

Ecocide in Ukraine



Burning forest in Mykolaiv region of Ukraine after Russian shelling on 9 August 2022. From dsns.gov.ua. licensed under CC 4.0

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Table of Contents

Ecocide in Ukraine	1
Introduction	3
Literature review	4
Methodology.....	5
Temporality and spatiality of ecocide.....	6
Landmines.....	8
Conclusion	9
Bibliography	10
Appendix	13

Introduction

In February 2014 Russian forces seized the Crimean parliament building, starting the Russo-Ukrainian war. This continued with an undeclared war in Eastern Ukraine and then in February 2022 Russia launched a full-scale invasion (Ploky, 2023). This war has resulted in large-scale brutality, a part of this, which is understandably overlooked, is the widespread environmental damage, amounting to ecocide. Ecocide is done to pursue military goals, to make Ukraine uninhabitable (Lukic and Marineau, 2023) but also sometimes for entertainment, such as Russian soldiers torturing animals (Mordowanec, 2022).

Most of the damage occurs in occupied territories, which are impossible to research (Shahini et al., 2024) but even with limited information, many cases have been recorded, some of which are mentioned here. The war has resulted in the destruction of natural resources; air, water and soil pollution and increased greenhouse gas emissions. Shelling of sewage facilities causing pollution of water sources (Kireitseva et al., 2023); uncontrolled fires; toxic chemicals released when munitions detonate; oil spills in the Black and Azov seas killing dolphins and porpoises (Hartmane et al., 2024); disruption of bird migrations and increased radiation at the Chernobyl exclusion zone.

The most discussed case of ecocide and the basis of Ukraine's legal case is the destruction of the Kakhovka dam. The destruction in 2023 which resulted in the flooding of 4 cities and dozens of villages (Vyshneskyi et al., 2023), caused among many other environmental problems: the transport of contaminated sediments (Shumilova et al., 2025); damage to national parks (Shahini et al., 2024); the deaths of organisms in the reservoir and lower river (Vyshneskyi et al., 2023), zoo animals and mussels in the black sea and the transport of landmines.



Settlements on the left bank of the Dnieper River, flooded after the destruction of the Kakhovka Dam. 6th of June 2023. From armyinform.com.ua. licensed under CC 4.0

This research paper aims to discuss the ongoing crime of ecocide in Ukraine, from a viewpoint which includes the individual people who are currently experiencing it. This is important because much of the discussion surrounding it will come from the perspective of the state. To do this interviews were undertaken with Ukrainians which revealed the ways in which spatiality and temporality are key for people's perceptions of ecocide, there is also a particular focus on landmines.

Literature review

Ecocide is not currently its own crime under international law although in wartime it could be prosecuted under Article 8(2)(b)(iv) of the Rome statute which bans intentionally causing large-scale environmental damage, disproportionate to military advantage. Ecocide was first developed as a concept in the 1970s, to criticise the US's actions during the Vietnam war, particularly the usage of agent orange (Falk, 1973). The conversation around adding ecocide to the Rome statute has been reinvigorated since the 2017 foundation of Stop Ecocide and its independent expert panel putting forward a possible definition in 2021 "unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment" (Branch and Minkova, 2023). Vanuatu called for its inclusion in 2019, and again alongside other Pacific Islands in 2024. An understanding of ecocide has expanded from the initial example of targeted environmental destruction during war to include economic actions.

There is much literature focused on the challenges of including it within international law. This includes debates around definition but also discussions around the power of the ICC. So far, most individuals undergoing ICC prosecution are either deposed leaders or insurgents, the majority of whom are from Africa (Branch and Minkova., 2023). Russia is not under ICC jurisdiction and Putin has not faced justice for the other cases against him. This doesn't mean that criminalising it would be pointless as there is an argument for symbolic laws and the ICC acting as leader of legal norms. The ICC's prosecution system is also criticised for only prosecuting individuals which can seemingly remove culpability from the large groups of people who facilitated these crimes (Branch and Minkova., 2023).

Discussion of criminalising ecocide overlap with discussions around environmental victimhood. In 2019 in Colombia territories of indigenous and black communities have been recognised as victims of conflict giving these territories legal rights (Killean and Newton, 2024). Other examples of nature being given personhood include dolphins in India, apes in Spain and the Whanganui River in New Zealand (Mehta and Merz, 2015). This is linked to another facet of ecocide, the connection to indigenous peoples (Killean and Newton, 2024). The environment and culture are closely interlinked, and so ecocide can also be the destruction of culture. Seeing the environment as having value separate from its usefulness to humans is an important viewpoint when looking at Ukraine, which has typically been categorised as a periphery country, whose land and people can be exploited for resources,

seen in the view of Ukraine as a breadbasket and as a transit country for Russian gas (Bazdryieva, 2022).

