

The Earth is not dying; it is being killed: Defining ecocide as part of Russia's Environmental crimes in the Russo-Ukrainian war (2014-present)

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Abstract

The Russo-Ukrainian war, ongoing since Russia's annexation of Crimea in 2014, has resulted in profound ecological devastation alongside human suffering. While international law provides established mechanisms for addressing conventional war crimes, comparable frameworks for identifying, recording, and prosecuting environmental destruction remain fragmented and underdeveloped. Ukraine presents a unique contemporary landscape where warfare has produced extensive ecological harm: widespread mining, craterised agricultural lands, industrial pollution, poisoned rivers, radiological risks linked to nuclear power plant occupations, catastrophic flooding from dam destruction, marine oil spills, mass wildlife losses, and large-scale greenhouse gas emissions. These developments expose critical gaps in the legal treatment of environmental harm. This article argues for the reconceptualisation of ecocide as a distinct crime against nature, separate from human-centred categories of international criminal law. Instead of relying on the difficult task of proving intent, ecocide should be defined through measurable thresholds of ecological damage, with species and ecosystems recognised as victims requiring legal representation. The article proposes codifying ecocide as a standalone category under the Rome Statute, introducing legal asymmetry to ensure aggressor responsibility (estoppel type), and empowering NGOs and specialised environmental bodies to act on behalf of non-human victims. Drawing on case studies from Russia's actions in Ukraine, it outlines practical prosecutorial criteria and steps needed to transform ecocide into an actionable international crime.

Keywords: *Ukraine War, Ecocide, Russian invasion, Environmental Crime.*

INTRODUCTION

The war in Ukraine, which started with the Russian annexation of Crimea in early 2014 and is still ongoing in autumn 2025, brought irreparable damage to the country. Loss of human life, war crimes, infrastructure ruination, and environmental destruction represent the immediate cost of the invasion. Long-term damage, such as economic decline, political instability, social tensions, increased crime rates, war-related health issues and similar problems, is yet to be fully seen. In this regard, identifying, recording, investigating and prosecuting war-related crimes is important to ensure justice for the victims and establish an adequate level of reparations and contributions to compensate for the caused harm and to promote healing.

Identification and prosecution of war crimes is possible due to the international framework established after the Second World War and existing legal procedures. The corresponding legal and practical base for identification, recording, investigation and prosecution of the environmental crimes imposed by warfare currently remains in the early stages of development, with a limited number of practical investigative mechanisms.

The war in Ukraine created situations where warfare led to substantial environmental damage. These include extensive mining of the territory; arable and natural land craterization from short-range missiles; massive fires; air, land and water pollution; river poisoning (Seim and Desna); radiological danger as the result of occupation and damage of nuclear power stations (Zaporizhzhya and Chornobyl); flooding after the destruction of dams' (Irpin, Kakhovka); extensive sea oil spillage (Kerch Strait); wholesale destruction of animals (Askania Nova, Kinsburg etc.); chemical releases; greenhouse gas emissions. The existence of these cases and the active willingness of Ukraine to seek international justice give the country high potential in terms of development and testing of the international legal frameworks for dealing with all levels of environmental crimes.

Internationally induced damage to the ecosystem affects broad regions and should be tackled jointly by the international community. In times of peace, it is mostly the result of the industrial activity of privately owned corporations, but in times of war, the damage to the environment is a part of the warfare itself. The number of crimes against nature makes it impossible to investigate all of them on an international level due to a lack of resources and the costs attached to the legal process. In this situation, classification of the crimes by the extent of the damage to ecosystems and geographical spread could help to identify the most severe categories of crimes that have to be the subject of international investigation. Intuitively, this work has already started – grave crimes of the highest impact are united by the term «ecocide» in academic and journalistic environments. For example, Bozkurt and Çitköylü (2023) state that the extent of destruction of the Kakhovka Dam in Ukraine allows it to be considered as an ecocide crime. Even though the legal definition of ecocide has not been introduced in international law (which will be discussed later in the article), we can use the assumption of the need for international attention for the environmental crime to regard it as ecocide. Such a precedent, despite being rare, already exists. In 2009, the results of the prosecution of Omar Hassan Ahmad Al Bashir by the ICC during the investigation of the situation in Darfur, Sudan, were published. The court cited that alongside other crimes: “GoS forces systematically destroyed the means of survival – including food, shelter, crops, livestock and, in particular, wells and water pumps” (ICC-02/05-01/09-3, 04 March 2009, par. 91). The environmental damage in this case was regarded as a part of genocide and became the evidence for the issuing of the arrest warrant.

A specific case of environmental justice is represented by the Iraq-Kuwait conflict. In 2022, Iraq paid Kuwait compensation for environmental damage that was caused by burning the gas and oil fields in the Persian Gulf. The United Nations Compensation Commission (UNCC) issued its fifth and final report on awards of compensation for environmental and public health damage resulting from Iraq's 1990-91 invasion and occupation of Kuwait on June 30, 2005. The UNCC made awards to the Governments of Kuwait, Iran, Jordan and Saudi Arabia for losses of various natural resources, losses of crops and livestock, loss of water resources, costs of remediation, and damage to public health (Commission on Security and Cooperation in Europe, 2024; Payne, 2025). Despite the damage claims being only partly fulfilled and not corresponding to the real need for restorative measures, the case shows that justice is possible in

principle. The fact that a positive ruling and subsequent actions remain unusual shows the lack of legal framework that would ensure consistency and inevitability of punishment. Ukrainian cases are especially important in this regard due to the small number of successful precedents of international justice for international environmental crimes during both peace and war.

Cases of the prosecution of environmental crimes in the Russo-Ukrainian war have not been developed yet, but other exemplary rulings help us to understand possibilities in terms of crime investigation and judicial hearing of Russian war crimes in Ukraine. One of the first successful examples of investigating war crimes committed by Russians was the case heard by the District Court of The Hague about Malaysia Airlines flight MH17 brought down by Russian illegal militia forces over the territory of Ukraine on 17 July 2014, during the initial stages of occupation of Luhansk and Donetsk regions. As a result of the hearings, three nationals of the Russian Federation were sentenced to life in prison and placed on national and international lists of wanted persons (Ministerie van Justitie en Veiligheid, 2019).

