

# Russian Mass Destruction of the Natural Environment in Ukraine

Volume I: Individual Responsibility

August 2023



# **RUSSIAN MASS DESTRUCTION OF THE NATURAL ENVIRONMENT IN UKRAINE**

## **VOLUME I: INDIVIDUAL RESPONSIBILITY**

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The Ukraine Accountability Project (UAP) is building a case against Vladimir Putin but is documenting, analyzing, and investigating all events individually and objectively. The UAP primarily works with the Geneva Conventions, the Rome Statute of the International Criminal Court, and the Criminal Code of Ukraine.

The UAP creates documentation products in a narrative and graphical format, as well as a quarterly and annual trend analysis of ongoing crimes. Furthermore, the UAP publishes issue-specific white papers. Its clients include Transnational NGOs, the United Nations, the U.S. Department of State, and the Public Interest International Law & Policy Group (PILPG).

The Ukrainian Bar Association (UBA), the New York State Bar Association (NYSBA), and their volunteers have provided invaluable support to the UAP.

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## EXECUTIVE SUMMARY

This is Volume I of a two-volume series on the Russian Mass Destruction of the Natural Environment in Ukraine. This is the collective volunteer work product of law students, legal professionals, and practitioners around the world. Notably, Ukrainian Bar Association volunteers contributed substantially to this Volume and helped to inform the analysis of Ukrainian criminal law.

Volume I examines individual responsibility for these crimes and Volume II will address state responsibility. Volume I delves into the applicable international and domestic legal frameworks governing crimes against the natural environment, presenting a detailed analysis of specific incidents illustrating these offenses. This Volume specifically elaborates on the crime of ecocide under Ukrainian domestic law and international law and argues for its addition to the Rome Statute of the International Criminal Court. Volume I underscores the urgency of addressing environmental destruction during armed conflicts, emphasizing the need to accentuate individual and state responsibility for these crimes.

Professor David M. Crane, the Founding Chief Prosecutor of the U.N. Special Court for Sierra Leone, introduces this Volume. Professor Crane highlights the gravity of the environmental devastation caused by Russia's actions in Ukraine, emphasizes the need for novel legal measures to address these crimes, and provides several policy recommendations for doing so.

Section II provides an overview of applicable Ukrainian domestic and international legal frameworks relative to individual criminal responsibility for environmental crimes and ecocide in Ukraine. Routes to accountability via Ukrainian domestic courts, the exercise of Universal Jurisdiction, the International Criminal Court, or an Ad Hoc Tribunal are examined. These frameworks could potentially serve as a foundation for addressing environmental crimes and promoting accountability on the global stage.

Section III is the heart of Volume I, focusing on a variety of crimes against the environment committed by Russian actors in Ukraine. This section includes an analysis of the targeting of critical infrastructure and the demolition of urban areas, including the Nova Kakhovka Dam breach and the Azovstal Steel Plant attack. The destruction of industrial sites, such as the Sievierodonetsk "Azot" chemical plant and the Zaporizhzhia Nuclear Power Plant, is analyzed in detail. The Volume also examines the decimation of fuel infrastructure, with a case study on the KLO Oil Depot in Kalynivka. The deliberate planting of landmines throughout Eastern Ukraine is investigated as a particularly grievous offense.

Each of these instances is examined under the Criminal Code of Ukraine Article 441, Additional Protocol I to the Geneva Conventions Article 85(3)(b) or (c), Rome Statute Article 8(2)(b)(iv), and the Proposed Crime of Ecocide.

In conclusion, Volume I underscores the urgent need for establishing effective accountability mechanisms and greater enforcement of international and domestic laws to address individual responsibility for the Russian Mass Destruction of the Natural Environment in Ukraine. This analysis provides a comprehensive foundation for understanding the legal implications of these crimes. Volume II will delve into the broader issue of state responsibility for these and other grievous offenses against the natural environment in Ukraine.

## **I. INTRODUCTION BY PROFESSOR DAVID M. CRANE**

Parties to a conflict who use the environment as a tool of war or target objects that when destroyed or damaged unleash forces that harm the environment are violating the laws of armed conflict. Such acts are war crimes as well as crimes against humanity. The cornerstone to protecting those found on the battlefield, a basic tenet of the Geneva Conventions, is that civilians and civilian objects cannot be intentionally targeted. Military necessity is an important aspect of targeting and the use of various weapons systems in conflict, and it is rare that under the principle of military necessity that civilians can be targeted. Only in self defense can a combatant target civilians.

The rapidly deteriorating state of our planet demands urgent and robust action to protect the environment. As the consequences of environmental degradation become increasingly apparent, the need for international mechanisms to prevent and punish acts of ecocide becomes ever more critical. These two volumes explore the concept of ecocide as a new international crime, drawing attention to the situation in Ukraine as an example, and provide policy recommendations to combat this global threat. Volume I focuses on individual responsibility and Volume II will focus on state responsibility.

Ecocide refers to the deliberate destruction of ecosystems or environments, either in whole or in part, resulting in severe harm to human and non-human life. It encompasses acts such as large-scale deforestation, pollution, industrial accidents, and the depletion of natural resources, among others. Recognizing ecocide as an international crime would heighten the accountability of individuals and states responsible for such actions.

It can be argued that the destruction of the environment for military gain or advantage can be accounted for under the extant rules and law, yet the scope and breadth of destroying whole ecosystems or environments call for more specific accountability. The invasion by the Russian Federation into Ukraine and the resultant attacks on civilians, civilian objects with no militarily necessary reason, as well as the environment within Ukraine is a perfect case study and reason why ecocide should be a recognized international crime.

The ongoing conflict between Russia and Ukraine serves as a pertinent example of the environmental destruction associated with armed conflicts. The annexation of Crimea and the subsequent military activities in eastern Ukraine have caused significant harm to the environment. The damage includes the destruction of ecosystems, pollution of water sources, and the release of hazardous substances due to the destruction of industrial infrastructure. These actions have severe repercussions on the health and well-being of local populations in Ukraine and the ecological balance in the affected regions. These two volumes will show in detail the most egregious examples of such actions.

Existing international legal frameworks, such as the Rome Statute of the International Criminal Court (ICC), do not explicitly recognize ecocide as a distinct crime. Incorporating ecocide as an international crime would provide a legal basis for holding individuals and states accountable for their actions. It would send a clear message that the destruction of the environment is unacceptable and subject to serious consequences.

As you review this volume on individual responsibility and the subsequent volume on state responsibility related to the intentional targeting of the environment consider these policy recommendations:

1. Recognition and Codification: The international community should work towards recognizing ecocide as an international crime and incorporating it into the legal

- frameworks of international institutions. This would necessitate the cooperation of member states and the establishment of a comprehensive legal definition of ecocide.
2. **Strengthening International Cooperation:** Enhanced collaboration between states, international organizations, and non-governmental entities is crucial to effectively address ecocide. Sharing information, expertise, and best practices would assist in identifying potential instances of ecocide and facilitate investigations.
  3. **Enforcement and Accountability:** The Assembly of States Parties should give the ICC the jurisdiction to deal with this emerging international crime via its appropriate amending procedures to the Rome Statute. The ICC could then investigate and prosecute individuals, including government officials, military personnel, and corporate entities, responsible for acts of ecocide.
  4. **Domestic Incentives and Disincentives:** Governments should implement policies that promote sustainable practices and discourage ecologically harmful activities to include the intentional targeting of the environment in conflict. Domestic legal systems could be modified to deal with the challenge of ecocide by adding both economic and criminal sanctions against states that target the environment. Strict regulations, rules, laws, and policies must be enforced to ensure compliance and to minimize harm to ecosystems during armed conflict.
  5. **Education and Awareness:** Promoting environmental education and awareness at all levels of society is crucial. By fostering a deeper understanding of the importance of ecosystems and the consequences of their destruction, we can encourage responsible behavior and advocate for stronger environmental protection measures.
  6. **Remediation and Restoration:** Alongside efforts to prevent ecocide, there should be a focus on remediation and restoration. Countries should allocate resources to restore damaged ecosystems and mitigate the long-term impacts of environmental destruction. This could include reforestation initiatives, cleanup programs, and investment in sustainable practices.
  7. **Diplomatic Engagement and Dialogue:** Engaging in diplomatic negotiations and fostering dialogue between nations is vital to addressing environmental issues effectively. International cooperation should be sought to resolve conflicts that result in ecocide, emphasizing peaceful resolutions and the protection of the environment as a shared goal.
  8. **Civil Society and Grassroots Movements:** Civil society, including non-governmental organizations and grassroots movements, plays a significant role in raising awareness, advocating for change, and holding governments and corporations accountable. Supporting and empowering these groups can lead to greater mobilization and impact on the protection of the environment.

Recognizing ecocide as a new international crime is essential in our collective efforts to safeguard the environment. The case of Ukraine demonstrates the urgent need for robust international mechanisms to prevent and punish acts of environmental destruction. By considering the policy recommendations outlined above, as well as other aspects of these two

volumes, we can foster a global commitment to protect our planet and hold accountable those who perpetrate ecocide.

Only through concerted international action can we hope to preserve the earth's ecosystems for future generations. Combating ecocide as a new international crime requires a multi-faceted approach that encompasses legal, political, economic, and societal dimensions. We can strive towards a future where the environment is valued, protected, and restored for the benefit of all and hold those who ignore these tenets accountable under law.

*Everybody is needed at this moment in the fight for climate justice, regardless of who you are, where you are from, or what you do. — Adenike Oladosu, Nigerian Climate Activist and UN COP26 Delegate.*

David M. Crane

## II. APPLICABLE LAW FOR INDIVIDUAL RESPONSIBILITY

This section delves into the nuanced legal frameworks governing individual responsibility for offenses committed against the natural environment within the internationally recognized borders of Ukraine. In this endeavor, both domestic and international avenues of accountability are examined, shedding light on the intricate web of laws that seek to preserve and protect our planet's ecological balance. By examining applicable provisions in the Ukrainian Criminal Code, the 1949 Geneva Conventions, and the Rome Statute, as well as a potential Ad Hoc Tribunal, this exploration seeks to shed light on the pathways toward accountability for acts that harm the natural environment in Ukraine.