Interviews can be a key tool in researching both physical examples of ecocide but also people's relationship to it. Shevchuk et al (2024) have described the difficulties in gathering evidence for ecocide in Ukraine because of the danger, lack of access and other topics getting priority. The importance of qualitative data in environmental science has been put forward as a way of getting information in a quicker, easier and less expensive way when quantitative data may be infeasible to gather (Roudgami, 2011). Interview based research has illuminated the different ways people and cultures are intertwined with nature and ecocide. Goyes, (2021) interviewed indigenous people in Columbia to discover the ways in which their culture has been eroded, and how that has led to ecocide. Weaver et al (2022) used oral history in Ladakh, India to understand the environmental degradation taking place there because of climate change. Often the environmental degradation was linked to the past with the militarisation after the partition of India and Pakistan and to tourism. These examples show the flexibility which interviews can provide in researching ecocide.

Ecocide has also been considered in a more theoretical sense, such as through the lens of memory studies (Gülüm et al., 2024). In contrast to the legal usage of ecocide which requires a defendant, memory studies have looked at the ways the public is complicit in climate change, such as in the plaque for the glacier Okjokull (Knittel, 2023). Ecocide is also theorised within genocide studies, with the idea of the ecocide-genocide nexus being built on the ideas of Lemkin, this is particularly used for theorising colonialism against indigenous groups. Ecocide's targeting of culture and survival, the fact that they are often concurrent, the similar roots and ecocide increasing the likelihood of future genocides are all ways in which genocide and ecocide are interlinked (Galligan, 2021).

Methodology

This research uses qualitative data to understand Ukrainians personal experiences of ecocide. The data came from interviews with four Ukrainians. Participants were found through my own contacts as well as by organisations sharing my contact details to people who may be interested. This method of gaining participants means that a range of people participated, including those currently in Ukraine and refugees as well as a specialist in environmental conservation. 4 Interviews were undertaken over email in either Ukrainian or English. Informed consent was given as well as the right to withdraw from the research project. All data was anonymised. Analysis of the responses was done thematically identifying patterns and themes in responses. The major themes found were the importance of spatiality and temporality in how people process ecocide. This research project faced many challenges because of its subject matter. Firstly, the ecocide is ongoing and so the paper can only represent what has happened as of September 2025. Secondly the topic is very painful and again ongoing, so care had to be taken to approach it sensitively. The questions were broad enough to allow people to guide their responses based on what felt comfortable. Having the interviews be over email also allowed people more time to feel comfortable in what they were saying.

Temporality and spatiality of ecocide

A key theme in the interviews was the different ways that temporality and spatiality were expressed by the participants. These have implications for legal pathways of resolution as the proposed definition of ecocide requires that the damage either be long term or widespread.

One way in which temporality was discussed is through comparisons to the past. Multiple participants mentioned the impact of World War 2. One interviewee said “To this day, the consequences of II World War are being found in Europe in the form of unexploded shells, bombs, shrapnel, etc. And after all, more than 80 years have passed...The intensity of military actions in Ukraine is higher”. This comparison to World War 2, is not unique to the interviewee, in an interview with the director of HALO, an anti-mine NGO, the current landmine crisis in Ukraine is described as the biggest mine problem since WW2 (Shulzhenko, 2025). Another interviewee when discussing the pain of not being allowed to go into the forest, mentioned that while they don’t know the condition of the forest now, they may be indicated by the impacts of World War 2 as they had “regularly encountered trenches and holes from shell explosions from the 1941-1945 war in the forests”. Just as this interviewer remembered being able to walk through the forest another interviewee described the trees planted along the roads and the wolves, boar and deer that lived in the Steppes. These memories are contrasted with the present where the trees have been destroyed and the fates of the animals are uncertain, but it is unlikely that they were able to find shelter from the war.