A more recent example of the investigation and subsequent court ruling is the International Criminal Court (ICC) hearing and subsequent arrest warrant dated 17 March 2023 for Russian President Vladimir Putin and Russian Presidential Commissioner for Children's Rights Maria Lvova-Belova for "*deportation of population (children) and that of unlawful transfer of population (children) from occupied areas of Ukraine to the Russian Federation*" (Mentzelopoulou and Orav, 2025).

In the abovementioned cases, the enforcement of the court ruling was not carried out due to Russia's refusal to cooperate. Despite that, such international investigations are significant, both because they serve as a comfort to the victims and their families and because they are a concrete method of restricting the freedom of movement for wanted persons and their ability to perform international transactions. There is a hope for justice later when the political situation changes.

The necessary steps to implement a successful mechanism for international environmental justice include reaching agreement on internationally recognized definitions of "environmental crimes" and "ecocide"; changes in political approach under which the strongest (richest) states would not be investigated or prosecuted for any crimes that might commit; discussion, acceptance and ratification of the corresponding legal documents by the states; establishment of the international

mechanisms for bringing accountable to justice; identification, investigation and prosecution of the cases.

This paper aims

- to review the existing literature on ecocide during peace and in war.
- to analyse international and domestic legal acts in terms of accepted definitions and terminology regarding ecocide.
- to give an overview of law-making attempts to introduce ecocide into the international legal framework and to discuss the reasons for their failure.
- to give a general overview of the war-related environmental crimes committed by the Russian Federation in Ukraine that can be classified as ecocide.
- to outline the main steps and possible ideas for establishing a working framework for the prosecution of international environmental crimes on a scale (ecocide) to ensure environmental justice.

METHODOLOGY

The work is developed in accordance with the principles of positivism, with the emphasis on objective observation and measurement to establish knowledge. The body of sources on the topic can be divided into works on environmental crime and environmental justice in general. The problem of definitions of ecocide in national and international law, the questions of responsibility and accountability for environmental crimes, and the connection of environmental crimes (including ecocide) to warfare.

A comparative method was used to compare legal norms and provisions; the logical-grammatical and dogmatic methods helped define the conceptual framework of the issue; the formal-logical method was used to interpret the constructive features of ecocide.

The research draws on a diverse range of sources, including academic literature, national and international legal instruments, journalistic reports, and digital media, which were analysed qualitatively through a deductive methodological lens.

Case studies, encompassing both historical precedents and current events in the context of the Russo-Ukrainian war, serve to illustrate the key issues over time, providing a longitudinal perspective on the evolving legal and ethical challenges surrounding wartime ecocide.

LITERATURE REVIEW ON ECOCIDE

The importance of prosecution and justice in environmental crimes is reflected in academic literature. This section focuses on the main questions and debates that arise, concentrating on the practical side of the problem with potential for legal applications.

The first known usage of the term “ecocide” in English language literature appears in the year 1966 in a review by Frank Egler. The article describes the harm from pesticide usage and cites Alfred G. Etter's "Testimony of an ex-federal trapper" (Defenders of Wildlife, July 1965), where pesticides were named “the ecocide 1080” (Egler, 1966, p.1078)¹. This usage of the term was very narrow and didn't cover the extensive environmental damage, the necessary constitution of the ecocide definition today.

The usage of “ecocide” in the present meaning was spreading in the early 1970s. Discussion of environmental crimes started first in the press rather than in academia with the New York Times' short note called “... and a Plea to Ban ‘Ecocide’” (February 26, 1970, p. 38). Magazine cited Arthur Galston's talk at the conference on War and National Responsibility about the addition to the UN Convention on the Prevention of Genocide in relation to the Vietnamese war, and coined ecocide as “*the willful destruction of the environment*”. Despite the previous use of the term, this is considered the first mention of ecocide in the present understanding (Jakob, 2023). The term was used by political leaders and scholars in 1972 at the United Nations (UN) Stockholm Conference on the Human Environment and its parallel events (Gauger et al, 2013).

The talk by Arthur Galston in 1970 and the following detailed academic article on ecocide by Richard A. Falk in 1973 are hallmarks indicating attention to ecocide as the highest level of environmental crimes. Both advocates for environmental justice were motivated by the actions of the USA during the Vietnam War (1955-1975). Despite the end of the war in 1975, the interest in the questions of environmental protection during conflicts and the problems of the ruination of habitat on a large scale has progressively increased. In 1976, Ukrainian researcher V.A. Vasylenko named ecocide as one of the most serious international crimes, because it constitutes “*a deliberate impact on the environment, causing such changes that lead to destruction, suffering and death of people*” (Vasylenko, 1976, p. 190; Shamsutdinov, 2023).

In the following decades, the number of academic articles on ecocide was constantly growing. As of June 2025, the search engine for academic articles of JSTOR depository shows 2,432 results, including 1667 journal publications, 582 book chapters and 29 research reports

¹ More detailed online discussion can be found here - When was the first ecocide “committed”? - English Language & Usage Stack Exchange (<https://english.stackexchange.com/questions/509341/when-was-the-first-ecocide-committed>)

under the hashtag “ecocide”². The distribution of academic articles by decades since 1970 is shown in Table 1. The steady increase in the number of academic publications can be attributed, in part, to the overall expansion of research activity and the transformative impact of digitalisation on scholarly communication. However, certain patterns observed in the distribution of these publications suggest that additional factors may be influencing this growth, which cannot be fully explained by these general trends alone.

Year(s)/Type of source	Journals	Book chapters	Research reports
1970	3	0	0
1971-1980	150	10	0
1981-1990	72	3	0
1991-2000	421	45	1
2001-2010	355	134	2
2011-2020	513	412	3
2021 – 2025	153	530	23

Table 1. JSTOR indexation of the Ecocide term distribution as of June 2025.