### A. Domestic

The Criminal Code of Ukraine provides two Articles under which large-scale environmental damages during an armed conflict may be addressed. Article 441 criminalizes ecocide and Article 438 regulates violations of the rules of warfare more generally. The section below commences with a study of Article 441 and then proceeds to discuss how Article 438 is distinguished from it. Both crimes lead to significant environmental harm, but they differ in context, qualified acts, and the ultimate object.

#### 1. The Crime of Ecocide under the Criminal Code of Ukraine

Ukraine is among the few countries that criminalize ecocide under its Criminal Code (CCU).<sup>1</sup> Despite the law being in force since 2001, the country's first-ever indictment for ecocide was not submitted to the court until April 2023.<sup>2</sup> Recently, the Ukrainian Prosecutor General announced investigations into fifteen cases of ecocide related to the Russian invasion of Ukraine.<sup>3</sup> These may become the first substantial cases of criminal liability for ecocide in the Ukrainian judicial practice and as such, significantly impact the theoretical interpretation

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<sup>1</sup> These include Russia and several former Soviet republics. The wording of the Ukrainian code is almost uniform with art. 358 of the Criminal Code of the Russian Federation 1996. *See* Sailesh Meheta & Prisca Merz, *Ecocide - A New Crime against Peace*, 17(1) ENVTL. L. REV. 3 n.15, 16 (2015).

<sup>2</sup> *See* Nadiya Gryshanova, *Upershe v Ukrayini dvokh sluzhbovtiv pidpryemstva sudytymut' za ekotsyd* [For the first time in Ukraine, two company employees will be tried for ecocide], LIGA ZAKON (Apr. 28, 2023, 2:05 PM), [https://jurliga.ligazakon.net/news/219188\\_upershe-v-ukran-dvokh-sluzhbovtiv-pdprimstva-suditimut-za-ekotsid](https://jurliga.ligazakon.net/news/219188_upershe-v-ukran-dvokh-sluzhbovtiv-pdprimstva-suditimut-za-ekotsid) (Ukr.). While this indictment is not related to the Ukraine-Russia war, it retains its significance as the first-ever Ukrainian indictment for ecocide.

<sup>3</sup> Office of the Prosecutor General (@pgo\_gov\_ua) TELEGRAM (June 29, 2023, 11:27 AM), [https://t.me/pgo\\_gov\\_ua/13947](https://t.me/pgo_gov_ua/13947). Previously, the Prosecutor General had announced investigations into Russia's attacks at the Rivne oil depot, Chernobyl nuclear power plant, and Zaporizhzhya NPP. *See* Hanna Anisimova, Viktoriia Haltsova, Olha Donets, Igor Samoshchenko, & Oleg Shynkarov, *An Environmental and Legal Component of Criminal Offenses in Conditions of the Russian-Ukrainian International Military Conflict*, EUR. ENERGY AND ENV'T L. REV., Feb. 2023, at 47, 48.



and future law enforcement practice in Ukraine.<sup>4</sup> These cases are also likely to be instructive for the development of international ecocide law and any future proceedings.<sup>5</sup>

In addition to ecocide, the CCU includes several criminal offenses against the environment.<sup>6</sup> While the target of ecocide and criminal offenses against the environment may be identical,<sup>7</sup> the latter are distinguished from the crime of ecocide by the potential scale of the harm: only actions which may cause an environmental disaster can qualify as ecocide.<sup>8</sup> Definitions are, however, far from clear. With no case law available, this section seeks to provide a short overview of the crime of ecocide under the CCU based on legal commentaries and other secondary sources.

### a) The Elusive Definition of Ecocide

Under the CCU, ecocide is listed under Section XX, which covers criminal offenses against peace, security of mankind, and international legal order. This emphasizes its large impact not only on the environment itself but on ecological safety as a whole,<sup>9</sup> and underlines the transboundary nature of the crime.<sup>10</sup> Art. 441 stipulates that “[m]ass destruction of flora and fauna, poisoning of air or water resources, and also any other any other actions that may cause an environmental disaster shall be punishable by imprisonment for a term of eight to fifteen years[.]”<sup>11</sup>

Thus, the elements of ecocide are either:

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<sup>4</sup> See Frank Petit, *Kakhovka dam: Ukraine pioneers prosecution for ecocide* (July 10, 2023), JUSTICEINFO.NET, <https://www.justiceinfo.net/en/119148-kakhovka-dam-ukraine-pioneers-prosecution-ecocide.html>. Interestingly, however, the current draft of the new Criminal Code of Ukraine does not include the ecocide crime or any other similar crime. Article 11.4.6. of the latest version of the draft might partially cover ecocide: “A person who [...] directed an attack with the understanding that it would result in [...] large-scale, long-lasting and serious damage to the natural environment, which will be clearly excessive compared to concrete and immediately expected general military advantage [...] committed a crime of level 7.” Draft CCU (22 May 2023), accessible at *Tekst projektu novoho Kryminal'noho kodeksu Ukrayiny [The draft text of the new Criminal Code of Ukraine]*, NOVYY KRYMINAL'NYI KODEKS, <https://newcriminalcode.org.ua/upload/media/2023/05/22/kontrolnyj-tekst-proektu-kk-22-05-2023.pdf> (last visited Aug. 17, 2023). Note, however, that precedents do not have weight in the Ukrainian legal system and judges are not obliged or even instructed to follow the earlier decisions of the courts on similar matters. Email interview with Kateryna Halenko, Country Director, Institute for War and Peace Reporting (Aug. 22, 2023).

<sup>5</sup> *Id.*

<sup>6</sup> NOVYY KRYMINAL'NYI KODEKS [Criminal Code], Chapter VIII, Criminal Offenses Against Environment (Ukr.). In the following references to the CCU, the official translation of the Criminal Code of Ukraine, accessible at the Verkhovna Rada website, will be used. *Criminal Code of Ukraine*, VERKHOVNA RADA OF UKRAINE, <https://zakon.rada.gov.ua/laws/show/2341-14?lang=en#Text> (last visited Aug. 11, 2023).

<sup>7</sup> Email interview with Professor Ella Derkach and Professor Roman Movchan, Department of Constitutional, International and Criminal Law, Vasyl' Stus Donetsk National University, Vinnytsia, Ukraine (Aug. 7, 2023).

<sup>8</sup> CCU art. 441.

<sup>9</sup> See M.P. Kutsevych, *Criminal Liability for Ecocide: International and National Aspects 11* (thesis, Taras Shevchenko National University of Kyiv) [hereinafter *Thesis*].

<sup>10</sup> Nataliia Malysheva, *International Environmental Crimes of the Russian Federation on the Territory of Ukraine and the Prospects of Criminal Responsibility for Their Committing*, 2022 LAW REV. KYIV U.L. 233, 234 (2022). The international aspect of the crime require further research. In this White Paper, the focus is on the avenues that Ukraine may have to bring Russian perpetrators to justice for the crimes committed against the environment of Ukraine on Ukrainian territory.

<sup>11</sup> CCU art. 441.

- a. Mass destruction of flora and fauna;
- b. Poisoning of air or water resources; or
- c. Any other action that may cause an environmental disaster.<sup>12</sup>

Without existing jurisprudence, further clarification for the definitions in Article 441 can be found in the legal commentaries. There, mass destruction of flora or fauna is defined as the “destruction of the ecosystem of a certain region, associated with the destruction of vegetation or at least a species or a combination of species and forms of plant communities, or the death of a large number of representatives of wild fauna, population or a certain species of fauna in that or another area or water.”<sup>13</sup> Poisoning of the atmosphere or water resources instead means saturation with a critical amount of substances harmful to humans, fauna, or flora that can cause illness or death.<sup>14</sup>

Finally, other actions that may cause an environmental disaster include “other harmful actions against flora and fauna, the atmosphere and water resources, or actions against other natural objects (e.g., land and its subsoil), or against the environment in general (e.g., destruction of the ozone layer).”<sup>15</sup> As examples of such actions, the commentaries present forced use of natural conditions and phenomena to achieve military advantage over the enemy and the use of weapons of mass destruction and other weapons of indiscriminate action, including (but not limited to) nuclear, radiation, radiological, toxic, incendiary, and infrasonic radio frequency weapons.<sup>16</sup> These other harmful actions must have led to widespread destruction or poisoning, which is to be assessed by expert assessment based on the irreversibility of the harmful effects, the non-renewability of natural resources, the impact on the natural environment as a whole, and the health of a large number of people.<sup>17</sup> In line with this perspective, a recent study argues that the pollution and damage to Ukrainian land and soil, both due to direct contamination and due to degradation caused by hostilities, should be considered ecocide under Art. 441 of the CCU.<sup>18</sup>

The actions specified in Article 441 of the CCU are characterized by the fact that they *may* lead to an environmental disaster.<sup>19</sup> However, effective Ukrainian legislation does not

<sup>12</sup> Several authors have pointed out that such lack of precision as to underlying acts is problematic from legality and human rights perspectives. See Matthew Gillett, *A Tale of Two Definitions: Fortifying Four Key Elements of the Proposed Crime of Ecocide (Part I)*, OPINIO JURIS (June 26, 2023),

<https://opiniojuris.org/2023/06/20/a-tale-of-two-definitions-fortifying-four-key-elements-of-the-proposed-crime-of-ecocide-part-i/>. See also O. M. Borschevska, *Publichno-pravovi ta pryvatnopravovi aspekty vyznachennya definitsiyi “ekotsyd” pid chad viys’kovoyi ahresiyi [Public Legal and Private Legal Aspects of Defining the Definition of “Ecocide” During Military Aggression]*, 49 PRAVOVA DERZHAVA 113, 114-115 (2023).

<sup>13</sup> See SCIENTIFIC AND PRACTICAL COMMENTARY TO THE CRIMINAL CODE OF UKRAINE 823 (S.S. Yatsenko ed., 4th ed. 2005) [hereinafter *Commentary 2*].

<sup>14</sup> *Id.*

<sup>15</sup> See 2 SCIENTIFIC AND PRACTICAL COMMENTARY TO THE CRIMINAL CODE OF UKRAINE 994 (V.Y. Tatsiy et al. eds., 5<sup>th</sup> ed. 2013) [hereinafter *Commentary 1*].

<sup>16</sup> See *Commentary 2*, *supra* note 13, at 823-824.

