazing ability to recover.

Download and read "Kamianska Sich National Nature Park: War Against Nature" (in Ukrainian). •

Translated by Jennifer Castner

Main image: Kamianska Sich National Nature Park Source: npp-sich.org.ua

Just transition for coal-mining communities: What is it and how does it work in wartime Ukraine?

Inha Pavlii

Just ten years ago, the coal industry was one of Ukraine's largest industries. However, with the beginning of Russia's armed aggression against Ukraine in 2014, the decay of mining towns in temporarily-occupied territories, accumulating industry debts, and the unstable economic situation have led to the industry's gradual decline. These challenges stimulated the development of just transition strategies for communities that were previously considered purely mining towns.

A previous article, "Black legacy: How war is turning Ukraine's coal mines into time bombs," examined the negative impact of the coal industry on the environment during wartime, with a particular focus on occupied areas. In this article UWEC explores potential

solutions, including a just transition process for coal regions. The principle has been actively developing in Ukraine even prior to the full-scale invasion and could become a key phase for the country's green recovery in the post-war period.

A just transition framework envisages addressing social, economic, cultural and environmental issues in regions and cities built around fossil fuel extraction. There are many examples around the world of single-industry towns that were created on the sites of coal, oil or other natural resource extraction sites. Once the mines were exhausted or production fell, they became depressed areas where people faced social problems and falling living standards.

In Ukraine, entire regions felt the impacts of intensive mining. In addition to those in the Donbas (an abbreviation of the "Donetsk Coal Basin"), there are also single-industry towns in other regions. One example is Sheptytskyi (formerly known as Chervonohrad) in the Lviv region in western Ukraine. After becoming a symbol of decline and Soviet colonization, this city entered a just transition process in 1999-2000, planned for completion by 2027. The framework should breathe life into one of the most depressed cities in western Ukraine.

Today, local governments in mining regions in areas occupied by Russia should also look for ways to implement just transition. The Ukrainian government recently approved a just transition program for coal areas, an effort that could become part of the country's "green recovery" program.

Why are coal communities declining in Ukraine?

Ukraine's rich geological position fueled the rapid development of the nation's coal industry in the 18th century. Its eastern regions—Donetsk and Luhansk—have steadily led in coal production for many years. Mining also occurred in the Dnipro, Lviv and Volyn regions.

Production peaked in the 1970s. In 1977, Ukraine mined a record 218 million metric tons of coal. Since then, production has gradually decreased, and between 1976 and 2010, coal production in Ukraine decreased threefold. Almost no new mines have been built since 1985.

Oleksiy Stohniy, at the Institute of General Energy of the National Academy of Sciences of Ukraine, noted that despite these numbers, coal remains the sole extractive energy source in Ukraine, and the country's coal volumes are potentially sufficient to almost completely meet its domestic economic demand.

Ukraine produced 84 million tons in 2013, with volumes falling further to 65 million tons in 2014, according to data obtained from **Mykhailo Volynets**, Chairman of the Independent Miners Trade Union of Ukraine. The reason for this significant decline was the start of

Russia's armed aggression in the Donetsk and Luhansk regions, where most of the country's coal mines are concentrated.

Volynets notes that Ukrainian coal beds are known for their high quality. Valuable grades of coke (as known as metallurgical, regional "grade K") and bituminous (regional "grade Zh") coal are mined in the Donetsk and Luhansk regions. For example, the Pokrovskoye mine produced K grade coal with a sulfur content of 0.6%, while world standards allow up to 1% of sulfur for high-quality consumption. Europe has no P (lean) or A (anthracite) grades of anthracite coal, which Ukraine historically produced. After 2014, mines with valuable coal reserves, infrastructure, enrichment processing facilities, and thermal power plants in the Donetsk and Luhansk regions were occupied and "nationalized" by the Russians.

At the start of 2014, Volynets wrote that 145 coal mines were operating in Ukraine, 135 of which were actually mining coal, but only 19 are operational today. Ukraine has gradually switched from being an exporter into a coal importer. In 2014, the country exported 7.1 million tons of coal. In 2024, it exported only 400,000 tons and imported 1.4 million tons.

This gradual contraction of the coal industry has resulted in deteriorating working conditions for miners, and the accumulation of millions in wage arrears. As of May 2025, miners in the Donetsk region were owed a total of UAH 272.7 million and miners in the Luhansk region were owed UAH 155.2 million, according to regional government data.

Volynets believes that the real figures are much higher. According to him, debts at specific mining companies are significant: Selidovugol—386 million UAH, Toretskugol—18.5 million UAH, Dobropolyeugol—225 million UAH, Myrnohradugol—82 million UAH, Pervomayskugol—56 million UAH.

Without accruing wages in payroll, miners cannot retire on time despite having worked the required number of years underground. Additionally, annual inflation in Ukraine gradually devalues these wages.

When the frontline approaches mining towns, miners have no choice but to leave the towns and find new occupation. Ukraine does not provide jobs for miners who have lost their jobs due to the fighting.

What is "just transition" and how does it work? Case study: Ruhr metropolitan area in Germany

Prior to the full-scale Russian invasion, Ukrainians actively debated the challenges of just transition: how to transition to environmentally friendly energy production while also considering the social needs of coal industry workers and preserving jobs and economic support for regions that depend on the mining industry.

Today, Ukraine continues to move towards joining the European Union. The EU wants Europe to become the first climate-neutral continent, says **Anastasia Bushovskaya**, a specialist in urban energy policy at the Ecodia Center for Environmental Initiatives. That move is the basis for the gradual introduction of climate-neutral policy in Ukraine, and abandoning coal mining altogether.

However, a sudden closure of the mines and the companies that service them would entail serious economic and social difficulties: falling tax revenue, mining industry job losses, and halting the development of cities whose economy and social policy are based on coal mining. It is for these reasons that environmentalists and government institutions have taken steps to implement a just transition process in mining-dependent cities and towns for many years.

How do communities abandon coal without harming workers and the environment? Just transition success stories for coal towns do exist, including, for example, the Ruhr region in Germany.

Germany's Ruhr region in the west can well be called the "German Donbass". It was here where most of the country's mines were concentrated, mining a variety of grades of coal. However, when the coal and steel crises began (1950s-1970s), the region struggled economically. When the mines had to be closed, a population outflow was inevitable, and there were no prospects for life in the Ruhr. Local residents came to the rescue, promoting the idea of "reincarnation through culture—culture through reincarnation". Under this slogan, the Ruhr region went from a large industrial agglomeration to a center of artists, scientists and designers.

Projects to preserve the monuments of the industrial past and develop tourism helped to rebuild the region and make it attractive for living. However, it was not easy. When the mine Zollverein received protection as a state monument, it was the workers who were indignant. Germany then carried out a large-scale program to create over 200,000 new jobs in order to offer former miners an alternative.