One noticeable trend is the significant decline in interest in the topic between 1981 and 1990. This reduction may be partially attributed to the historical association between ecocide and the environmental damage caused during the Vietnam War. Lack of academic and public attention might be grounded in disbelief about the possibility of punishing the USA for the usage of massive pollutants such as “Agent Orange”. Furthermore, the waning of large-scale military operations involving extensive environmental destruction likely contributed to the diminished urgency and visibility of the topic within academic circles.

A second notable trend is the surge in academic interest in ecocide-related literature following 2011 – a growth that appears to be ongoing and has not yet reached its peak. This increase can be linked to the rising urgency of climate change and the broader adoption of the term “ecocide” to describe environmental destruction in general, rather than solely in the context of military conflict or deliberate acts of harm. A pivotal work of this period is the 2010 publication by Polly Higgins, “Eradicating ecocide: Exposing the Corporate and Political Practices Destroying the Planet and Proposing the Laws Needed to Eradicate Ecocide”. Following this publication, which received a lot of attention from the public, the concept began to appear across a wider range of disciplines, extending beyond law and conflict studies to include fields such as philosophy and ethics.

² To compare, there are 29,900 results in Google Scholar.

Another noteworthy observation concerns the rise in research reports over the past four years, which represent the highest volume of this type of publication to date. This trend suggests that public funding is increasingly being directed toward investigations aimed at establishing scientific foundations for concrete environmental protection and conservation policies. Taken together, this quantitative overview highlights the growing significance of ecocide as a research topic. It underscores the importance of clearly distinguishing between its colloquial, environmental, and legal interpretations, particularly when the term is used in formal and legal contexts. Even a general overview of the JSTOR articles shows that despite more than 50 years of research, advocacy and activism, there is still substantial disagreement and ongoing discussion on several essential questions surrounding the problematic. The list of the main questions reflected in the literature is presented in Table 2.

Topic	Subtopic	Authors addressing it
Definition of ecocide		Falk (1973); Whyte (2020); Robinson (2022); Babakani (2023), Ellenbeck (2025) etc.
Attribution to the specific group of crimes (Categorization of crimes)		
	*War crimes	Yavorska (2023), Stewart et al. (2011), Ellenbeck (2025)
	*Crimes against humanity	
	*Environmental crimes as a separate group	Shumilo (2021)
	*Other	Colonial crimes: De Nardin Budó (2024) International crimes: Glushko (2010), Boichuck (2018), International crimes against the ecological (biological) security of humanity: Shamsutdinov (2023)
Natural resource exploitation in war zones		Stewart et al (2011)
Separability of humans and nature		
	Inseparable	Higgins (2010), Hamilton (2024)
	Separable	Expert Panel of Stop Ecocide Foundation (2021)
Who is the victim of ecocide (subject-object relationship)		Babakani (2023), Shamsutdinov (2023)
	*People	Yavorska (2023), Kowalska (2023), Shumilo (2021), Higgins (2010, 2015)
	*Environment (the subject of reparations through surrogate organizations)	Baulin et al. (2015), Heather and Luigi (2021)
Ecocide versus genocide		Crook and Short (2014)
Accountability		

	Individual	ICC court practice
	Collective (governmental or corporation responsibility)	Stewart et al (2011)
Colonialism and ecocide		
	Impact of colonialism in defining ecocide	De Nardin Budó (2024), Hamilton (2025),
	Communities endangered by the potential legislation	Hamilton (2025)
The role of intent		
	Crimes with the direct or secondary intent to damage the ecosystem	Kutsevych (2007), Boichuk (2018), Shamsutdinov (2023)
	Strike against humans that causes environmental damage	Hamilton (2024)
	Profit-driven ecocide not connected to warfare	Whyte (2020)
	Disregard of intent	Westing (1974)
	Can be intentional or not depending on the form of the crime	
	Requires the knowledge of anticipated probability of the environmental harm	Ellenbeck (2025)
The role of scale and impact (“wantone”)		Robinson (2022), Heather and Luigi (2021)
Duration of the crimes		
	Specific occasions	Hamilton (2025)
	Persistent patterns	Elizbaryan (2024)
	Governmental policies	Shumilo (2021), Stewart et al (2011)
	Long-lasting	Ellenbeck (2025)
When the crime should be considered as committed		
	With the result present after the action was accomplished	Romaniuk and Bantyshev (2018), Ellenbeck (2025)
	The action attempted regardless the result	Baulin et al. (2015)
	The tort of endangerment	Pchelina and Pchelin (2023)
	Depends on the form of ecocide and will differ accordingly	Shamsutdinov (2023)
Crime threshold		
	List of prohibited actions	Stop Ecocide Foundation
	Impact threshold	Ellenbeck (2025)
	Needs to be established after the balancing test – benefit to human VS harm to nature	Hamilton (2025)
Practical law enforcement		Robinson (2022), Hamilton (2025)
International Criminal Law VS International Environmental Law		Hamilton (2025)
Moral factors		
Voluntarily participation of the countries in law acceptance		Babakani (2023)

Resistance to the law creation and implementation from powerful actions (governments and corporations)	Dumych (2023), De Nardin Budó (2024), Gauger et al (2013), (Chiarini, 2022), Hamilton (2024)
Needed actions	Dumych (2023)
National level	Shumilo (2021)
International level: -Multilateral Environmental agreements - UN -Red Cross -ICC: Rome Statute (now it is only article 8)	De Nardin Budó (2024), Gauger et al (2013), (Chiarini, 2022), Heather and Luigi (2021), Ellenbeck (2025)
The role of non-governmental organizations	Heather and Luigi (2021)

Table 2. Main research topics reflected in the literature.