<sup>17</sup> Malysheva, *supra* note 10, at 235. Malysheva suggests that the transboundary impact of such destruction or poisoning should be considered, as well. *Id.*

<sup>18</sup> A. M. Shulha, *Zabrudnennya ta psuvannya zemel’nykh resursiv Ukrayiny, yak oznaka kryminal’nykh pravopurushen’ proty myru, bezpeky lyudstva ta mizhnarodnoho pravoporyadku v umovakh Rosiys’koyi voyennoyi ahresiyi [Pollution and Damage to Land Resources of Ukraine as a Sign of Criminal Offenses Against Peace, Human Security, and International Law and Order in Conditions of Russian Military Aggression]*, 2(24) SCIENCE RISE: JURIDICAL SCIENCE 31 (2023).

<sup>19</sup> The formulation has been interpreted so that a mere probability of an environmental disaster is enough to qualify such actions as ecocide. *Thesis*, *supra* note 9, at 107.

include a definition of an “environmental disaster,” either. The commentaries elaborate the characteristics of an environmental disaster to include 1) a large area of the territory where adverse environmental changes have occurred; 2) significant restriction or exclusion of human life or plant or animal life in a certain territory; 3) duration of adverse environmental changes or their inevitability; and 4) significant negative changes in the ecological system, such as the extinction of certain species of animals or plants, changes in the circulation of substances or in other biological processes that are important for the ecosystem as a whole.<sup>20</sup> The probability of an environmental disaster shall be determined in each particular case by expert analysis.<sup>21</sup>

In Ukrainian case law, an ecological disaster has been challenging to prove: cases opened under Article 441 have been either closed or later been reclassified to offenses against the environment under Section VIII.<sup>22</sup>

### b) Accountability and the Question of Intent

The CCU recognizes criminal liability for ecocide to apply to individuals over the age of 16 only.<sup>23</sup> Except for certain enumerated cases, which include some of the other crimes under Section XX but not Article 441,<sup>24</sup> the CCU does not recognize the criminal liability of legal entities. Again, unlike some other crimes under Section XX of the CCU,<sup>25</sup> ecocide is not exempted from a statute of limitations. The statute of limitations for ecocide as a special grave offense is 20 years from the moment it is committed.<sup>26</sup>

The issue of *mens rea* is not addressed by the CCU, but secondary sources underline the intentional nature of ecocide. While commentaries refer to direct intent, others have also included indirect intent.<sup>27</sup> Under the CCU, the intent is direct when the perpetrator “was conscious of the socially injurious nature of his/her action (act or omission), foresaw its socially injurious consequences, and wished them;” indirect intent instead is present when the perpetrator was conscious of the socially injurious nature of their action (act or omission), foresaw its socially injurious consequences, and anticipated - but did not wish - for them.<sup>28</sup> Whether direct or indirect, the intent is a critical feature distinguishing ecocide from

<sup>20</sup> *Commentary 1, supra* note 15, at 994.

<sup>21</sup> *Thesis, supra* note 9, at 11. The concept of an environmental disaster appears similar to the “emergency ecological situation,” which the Law on the Zone of Emergency Ecological Situation defines as “an emergency situation in which negative changes in the surrounding natural environment have occurred in a separate area, requiring the use of emergency measures by the state.” See *Thesis, supra* note 9, at 118-19; ZAKON UKRAÏNY NADZVYTSAINOI EKOLOHITSNOI SYTUATSII [ZUNES] [Emergency Environmental Situation Code] art. 1.

<sup>22</sup> Hanna Anisimova et al., *An Environmental and Legal Component of Criminal Offenses in Conditions of the Russian-Ukrainian International Military Conflict*, EUR. ENERGY AND ENV'T L. REV., Febr. 2023, at 47, 56-57 [hereinafter Anisimova et al.].

<sup>23</sup> CCU art. 22-1.

<sup>24</sup> These include the following crimes under Section XX: art. 436 (Propaganda of war); art. 437 (Planning, preparation and waging of an aggressive war); art. 438 (Violation of rules of the warfare); art. 442 (Genocide); art. 444 (Criminal offences against internationally protected persons and institutions); and art. 447 (Mercenaries). CCU art. 96-3.1, 4).

<sup>25</sup> The crimes exempted from a statute of limitations are Planning, preparation and waging of an aggressive war (art. 437); Violation of rules of warfare (art. 438); Use of weapons of mass destruction (art. 439); and genocide (art. 442.1). CCU art. 49.5.

<sup>26</sup> Based on the classification of offenses in art. 12 of the CCU, a “special grave offense” is a crime punishable by more than ten years of imprisonment or a life sentence. CCU art. 12.6.

<sup>27</sup> See *Commentary 1, supra* note 15, at 994; but see Malysheva, *supra* note 10, at 235 (2022).

<sup>28</sup> CCU art. 24.2 of the; CCU art. 24.3.

environmental crimes under Section VIII of the CCU (Criminal Offenses Against the Environment).<sup>29</sup>

It has been stipulated that in the crime of ecocide, the causal link between the actions and the (potential) consequences is not linear.<sup>30</sup> Instead, in addition to proving the causal link between a detected massive environmental degradation that has led, or may actually lead, to an environmental disaster and a documented presence of violations of environmental safety standards, establishing ecocide would require excluding a possible combined impact of other sources of pollution.<sup>31</sup> Finally, the direct or indirect intent of the suspected individual(s) must be shown.<sup>32</sup>

As ecocide is often committed by corporate entities or states, the limitation to individual accountability undermines the nature of the crime. Due to the limitation, a number of environmental crimes, reportedly being committed on the temporarily occupied territories of Ukraine by companies engaged in an excessive release of pollutants into the environment, felling and removal of wood, extraction of minerals, and removal of the soil layer,<sup>33</sup> are likely to remain largely unaccounted for. It has been suggested that ecocide, in alignment with the crime of aggression, should be considered a leadership crime.<sup>34</sup> For now, however, prosecution under Article 441 is restricted to investigating the individuals directly involved with the acts that led, might have led, or may lead to ecocide.

The above overview shows how the application and enforcement of the Ukrainian ecocide law can be complex due to a vague provision and the lack of measurable criteria and case law.<sup>35</sup> The question of intent seems decisive, even if Article 441 of the CCU does not address it; however, there is no clear agreement on whether indirect intent should also be included. In any case, proving ecocidal intent in the context of an armed conflict may be a challenge. It also seems highly unlikely that Russia would be willing to extradite potential ecocide suspects to be prosecuted in Ukraine.

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<sup>29</sup> Criminal offenses against the environment are regulated under articles 236-254 of Chapter VIII of the CCU. Several of the enumerated articles could apply to Russian crimes against the environment in Ukraine, such as crimes against environmental safety regulations (art. 236); contamination or deterioration of land (art. 239); mineral resources (art. 240), subsoil protection, air pollution (art. 241), water protection (art. 242), forest destruction (art. 245), illegal cutting of forests (art. 246), and violation of flora and fauna (art. 247). For this paper, however, the focus is on acts that may be considered ecocide.

<sup>30</sup> Malysheva, *supra* note 10, at 235 (2022).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> See e.g. Ukr. Helsinki Hum. Rts. Union, USAID, Ministry of Int'l Aff. of Can., *On the Brink of Survival: Damage to the Environment During Armed Conflict in East of Ukraine* (2017), [https://www.helsinki.org.ua/wp-content/uploads/2017/11/Summary-Report-on-Environment\\_eng.pdf](https://www.helsinki.org.ua/wp-content/uploads/2017/11/Summary-Report-on-Environment_eng.pdf) (analyzing the crimes against the environment committed since 2014 at the temporarily occupied territories of Donetsk, Luhansk regions and Crimea). For corporate accountability for ecocide in general, see Vanessa Schwegler, *The Disposable Nature: The Case of Ecocide and Corporate Accountability*, 9 AMSTERDAM L.F. 71 (2017). State accountability for environmental crimes will be addressed in Volume II of this White Paper.

<sup>34</sup> See Malysheva, *supra* note 10, at 237 (2022).

<sup>35</sup> Before the Kakhovka Dam breach, some had pointed out that due to the vagueness of the definition, ecocide was difficult to prosecute and should not be applied in times of war. Instead, they suggested that a separate article be created to regulate for “ecocide in time of war.” O. M. Borschevska, *Publichno-pravovi ta pryvatnopravovi aspekty vyznachennya definityi “ekotsyd” pid chad viys'kovoyi ahresiyi* [Public Legal and Private Legal Aspects of Defining the Definition of “Ecocide” During Military Aggression], 49 PRAVOVA DERZHAVA 113, 114 (2023). It appears that only the Georgian Criminal Code addresses ecocide during an armed conflict in a separate article. SAKARTVELOS SISKHLIS SAMARTLIS K'ODEKSI [CRIMINAL CODE] art. 409.2 (Geor.). See also Malysheva, *supra* note 10, at 234.

Despite the limitations of Article 441 of the CCU, the Prosecutor General of Ukraine seems nevertheless determined to bring Russian perpetrators to justice for the acts of ecocide committed in Ukraine.<sup>36</sup> Eventually, the vagueness of the terminology may present an opportunity for Ukraine to interpret its existing law in a manner that conforms with current perspectives in European and international law,<sup>37</sup> and vice versa, to create law that will inform legal developments also at an international level.

## 2. Violation of the Rules of Warfare

Article 438 of the Criminal Code of Ukraine may offer another possibility to bring Russian perpetrators to justice for crimes against the environment in Ukraine. It criminalizes violation of the rules of warfare, which include the “use of methods of the warfare prohibited by international instruments, or any other violations of rules of the warfare stipulated by international treaties, ratified by the Verkhovna Rada of Ukraine, and also issuing an order to commit any such actions.”<sup>38</sup> Such international instruments include the 1949 Geneva Conventions (“GC”) and the 1977 Additional Protocol I (“AP I”), to which both Ukraine and Russia are parties.<sup>39</sup> A general criticism of Article 438 of the CCU is that it lists only a few specific violations of international humanitarian law, deferring the rest of the crimes to international instruments ratified by Ukraine.<sup>40</sup> As a result, war crimes that are part of customary international law, but have not been ratified by Ukraine, will fall outside of the domain of Ukrainian national law.<sup>41</sup>

Both Article 438 and Article 441 are listed as criminal offenses against peace, security of mankind, and international legal order under the CCU. They differ with regard to the object of the crime: ecocide is a crime against ecological safety, while a violation of the

<sup>36</sup> Office of the Prosecutor General (@pgo\_gov\_ua) TELEGRAM (June 29, 2023, 11:27 AM), [https://t.me/pgo\\_gov\\_ua/13947](https://t.me/pgo_gov_ua/13947).