In the interviews there was a strong emphasis that the war started in 2014. The 2022 full scale invasion was an escalation of the war that started with the annexation of Crimea and the invasion of the Donbas region (Lapatina, 2023). Between 2014 and 2022 over 14,000 people were killed in Donbas (Fox, 2021). After the Kremlin backed Ukrainian president was ousted in 2014 Russia and pro-Russian elites in the Donbas spent money and used proxies to try turn the marginal anti-Ukrainian separatist movement into a civil war in Eastern Ukraine and when this failed, used unmarked troops and contractual proxies like the Wagner group before Russia gave overt support a few months later for the militants (Fox, 2021, Wilson, 2016). One of the interviewees discussed how since 2014 in the Donbas region, mines have been abandoned which has led them to flood. “The flooding of the mines had many impacts including methane emissions and residential buildings collapsing due to the subsidence of soil” which “is directly associated with water quality”

Different spaces in Ukraine have experienced ecocide in different ways. The participants gain information from the news, social media and friends. Multiple interviewees discussed the importance of researching beyond their regions, with the Kakhovka dam being particularly important. Additionally, as people are forced to become refugees the distance can give them a spatially broader view of ecocide as more information is coming from the news. This distance and broad spatial view will affect the way people emotionally process the damage, the interviewee with the most spatially broad view was also the angriest, likely as they have moved past the initial shock. One of the interviewees is based in Kyiv and so their experiences are different to those in occupied areas or in more rural areas. For them the major environmental consequences result from rocket and drone fire. Their experience is

that “The air smells of burning, burning plastic and chemicals” because of air pollution from explosions, destroyed buildings releasing construction debris, ash, particles of glass, and concrete into the air, smoke from fires and the increased use of unclean power generation sources as electricity infrastructure gets targeted. The rockets and drones kill and shock birds, stray animals and pets. Their “friends’ dog died a few days after their house was hit by a drone. Despite the medical care provided to it, the animal stopped eating and died.”



Kyiv after Russian missile strikes on 10 October 2022. From kyiv.dsns.gov.ua licensed under CC 4.0

In some ways the interviewees are physically and mentally trapped by the ecocide. The interviewee who described the air pollution in Kyiv describes that “at a time when you want to calm down, it is impossible to breathe fresh air, I had to give up walking. From time to time I suffer from a lack of clean air, I have to close the windows”. There is also a mental element. They only experience firsthand a small portion of the very widespread ecocide and “have lost understanding of the extent of the damage and the purpose of these actions, which harm all living things around me”. Most people like the interviewee are also constrained by lacking the tools to research the harm. As they say “I would like to note that as an ordinary citizen, I am unable to assess all the damage without analyses and samples of air, water and soil, for example, I do not know whether hazardous substances are entering groundwater, how much of them remains in the ground. Is it possible to eat food from a field or garden where missiles and debris fell?”. This all leads to a feeling of confusion and helplessness, in their words “I have no way to stop it. And most importantly, it is unknown when it will stop.” The interviewee states that “a neighbour saved a bird that had a broken wing” in this way people try to resist the ecocide, but it is so widespread that they are helpless against it. Another interviewee who is still in Ukraine, said they were unable to describe how they felt, “Now it is difficult to say”, as they just had to deal with it and continue to live in it. Both these responses show the overwhelming nature of ecocide.

Landmines

A key theme in all of the interviews is the fear of landmines. Landmines are a particular concern because on top of being destructive they are in some ways a permanent form of violence. One interviewee stated that “It is hard for me to imagine how many more years people will accidentally find this and blow themselves up.” Ukraine had already been dealing with the consequences of World War 2, between 1945 and 1995 there were 1,630 casualties due to mines remaining from World War 2 (LCMM, 2025) and now is one of the most mined regions in the world, affecting 23% of its area and 6 million people (Shulzhenko, 2025). The HALO director claimed that demining Ukraine could take centuries (Shulzhenko, 2025) meaning that this has become an intergenerational problem. Mines are indiscriminating and uncontrollable and therefore cause psychological harm both where they exist and where they are thought to be, this uncertainty is made worse by events such as the flooding caused by the Kakhovka dam breach which washed mines to unexpected places. Regarding the environment, landmines have two main impacts, they themselves damage the environment and they damage people’s ability to interact with nature. The children’s book “Apricots bloom at night”, set in Donbas post-2014 shows these dual damages, as well as showing how important teaching children, who are disproportionately affected, is (Blair, 2024). In the book a boy is scared after his dog runs away, because of the risk of landmines, it is both destroying the environment if it kills the dog but also destroying the child’s relationship with nature as it now becomes a place of danger (Kuleshir, 2023).

Mines were mentioned by an interviewee among a long list of problems which animals are faced with, including blind shooting into bushes and being abandoned by their owners as they flee. For example, in the village, Andriivka, two cows were killed by mines after being put out in fields which had been called safe (Sutton, 2022) or in the Chernobyl exclusion zone, a Wild Przewalski’s horse, rare because they are one of the last wild horse species, was killed by a landmine (Rybalska, 2024).