MAJOR DISCUSSION TOPICS

The exact definition of ecocide remains central both for theoretical discussion and practical lawmaking. In the first known academic work on the ecocide in relation to the war crimes by Richard A. Falk (1973) the ecocide is defined as: *"any of the following acts committed with intent to disrupt or destroy, in whole or in part, a human ecosystem: (a) The use of weapons of mass destruction, whether nuclear, bacteriological, chemical, or other; (b) The use of chemical herbicides to defoliate and deforest natural forests for military purposes; (c) The use of bombs and artillery in such quantity, density, or size as to impair the quality of the soil or to enhance the prospect of diseases dangerous to human beings, animals, or crops; (d) The use of bulldozing equipment to destroy large tracts of forest or cropland for military purposes; (e) The use of techniques designed to increase or decrease rainfall or otherwise modify weather as a weapon of war; (f) The forcible removal of human beings or animals from their habitual places of habitation to expedite the pursuit of military or industrial objectives"*. This definition is rather narrow. It connects ecocide, genocide and warfare and considers the environment solely from the human perspective. Such an approach was progressive at the time and outlined the main issues for future discussion. Despite this, it does not consider the realities of hybrid wars and the necessity to protect the environment in places not populated by people (e.g. rainforests and oceans).

In addition, Polly Higgins' 2010 definition has received wide recognition: *"the extensive destruction, damage to or loss of ecosystem(s) of a given territory, whether by human agency*

or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been severely diminished” (Higgins, 2010 and 2015).

More recent usage of the term “ecocide” by David Whyte (2020, p.2) presents the opposite side of the terminological extremity, stating that it is: *“the deliberate destruction of our natural environment. Ecocide as a term captures the entirety of the threats to the sustainability of the planet: climate change, the ravaging of ecosystems, the eradication of species and the pollution of air, land and water.* The broadness of this definition leads to unclear boundaries and uncertainty on when the act of destruction should be prosecuted.

The existence of this spectrum of definitions, from very narrow to very wide, exists in Western literature today. That gives the space to the polemic on the responsibility threshold in prosecution of ecocide and the need for its introduction to criminal law alongside the environmental law (Hamilton, 2025; Minkova, 2024).

Ukrainian literature on the subject is less centred on the definition and attribution of ecocide to a certain group of crimes since corresponding laws already exist as part of the Criminal Code of Ukraine (Table 3). Instead, researchers are focused on more narrow questions of the terminology, formulations and practical applications for the prosecution of ecocide. Additionally, attention is given to determining the place of ecocide among international crimes (A.D. Glushko, A.B. Zazeka, O.V. Minkovych-Slobodyanyk, V.K. Rybachek, T.S. Sadova, Ya.V. Syrotenko, O.O. Surilova, et al.), establishing the criminal-law prohibition of 'ecocide during war' in the Criminal Code of Ukraine (O.M. Borshchevska, A.I. Marenych, N.M. Tretyak, A.S. Kharchenko, Yu.S. Kharchenko, et al.), ensuring payments of reparations by the Russian Federation for committing acts of ecocide in Ukraine (D.V. Baranenko, O.V. Minkovych-Slobodyanyk, R.M. Rusin, T.M. Churylova, et al.), and the legal assessment of the draft amendment to the Rome Statute of the International Criminal Court introducing a provision on ecocide (O.M. Borshchevska, K.V. Maksakova, O.O. Surilova, et al.), as cited by Oleksandr Shamsutdinov (2023).

The closest to the practical implementation definition of ecocide for inclusion in Rome Statute was proposed by the Independent Expert Panel (IEP) of Stop Ecocide Foundation offered the following definition: *“ecocide” means 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 being caused by those acts”* (2021). This definition was adopted for amendment proposal to Rome Statute in September 2024 by Vanuatu, Fiji and Samoa. Despite being a progressive step forward, the definition includes a few crucial points that have given rise to academic and legal debates.

THE PROBLEM OF “INTENT” The IEP’s definition introduces the category of “knowledge,” which closely aligns with the “intent” provisions found in several national laws. As of 2025, among the 12 countries that have criminalized ecocide, five explicitly require intent

as an element of the offence (Table 3). Advocates for including intent often draw parallels with genocide legislation or cite national legal frameworks (Kutsevych, 2007; Boichuk, 2018; Shamsutdinov, 2023). However, this approach can be restrictive and may complicate prosecutions, as proving prior “knowledge” or “intent” is difficult (Hamilton, 2025). Arthur Westing highlighted this issue as early as 1974, arguing that intent is irrelevant and should be excluded – a position later echoed by Polly Higgins, who deliberately omitted intent from her 2010 definition. Ukraine’s national law follows this logic by excluding both knowledge and intent, thereby eliminating the need to demonstrate deliberate intent behind destructive acts. This model seems to be the most practical and needs to be reflected accordingly in international law.

No	Country	Law	Article	Definition
1	Armenia	Criminal Code of the Republic of Armenia	Article 394	Intentional mass destruction of plant or animal life, poisoning of the atmosphere, land, or water resources, as well as the commission of other acts that have caused an ecological catastrophe, -shall be punishable by imprisonment for a term of ten to fifteen years.
2	Belarus	Criminal Code of the Republic of Belarus	Article 131	Intentional mass destruction of plant or animal life, or poisoning of the atmosphere or water resources, or the commission of other intentional actions capable of causing ecological catastrophe (ecocide) shall be punished by imprisonment for a term of ten to fifteen years with or without a fine.
3	Belgium	Belgian Penal Code (as amended in 2024)	Book 2, Title 1bis	The crime of ecocide consists of deliberately committing, by action or omission, an illegal act causing serious, widespread, and long-term damage to the environment, knowing that this act causes such damage, provided that this act constitutes an offense under federal law or an international instrument binding the federal authority, or if the act cannot be localized in Belgium. For the purposes of paragraph 2, the following definitions apply: a) severe damage: damage that leads to changes, disturbances, or highly harmful negative impacts on any component of the environment, including substantial repercussions on human life or health, on biodiversity, or on natural, cultural, or economic resources for society; b) extensive damage: damage that extends beyond a limited geographical area, crosses the borders of a region or a state, or is suffered by an entire ecosystem, an entire species, or a significant number of human beings; c) long-term damage: damage that is irreversible or cannot be repaired through natural regeneration within a reasonable timeframe; d) environment: the land, its ecosystems, its biosphere, its cryosphere, its lithosphere, its hydrosphere, its atmosphere, as well as outer space. § 2. This crime is punishable by a level 6 penalty.
4	France	Law No. 2021-1104 of 22 August 2021 on combating climate change and strengthening resilience to its	Art. L. 231-3.	An ecocide is constituted by the offense provided for in article L. 231-1 when the acts are committed intentionally. "Offenses specified in article L. 231-2, committed intentionally, that lead to serious and lasting harm to health, flora, fauna, or the quality of air, soil, or water, also constitute an ecocide. "The prison sentence provided for in articles L. 231-1 and L. 231-2 is increased to ten years in prison. "The fine provided for in the same articles L. 231-1 and L. 231-2 is increased to 4.5 million euros, this amount may be increased up to ten times the benefit derived from