Today, the Zollverein was preserved in the state it was in when the mine ceased operation. It houses a museum and the coal mine is now filled with exhibits, tours and tourists instead of coal. In 2010, the Ruhr was even chosen as one of Europe's cultural capitals.

Examples of just transition in Ukraine

A representative of the Association of Coal Communities of Ukraine spoke with the UWEC Work Group about successful examples of fair transition. Back in 2021, the government adopted the "Concept of the State Targeted Program for the just transition of Ukrainian coal regions by 2030". Its focal areas included a gradual reduction in coal industry dependence, the development of new economic

opportunities for mining communities and support for regional socio-economic stability.

The Lviv region was the first in Ukraine to develop an Action Plan for the "Just transition of a coal-focused microregion by 2030". The comprehensive plan describes a socially just transition to new types of employment that will improve the quality of life of residents of mining towns and create conditions for environmentally sustainable development, energy sustainability and economic diversification of coal communities.

In 2020, in the city of Sheptytskyi (formerly Chervonohrad) in the Lviv region, a pilot project that proposed support for structural changes in the coal regions of Ukraine was presented and began in 2022 with financial assistance from the German government. The project provides for consultations with communities to study promising areas for regional development, attracting investment in new industries, creating new industries, retraining miners, developing the social initiatives, and addressing environmental issues.

The Association of Coal Mining Communities of Ukraine (ACMCU) reports that over the past year the community has managed to implement many important initiatives: repurposing and opening new vocational and technical educational institutions, equipping healthcare institutions with green energy solutions, creating an industrial park, launching the "Factory-Kitchen" project in the Sheptytskyi community, launching the Office and Agency for Just Transition, and others.

The Volyn region also already has a Just Transition Action Plan, which provides for a gradual transition from coal dependence to sustainable development. According to the plan, a just transition for the Volyn coal micro-region is based on the concepts of just transition and green recovery and works to consider the interests of all community stakeholders in social, economic, and environmental development.

"The Litovezh community in the Volyn region implemented the 'Active Electricity Consumer' system. Last year, that community successfully installed solar panels on the roof of the DIA Center (Center for Administrative Services, CAS) and on the town's outpatient clinic building. Only part of the energy is consumed, and the surplus is fed back into the grid," the ACMCU representative noted. "Importantly, the ability to generate its own energy not only allows the community to meet its needs and sell the surplus, but also ensures stable operation in the event of power outages. During prolonged blackouts, the village council, executive committee, CAAS, clinic, and other institutions operate without interruption."

A support center opened in Novovolynsk to assist small and medium-sized businesses in mining towns during the just transition process.

A Local Economic Development Agency was established to implement urban social and economic community development initiatives in the Ladyzhyn coal community in Vinnytsia region.

ACMCU also highlighted the successes of the Agency for the Development and Restoration of Prisamaria Communities of the Shakhtar City Council and Petropavlovsk Town Council in the Dnipro region. *"The agency is part of interregional community cooperation and helps to jointly solve pressing problems by attracting investment, primarily foreign. The agency deals with issues of regional development and change adaptation," commented the ACMCU representative. "Every Association member community is now interested in development, job creation, and improving economic and social conditions. The Association has attracted more than UAH 17 million in grant support for coal communities. That figure testifies to their activity and desire for positive change."*

According to experts, the success of just transition efforts can be measured by the number of new jobs created outside the coal industry, investments, improvements to education, in particular worker retraining and launching new continuing education opportunities. Educational programs are aimed at teaching new skills, a particularly important need for single-industry towns. These processes can also reduce significant outflows of young people faced with few prospects in these towns.

Is a just transition possible during a full-scale war?

In the context of the full-scale war, the situation has certainly worsened. The destruction of coal mines and industrial enterprises in the combat zone means workers have lost their jobs and there are no prospects for future employment. The wage arrears mentioned above are not being paid and continue to accumulate. Uncontrolled flooding of mines threatens to worsen the environmental situation.

Read more:

- Black legacy: How war is turning Ukraine's coal mines into time bombs

The full-scale war has also had a significant impact on the just transition process in coal communities. Many of these municipalities, especially in the Donetsk and Luhansk regions, have suffered considerable destruction. The ACMCU currently comprises 24 coal communities, six of which are honorary members: communities in the Donetsk (Uhledar, Pokrovsk, Toretsk, Dobropillia, and Mirnohrad city military administrations) and Luhansk (Gorsk city military administration) regions. Some communities are temporarily occupied or located in the combat zone, which significantly complicates the implementation of just transition measures. Additionally, some municipalities have thermal power plants

that are regularly subjected to rocket attacks from the Russian Federation.

"Many communities, both those near the front lines and those in the rear, were subjected to enemy air strikes on critical infrastructure, including power plants," said the ACMCU representative. "Emergency measures had to be taken to ensure that these communities were not left without heat and electricity in winter. Central and local authorities have taken many steps to minimize these risks. We are very grateful to our European partners for providing financial assistance for equipment purchases."

At the same time, these challenges have prompted many communities to accelerate the construction of small distributed generation facilities, including those based on renewable energy sources. Today, Ukraine's transition to distributed generation has finally become part of the state strategy.

Despite the war, the transformation is not only ongoing but gathering speed in communities that are not under occupation. ACMCU underscores the importance of transferring today's successful just transition experiences to de-occupied coal communities in the future.

With a track record of successful projects, cooperation with international donors, productive communication between coal communities and the central government, and experience in the phased implementation of the state's just transition program, just transitions can occur more quickly and effectively in those regions that have suffered for decades from mine closures and tremendous economic, infrastructural, and environmental losses as a result of the war.

ACMCU's representative noted that, "Ukraine has committed to phasing out coal by 2035. The government plans to achieve its goals despite the war and declares that a just transition for coal regions is an essential factor for achieving this goal."

"In November 2023, nine local governments came together and established ACMCU. We promote effective communication between central authorities and local governments, defend and lobby for the interests of coal communities at the national level, participate in the State Target Program for Just Transition by 2030, provide free assistance to representatives of coal communities (hromady) in preparing grant applications and attracting funding, and issue recommendations and proposals linked to the Fund for the Just Transition of Coal Regions's priorities and programs," continued the representative.

The government recently presented a draft state "Program for the just transition of coal regions by 2030". However, a number of public organizations (Ekodia, Alternativa, Razom We Stand, Center for Anti-Crisis Research, Shield, DOBRO Dobropilska Youth Center, and the Ecoclub) noted that the program does not offer specific solutions.

Civil society organizations have observed that the program lacks clear criteria for determining which projects meaningfully connect with the just transition framework. The risk is that any project located in a coal region could be considered transformational solely based on its location.