<sup>37</sup> For Ukraine as an EU candidate country, developments on the draft European Union directive on the protection of the environment through criminal law may be of particular interest. The draft, currently under EU interinstitutional negotiations, seems to take a more comprehensive approach to *mens rea*, criminalizing both intention and serious negligence in offenses of particular gravity. See Kate MacIntosh, *European Parliament Votes Unanimously for Ecocide*, OPINIO JURIS (Apr. 10, 2023), <http://opiniojuris.org/2023/04/10/european-parliament-votes-unanimously-for-ecocide>.

<sup>38</sup> Full text of article 438.1: “1. Cruel treatment of prisoners of war or civilians, deportation of civilian population to engage them in forced labour, pillage of national treasures on occupied territories, use of methods of the warfare prohibited by international instruments, or any other violations of rules of the warfare stipulated by international treaties, ratified by the Verkhovna Rada of Ukraine, and also issuing an order to commit any such actions shall be punishable by imprisonment for a term of eight to twelve years.” CCU art. 438.1.

<sup>39</sup> States Party to the Following International Humanitarian Law and Other Related Treaties as of 07-August-2023, ICRC, [https://ihl-databases.icrc.org/public/refdocs/IHL\\_and\\_other\\_related\\_Treaties.pdf](https://ihl-databases.icrc.org/public/refdocs/IHL_and_other_related_Treaties.pdf).

<sup>40</sup> Iryna Marchuk & Aloka Wanigasuriya, *Venturing East: The Involvement of the International Criminal Court in Post-Soviet Countries and Its Impact on Domestic Processes*, 44 FORDHAM INT’L L.J. 735, 746-747, (2021).

<sup>41</sup> *Id.* See also, Oksana Viktorivna Cherviakovna & Vladyslav Dmytrovych Mekheda, *Violations of the Laws or Customs of War under Military Law: Comparative Analysis of International and Internal Legislation of Ukraine*, 152 PROBS. LEGALITY 8 (2021). A new draft law No. 2689 on Amending Some Legislative Acts of Ukraine Regarding Implementation of International Criminal Law and International Humanitarian Law introduces an extensive list of international crimes, all of which are within the ICC’s jurisdiction. The law was adopted by the Parliament in June 2021, but it has not been signed by the President. *Proekt Zakonu pro vnesennya zmin do deyakykh zakonodavchykh aktiv Ukrayiny shchodo implementatsiyi norm mizhnarodnoho kryminal'noho ta humanitarnoho prava*, VERKHOVNA RADA UKRAINY, [http://w1.c1.rada.gov.ua/pls/zweb2/webproc4\\_1?pf3511=67804](http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=67804) (last visited Aug. 16, 2023).

rules of warfare is a crime against peace.<sup>42</sup> Consequently, Article 438 only applies in the context of an armed conflict, whereas Article 441 is not limited contextually.<sup>43</sup> In addition, Article 438 may apply regardless of whether causing damage to the environment itself constituted the violation of rules of warfare, or a consequence of it.<sup>44</sup> With regard to the question of intent, Article 438 seems to share similar features with the interpretation of Article 441: the perpetrator's awareness of the possibility of causing serious and prolonged harm is sufficient for Article 438 to apply.<sup>45</sup> Finally, in contrast with Article 441, the CCU recognizes the liability of legal entities for crimes qualified under Article 438 when the offence was committed on behalf of and for the benefit of the legal entity by a person authorized by the legal entity.<sup>46</sup> Thus, Article 438 allows for bringing both individuals and legal entities to justice.

Since the Russian invasion and occupation of Crimea in 2014, the Crimean Prosecutor's Office has relied on Article 438 to prosecute war crimes committed in Crimea.<sup>47</sup> War crimes committed in Crimea reportedly include grave breaches under the Geneva Conventions, such as murder, willful killings, torture and ill-treatment, forcible conscription, deportations, and extensive appropriation of property not justified by military necessity.<sup>48</sup> A specialized war crimes department established by the Prosecutor General's Office has launched 214 criminal proceedings under Article 438 since 2014; ten cases have been directed to national courts and two verdicts have been rendered.<sup>49</sup> Further, it appears that the National Police has opened more than 4,200 criminal proceedings for violations of Article 438.<sup>50</sup>

It is unclear whether any of the ongoing proceedings under Article 438 are related to acts against the environment that could be considered violations of the Geneva Conventions.<sup>51</sup> While some have argued that in relation to environmental damage, Article 441 should supersede investigations under Article 438 of the CCU,<sup>52</sup> others have made the

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<sup>42</sup> Olha Brynzanska, *Rozmezhuвання ekotsydu (st. 441 KK Ukrainy) ta porushennya zakoniv I zvychayiv viyny u formi zapodiyannya shkody navkolyshn'omu pryrodnomu seredovyshchu (st. 438 KK Ukrainy)* [*Distinction between ecocide (art. 441 of the Criminal Code of Ukraine) and violations of the laws and customs of war as damage to the natural environment (art. 438 of the Criminal Code of Ukraine)*], 7 ECON. FINANCES. L. 82, 86 (2023).

<sup>43</sup> *Id.*

<sup>44</sup> *Id.* at 84.

<sup>45</sup> *Id.*

<sup>46</sup> CCU art. 96-3.1.4).

<sup>47</sup> Since the 2014 invasion, the Prosecutor's Office has been working in exile from Kyiv. See, e.g., *War Crimes in Crimea*, INSTITUTE FOR WAR AND PEACE REPORTING (Aug. 15, 2023), <https://iwpr.net/global-voices/war-crimes-crimea>.

<sup>48</sup> UKRAINIAN LEGAL ADVISORY GROUP, PRINCIPLE OF COMPLEMENTARITY: INTERNATIONAL JUSTICE IN UKRAINE 18, <https://www.asser.nl/media/795046/ulag-principle-of-complementarity-international-justice-in-ukr-english.pdf>. Also, the ICC's Report on Preliminary Examination Activities suggests that the rules of International Humanitarian Law apply, allowing Ukrainian Prosecutors to pursue charges based on IHL. INTERNATIONAL CRIMINAL COURT, OFFICE OF THE PROSECUTOR, REPORT ON PRELIMINARY EXAMINATION ACTIVITIES (2016), ¶ 158, [https://www.icc-cpi.int/sites/default/files/iccdocs/otp/161114-otp-rep-PE\\_ENG.pdf](https://www.icc-cpi.int/sites/default/files/iccdocs/otp/161114-otp-rep-PE_ENG.pdf).

<sup>49</sup> *Id.*

<sup>50</sup> Anisimova et al., *supra* note 22, at 49.

<sup>51</sup> See *infra* for a discussion on potentially applicable provisions of the Geneva Conventions.

<sup>52</sup> Anisimova et al, *supra* note 22, at 49.

case that Additional Protocol I of the Geneva Conventions, in particular, is applicable domestically through Article 438.<sup>53</sup>

In conclusion, while there seems to be no Ukrainian case law yet connecting environmental harm and violations of the rules of warfare under Article 438 of the CCU, it might provide an interesting avenue for the Prosecutor General to pursue. As long as there is an intentional act that amounts to a violation of the Geneva Conventions, conducted in the context of an armed conflict, the elements of Article 438 should be fulfilled for the purposes of domestic prosecution.

## **B. International**

Crimes committed against the natural environment in Ukraine demand a continuous commitment to justice from the international community. Such a commitment is embodied in pursuing redress for the natural environment in Ukraine through international legal mechanisms that secure individual criminal liability.

In the pursuit of redress, three distinct paths emerge, each offering a unique avenue to hold individuals accountable for Russian Mass Destruction of the Natural Environment in Ukraine. First, individuals may be held accountable through the exercise of Universal Jurisdiction by a third state under the 1949 Geneva Conventions.<sup>54</sup> Second, cases may be brought before the International Criminal Court under the Rome Statute. Finally, accountability may be pursued through the establishment of an Ad Hoc Tribunal. By exploring these avenues, we can navigate this complex legal landscape and ensure that those responsible for these crimes are brought to account.

### **1. Third-Party State Prosecution of War Crimes through the Exercise of Universal Jurisdiction under the 1949 Geneva Conventions**

The first path to accountability explored under international law is a third-party state's ability to prosecute war crimes under the 1949 Geneva Conventions through the exercise of Universal Jurisdiction. The four Geneva Conventions and their three Additional Protocols form the foundation of international humanitarian law (IHL), which regulates the conduct of armed conflict and seeks to limit its effects. In particular, the Conventions regulate the means and methods of warfare, and provide protections for people not taking part in hostilities, civilian infrastructure, and the environment.

As stated above, both Russia and Ukraine are parties to the 1949 Geneva Conventions and the 1977 Additional Protocol I ("AP I") and are thus bound by the provisions therein.<sup>55</sup> States Parties to the Conventions have an obligation to prosecute any grave breaches of its

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<sup>53</sup> Brynzanska, *supra* note 42, at 83-84.

<sup>54</sup> Universal Jurisdiction can also be exercised for certain other international crimes, such as genocide, crimes against humanity and torture. This analysis focuses on the exercise of Universal Jurisdiction for war crimes as this is the international crime for which there is currently the broadest implementation of Universal Jurisdiction domestically.