			effects.		the commission of the offense. "Harmful effects on health or damage to flora, fauna, or the quality of surface or groundwater that are likely to last at least seven years are considered sustainable. " The statute of limitations for prosecuting the offense mentioned in the first paragraph of this article begins from the discovery of the damage."
5	Georgia		Criminal Code of Georgia	Article 409	Ecocide, meaning the poisoning of the atmosphere, land, and water resources, the mass destruction of animal or plant life, or other actions that could lead to ecological catastrophe, – is punishable by deprivation of liberty for a term of twelve to twenty years.2. The same actions committed during armed conflict, – are punishable by deprivation of liberty for a term of fourteen to twenty years or life imprisonment.
6	Kazakhstan		Criminal Code of the Republic of Kazakhstan	Article 169	Mass destruction of plant or animal life, poisoning of the atmosphere, land or water resources, as well as the commission of other actions that have caused or may cause an environmental disaster or emergency ecological situation, –shall be punishable by imprisonment for a term of ten to fifteen years with deprivation of citizenship of the Republic of Kazakhstan or without it.
7	Kyrgyzstan		Criminal Code of the Kyrgyz Republic	Article 409	Mass destruction of flora or fauna, the poisoning of the atmosphere or water resources, as well as the commission of other actions that may lead or have led to an ecological disaster, is punishable by imprisonment for a term of twelve to fifteen years.
8	Moldova		Penal Code of the Republic of Moldova	Article 136.	Intentional mass destruction of flora or fauna, the poisoning of the atmosphere or water resources, as well as the commission of other actions that may cause or have caused an ecological catastrophe, shall be punished with imprisonment from 10 to 15 years.
9	Russian Federation		Criminal Code of the Russian Federation	Article 358	Mass destruction of flora or fauna, poisoning of the atmosphere or water resources, as well as committing other actions capable of causing an ecological catastrophe, - shall be punishable by imprisonment for a term of twelve to twenty years.
10	Tajikistan		Criminal Code of the Republic of Tajikistan	Article 400.	Mass destruction of flora or fauna, poisoning of the atmosphere or water resources, as well as other actions that may cause an ecological disaster (Law of the Republic of Tajikistan dated 17.05.2004 No. 35), is punishable by deprivation of liberty for a term of fifteen to twenty years.
11	Ukraine		Criminal Code of Ukraine	Article 441	Mass destruction of flora or fauna, poisoning of the atmosphere or water resources, as well as other actions that may cause an ecological disaster, - shall be punishable by imprisonment for a term of eight to fifteen years.
12	Vietnam		Criminal Code of the Socialist Republic of Vietnam	Article 422	Crimes against humanity 1. Anyone who, in peacetime or wartime, commits an act of mass extermination of the population of an area, destroys the source of livelihood, undermines the cultural and spiritual life of a nation or an independent, sovereign territory, upsets the foundation of a society with the aim of destroying that society, or commits another act of genocide or commits an act of ecocide (vi diệt sinh - extermination, ecocide), or destruction of the natural environment, shall be sentenced to between 10 and 20 years of imprisonment, life imprisonment or death.
<p>Additionally, criminalization of ecocide is drafted in Scotland, Brazil, The Netherlands, Italy, Mexico, Catalonia/Spain (Hamilton, 2025)</p> <p>All definitions see the ecocide as the severe group of environmental crimes stressing “massive” or “widespread” character of the damage. In all national laws the responsibility lays on the individual rather than on organization or government. The main difference lays in the presence or absence of intention, the kind of punishment and the subject of the crime.</p>					

Table 3: The crime of ecocide as defined in national law

Attribution of ecocide to the specific group of crimes plays a vital role in practical law-making. Various classifications have been proposed to address this issue. Initially, the term “ecocide” was linked to the war in Indochina, prompting early debates about defining it as an element of warfare and categorizing it as a war crime (Falk, 1973). Today, this approach appears outdated with the general recognition that many environmental crimes, including severe ones, are committed in times of peace. Currently, the Rome Statute partially addresses ecocide in Article 8, b IV (War Crimes) stating “*Intentionally launching an attack in the knowledge that it will cause incidental loss of human life or injury to civilians, damage to civilian property or extensive, lasting and serious damage to the environment which is clearly excessive in relation to the concrete and direct overall military advantage anticipated.*”

Ukrainian ecocide legislation places ecocide in the chapter XX “Criminal offences against peace, the security of humanity, and the international legal order”. Despite this, in the academic environment in Ukraine, there is no single opinion on the topic. Yavorska (2023) insists on connecting the crime of ecocide to the war crimes while Popovych (2010), Boichuk (2018), and Shamsutdinov (2023) follow the current legislation and support inclusion of ecocide in *international crimes* – violations of the principles and norms of international law that are particularly dangerous for human civilization noting that unlike *crimes of an international nature*, which encroach on both domestic and international legal order and are mostly of a “general criminal” nature, threatening international peace and security.