"This should not be just a set of infrastructure projects, but a real tool for economic recovery and a just future for communities that have depended on coal for decades. We understand that participation in the program is not easy, especially in the context of a full-scale war, and that is why we want the document to be of the highest quality and to really work," notes Anastasia Bushovskaya.

The program allows projects using natural gas, a move which contradicts EU just transition requirements. The document also lacks clear mechanisms for coordination with local just transition plans, does not inventory closed mines, and lacks measures for dealing with infrastructure after the liquidation of coal enterprises.

The organizations appealed to the Ministry of Community and Territorial Development in order to implement a new procedure for closing mines that replaces the current procedure, a process they believe is outdated and which does not meet environmental requirements.

For now, Ukraine is unable to cope with its policy regarding existing coal mines and communities, as well as the millions in back wages owed to miners, destroyed infrastructure, an unstable economic situation, and miners losing their jobs with no prospects for employment. It is high time to start providing comprehensive assistance to unemployed miners following the start of the full-scale invasion. This would be the first real step towards a just transition for Ukraine's coal communities against the backdrop of a full-scale war with Russia.

The just transition process is only just beginning. The start of the full-scale invasion significantly worsened the state of Ukraine's coal industry, adding new challenges. Although there are examples of programs, strategies and plans, there are still no successful projects in Ukraine's coal company towns that demonstrate concrete results in a just transition framework comparable to mining towns in Germany's Ruhr region. Work continues despite the war, lending optimism for Ukraine's ongoing investment in its communities. •

Translated by Jennifer Castner

Main illustration source: rosalux.de

Environmental and climate activism in Belarus, Ukraine, and Georgia during Russia's full-scale invasion. Part One

Alexej Ovchinnikov

This article begins a series discussing how the full-scale invasion of Ukraine has impacted environmental activism in Belarus, Georgia, and Ukraine and explores how activists can find ways for environmental organizations and initiatives to continue their work during these difficult times.

Major political events reveal and highlight social processes that have actually been brewing in society for a long time. This is exactly what happened during Russia's full-scale invasion of Ukraine, following the start of hostilities in 2014. Pressure on non-governmental organizations (including environmental ones) in post-Soviet countries has been going on for decades with varying degrees of intensity. However, it was during the

full-scale invasion that conversations in international circles intensified about the desire of post-Soviet governments to establish authoritarian regimes and subjugate activism.

Although the war is taking place on Ukrainian territory, it affects other countries as well. The Russian government has ambitions of restoring a Soviet-style empire extending across vast territories from Eastern Europe to Central Asia. Using instruments of pressure from the political to economic and cultural, Russia seeks to form satellite regimes that are friendly and often maintain an authoritarian stance and stifle civil society, attacking both grassroots initiatives and non-governmental organizations (NGOs).

Over the past five years, environmental and climate activists in Ukraine, Belarus, Georgia, Russia and other countries have faced unprecedented levels of pressure. War, repression, rollbacks in environmental and climate policies, the replacement of NGOs with GONGOs (pro-government and ideologically "correct" organizations) and a shift toward authoritarian forms of government have all led to many environmental initiatives either ceasing their work or, at the very least, being forced to reshape it. Many lost the ability to address environmental issues at the local level. At the same time, climate change marches on, and its manifestations have only intensified. Eastern European countries are increasingly suffering from heat waves, water shortages or, conversely, excessive and abnormal precipitation.

Belarus: Elimination of environmental organizations, forced migration and lost connections

In early 2021, it became clear to Belarusian society that the protests that began after the rigging of the 2020 presidential election would not change the socio-political situation in the country for the better. Unfortunately, they only led to increased repression. The Lukashenko regime decided to label NGOs receiving international funding and supporting the protests as "enemies of the fatherland." Environmental organizations were also included in a "blacklist" for elimination and were largely liquidated in the summer of 2021. It is difficult to know the precise number of environmental NGOs that have been shut down, but over 100 environmental conservation organizations disappeared during the "cold summer of 2021".

Among those closed were two large organizations: Ecodom (liquidated on July 31, 2021) and Akhova Ptushak Batskaushchyny (APB, "Bird Protection of the Fatherland") (liquidated on March 18, 2022). APB was subsequently registered as an "extremist" organization that same month, followed by Ekodom and its social media accounts in October 2022.

This means that any cooperation with these organizations, such as reposting from their social media accounts, may lead to criminal liability.

At the time, Ecodom was the largest Belarusian organization representing the country on the international stage. In particular, the organization played an important role in Belarus' participation in the "Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters" and monitored its implementation. The Convention Committee called for the restoration of Ecodom's status in recognition of its long-time representation of the country. However, Lukashenko's government chose a different path and "simply" withdrew from the convention. Russia has also begun to actively apply this strategy of demarche during a full-scale war, including by denouncing the Ramsar Convention in August 2025.

As for APB, this organization was arguably the main driving force behind environmental protection activities in the country, including achieving the designation of protected areas. One key focus area was saving the vast Polesia wetlands and forest, an important region not only for Belarus but for the whole of Eastern Europe. After the organization was shut down, work to protect the Belarusian part of Polesia via the Save Polesia initiative largely ended. Five years on the region has suffered even more, not only from climate change, which directly affects biodiversity, but also from militarization. Environmental projects on both Ukrainian and Belarusian territory are now much more difficult.

> Polesia is often called the "Amazon of Europe". It is a unique area of landscapes with rich biodiversity along the Pripyat River in Poland, Belarus, and Ukraine. Those nations have awarded protected status to 36,000 sq km of these lowlands. At the same time, 12,000 sq km in Belarus and 19,000 sq km in Ukraine are also part of the European Emerald Network. Rare species such as the aquatic warbler (Acrocephalus paludicola), spotted eagle (Clanga clanga), and the bladderwort (Aldrovanda vesiculosa) are found here. Polesia is also known for its varied biotopes, such as floodplain meadows, oak forests, and wetlands. It is also a key waypoint for migrating birds in the spring and autumn.

In addition to APB and Ecodom, many other Belarusian organizations that were actively involved in environmental protection, climate policy implementation and the achievement of Sustainable Development Goals were also liquidated. The grassroots NGO Bagna was involved in researching and protecting wetlands, and Interaktsiya worked hard to achieve

sustainable development goals in the country.

These repressive tactics not only sought to shut down organizations and label them as extremist, but also to stop their work. Dozens of environmental activists were also arrested and sent to prison. The most high-profile case among environmental groups was the two-and-a-half-year imprisonment of Viktor Fenchuk, former director of APB and a well-known Belarusian expert in the field of nature conservation. Fenchuk served his full sentence and was forced to leave the country after his release in 2023. The projects he was involved in were put on hold, including one that promoted understanding the role of wolves in ecosystems, a species still hunted in Belarus.