<sup>55</sup> ICRC, States Party to the Following International Humanitarian Law and Other Related Treaties as of 07-August-2023, [https://ihl-databases.icrc.org/public/refdocs/IHL\\_and\\_other\\_related\\_Treaties.pdf](https://ihl-databases.icrc.org/public/refdocs/IHL_and_other_related_Treaties.pdf); Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol 1), June 8, 1977, 1125 U.N.T.S. 3 [hereinafter AP I].

provisions.<sup>56</sup> In addition to the common international practices of claiming jurisdiction when a crime has been committed on the state's territory or when the perpetrator (active personality jurisdiction) or victim (passive personality jurisdiction), is a national, the Conventions give all States Parties Universal Jurisdiction over grave breaches regardless of connection to the commission of the crime.<sup>57</sup> This section focuses on a third-party state using Universal Jurisdiction to prosecute grave breaches of AP I and will first explain the concept of Universal Jurisdiction and elaborate on its current practice, and then analyze which provisions of the Geneva Conventions would be most relevant to a third party State's prosecution under this jurisdiction.<sup>58</sup>

### a) Universal Jurisdiction

International law recognizes that certain crimes—such as genocide, crimes against humanity, torture, and war crimes—are so grave that they affect the international community as a whole, and therefore that the duty to prosecute them transcends any border.<sup>59</sup> This concept has given rise to the principle of Universal Jurisdiction, which entitles a state to prosecute offenders even in the absence of any link between the crime committed and the prosecuting state.<sup>60</sup> The rationale behind this principle is to bridge any impunity gap and to prevent those who committed serious crimes from finding a safe haven in third countries.<sup>61</sup>

The basis for Universal Jurisdiction over serious violations of international humanitarian law is found in both treaty and customary international humanitarian law.<sup>62</sup> Each one of the four Geneva Conventions binds parties to:

undertake to enact any legislation necessary to provide effective penal sanctions for persons committing, or ordering to be committed, any of the grave breaches of the present Convention . . . ; [and an] obligation to search for persons alleged to have committed, or to have ordered to be committed, such grave breaches, and shall bring such persons, regardless of their nationality, before its own courts . . . [or] hand such persons over for trial to another High Contracting Party concerned, provided such High Contracting Party has made out a 'prima facie' case.<sup>63</sup>

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<sup>56</sup> See INTERNATIONAL COMMITTEE OF THE RED CROSS, Information and Observations on the Scope and Application of Universal Jurisdiction to Resolution 65/33 of the General Assembly, pursuant to letter LA/COD/59/2 dated 28 December 2012 received from the Office of Legal Affairs (Apr. 30, 2013), <https://www.un.org/en/ga/sixth/68/UnivJur/ICRC.pdf> [hereinafter INTERNATIONAL COMMITTEE OF THE RED CROSS].

<sup>57</sup> See *id.*

<sup>58</sup> The third party state would not necessarily prosecute on the specific elements of the Geneva Conventions, because the domestic law that has been enacted to implement these obligations domestically might differ from the original text.

<sup>59</sup> See INTERNATIONAL COMMITTEE OF THE RED CROSS, *Universal jurisdiction over war crimes – Factsheet* (May 21, 2021), <https://www.icrc.org/en/document/universal-jurisdiction-over-war-crimes-factsheet>; CENTER FOR CONSTITUTIONAL RIGHTS, *Factsheet: Universal Jurisdiction*; <https://ccrjustice.org/home/get-involved/tools-resources/fact-sheets-and-faqs/factsheet-universal-jurisdiction> (last visited Aug. 20, 2023).

<sup>60</sup> See *Universal jurisdiction over war crimes – Factsheet supra* note 59.

<sup>61</sup> *Id.*

<sup>62</sup> See INTERNATIONAL COMMITTEE OF THE RED CROSS, *supra* note 56.

<sup>63</sup> Geneva Convention (I) on Wounded and Sick in Armed Forces in the Field art. 49, Aug. 12, 1949; Geneva Convention (II) on Wounded and Sick in Armed Forces at Sea art. 50, Aug. 12, 1949; Convention (III) on



Additional Protocol I to the Geneva Conventions also extends the principle of Universal Jurisdiction to grave breaches of, inter alia, the rules relating to the conduct of hostilities.<sup>64</sup> Customary International Humanitarian Law appears to extend Universal Jurisdiction to all violations of the laws and customs of war which constitute war crimes but does not require states to exercise jurisdiction.<sup>65</sup>

As of 2022, 196 parties have ratified the Geneva Conventions and 174 parties have ratified AP I of 1977 and are therefore obligated to “undertake to enact” Universal Jurisdiction in their legal order over grave breaches defined in these instruments and to exercise such jurisdiction when a specific case arises.<sup>66</sup> The exercise of Universal Jurisdiction primarily happens through the enactment of national law (legislative Universal Jurisdiction). It is also feasible, at least in principle, for a court to base its jurisdiction directly on international law without any reference to national legislation (adjudicative Universal Jurisdiction).<sup>67</sup>

The application of Universal Jurisdiction has been developing since the Second World War but has been gaining momentum in the last three decades, especially through the ratification and domestication of the Rome Statute.<sup>68</sup> In the last decade, however, the implementation of Universal Jurisdiction in national legislation has remained relatively stable for war crimes.<sup>69</sup> In 2012, at least 142 UN member states had criminalized at least one war crime under national law, and more than 100 UN member states had provided for universal jurisdiction over such crimes at that time.<sup>70</sup> In 2023, the number of UN member states that had criminalized at least one war crime remained stable at 142, while the total number of

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Prisoners of War art. 129, Aug. 12, 1949; Convention (IV) on Civilians art. 146, Aug. 12, 1949, <https://ihl-databases.icrc.org/en/ihl-treaties/treaties-and-states-parties>.

<sup>64</sup> Additional Protocol (I) to the Geneva Conventions art. 85, June 8, 1977, <https://ihl-databases.icrc.org/en/ihl-treaties/treaties-and-states-parties>. AP I, *supra* note 55, art. 85.

<sup>65</sup> See *Universal jurisdiction over war crimes – Factsheet supra* note 59.

<sup>66</sup> See INTERNATIONAL COMMITTEE OF THE RED CROSS, *International Humanitarian Law Databases – Treaties and State Parties*, <https://ihl-databases.icrc.org/en/ihl-treaties/treaties-and-states-parties> (last visited Aug. 1, 2023); INTERNATIONAL COMMITTEE OF THE RED CROSS, *supra* note 56.

<sup>67</sup> See *Universal jurisdiction over war crimes – Factsheet supra* note 59.

<sup>68</sup> THE CLOONEY FOUNDATION FOR JUSTICE, *Justice Beyond Borders – A Global Mapping Tool to Increase Survivors’ Access to Justice 1*, <https://cfj.org/wp-content/uploads/2023/02/Justice-Beyond-Borders.pdf> (last visited Aug. 1, 2023).

<sup>69</sup> One recent positive development of note is the passing of universal jurisdiction legislation in the United States in January of 2023. See Justice for Victims of War Crimes Act, 18 U.S.C. § 4240 (2023), <https://www.congress.gov/bill/117th-congress/senate-bill/4240/text>.

<sup>70</sup> See AMNESTY INTERNATIONAL, *Universal Jurisdiction, A Preliminary Survey of Legislation Around the World – 2012 Update 12* (2012), <https://www.amnesty.org/en/documents/ior53/019/2012/en/>. According to this survey at least 136 UN member states had provided for universal jurisdiction over such crimes at that time and that approximately 29 UN member states have provided their courts with universal jurisdiction over ordinary crimes such as murder, rape and abduction, and could therefore prosecute some of the underlying conduct tied to war crimes. However, the report apparently does not fully distinguish between laws that provide true universal jurisdiction, and those that require either that the perpetrator is present in the jurisdiction, the perpetrator or the victim is a national, or that the crime affects their national interest. The survey also notes that many of the definitions of war crimes in national legislation are seriously flawed. A survey conducted by the ICRC in the same year found that more than 100 States had vested their national courts with Universal Jurisdiction to a certain degree over serious violations of international humanitarian law at that time. INTERNATIONAL COMMITTEE OF THE RED CROSS, *supra* note 56.

jurisdictions that criminalized war crimes nationally tallied 155.<sup>71</sup> Currently, 132 jurisdictions have laws that allow them to investigate and prosecute at least one war crime domestically if certain conditions are met.<sup>72</sup> And, 106 jurisdictions have national laws that contain an obligation to prosecute or extradite perpetrators found in their territory for grave breaches of the Geneva Conventions.<sup>73</sup>

While legislation largely has remained consistent, the use of these laws has been increasing.<sup>74</sup> Recent years have seen a rising number of universal jurisdiction cases filed before national courts in Europe, North and South America, and Africa,<sup>75</sup> including against corporate actors.<sup>76</sup> With the rise in cases, units specialized in the most serious international crimes are also being established in national police forces and prosecutorial teams.<sup>77</sup> These specialized teams, along with a broad interpretation of universal jurisdiction and increased international cooperation have enabled so-called “structural investigations,” where a case is opened in relation to a specific situation before a specific perpetrator is identified.<sup>78</sup> The most prominent of its kind to date has been the German investigation and prosecution of crimes committed in relation to the war in Syria.<sup>79</sup>

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<sup>71</sup> See THE CLOONEY FOUNDATION FOR JUSTICE, *supra* note 68. All jurisdictions include UN member states, UN non-member states and other entities such as territories, special administrative regions, “constituent countries” etc.

<sup>72</sup> See *id.* Jurisdiction includes absolute universal jurisdiction, jurisdiction contingent on the perpetrator’s presence in the country, the perpetrator or victim’s nationality or residence, or national interest.

<sup>73</sup> See THE CLOONEY FOUNDATION FOR JUSTICE, *supra* note 68.

<sup>74</sup> “Before 1988, there were 286 universal jurisdiction cases initiated. In the decade between 1988 and 1997, 342 universal jurisdiction cases were initiated. In the following decade – 1998-2007 – there were 503 such cases. And in the last decade of our data – 2008-2017 – there were 815 new universal jurisdiction cases, which represents a total nearly as high as the two previous decades combined.” Máximo Langer & Mackenzie Eason, *The Quiet Expansion of Universal Jurisdiction*, 30(3) EUR. J. OF INT’L L. 779, 785 (2019), <http://www.ejil.org/pdfs/30/3/2994.pdf>. See also CENTER FOR CONSTITUTIONAL RIGHTS, *Factsheet: Universal Jurisdiction*; <https://ccrjustice.org/home/get-involved/tools-resources/fact-sheets-and-faqs/factsheet-universal-jurisdiction> (last visited Aug. 20, 2023).