The general context of the crimes offers parallels of ecocide and genocide: Crook and Short (2014) state that ecocide can be regarded as a “primary driver of genocide”, putting forward the genocide-ecocide nexus idea in connection with the broader view on environment as “anthropocene”.

The International Criminal Court (2024) Draft Policy on Environmental Crimes under the Rome Statute from 18 December 2024 offered to investigate ecocide within the current framework by using the broader implications within existing definitions and dividing it between genocide, crimes against humanity, war crimes and aggression. Such a policy offers a fast, but temporary solution to the necessity of a proper international criminal prosecution framework.

Environmental issues require separate attention and respect for nonhuman life forms as independent subjects of the law. Reflecting this, Heather, Luigi (2021) and Hamilton (2025) stress that we need to challenge attitudes of human separateness from, and superiority to, nature and nonhuman species and consider nature and nonhuman species as entities with inherent value, with rights that should be respected. In this framework, ecocide should be regarded as a separate *environmental crime* independent from other major crimes. This

approach is maintained by the IEP and reflected in the introduction of the separate article 8 “The crime of ecocide”, but can be taken further with a more developed legal framework.

The argument against the inclusion of ecocide as a crime under the criminal law, grounded in the lack of precedent in the prosecutions by ICC (which considered 32 cases since its establishment in 2002) seems not strong enough regarding the law's functions of not just retribution but also deterrence, authoritative truth-telling, reconciliation and expressivism (Hamilton, 2025; Minkova, 2025).

Despite the clear need for progressive environmental legislation, previous lawmaking attempts were failing. The detailed overview of the attempts to introduce the crime of ecocide in the international legal system was made by Gauger et al in 2012 for the Human Rights Consortium and in the form of a journal article by Chiarini in 2022. There is a clear pattern of submission of a proposal to the corresponding lawmaker, discussion in committees, sub-committees and commissions, open support from number of politicians and activists, subtle or hidden resistance from the representatives of some states and following rejection of the initiative without clear explanation and often without proper voting. There have been exemplary discussions about including ecocide in the Rome Statute (previously known as Code of Crimes Against the Peace and Security of Mankind) by the United Nations International Law Commission (ILC) and the Legal Committee of the General Assembly; and in the extension of the Convention on Genocide by the Sub-Commission on Prevention of Discrimination and Protection of Minorities. All attempts to present the drafts of corresponding articles failed for different, sometimes “unspecified” reasons: *“the Special Rapporteur of the Code, Mr Thiam of Senegal, who stated in his 13th report that the removal was due to comments of a few governments from 1993 that Thiam describes as being largely opposed to any form of inclusion of Article 26...One cannot escape the impression that nuclear arms played a decisive role in the minds of many of those who opted for the final text which now has been emasculated to such an extent that its conditions of applicability will almost never be met ...”* (Gauger et al, 2013). The Soviet Union (including Ukraine and Belarus under Soviet occupation) and Russia as its legal successor were recorded opposing to introduction both of ecocide and genocide to the international law (Chiarini, 2022). The United States of America, despite not being recorded in the opposition to the law-making initiatives, has not acknowledged responsibility for the acts of ecocide in the Vietnam war which indirectly can point to the possible opposition. That brings up the question of “the big powers” who don't want “to find themselves guilty”.

In this regard the success of the present attempts to include the definition of ecocide to the Rome Statute will show the political maturity of the world community. One of such occasions was a demand made at the official level to include ecocide in the Rome Statute of the International Criminal Court on June 10, 2025, at the 73rd meeting of the Conference of

Parliamentary Committees for the Affairs of the Union of Parliaments of the European Union held in Warsaw.

The decision to include ecocide in criminal law through the Rome Statute brings the question of accountability. The nature of criminal law dictates individual responsibility for crimes. This approach means that governments in the war time and corporations in the times of peace can avoid accountability by making one of their leaders a scapegoat and leaving the system intact. The need to move from individual to collective responsibility is stressed by De Nadin Budo (2024, p. 353) who offers the term “ecocide by drip” (“ecocídio por gotejamento”) stressing the need to move from individual to collective responsibility. Similar ideas are presented by Whyte (2020) and Bernat Molina (2025) stating that everyday ecocides that are causing climate emergency do not seem to fall within the limits of “wanton” proposed by the legal threshold of IEP and can be caused by systemic complicity. These concerns can be addressed by the prosecution of smaller environmental crimes within international environmental law.

In a time of war individual accountability for the international crime of ecocide would not be able to ensure the necessary reparations towards restorative measures. For example, the case of endangering Chornobyl Nuclear Power Plant restricted area by military actions and occupational measures led to more than 30 large fires on an area of 10.287 hectares from February 24 to March 31, 2022 (Anisimova et al, 2022). These actions not only put the nuclear object at risk, elevating the level of radiation, but also imposed the larger impact of affecting air flow and animal habitat. Natural re-forestation of the area should be supported with coordinated actions and monitoring which requires human and financial resources. Individual prosecution and incarceration will not help to restore the damaged ecosystem.

In the Ukrainian context ecocide during the war remains the primary subject for discussions with regard of the Russian war started on February 27, 2014, with invasion of Crimea. The difficulty in establishing and application of the crime of ecocide during military conflict lays in warfare. During the attack the aggressor will commit environmental crimes supporting the offensive. In turn, the defending side will use the same weaponry for defence. As a result, military actions from the defending side can cause environmental damage. According to the existing principles of international law, in this case both sides will be recognized as responsible for environmental crimes without considering the surrounding circumstances. In this regard, an interesting offer was proposed by Taras Dumych (2023, 2024) who thinks that international criminal law should adapt the principles of contract law, particularly estoppel. Based on the application of the principle of estoppel in its war-related possible application, a country and its subjects that allow gross violations of the fundamental principles of international law should be deprived of the right to use and be able to rely on these same fundamental principles in all other relations.