Many environmental and climate activists, experts, and organizations have left the country. Those who remain have distanced themselves from active involvement and refrained from opposing or criticizing the authorities (at least publicly). Some of the environmental experts, activists and journalists who left are attempting to continue their activities in exile, but their work is complicated by the fact that they have virtually no influence on environmental protection in Belarus. For the past four years, environmental and climate activists have been looking for ways to support those who have remained in the country, as well as developing strategies for the future, when the political situation in Belarus changes. For example, the Green Belarus project is trying to bring together organizations and activists, while the Belarusian media outlet Zeleny portal continues to disseminate information related to the country's environmental agenda.

UWEC Work Group spoke with Iryna Ponedelnik, coordinator of the Youth Climate Council and a Belarusian environmental and climate activist in exile who represents Belarus in the Climate Action Network Eastern Europe, Caucasus, Central Asia (CAN EECCA). Ponedelnik says that the most important issue for Belarus today is human rights violations. There are still more than 1,000 political prisoners in the country, and people who have been subjected to repression in one way or another number in the tens of thousands. It would seem that in such a situation, issues of ecology and climate change would be less prominent, but people in Belarus are still concerned about air pollution, the lack of mechanisms for adapting to abnormal weather phenomena, illegal logging, and, in general, they desire an environmentally friendly lifestyle. It is impossible for environmental and climate activists to work freely in the country itself, but work continues abroad. In particular, a Youth Climate Council has been created, and Ponedelnik organizes educational programs for experts to continue to share their experiences.

The work is complicated not only by domestic political issues in Belarus, but also by the situation in the larger region. Russia's invasion of Ukraine, a move condemned by Belarusian civil society, has had a significant impact on the work of organizations and activists inside Belarus. At the same time, it has also shifted the focus away from Belarus in international discussions and has resulted in reduced financial support.

"*There are many conflicts in our region, civil society space is shrinking and with the recent loss of American funding, everyone is trying to survive as best they can. There are no 'extra places' for the Belarusian climate and environmental movement,*" notes Ponedelnik.

No support is forthcoming from international organizations either, and to some experts it seems that funders have excluded Belarus' environmental and climate agenda from the list of important issues.

"For example, my young colleagues and I tried to apply to organize a Local Conference of Youth, but we were rejected due to 'insufficient scale'. But what scale are we talking about? This approach applies to all types of support—we are not considered part of the Global South, and when it comes to Eastern Europe, they say it is better to support Ukraine or Moldova," she continued.

Other challenges exist as well. Constant economic instability, the need to work with small groups while maintaining a high level of security (10-15 people attend Green Network webinars) and the difficulty influencing the situation at home—all of this has a negative impact on the work of the organization and its activists and leads to burnout.

As Ponedelnik says: "*I find the word 'efficiency' very upsetting. It is impossible to work effectively in Belarus at the moment. When I hear colleagues say things like, 'In our day, people started eco-businesses,' I want to close my eyes and run away. I remember organizing large and influential festivals, but now that is simply impossible.*"

"*When your work becomes invisible, you lose energy and strength, and the fire simply stops burning,*" Ponedelnik concludes.

Unfortunately, today the Belarusian environmental movement has effectively become one of the endangered species it was created to protect. Without international support and recognition, it may simply disappear in the near future.

This series was produced as part of the Thematic Networks of PULSE, a European initiative that supports transnational journalistic collaborations. Read other articles in this series here and here. •

Main image: Chernobyl Way 2022
Source: EcoHome

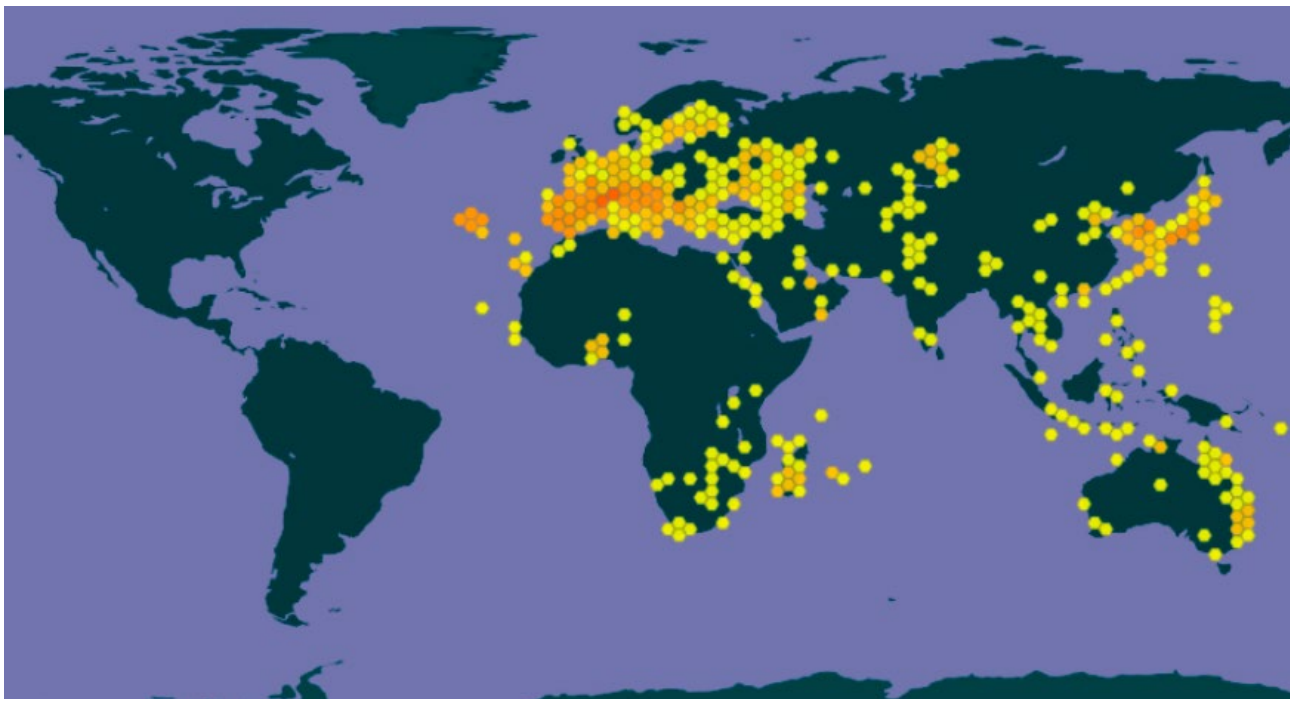
Invaders from the steppes: Locusts and the war in Ukraine

Stanislav Viter

In recent weeks, a number of media reports have focused on a massive locust invasion in southern Ukraine. Some media outlets and officials have even referred to these locusts as "Egyptian", complete with Old Testament analogies, while others claim the destruction of the Kakhovka Reservoir has played a role in the invasion. What kind of locusts are currently attacking southern Ukraine, where did they come from and how likely are they to spread?