<sup>75</sup> Most of the cases have been brought in the Global North, particularly in Europe, but there has also been a positive development in the Global South, particularly in Argentina and South Africa. See THE CLOONEY FOUNDATION FOR JUSTICE *supra* note 68. On November 26, 2021, an Argentinian court opened an investigation into the alleged Rohingya genocide in Myanmar, following a complaint filed by the Burmese Rohingya Organisation UK (BROUK) in 2019. Christine Chaumeau, *Argentina Comes to the Aid of Myanmar Rohingyas*, JUSTICEINFO (Dec. 10, 2021), <https://www.justiceinfo.net/en/85392-argentina-comes-aid-myanmar-rohingyas.html>. In 2014, South Africa’s Supreme Court of Appeal affirmed an earlier ruling that the South African Police Service had failed to carry out their obligation to investigate alleged crimes against humanity in Zimbabwe in a lawsuit brought by the Southern Africa Litigation Center (SALC) and the Zimbabwe Exiles’ Forum (ZEF). Beth Van Schaack, *South Africa Constitutional Court On Universal Jurisdiction: Validating the Obvious*, JUST SECURITY (Nov. 4, 2014), <https://www.justsecurity.org/17012/south-africa-constitutional-court-ruling-zimbabwean-universal-jurisdiction-docket/>.

<sup>76</sup> “In France, Lafarge, a French cement company, is currently being prosecuted for complicity in crimes against humanity for paying millions of dollars to ISIS while it operated a cement plant in Northern Syria between 2012 and 2015 on ISIS-controlled territory. In Sweden, the former CEO and Chairman of the Board of oil giant Lundin Energy have been charged with complicity in international crimes committed by the government of Sudan between 1997 and 2003.” THE CLOONEY FOUNDATION FOR JUSTICE, *supra* note 68, at 2.

<sup>77</sup> At least 26 countries had established such units in 2023. See *id.*

<sup>78</sup> See *id.*

<sup>79</sup> See THE CLOONEY FOUNDATION FOR JUSTICE, *supra* note 68.

The most hospitable forum for prosecuting environmental war crimes depends on numerous factors. First, the extent to which a state has criminalized environmental war crimes or war crimes incidental to wartime environmental destruction domestically is a factor. At a minimum, the state should have criminalized all grave breaches of the Geneva Conventions. The second factor would be the extent to which a legislature has vested its judiciary with jurisdiction over such war crimes and whether any domestic condition to jurisdiction is met. Twenty-five jurisdictions criminalize war crimes domestically, including the European states of Bulgaria, Cyprus, the Czech Republic, Finland, Georgia, Germany, Hungary, Lithuania, North Macedonia, Slovakia, and Sweden, which can exercise absolute jurisdiction over at least some war crimes and are therefore natural starting points for inquiry.<sup>80</sup> The third factor and issue for consideration is the availability of state resources and the state's interest in pursuing investigations and prosecutions of such crimes. Many European countries have already opened investigations into war crimes in Ukraine based on Universal Jurisdiction, including "structural investigations" in Germany, Spain, and Sweden. It, therefore, seems that these state fora are hospitable for prosecuting war crimes, including crimes against the environment in Ukraine.<sup>81</sup> Finally, the availability of evidence or involved parties will also determine whether such cases can be prosecuted successfully in the jurisdiction. More than 15 countries have already set up special units to gather evidence from refugees based in their jurisdictions, including Germany, the Czech Republic, and Sweden, where there is also absolute jurisdiction.<sup>82</sup> In conclusion, it seems there could be a handful of promising forums for prosecuting war crimes based on Universal Jurisdiction. Further inquiry is necessary to determine which states might provide the most ideal forum for the prosecution of environmental war crimes.<sup>83</sup>

### **b) War Crimes under the 1949 Geneva Conventions**

International Humanitarian Law attaches individual criminal responsibility for serious violations of its norms—known as war crimes.<sup>84</sup> Grave breaches under the Geneva Conventions and their Additional Protocol I are considered to be war crimes and all parties have an obligation to prosecute or extradite individuals suspected of such crimes, should such

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<sup>80</sup> *See id.*

<sup>81</sup> *See id.*; Julia Crawford & Thierry Cruvellier, *Phillip Grant: "Ukraine is Accelerating a Revival of Universal Jurisdiction,"* JUSTICEINFO (Nov. 29, 2022),

<https://www.justiceinfo.net/en/109532-philip-grant-ukraine-revival-universal-jurisdiction.html>; Julia Crawford & Thierry Cruvellier, *Ukraine Responds To Warfare With "Lawfare,"* JUSTICEINFO (Mar. 25, 2022), <https://www.justiceinfo.net/en/89266-ukraine-responds-to-warfare-with-lawfare.html>.

<sup>82</sup> *See* Julia Crawford & Thierry Cruvellier, *Phillip Grant: "Ukraine is Accelerating a Revival of Universal Jurisdiction,"* JUSTICEINFO (Nov. 29, 2022),

<https://www.justiceinfo.net/en/109532-philip-grant-ukraine-revival-universal-jurisdiction.html>; Julia Crawford & Thierry Cruvellier, *Ukraine Responds To Warfare With "Lawfare,"* JUSTICEINFO (Mar. 25, 2022), <https://www.justiceinfo.net/en/89266-ukraine-responds-to-warfare-with-lawfare.html>.

<sup>83</sup> *See* THE CLOONEY FOUNDATION FOR JUSTICE *supra* note 68.

<sup>84</sup> *See Protecting the Environment During Armed Conflict - An Inventory and Analysis of International Law*, UNITED NATIONS ENVIRONMENTAL PROGRAM 29 (November 2009),

[https://wedocs.unep.org/bitstream/handle/20.500.11822/7813/-Protecting%20the%20Environment%20During%20Armed%20Conflict\\_An%20Inventory%20and%20Analysis%20of%20International%20Law-2009891.pdf?sequence=3&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/7813/-Protecting%20the%20Environment%20During%20Armed%20Conflict_An%20Inventory%20and%20Analysis%20of%20International%20Law-2009891.pdf?sequence=3&isAllowed=y).

individuals be found on their territory.<sup>85</sup> Grave breaches of each of the Conventions and AP I are explicitly listed in the respective instrument and are only applicable when committed in relation to an international armed conflict.<sup>86</sup> Most relevant to this inquiry are the protections provided against extensive destruction and appropriation of property in GC IV and the prohibitions on indiscriminate attacks and attacks against works or installations containing dangerous forces detailed by AP I.<sup>87</sup>

Article 147 of GC IV does not specify what type of property is covered by this provision, other than pointing to the property that is generally protected under the Fourth Convention, namely civilian hospitals and ambulances, as well as property on occupied territory.<sup>88</sup> However, this provision does not cover the destruction of property on enemy territory and is, therefore, most relevant when the environmental harm has taken place on occupied territory for the purposes of this analysis.<sup>89</sup> AP I Article 85 regulates the general conduct of hostilities, including when it takes place on enemy territory.<sup>90</sup> Given the

<sup>85</sup> See the INTERNATIONAL COMMITTEE OF THE RED CROSS, *How “grave breaches” are defined in the Geneva Conventions and Additional Protocols*, <https://www.icrc.org/en/doc/resources/documents/faq/5zmgf9.html> (last updated June 4, 2004).

<sup>86</sup> See Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (First Geneva Convention) art. 50, 12 Aug 1929, 75 U.N.T.S. 31; Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea (Second Geneva Convention) art. 51, 12 Aug 1929, 75 U.N.T.S. 85; Geneva Convention Relative to the Treatment of Prisoners of War (Third Geneva Convention) art. 130, 12 Aug. 1949, 75 U.N.T.S. 135; Geneva Convention Relative to the Protection of Civilian Persons in Time of War (Fourth Geneva Convention) art. 147, Aug. 12, 1949, 75 U.N.T.S. 287 [hereinafter GC IV]; see AP I *supra* note 55. 2017 Commentary p. 3017.

<sup>87</sup> See GC IV, *supra* note 86, art. 147; see AP I, *supra* note 55. Note that not all war crimes are covered by the Geneva Conventions. Other treaties, like the Rome Statute which is covered below, also criminalize certain violations of international humanitarian law that are not criminalized in the Conventions, or provide different requirements for attaching criminal liability than the Conventions do. Customary IHL also contains war crimes outside of those denoted by the Conventions.

Of most relevance to this inquiry is the crime of wanton destruction. This crime was “specifically enumerated in Article 3(b) of the [1993 ICTY] Statute, which in turn is based on Article 23 of the 1907 Hague Regulations. This provision was restated in Article 6(b) of the Nuremberg Charter and forms part of customary international law.” *Prosecutor v. Radoslav Brđanin*, Case No. IT-99-36-T, Judgment, ¶¶ 592–593 (Int’l Crim. Trib. for the Former Yugoslavia Sept. 1, 2004), <https://www.icty.org/x/cases/brdanin/tjug/en/brd-tj040901e.pdf>. The Tribunal further elaborated on the elements of this customary war crime, requiring that the prosecution prove that:

1. the destruction of property has occurred on a large scale;
2. the destruction was not justified by military necessity; and
3. the perpetrator acted with the intent to destroy the property in question or in reckless disregard of the likelihood of its destruction. *Id.*

However, Universal Jurisdiction for customary war crimes is more limited than that for war crimes specified in the Geneva Conventions. As an example and as mentioned above, Ukraine only allows jurisdiction for crimes that involve the “use of methods of warfare prohibited by international instruments, or any other violations of rules of warfare recognized by international instruments consented to by binding by the Verkhovna Rada (Parliament) of Ukraine, and also giving an order to commit any such actions.” CCU art. 438. As such, customary war crimes will not be covered in this analysis, but it might be worth further developing if the chosen jurisdiction allows for such crimes to be brought. See also *Universal Criminal Jurisdiction in Ukraine*, INSTITUTE FOR WAR AND PEACE REPORTING (Sept. 20, 2022), <https://iwpr.net/global-voices/universal-criminal-jurisdiction-ukraine>.

<sup>88</sup> ICRC, COMMENTARY OF 1958 TO CONVENTION (IV) RELATIVE TO THE PROTECTION OF CIVILIAN PERSONS IN TIME OF WAR 601 (1958), <https://ihl-databases.icrc.org/en/ihl-treaties/gciv-1949/article-147/commentary/1958> [hereinafter COMMENTARY OF 1958].

<sup>89</sup> *Id.*

<sup>90</sup> AP I, *supra* note 55, art. 85.

significantly broader reach of this provision, the applicability of grave breaches under AP I Article 85, is analyzed first. Thereafter, the requirements for finding that a territory is occupied are discussed, and the applicability of the protections for property on occupied territory under Article 147 of GC IV is assessed.