One of the most direct environmental impacts of mines is on the soil. Mines can contribute to soil pollution by leaking heavy metals into the soil, which then spread through groundwater. The detonation of mines also impacts soil quality by damaging the soil structure (Berhe, 2006). Soils form the basis for biotic and landscape diversity and take a long time to regenerate so the issues are widespread and long term (Orel and Durach., 2024). Mines contribute to the soil degradation which is also caused by other factors including chemical pollution, soil compaction from machinery and troop movement and from new infrastructure as well as deforestation (Filho et al., 2024). Damage to soil is particularly important to Ukraine, because of the economic importance of agriculture. Before the conflict Ukraine provided 10% of world wheat exports, 20% of corn exports and 55% of sunflower oil trade (Novakovska et al., 2025). Mines have particularly affected agricultural land (LCMM, 2025). Not only do mines restrict access to land but even after areas are demined the soil won’t recover quickly and the quality of produce is reduced, because of the lower soil fertility, demining reduces soil fertility by disrupting the topsoil and clearing vegetation (Orel and Durach., 2024). Russia has specifically targeted agriculture as a way of undermining Ukraine’s income and as a way of building their own soft power (Welsh and Glauber., 2024).

Mines not only cause direct environmental harm but also lead to limited access to nature because of the real or perceived threats of mines. Multiple interviewees discussed how mines have made going to the seaside dangerous as “you can blow yourself up in the sea with mines nailed to the shore”. Additionally, some forests and boat rides are banned because of the danger. Fear separates people from nature as one interviewee said, “I haven’t visited the park that was next to this forest for more than 2 years, due to fear of mines and shells,”. Elbakidze et al’s (2023) study on ecosystem services in Kyiv showed that mines in the forest mean that people are no longer able to collect berries and mushrooms, which before the war was a family bonding experience and a way to pass cultural activities intergenerationally. Mines have stolen people’s ability to enjoy places they love and think of as home. Access denial because of mines, not only impacts people’s relationship with nature but can also impact the environment. One of the interviewees works in forest conservation, but the war “has reduced the ability to carry it out due to mines being laid and has reduced visiting to territories which are involved with military activities”.

Conclusion

Often Russia’s invasion is viewed through the perspective of states, which can ignore the realities of the people living through the war. This research paper has looked at people’s experience of ecocide, a small part of the damage caused by the invasion. This has revealed the importance of understanding the different ways that ecocide acts through time and space, ecocide should not be seen as a singular crime but instead as continuous, in Ukraine it has affected people for years and will also have impacts for future generations. Spatially ecocide is widespread and varied, but its impact on people is to trap them. This is illustrated in the case study of landmines, which will prolong violence intergenerationally, and which are widespread and unpredictable. This study is limited by a small number of participants and by taking place during the war so only offers a limited temporal perspective, but it does reveal the ways that people and the land are suffering, and the fears people have for the future. The future is unknown but the consequences of the crimes against the environment will continue to scar the Ukrainian land and harm the Ukrainian people.

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Appendix

Examples of questions asked

Can you describe specific environmental changes or destruction you've observed in your area?

In what ways has this environmental damage impacted your daily life or health?

What emotions do you associate with these changes—grief, anger, fear, etc.?

Are there particular places—forests, rivers, parks—that are personally meaningful to you? Have they been affected?

Is there anything else you think people outside Ukraine should understand about the ecological consequences of the war?

When you were living in Ukraine, were you aware of or affected by environmental damage caused by the war?

Since arriving in the UK, what have you heard or seen about environmental destruction in Ukraine? How has it affected you emotionally?

Has displacement changed the way you think about nature, land, or the environment?

Are there places in Ukraine that you miss because of their natural beauty or significance? Have you learned what has happened to them?

Does the current state of Ukraine's environment shape your hope or fears for the country's future?

Do you think Ukraine's environmental destruction is connected to historical conflicts or policies?

Is there anything about the environment in Ukraine—past, present, or future—that you feel is misunderstood or overlooked?

What specific forms of ecological damage have you documented or witnessed during the war?

How has the war affected your ability to do environmental or conservation work?

How do you personally process the destruction you see—emotionally or psychologically?

Do you perceive this ecological damage as part of a longer pattern in Ukraine's environmental history?

What areas or ecosystems do you consider symbolically or culturally important, and how have they fared?

What questions do you wish journalists, researchers, or international organisations would ask about Ukraine's environment?