A mass breeding and onset of migratory locust migration was observed in southern Ukraine in 2025, the consequences of a complex set of climatic factors, soil conditions, and vegetation development, as well as, of course, the war in Ukraine. Active hostilities, temporarily occupied territories, and damaged landscapes present significant challenges when it comes to studying the issue and planning and implementing prevention and mitigation strategies.

Most of the locust outbreaks in southern Ukraine in 2025 concern only



Habitat of the migratory locust. Source: GBIF

one species of insect, the migratory locust (Locusta migratoria). Despite statements by some officials, these locust swarms have nothing to do with Egypt and the Egyptian locust (Anacridium aegyptium). The Egyptian locust is known to cause damage to croplands in the Caucasus, North Africa and the Middle East, but does not form swarms or migrate long distances.

The largest locust in Europe and the world's most common, the migratory locust is found in steppe, semi-desert, desert and even tropical regions in Asia, where it gravitates toward large reed beds, especially in wetland areas in arid steppes and deserts. The largest foci of migratory locust distribution are the lakes and rivers of Kazakhstan and southern Siberia, and river valleys in Central and West Asia. Further south, locusts are found in large concentrations in the lower reaches of the Tigris and Euphrates rivers, near Lake Tuz in Turkey and in the Helmand River delta in the Sistan Basin (on the border between Afghanistan and Iran).

In Europe, migratory locusts typically inhabit southern regions, where they are found in their greatest numbers in the river deltas that drain into the Black and Mediterranean seas and, to a lesser extent, in forest belt wetlands and sandy areas bordering woodlands. Large reed bed areas of southern Europe and arid regions in Asia are most susceptible to locust migration.

Beyond Eurasia, the migratory locust's range encompasses all of Africa, Australia and even New Zealand. In these regions, locusts also concentrate in relatively small areas of reed beds near large lakes (such as Lake Chad) and river deltas (including the Nile,

Migratory locust, intermediate phase (September 2023). The image on the left shows a characteristic solitary phase individual – green head and thorax. The gregarious phase is characterized by the shape of the dorsal side of the thorax – a curved ridge. The coloration of the individual is closer to that of the gregarious phase. Source: Stanislav Viter

Solitary phase of the migratory locust (Kharkiv region, Berestinskii district, September 2023). Source: Stanislav Viter

Indus, Irrawaddy, Mekong, Ganges, and Zambezi rivers, the inland deltas of the Chari and Okavango rivers, and the Sudd wetlands in South Sudan).

Ukraine is located between two "locust worlds": a forest zone with small, scattered populations and arid regions with large concentrations. In Ukraine, compact nesting foci of migratory populations also form, concentrated in the deltas of the Danube and Dnipro rivers, in the Sivash lake system, and to a lesser extent in the Dniester estuary and other estuaries along the Black and Azov coastlines. Locust populations are also found in large areas of steppe reed wetlands far from the sea, such as the Liman lake system in Kharkiv region.

Usually, even in large reed beds in arid regions of Africa, Asia and southern Europe, migratory locust abundance is low. But in years when mass reproduction occurs, it is in these areas that locust invasions take place.

What causes locusts to reproduce en masse?

To become capable of reproduction, locusts need a large amount of succulent plant matter. While reed/bulrush (various species of the genus Phragmites, primarily Ph. australis) are usually preferred, they can also eat cultivated plants (millet and corn). A single locust consumes vegetation equivalent to 1–1.5 times its weight every day, i.e. 3–4.5 grams/day. Reed beds provide excellent feeding grounds, and in arid landscapes, where natural vegetation tends to become scorched by late spring, they are almost the only place where locusts can mature and acquire reproductive capabilities. This increases the concentration of insects in these areas in hot, dry years.

The availability of sites to incubate larvae and lay eggs is another condition affecting reproduction. The locust lays its eggs in soil, in a clutch covered with a film that forms a kind of cocoon, where they mature for 15–30 days, depending on temperature conditions and soil moisture. Moist soil is essential for the development of eggs, because during incubation the eggs absorb an amount of water from the surrounding environment approximately equal to the total volume of the clutch itself. The soil should be of light composition, ideally loess, or sandy loam. Migratory locust eggs also need high temperatures, so a balance between moisture and warmth is necessary.

These specific conditions may arise when hot weather is combined with frequent but brief rains, typical for the wet season in arid savannas and tropical semi-deserts. Another habitat option is irrigation systems, where in dry months soil is artificially moistened and excess irrigation water can drain off into desert areas near reeds. In arid regions of Asia and North Africa, it is irrigation systems that unintentionally create these conditions and artificially stimulate locust reproduction.

When a proliferation turns into an invasion

Returning to the climatic conditions described above, first drought and heat drive locusts into reed beds—the site of future reproduction. If the favorable conditions described above occur, locusts not only have an excellent food source in the form of succulent reeds, but also large areas of well-moistened soil. Since the places where eggs are laid and larvae develop (open areas of soil adjacent to reeds) and feeding places (reed beds) are separate, daily migrations are necessary. If clutches survive the winter and the soil

is moist and well-warmed in summer months, large clusters of larvae form in these warmed areas.

In such large groups, larvae often come into direct physical contact with each other, prompting the secretion of pheromones that trigger larval development under the "gregarious phase" scenario. Such larvae need constant contact with other individuals, and staying in swarms becomes a necessity. They grow faster (by 20-30%) than solitary phase larvae, grow larger, more mobile, resistant to disease, and can tolerate prolonged starvation. Adult individuals in the gregarious phase lay fewer eggs per mating (up to 300, compared to 1200-1300 in the solitary phase). However, gregarious females mate more often, their eggs develop faster, and their offspring grow up to be more resilient.

Larvae and adults in solitary and gregarious phases differ in appearance, both morphologically and in coloration. Solitary individuals have a mostly green head and thorax and grayish, while their wings and abdomen are grayish and rather pale; their wings often have a greenish-olive coloration. The back of the gregarious form is flat or even slightly concave, but in the solitary phase it is curved in an arc, forming a peculiar keel.

Adult individuals in the solitary phase vary in length from 35 to 50 mm, while in a gregarious phase, their size ranges from 40 and 60 mm long.

The concentration of locusts caused by climatic conditions is a signal to prepare for migration. Accumulation of locusts at a density of more than ten adults per kilometer of route is a warning that may indicate gradually increasing abundance. This is especially true if it is observed early in the season—in June and the first half of July. During mass reproduction, the population can reach dozens of individuals per square meter.