*i) Article 85 of Additional Protocol I*

In accordance with Article 85 of AP I, violations of the laws and customs of war that result in death or serious bodily harm or health are considered grave breaches when they are done willfully in violation of AP I requirements.<sup>91</sup> Both AP I, Art. 85(3)(b) and (c) will be examined here and used in the analysis of the most egregious incidents in Section III. Element 1 of these crimes is distinct, but elements 2, 3, and 4 are common to the two clauses. Therefore, the elements of Art. 85(3)(b) are listed, elements 1 – 4 are examined, then the elements of Art. 85(3)(c) are listed and its distinct element 1 is examined.

The elements constituting a war crime under AP I Article 85(3)(b) include the following:

1. Launching an indiscriminate attack affecting the civilian population or civilian objects;
2. in the knowledge that such an attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;
3. causing death or serious injury to body or health; and
4. the attack was committed willfully.<sup>92</sup>

Element 1 requires that the perpetrator launch an (1) attack that is both (2) indiscriminate and (3) affecting the civilian population or civilian objects. First, an “attack” is defined by Art. 49 as an “ac[t] of violence against the adversary, whether in offence or defence,” in “whatever territory conducted, including the national territory belonging to a Party to the conflict but under the control of an adverse Party.”<sup>93</sup>

Second, AP I Article 51(4) sets forth the prohibition on indiscriminate attacks, also known as the principle of distinction. Indiscriminate attacks are:

- (a) those which are not directed at a specific military objective;
- (b) those which employ a method or means of combat which cannot be directed at a specific military objective; or
- (c) those which employ a method or means of combat the effects of which cannot be limited as required by AP I; and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.<sup>94</sup>

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<sup>91</sup> AP I, *supra* note 55, art. 85.

<sup>92</sup> AP I, *supra* note 55, art. 85(3)(b).

<sup>93</sup> *Id.* art. 49. The commentary to the Geneva Conventions clarifies that “destructive acts undertaken by a belligerent in his own territory would not comply with the definition of attack given in paragraph 1, as such acts, though they may be acts of violence, are not mounted “against the adversary”. *Commentary to Art. 49, para. 1890.*

<sup>94</sup> *Id.* art. 51(4).

Third, AP I Article 50 defines civilians and the civilian population as all persons other than combatants and establishes the presumption of civilian status.<sup>95</sup> In its Judgment in the 2000 Blaškić case, the International Criminal Tribunal for the former Yugoslavia (ICTY) further elaborated that civilians are all “persons who are not, or no longer, members of the armed forces.”<sup>96</sup> AP I Article 52 differentiates between civilian and military objects.<sup>97</sup> Civilian objects are “all objects which are not military objectives” and “military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”<sup>98</sup> Objects usually dedicated to civilian purposes must be presumed to be civilian objects.<sup>99</sup> It is generally also recognized that the natural environment is inherently civilian in character, and therefore protected by the general rules on the conduct of hostilities as long as it has not been made into a military objective.<sup>100</sup>

For AP I Article 85(3)(b) and (c), elements 2, 3, and 4 are common to both articles.<sup>101</sup> Element 2 requires that the attack is launched “in the knowledge that . . . [it] will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated.”<sup>102</sup> The key term to understand in this proportionality equation is “excessive.” IHL does not establish an objective threshold to measure incidental harm against civilians or civilian objects,<sup>103</sup> but some objective guidance can be gleaned from the terminology used in the treaty text.

This proportionality requirement is based on and identical to that defined in Article 57(2)(a)(iii), whose commentary clarifies that the “concrete and direct” military advantage anticipated must be “substantial and relatively close, and that advantages which are hardly perceptible and those which would only appear in the long term should be disregarded.”<sup>104</sup> This choice of language was meant to impose stricter conditions on the proportionality assessment of an attacker than those implied by the general requirements for an objective to

<sup>95</sup> AP I, *supra* note 55, art. 52.

<sup>96</sup> Prosecutor v. Tihomir Blaškić, Case No. IT-95-14-T, Judgment, ¶¶ 751 (Int’l Crim. Trib. for the Former Yugoslavia Mar. 3, 2000), <https://ucr.irmct.org/LegalRef/CMSDocStore/Public/English/Judgement/NotIndexable/IT-95-14/JUD36R0000041169.TIF>.

<sup>97</sup> AP I, *supra* note 55, art. 52.

<sup>98</sup> AP I, *supra* note 55, art. 52(1) & (2).

<sup>99</sup> *Id.* art. 52(3).

<sup>100</sup> See ICRC, GUIDELINES ON THE PROTECTION OF THE NATURAL ENVIRONMENT IN ARMED CONFLICT 19 (2020); Int’l Law Comm’n, Draft principles on protection of the environment in relation to armed conflicts, with commentaries, U.N. Doc. A/77/10, at 144-45 (2022). The International Court of Justice also recognized in its *Nuclear Weapons* Advisory Opinion that “States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.” *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226 ¶ 30 (July 8).

<sup>101</sup> Specifically regarding Element 2, see YVES SANDOZ ET AL., COMMENTARY ON THE ADDITIONAL PROTOCOLS OF 8 JUNE 1977 TO THE GENEVA CONVENTIONS OF 12 AUGUST 1949, ICRC ¶ 3484 (1986) [hereinafter COMMENTARY ON THE ADDITIONAL PROTOCOLS].

<sup>102</sup> AP I, *supra* note 55, art. 85(3)(b) and (c).

<sup>103</sup> *Id.*

<sup>104</sup> COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101, ¶ 2209.

be military.<sup>105</sup> Several States have, however, expressed that the military advantage anticipated must be regarded as a whole, rather than in relation to isolated parts of the attack, and that view is supported and reflected in the Rome Statute of the International Criminal Court.<sup>106</sup> The International Committee of the Red Cross (ICRC) disagrees with this position, positing instead that the advantage must derive from a specific attack or operation, rather than a military campaign as a whole.<sup>107</sup> Second, the advantage must be of a “military” nature, rather than political, economic, or of other non-military nature.<sup>108</sup> Lawful military advantages are those that weaken the military capacity of the other party, and are not otherwise prohibited under IHL.<sup>109</sup> Interpretations by national and international courts, especially the ICTY, provide some further guidance on how a proportionality assessment should be conducted. Courts are clear that this a fact-sensitive case-by-case analysis that must be based on the information available to the attacker at the time.<sup>110</sup> Although a certain level of subjective judgment can be inferred from this, the determination of proportionality must be that of a “reasonable military commander.”<sup>111</sup> Further, where the commander has “refrained from taking feasible precautions in violation of international law...and such precautions would have led to the anticipation of greater civilian collateral damage which then in fact materialized [this is]... relevant for an analysis of the proportionality of an attack.”<sup>112</sup>

<sup>105</sup> *Id.* ¶ 2218.

<sup>106</sup> See ICRC, *Customary IHL Rule 14 Proportionality in Attack*, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule14> (last visited Aug. 19, 2023).

<sup>107</sup> *Id.* ICRC also holds the position that an assessment of excessiveness must also include the foreseeable second- and third-order effects of attack. See also NILS MELZER, ICRC, *INTERNATIONAL HUMANITARIAN LAW — A COMPREHENSIVE INTRODUCTION* 102 (2019). The handbook references attacks against dual-use infrastructure, such as electrical grids or telecommunication networks, as an example. While it may only prevent the enemy from using that infrastructure in the short term, it may have far more severe effect on the medium- and long-term ability of the civilian authorities and medical services to cope with the everyday consequences of war.

<sup>108</sup> *Id.*

<sup>109</sup> See MELZER, *supra* note 107, at 79; COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101, ¶ 2218.

Some States also hold the position that “military advantage” also includes the security of the attacking forces.

See ICRC, *Customary IHL Rule 14 Proportionality in Attack*,

<https://ihl-databases.icrc.org/en/customary-ihl/v1/rule14> (last visited Aug. 19, 2023). There is also some

international and national practice indicating that the military advantage must not be long-term. See

Bundesgerichtshof [BGH][Federal Court of Justice], Oct. 6, 2016, III ZR 140/15, ¶ 50, juris (Ger.)

<http://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&Datum=2016&Seite=23&nr=76401&pos=716&anz=3286&Blank=1.pdf>); ICTY, FINAL REPORT TO THE PROSECUTOR BY THE

COMMITTEE ESTABLISHED TO REVIEW THE NATO BOMBING CAMPAIGN AGAINST THE FEDERAL REPUBLIC OF YUGOSLAVIA

¶¶ 75-79,

<https://www.icty.org/en/press/final-report-prosecutor-committee-established-review-nato-bombing-campaign-against-federal> (last visited Aug 20, 2023) (finding that the intentional bombing of a radio and TV station that was

mainly intended to disable the Serbian military command and control system, but resulted in a high number of

civilian casualties (between ten and seventeen civilians are estimated to have been killed) was not clearly

disproportionate even if NATO realized that the attack would only interrupt communications for a brief period.)

<sup>110</sup> HCJ 769/02 Public Committee Against Torture v. Government, 46 (2006) (Isr.); FINAL REPORT TO THE

PROSECUTOR BY THE COMMITTEE ESTABLISHED TO REVIEW THE NATO BOMBING CAMPAIGN AGAINST THE FEDERAL

REPUBLIC OF YUGOSLAVIA, *supra* note 109, ¶¶ 49-50.

<sup>111</sup> *Id.* at ¶¶ 50-51.

<sup>112</sup> *Id.* at ¶¶ 50-51.