Consequences of the damage brought by military ecocide can be regarded both from the human position reflected in current legislation and nonhuman perspective which should be introduced in the international law with the development of the sustainability awareness.

Historical perspective on the human damage caused by the war is given by P. Higgins, who notes: *"...in Iraq, US Air Force A- 10 Tank-buster planes fired some 940,000 DU (depleted uranium) rounds during operation Desert Storm. Many British veterans regard the failure to provide soldiers with information about the dangers posed using DU was a breach of the duty of care owed to them by the Ministry of Defence, and Iraqis, who live or work near a modern battlefield where DU weapons remain, are likely to suffer even worse fates. In the UK, a report from Atomic Energy Technology...estimated that 500,000 extra cancers would occur in Southern Iraq over the next 10 years"* (Higgins, 2015, p 47).

Usage of depleted uranium tank munition in Ukraine was documented by different news agencies (e.g. Wright, 2023; Al Jazeera, 2023), but the scale of the application remains unknown. Before full-scale invasion³ the Ukrainian State Register of Objects of Increased Hazard listed 26 000 potentially dangerous and 9 000 highly dangerous objects that can cause environmental disaster in case of the technogenic accidents. This number is disproportionately high in comparison with the EU countries; Germany leads with 815 objects followed by France with 626 objects (Boiko, 2023). Evidently, even in peace time, the reliance of the Ukrainian economy on heavy metallurgy and chemical industry created dangerous conditions. It is even more true during the war, especially considering the higher concentration of the plants and factories on contested territories and adjacent areas (Luhansk, Donetsk, Kharkiv, Dnipro, Zaporizhzhia and Kherson oblasts). Chemical pollution will become one of the main factors of the long-term environmental damage of the war.

Another factor of environmental destruction is the direct damage to protected ecosystems. In spring 2024, Kyiv prosecutors recorded more than 2400 environmental crimes (Hook, 2024), and by August 2024, this number exceeded 5000. The facts of the destruction by the Russian occupation troops of biosphere objects of Ukraine with their ecosystems include the National Nature Park "Beloberezhya Sviatoslav" (Kinburnska Spit), Dvorichansky National Park (Kharkiv Region), "Svyati Gory" (Donetsk Region), and National Nature Park "Dzharylhatsky" (Kherson Region). These areas were home to endangered animal species, some of which disappeared because of direct actions of the army of occupation (freshwater drinking deer from Kinburnska Spit), and the corresponding damage to the broader systems should be qualified as ecocide. The next steps should be determining if these cases should be investigated separately or as one block to meet the requirements of "wantonness" for ecocide. At least one case in the sequence could be prosecuted separately: purposeful

³ Since the invasion this information has been classified and is not publicly available.

undermining of the Kakhovka hydroelectric power station dam by Russian military personnel, which led to its destruction, uncontrolled water leakage, flooding of settlements, mass death of aquatic bioresources and destruction of the corresponding ecosystems (Bozkurt and Çitköylü, 2023; Shamsutdinov, 2023).

Possible steps forward are offered by Stakhiv, Baydyuk and Hook and include using the modern tools such as drones and satellites to provide quantitative analysis of the damage; identify issues and discuss it collaboratively by Ukrainian and international researchers; advocate for economic investment; increase technical capacity on documentation of the damage with the help of international organizations and the level of expertise; have a registry of environmental crimes (Commission on Security and Cooperation in Europe, 2024). Other important actions should be restoring ecological niches and biodiversity, as well as reintroducing wildlife displaced by warfare. These actions require coordination of different groups of people within governmental and non-governmental organisations. Such work requires substantial resources. Accordingly, those responsible for ecocide should be held liable for the associated costs.

The failure of the previous attempts to introduce ecocide to the international legislation is explained, at least partially, by the resistance of governmental organisations and big corporations. The decision is largely political and requires powerful pressure from civil society, environmental groups and advocates. Possible actions should be campaigns to include the definition in the national law, conferences on ecocide, public debates, the presence of the topic in the media, and educational events.

For practical law makers, it is important to establish the exact limits of the crime of ecocide to avoid both overusing the law and limiting the prosecution. The Ukrainian case gives the example of such uncertainty in specific crime classification. The fact of missile strikes from combat aircraft on oil depots was qualified as ecocide by the Ukrainian prosecutors (using Article 441 of the Criminal Code of Ukraine) because they resulted in significant pollution of the air and land with petroleum products and its combustible products. This created a disagreement with the researchers who think that this crime contains elements of a war crime "Violation of the laws and customs of war", provided for in Article 438 of the Criminal Code of Ukraine (Pchelina, Pchelin, 2023; Shamsutdinov, 2023).

Responsibility for the ecocide is central to the discussion. In the practical field, the question is whether Russia will be prosecuted, convicted and obliged to pay reparations for the restoration of nature in Ukraine. The discussion above shows that the question largely depends on societal pressure and the activity of environmental and human rights activists. The very fact that ecocide didn't find its place due to the informal resistance of unnamed "nuclear powers" shows that the countries with large resources which are likely to be

responsible for the acts of ecocide could veto or block in some other way the adoption of the law (even at the stage of voting), investigation (there were only the leaders of relatively poor African countries who were investigated for the crime of genocide) or court decision enforcement (Russia not bringing to justice convicted criminals responsible for MH-17 destruction).