Overpopulation in larval clusters triggers migration regardless of the availability of food sources in a given area. During their larval stage (35–40 days), insects can travel more than 30 km on foot.

After six instars (development stages between molts), larvae eventually morph into adult winged insects. If they were gregarious as larvae, the adults continue to lead a nomadic lifestyle in large swarms. Now equipped with wings, these travelers of the insect world can be a true disaster for croplands. Winged adult insects can travel 30-100 and even 120 km per day. These swarms usually follow the wind or fly at a slight angle to it, traveling 200–300 km from their hatching sites. There have also been cases when swarms have traveled 1,000 and even 2,500 km! Not every wind is favorable however—when wind speeds reach 10 meters per second, migration stops for winged insects and walking larvae both.

Factors contributing to the 2025 locust invasion in southern Ukraine and in the future

Mass breeding and the onset of migratory locust migration was observed in southern Ukraine in 2025, a consequence of the types of climatic factors, soil conditions, and vegetation development described above. Details of the event's causes and development include:

1. Extreme flooding of egg-laying sites along the lower Dnipro River followed the destruction of the Kakhovka Dam in 2023. Receding floodwaters exposed large moist areas, optimal spots for egg laying and feeding (wetland reed beds, saturated with flood waters, especially in Lower Dnipro National Park and the Kardashinsky wetlands). The exposed basin of the Kakhovka Reservoir also provided similarly optimal conditions, namely open areas of moist and sun-warmed substrate and large areas of forage plants.
2. Large new areas of suitable habitat appeared alongside the insect's natural habitat in reedbeds in the Dnipro River delta.
3. Meteorological factors including a very warm winter with minimal freezing of soils in 2024-25 favored overwintering egg clutches. That warm winter was also preceded by a hot summer in 2024, with heavy rainfall from May to mid-July, followed by drought in August–September. That very warm and dry autumn contributed to the successful reproduction and survival of adult migratory locusts. There was also a significant increase in solar activity (an 11-year solar cycle peak coincided with a 100-year maximum in 2024 and 2025). History confirms that mass locust reproduction occurs precisely during periods of peak of solar activity.
4. Woody vegetation overgrowth on the Kakhovka Reservoir bed in 2024-2025 will shrink locust habitat, a possible trigger for swarm migrations.
5. Humans failed to respond to the arrival of migratory swarms, including, first and foremost, lethal measures to destroy swarms in cropfields flooded and abandoned because of the war as well as on the bed of the former Kakhovka Reservoir, measures which could have been implemented as early as 2023–2024. With ongoing military operations and lacking funding and available specialists, no monitoring of natural breeding sites is currently occurring. There are also new and existing breeding habitats located along the front lines, in temporarily occupied territories, and near combat zones. Waves of locusts are

a long-standing pattern in countries experiencing conflict, a list which now includes Ukraine—where there is war, there are locusts. For example, military operations disrupted monitoring and prevented timely preventive measures against the spread of desert locusts in Yemen and during the 2022 Tigray war in Ethiopia.

6. Airspace restrictions prevented treatment of mass reproduction and migratory swarm concentration areas. Military operations understandably make the use of agricultural aircraft impossible.

Further developments leave little room for optimism. Increased solar activity will continue for several more years, and the same applies to the El Niño phenomenon, with high temperatures and heavy rainfall in most regions of Ukraine. In addition, there are many suitable locations where new outbreaks may occur, namely reed beds in river valleys (very common in Ukraine's steppe zone) and on the shores of lakes, sedimentation ponds, and reservoirs situated near croplands.

Widespread plowing of meadows and steppe areas right up to shorelines and reed beds is also a significant issue. In many cases, agricultural fields and reed beds are immediately adjacent to each other. These fields provide open areas of soil where larvae can incubate, forming large clusters, and where adult locusts can lay eggs. The predominance of crops that require more time to cover exposed soil, like sunflowers and corn, creates favorable conditions because the soil there holds more moisture than do completely exposed soils. Additionally, exposed soils warm more readily. In the case of cornfields, locusts actually experience them as analogous to reed beds thanks to the morphological and nutritional similarities of corn and reed plants.

In warmer months, wind systems over Ukraine enable locust swarms to fly north and, to a greater extent, east and northeast. But the changing climate causes sudden changes in wind direction, especially at low altitudes above the ground. This can cause swarms to stray significantly from their usual migration routes. And if the Danube Delta, the largest river delta in the region, is included, then locust invasions in such "favorable" years can cover all of Ukraine's southern, central and eastern regions.

Some of the largest centers for the mass reproduction of migratory locusts—the deltas of the Kuban, Yeya, Don, Volga, Terek, and Kuma rivers—lie to the east of Ukraine. In recent years, numerous locust connections between these hotspots have been documented, particularly the constant migration of locusts from one hotspot to another. Essentially, several large foci have merged into a single chain for large-scale reproduction. Migrating from one focal point to another, locust swarms join together, creating super-swarms. Because

they are found in different natural zones (steppe, semi-desert, desert) where the warm season begins at different times, migrating insects accumulate in the more northern and northeastern regions, joined there by local insects.

This article's author assesses that if the meteorological trends of 2023–2025 continue, particularly dangerous locust swarms should be expected in the period 2026–2028.

Key infestation areas in Ukraine and prevention measures

Coastal estuaries and river deltas, large inland water bodies (lakes and reservoirs, especially the former Kakhovka Reservoir), and large river valleys are the most predictable areas for mass locust reproduction.

In southern and eastern Ukraine, mass reproduction outbreaks are most likely in agricultural landscapes outside of river valleys, and were observed in August-September 2023 in the Berestinsky district in Kharkiv region. These outbreaks did not re-occur in 2024.

What preventive measures are available today? Following are the simplest and cheapest measures that are also critically necessary:

1. Creation of buffer zones at least 500 m wide around large areas of reed marshes. In such zones, tall grass meadow vegetation should be restored and bare soil areas should be prevented. It is particularly important that no cornfields are located in such buffer zones, they should preferably be sited at least two kilometers distant from wetlands).
2. Strict adherence to crop rotation, and specifically not allowing corn to be grown on the same plot for more than two consecutive seasons.
3. Chemical treatment should be carried out in areas where larvae incubate (if possible, followed by the removal of poisoned insects from the natural environment to prevent the poisoning of locust-loving predators). Preference should be given to targeted (anti-locust) chemical agents rather than broad-spectrum insecticides.
4. Ban plowing on river floodplains! Habitat destruction often leads not to the disappearance of locust populations, but to their migration to croplands and the emergence of mass breeding grounds. Such development can have a particularly negative impact on agriculture in areas where mass reproduction of the white-winged grasshopper (Chorthippus albomarginatus) and the Italian locust (Calliptamus italicus) occur. Where plowing occurs, natural breeding grounds (meadows) will simply be replaced by artificial ones—croplands. This

will result in even greater losses for agriculture.

5. Promote the conservation and increased abundance of predators: starlings (Sturnus vulgaris, S. riseus), shrikes (Lanius sp.), small falcons (primarily kestrels Falco tinnunculus, F. naumanni), gulls (Larus sp.), rooks (Corvus frugilegus) and magpies (Pica pica), hooded crows (Corvus cornix) and common ravens (C. corax), bee-eaters (Merops apiaster), rollers (Coracias garrulus), steppe lizards (Saga pedo), steppe vipers (Vipera renardi), lizards (Lacerta viridis, L. agilis), and burrowing wasps (Podalonia sp., Sphex sp., Tachysphex sp.). This requires both the preservation of preferred habitats for these species and specific measures, including artificial bird boxes and nesting platforms for birds of prey. To increase the number of shrikes in agricultural landscapes, shrub areas measuring at least 2×3 m should be created at a distance of 100 m between groupings. Blackthorn bushes growing along forest edges where predators may also live should also be protected.

Comprehensive monitoring and research into the impact of landscape changes on locust populations must be implemented. For example, the changes occurring on abandoned land in combat zones and deoccupied territories as well as on fundamentally new types of agricultural land use in Ukraine require study. For example, rice fields, which, due to climate change, occupy increasingly large areas in southern Ukraine. Rice fields themselves, in totally transformed agricultural landscapes, are becoming pockets of biodiversity. However, there are no studies on how such radical landscape transformations affect locust populations in Ukraine's climatic and landscape conditions.

Managing locusts in the context of climate, conflict and science

Under normal circumstances, migratory locusts are rare inhabitants of river floodplains and marshy lake shores. However, climate change and other human factors (lack of monitoring, wholesale plowing of natural meadows and steppes right to the edge of wetland areas, disrupted crop rotation, destruction of natural and artificial landscapes by war, etc.) create dangerously optimal conditions leading to migratory locust swarm outbreaks.

There are many species of locusts in both Ukraine and around the world. Only a few of them are capable of the kinds of massive population surges that residents of the Zaporizhzhia, Dnipropetrovsk, and Kherson regions witnessed this year. Some species of locusts are quite rare and even require conservation, while others are

common inhabitants of meadows, forest glades, and steppe grasslands and balance the volume of plant matter in ecosystems.

It is important that such vegetation is removed, because otherwise it creates additional fuel reserves for fires in natural ecosystems. Fires release the carbon dioxide stored in plants back into the atmosphere, one of the most dangerous sources of greenhouse gases. Direct and indirect utilization of excess plant matter by locusts and excreted waste from the predators who feed on these insects improves carbon storage—it is reliably stored in organic compounds in the soil. In any case, carbon will not return to the atmosphere as quickly as it does when burned.

Mass reproduction of certain locust species in Ukraine—migratory locusts and, less commonly, Italian locusts—is the response of these insect populations to particularly favorable conditions that occasionally arise in arid ecosystems, places that are usually stingy with their "gifts" (steppes, semi-deserts and deserts, savannas, etc.). Human intervention in such ecosystems can cause locust populations to surge, and without precautionary and preventive measures (including landscape management and especially crop rotation compliance), these swarms can cause enormous damage to agriculture and negatively affect natural ecosystems. •

Translated by Alastair Gill and Jennifer Castner

Main image: Migratory locust (Locusta migratoria migratoria) in gregarious phase. Kharkiv region, Berestinskii district, September 2023. Source: Stanislav Viter

The Ramsar split—was it inevitable, and what should be done next?

Eugene Simonov, Angelina Davydova

In denouncing the Ramsar Convention Russia expressed its disagreement with the allegedly "anti-Russian position" of the convention's parties. Subsequently, Russian president Vladimir Putin decreed that the convention's goals be implemented (outside of it) using domestic policy measures and bilateral agreements. UWEC spoke with international experts to understand the framework within which the convention's mechanism could succeed despite the intensifying international confrontation.

The reason for Russia's denunciation of the convention was a rather harsh resolution condemning Russia's invasion of Ukraine adopted at a conference of the Parties back in November 2022, as well as the convention secretariat's consistent implementation of the resolution's provisions for assessing the impact of Russian aggression on Ukraine's wetlands. As experts point out, the resolution did not directly restrict Russia's rights as a member state, but its text called on the parties not to nominate Russia for leadership positions and awards, "provided that such decisions do not

affect the best interests of conservation and protection of wetlands".

Nevertheless, Russia expressed its political "resentment" at this statement in a highly counterproductive manner, withdrawing from the convention and thereby abandoning international measures to protect some 10 million hectares of valuable natural areas. Experts from UWEC and dozens of other media outlets have analyzed in detail the consequences of this move in relation to international environmental obligations.

Read more:

- Russia exits Ramsar Convention on Wetlands

It should be noted that disputes over whether the wetlands convention has the authority to adopt an anti-war resolution have been ongoing since at least 2022. This raises further questions: if it has the authority, then within what framework, and if not, what international mechanism should protect wetlands from military action?

Tatyana Minaeva, a leading expert in protecting wetlands of international importance and scientific director of the German environmental organization Care for Ecosystems, explained to UWEC that international practices do not normally use specialized environmental conventions to solve non-core political issues:

"Russia's denunciation of a number of conventions became possible because of decisions related to the war that exceeded the scope of established practices. This is linked to declining diplomacy in general and professionalism within the secretariats of the conventions in particular. Undoubtedly, conventions adopt resolutions on both specific issues and cross-cutting issues relating to sustainable development (i.e., universal principles of international law enshrined in UN declarations and conventions, for example, as summarized in the UN Global Compact). Nevertheless, legal enforcement related to "cross-cutting principles" occurs in the context of the convention's specialization."

Minaeva continues, noting that the Ramsar Convention on Wetlands does not have the authority to adopt resolutions on women's rights or the inadmissibility of military aggression. *"However, this convention can monitor countries to ensure that the rights of Indigenous peoples and women are not infringed upon in the course of activities to preserve wetland landscapes, and that other UN principles are observed as well. The convention can also adopt a resolution on what to do if territories recognized as internationally significant under the convention find themselves in a war zone, occupied territory, or other crisis situations. In fact, a truly urgent resolution for the management of Ramsar sites in conditions of military action would be to include them in a special list of threatened sites under the*

Algeria delegation among participants of the COP-15. Source: Ramsar Convention Secretariat.

convention (the so-called Montreux list) without an official request from countries, a step that is currently required.