Both in Ukrainian and Russian Criminal Codes, ecocide is defined as a separate crime (Table 3), but the practical implementation of this norm on the national level significantly differs. The definition of “ecocide” in the Ukrainian national Criminal Code appeared in 2001. In Ukrainian law, the crime of ecocide is considered without connection to military conflict or war and can be regarded in connection to economic activity. From 2001 to 2014, there were no instances of its legal application in prosecution and court practice. The situation started to change in 2015 when the law enforcement agencies started to investigate the crimes classified as ecocide in the following events: fires at oil depots, mass deforestation, pollution of atmospheric air, water resources, and soil due to economic activity etc. – 23 instances (2015 – 1, 2016 – 1, 2017 – 3, 2018 – 2, 2019 – 8, 2020 – 6, 2021 – 2) (Turlova, 2016; Shamsutdinov, 2001). None of these cases appeared in court, either because the allegations were dismissed or because the crime was classified under other environmental articles. To improve the investigation and prosecution of environmental crimes, including ecocide, Ukraine established The Specialized Environmental Prosecutor’s Office in 2021. According to statistical reports on the number of registered criminal offences and the results of their pre-trial investigation, the crime of ecocide since 2022 was investigated in 23 cases (2022 - 15, in 2023 – 7, and in 2024 – 1). At least 14 of them, as per 2023, were opened due to the armed aggression of the Russian Federation during 2022-2023; other cases are attributed to the massive pollution by the commercial companies (Spetsializovana ekolohichna prokuratura, 2023; Fidria, 2025). Despite the stable number of initiated investigations over the past 10 years, the situation with the court hearings has stayed the same. Trying to explain the situation, Plotnikov (2024) suggests that it is due to the subjectivity of the formulation of “massive destruction”. Fidria (2025) states that in most of the known cases, the investigation of ecocide is initially qualified under several articles, with subsequent preference of a more tangible qualification at the expense of ecocide that looks less practical for court hearings. Despite these problems, Ukraine is one of the first countries in the world where the norm of ecocide is not only defined but also has practical application in investigative and prosecution practice, if not yet in the courts.

On the contrary, according to Russian researchers, the norm of ecocide in Russian Federation is “dead”: *“There is no domestic judicial practice on the elements of the crime provided for in Article 358 of the Criminal Code of the Russian Federation, which indicates the “dead” nature of this criminal law norm, the formal fulfilment by Russia of the relevant*

international obligations, and complicates the process of studying this norm” (Zhukova, 2024). This shows that despite the existence of the definition of ecocide both in the case of the aggressor and the defending country, the perspective to get justice in Russian national courts is non-existent, even if we ignore the fact that the country’s prosecutors are very unlikely to investigate Russian citizens, government or corporations for war-related crimes.

RESULTS

The study shows the need to reconceptualize environmental crimes, particularly ecocide, as a distinct category that does not rely on direct harm to human life as a prerequisite for legal investigation. Nature itself should be the subject of legal protection, and ecocide should be framed as a *crime against nature*, in parallel with *crimes against humanity*, rather than being subsumed under existing legal classifications. In this view, environmental law must shift its focus toward protecting ecosystems and individual species, treating them as victims of crime. While ecocide is often associated with war, it should be recognized as a broader crime that may or may not occur in the context of armed conflict.

The legal definition of ecocide should not rely on proving intent, which is often difficult to establish in practice. Instead, it should focus on the scale and severity of the damage. The concept of *wanton destruction and the gravity* of harm should serve as the distinguishing factor between ecocide and lesser environmental offences. Each species and ecosystem should be evaluated individually, with ecological balance as the guiding criterion.

Ecocide should be codified as a separate article under the Rome Statute, titled *Crimes Against Nature*. Not all environmental crimes have immediate human consequences; therefore, the environment itself must be recognized as the primary victim. Investigations and prosecutions should be conducted on behalf of the natural environment, with representation by NGOs, environmental prosecutors, or designated agencies. Compensation for ecological damage should be directed into restoration funds, managed under strict oversight.

This approach implies that specialized institutions dedicated to ecological restoration, such as environmental NGOs or conservation bodies, should be formally recognized as representatives of these non-human victims. Prosecution could be initiated by public authorities, following existing legal procedures, but with the environment as the injured party.

Ecocide, in this framework, would be defined as the destruction of ecosystems that threatens the survival and reproduction of specific species. The severity of the crime should be assessed based on measurable ecological damage: the percentage of a species’ population destroyed, the extent of habitat degradation, and the impact on reproductive viability. Even species considered undesirable, such as pests or mosquitoes, should be evaluated in terms of their ecological role and potential survival in protected areas. A practical

threshold for defining ecocide should be the subject of regulations and discussions. For example, the destruction of more than 50% of a species' population in each habitat, or more than 20% if the species is endangered or protected, could be punishable. This brings the concept of ecocide closer to that of genocide, not in terms of human victims, but in relation to targeted destruction of biological groups.

Environmental crimes committed during armed conflict require special attention. The principle of legal asymmetry must apply: the aggressor should bear full responsibility for environmental damage caused by warfare, regardless of the defensive actions taken by the victim. Just as a victim of assault cannot be blamed for resisting their attacker, a nation defending itself should not be held equally accountable for ecological harm resulting from its defence. To operationalize this principle, a modified version of *estoppel* should be introduced into international law, preventing states that violate environmental norms from invoking certain legal rights, such as veto power in international institutions, until accountability is established. This will ensure that violators cannot block the establishment or functioning of international legal mechanisms.

Implementing ecocide legislation faces significant challenges, particularly when governments themselves are responsible for environmental destruction, whether through military conflict or large-scale development projects. This shows the need for a strong and coordinated civil society effort, led by NGOs, to advocate for enforcement at both national and international levels.

The Russian invasion of Ukraine presents contemporary examples that could serve as test cases for ecocide prosecution. Potential cases include the damage of the radiation protective shelter on the Chernobyl nuclear power plant, illegal occupation and disposition of military equipment on the Zaporizhzhia nuclear power plant, mining and exploding of the Kakhovka dam, which destroyed the Kakhovka water reservoir, widespread mining (over 20% of the territory of the country), and oil spillage in the Kerch Strait. These incidents, along with numerous smaller environmental violations, illustrate the interconnectedness of ecosystems – where damage to one part can lead to cascading effects across the whole. Present-day reality reinforces the idea that environmental protection must be a collective global effort, not limited to isolated actions by local activists. The ecosystem functions as a single organism, and its protection requires coordinated international legal and institutional responses.

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