"Ideally, international legislation on military operations should include provisions stating that the destruction of cultural and natural heritage during war constitutes a "crime against humanity." In general, the legal framework of so-called "soft" law, which includes multilateral international agreements on nature and environmental protection, does not provide for a country that violates other international law to lose its legitimacy in a specific convention on special environmental issues, whether we like it or not. Thus, the use of environmental conventions as a means of leverage can be classified more as "moral" pressure.

Meng Wang, a researcher at Maastricht University, has a similar view on the issue. In her article on the Ramsar Convention's attempt to respond to Russian military aggression, she argues that the Ramsar Convention has generally been successful and adequate in stepping up international efforts to protect wetlands during the war. Nevertheless, the convention has not created sufficient mechanisms for cooperation in the course of a conflict:

"Given the complex geopolitical situation and the importance of these wetlands, dialogue and cooperation are crucial between the parties involved – namely Russia, Ukraine, and the Ramsar Secretariat. Such dialogue is essential for collecting accurate and up-to-date information regarding the ecological status of these occupied Ramsar Sites. However, the Resolution, as it stands, does not provide specific, substantive measures to facilitate such cooperation.

In essence, the Resolution falls short of offering strategies to encourage cooperation to address the complex situation of Ramsar Sites under occupation."

According to international law, the "occupier" is responsible for ensuring the protection of any valuable assets in occupied territories. However, in practice, it is extremely difficult to verify that protection is actually provided in such paradigms. "Environmental cooperation" between the aggressor state and its victim is even less likely, even with the mediation of convention secretariats.

In the case of territorial disputes, and even more so in the event of wars, the international designation of valuable natural areas can be used by countries not only to protect nature, but also to assert their rights to disputed lands. For example, Russia regularly submits data concerning protected areas on Ukrainian territory that it occupies to international monitoring centers on its own behalf. These centers then enter the information received from the Russian Federation into international databases.

This issue concerns many member countries of the Ramsar Convention, when, as a result of wars, historical disputes, and other circumstances, some Ramsar wetlands of international importance have been designated by participating countries in territories that their neighbors consider to be their own. However, there are so many protracted and heated conflicts around the world that attempts to resolve this issue under the convention have not yet been successful.

During the 14th and 15th Conferences of the Contracting Parties of the Ramsar Convention, the Algerian delegation attempted to pass a resolution stating that official UN maps should be used to verify the nationality of nominated sites, which, according to the resolution's authors, would exclude their nomination in disputed territories. Five rounds of discussions revealed numerous conflicting opinions, but many delegates expressed concern that such an approach would "open a Pandora's box" and turn the convention into a platform for territorial disputes that would hinder the work of protecting wetlands.

As a result, the final report for COP-15 included a note from the convention secretariat's legal advisor explaining that the Secretariat maintains the list of wetlands as declared by countries, and is not authorized to decide not to include proposed wetland sites and even less so to discuss issues of countries' sovereignty over specific territories or to interfere in territorial disputes. In the end, the resolution was not adopted, and the issue of boundaries was referred to the Standing Committee of the Convention for consideration at future meetings, effectively removing it from the current agenda. Apparently, most countries do not want to allow

specialized environmental conventions to be used to achieve other political goals, even when those goals are good and legitimate from the point of view of other areas of international law.

It is in this context that it becomes clearer why, in 2025, 79 of the 136 COP-15 participants either abstained or did not participate in the vote on the resolution in defense of Ukraine's occupied Ramsar wetlands.

The crisis we are witnessing shows that, in a conflict situation, the prospects for using international environmental agreements to preserve valuable natural areas captured during the war are likely to be very limited. During discussions on this topic at Ramsar COP 14 and COP 15, some countries proposed using international mechanisms focused on crisis management, such as international humanitarian law, rather than the Ramsar Convention.

Read more:

- Ramsar wetlands under fire in Ukraine

Overall, however, Russia's high-profile withdrawal from the convention caused confusion in the international community and prompted negative reactions in the press. Russian wetlands are of enormous global importance, both for the protection of migratory birds and for carbon storage in peatlands, the latter of which cover more than 10% of the country's territory. As a result, Russia's denunciation of the convention is contrary to the interests of many countries.

In an attempt to mitigate reputational damage, on August 28 President Vladimir Putin issued a series of instructions regarding further actions related to wetlands management in the Russian Federation. In particular, the Russian government was instructed to:

- Ensure international cooperation for the protection of waterfowl "entering the territory of Russia" by signing (or renewal) of relevant bilateral agreements,
- Create a system for tracking arriving waterfowl in the Russian Federation and their abundance (by species and population), as well as their resting and nesting sites (the decree does not mention birds leaving the Russian Federation).
- Ensure that an inventory of wetlands is carried out and that their conservation regimes are clarified,
- The Russian Foreign Ministry has been instructed to inform the parties to the Convention of the reasons for its denunciation and "on ensuring that its objectives are fulfilled in Russia as per the national law" in accordance with domestic legislation (it is unclear whether the Russian Foreign

Ministry is capable of conveying the meaning of what is happening to the 171 signatory countries to the Convention).

Russian environmentalists are not yet ready to give a definitive assessment of the consequences of these instructions. On the one hand, these steps appear to be a rejection of international environmental standards, while on the other, they could result in Russia's first national legislation for the conservation of wetlands. In addition, the head of state has completely "rehabilitated" migratory birds, previously mentioned by the authorities mainly as biological weapons wielded by Ukraine and NATO.

Apparently, this is Russia's new algorithm for reforming international obligations in the course of its aggression: withdrawal from international conventions, coupled with a promise to take unilateral measures to "ensure the achievement of the objectives of these conventions in the Russian Federation" and the establishment of bilateral cooperation with "friendly" countries. This is an aggressive and isolationist approach, but in its own way logical, for a country that does not want to stop its aggression, let alone bear international responsibility for it.

Given this imperial imperative, these instructions may be beneficial for protecting Ramsar sites within Russia, provided, of course, that the government implements them. However, statements by Russian diplomats indicate that Russia also considers the 15 occupied Ramsar wetlands in Ukraine to be "its own." Another likely reason for withdrawing from the convention is Russia's unwillingness to get involved in a public dispute about state jurisdiction over these territories within the context of the convention.

The global community must carefully consider these events and begin developing joint solutions for protecting wetlands in an atmosphere of war and global confrontation. How can the international community counter this proposed algorithm for "Russian sovereign wetlands" that uses avenues for the preservation and maintenance of international mechanisms for nature conservation? In a future publication, UWEC will present an overview of precedents for withdrawing from international environmental agreements during wartime.•

Translated by Jennifer Castner
Main image source: Ramsar Convention Secretariat