<sup>112</sup> Generalbundesanwalt beim Bundesgerichtshof [GBA] [Office of the Federal Prosecutor] Apr. 16, 2010, 3

BJs 6/10-4, at 65 (Ger.), ICRC Database, *Ermittlungsverfahren gegen Oberst Klein und Hauptfeldwebel W.*

*wegen des Verdachts einer Strafbarkeit nach dem VStGB und anderer Delikte : Einstellung des Verfahrens*

*gemäß § 170 Abs. 2 Satz 1 StPO*,

<https://ihl-databases.icrc.org/en/national-practice/ermittlungsverfahren-gegen-oberst-klein-und-hauptfeldwebel->

In its final report to the ICTY Prosecutor in 2000, the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia argued that “[a]lthough there will be room for argument in close cases, there will be many cases where reasonable military commanders will agree that the injury to non-combatants or the damage to civilian objects was clearly disproportionate to the military advantage gained.”<sup>113</sup> Suggestions of such clearly disproportionate actions include destroying a village to target a soldier who is on leave, leveling a whole urban area to destroy a bridge that is of paramount importance for the occupation of a strategic zone, killing scores of residents and passersby to target a sniper that is shooting from his porch.<sup>114</sup>

As pointed out by the Israeli High Court of Justice, “the hard cases are those which are in the space between the extreme examples.”<sup>115</sup> In these cases, courts are inclined to give the attacker some leeway in their decision-making because, as the German Federal Prosecutor General put it in the *Fuel Tankers* case, “general criteria are not available for the assessment of specific proportionality because unlike legal goods, values and interests are juxtaposed which cannot be balanced.”<sup>116</sup> In that case, the prosecutor closed the case against a German Colonel responsible for an airstrike on two stranded oil tanks in the vicinity of what was assumed to be around 70 Taliban fighters in 2009 that killed at least 91 people, most of whom were civilians,<sup>117</sup> because

[e]ven if the killing of several dozen civilians would have had to be anticipated . . . this would not have been out of proportion to the anticipated military advantages . . . . Considering the particular pressure at the moment when the decision had to be taken, an infringement is only to be assumed in cases of obvious excess where the commander ignored any considerations of proportionality and refrained from acting “honestly”, “reasonably” and “competently” . . . [and] there is no such obvious disproportionality in the present case. Both the destruction of the fuel tankers and the destruction of high-level Taliban had a military importance which is not to be underestimated, not least because of the thereby considerably reduced risk of attacks by the Taliban against own [sic] troops and civilians. There is thus no excess.<sup>118</sup>

Finally, while not binding law, the resolutions of the United Nations Security Council (“UNSC”), where Russia is a permanent member with a veto right, may also provide some

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w-wegen-des-verdachts?activeTab=all-national-practice?title=&typeOfPractice=&state=17906&language=&from=&to=&sort=category&order=&topic=, (last accessed Aug. 21, 2023) [hereinafter GBA, *Fuel Tankers case*].

<sup>113</sup> FINAL REPORT TO THE PROSECUTOR BY THE COMMITTEE ESTABLISHED TO REVIEW THE NATO BOMBING CAMPAIGN AGAINST THE FEDERAL REPUBLIC OF YUGOSLAVIA, *supra* note 109, ¶¶ 50-51.

<sup>114</sup> See HUMAN RIGHTS WATCH, *Legal Standards and the Kosovo Conflict*, [https://www.hrw.org/legacy/reports98/kosovo/Kos9810-11.htm#P1310\\_206219](https://www.hrw.org/legacy/reports98/kosovo/Kos9810-11.htm#P1310_206219) (last visited Aug. 20, 2023); H CJ 769/02 Public Committee Against Torture v. Government, 46 (2006) (Isr.); GBA, *Fuel Tankers case* 63–66 (Ger.).

<sup>115</sup> H CJ 769/02 Public Committee Against Torture v. Government, 46 (2006) (Isr.).

<sup>116</sup> GBA, *Fuel Tankers case* 66 (Ger.).

<sup>117</sup> This decision was later reviewed and affirmed by a regional court in Bonn, and the European Court of Human Rights. See *The Prosecutor v. Colonel Georg Klein*, INT’L CRIMES DATABASE, <https://internationalcrimesdatabase.org/Case/1035/Klein/> (last visited Aug. 20, 2023); *Case of Hanan v. Germany*, Judgement, Eur. Ct. H.R. 2021, Case No. 4871/16.

<sup>118</sup> GBA, *Fuel Tankers case* 66 (Ger.).



guidance on what should be considered disproportionate. In 1998, the UNSC unanimously adopted a resolution where it expressed grave concern for the excessive and indiscriminate use of force being deployed by Serbian security forces and the Yugoslav army.<sup>119</sup> Although the UNSC resolution does not point to a specific attack, it is likely that the resolution is referencing the practice of the Serbian security forces and the Yugoslav army in relation to multiple uses of force between 31 March and 23 September 1998.<sup>120</sup> Of particular note are the actions taken in relation to the major offensive that was launched at the end of May against a series of villages on the Kosovo-Albanian border, apparently to cut off supply routes to the insurgents, for which Human Rights Watch reported a clear pattern of “indiscriminate shelling, excessive force, and the systematic destruction of villages.”<sup>121</sup>

Element 2 also includes a *mens rea* requirement. Unlike in sub-paragraph 3(a), a knowledge requirement is added to the common constitutive elements set out in the opening sentence for sub-paragraph 3(b) and 3(c).<sup>122</sup> Therefore, an attack under either of these two clauses only amounts to a grave breach “if the person committing the act knew with certainty that the described results would ensue, and this would not cover recklessness.”<sup>123</sup> In other words, the perpetrator had to know that the attack would cause disproportionate harm to the civilian population or civilian objects based on the information that was available at the time the attack was launched.<sup>124</sup> To determine such knowledge a court would examine “whether a reasonably well-informed person in the circumstances of the actual perpetrator, making reasonable use of the information available to him or her, could have expected excessive civilian casualties to result from the attack.”<sup>125</sup>

Element 3 requires that the attack results in death or serious injury to body or health. According to the Commentary on the Additional Protocols, “causing death or serious injury to body or health” should be interpreted to mean that “the effect must be such that, even if it does not cause death, it will affect people in a long-lasting or crucial manner, either as regards their physical integrity or their physical and mental health.”<sup>126</sup>

Element 4 requires the attack to be committed willfully. According to the Commentary on the Additional Protocols, willfully denotes that:

<sup>119</sup> S.C. Res. 1199 (Sept. 23, 1998).

<sup>120</sup> The UNSC adopted Resolution 1092 on 31 March, 1998, in relation to the situation in Yugoslavia, which did not reference excessive use of force by military troops.

<sup>121</sup> *Violations in the Yugoslav-Albania Border Region*, HUMAN RIGHTS WATCH, <https://www.hrw.org/legacy/reports98/kosovo/Kos9810-05.htm> (last visited Aug. 19, 2023). While the report acknowledges that there were insurgents present in these villages that were actively taking part in the fighting, it argues persuasively that the practice of shelling whole villages where civilians were present, shooting at fleeing noncombatants, torching houses and shooting livestock to prevent civilians from returning presents a clear example of indiscriminate and excessive use of force. *Id.*

<sup>122</sup> COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101 at ¶ 3479.

<sup>123</sup> *Id.*

<sup>124</sup> *See* COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101 at ¶ 3480 (noting that damage to objects is only mentioned in relation to the state of mind of the person committing the breach, not in relation to the actual consequences of the act).

<sup>125</sup> *Prosecutor v. Stanislav Galić*, Case No. IT-98-29-T, Judgment and Opinion, ¶ 58 (Int’l Crim. Trib. for the Former Yugoslavia Dec. 5, 2003), <https://ucr.irmct.org/LegalRef/CMSDocStore/Public/English/Judgement/NotIndexable/IT-98-29/JUD108R0000083811.TIF>. *See also* JEAN-MARIE HENCKAERTS & LOUISE DOSWALD-BECK, CUSTOMARY INTERNATIONAL HUMANITARIAN LAW 50 (Cambridge/ICRC, vol. 1, 2005); *Customary IHL Rule 11 Indiscriminate Attacks*, ICRC, [https://ihl-databases.icrc.org/en/customary-ihl/v1/rule11#Fn\\_96E03BC0\\_00002](https://ihl-databases.icrc.org/en/customary-ihl/v1/rule11#Fn_96E03BC0_00002) (last visited Aug. 19, 2023).

<sup>126</sup> COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101 at ¶ 3474.

the accused must have acted consciously and with intent, i.e., with his mind on the act and its consequences, and willing them (“criminal intent” or “malice aforethought”); this encompasses the concepts of “wrongful intent” or “recklessness”, viz., the attitude of an agent who, without being certain of a particular result, accepts the possibility of it happening; on the other hand, ordinary negligence or lack of foresight is not covered, i.e., when a man acts without having his mind on the act or its consequences (although failing to take the necessary precautions, particularly failing to seek precise information, constitutes culpable negligence punishable at least by disciplinary sanctions).<sup>127</sup>

The elements constituting a war crime under AP I Article 85(3)(c) include the following:

1. Launching an attack against works or installations containing dangerous forces;
2. in the knowledge that such an attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;
3. causing death or serious injury to body or health; and
4. the attack was committed willfully.<sup>128</sup>

Element 1 of AP I Article 85(3)(c) requires the attack to be launched against works or installations containing dangerous forces. Under Article 56 “[w]orks or installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population.”<sup>129</sup> This protection is also extended to military objectives located in the vicinity of these works or installations if an attack on them would potentially also cause “the release of dangerous forces and consequent severe losses among the civilian population.”<sup>130</sup> This protection is explicitly limited to dams, dykes, or nuclear electrical generating stations.<sup>131</sup>

The works and installations protected under Article 85(3)(c) may lawfully be made an object of attack in one of two ways. First, if the object becomes a military objective, as defined in Article 52, it may be attacked, if such an attack cannot cause severe losses among the civilian population.<sup>132</sup> If such severe losses may occur, the works or installations can only be made the object of attack if they provide “regular, significant and direct support” to military operations and attacking them is “the only feasible way to terminate such support.”<sup>133</sup> The same applies to military objectives located on or in the vicinity of such

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<sup>127</sup> *Id.*

<sup>128</sup> AP I, *supra* note 55, art. 85(3)(c).

<sup>129</sup> *Id.* at art. 56(1).

<sup>130</sup> *Id.*

<sup>131</sup> COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101 at ¶ 3482 n.20.

<sup>132</sup> *Id.* at ¶ 2153.

<sup>133</sup> AP I, *supra* note 55, art. 56(2)(a) and (b). *See also* COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101 at ¶ 2152. It should be noted that Article 56(1) only provides protection against an “attack,” as defined by Article 49 as “acts of violence against the adversary” and extends to works and installations on enemy territory and on the Parties’ own territory that is under the control of the adverse Party. Works and installations on the

works or installations.<sup>134</sup> Finally, even if the protection ceases, and an attack is launched against any works or installation, or a military objective in its vicinity, “all practical precautions shall be taken to avoid the release of the dangerous forces.”<sup>135</sup>

As such, AP I Article 85(3)(b) and (c) are pertinent to the Russian Mass Destruction of the Natural Environment in Ukraine because the environment is considered a civilian object.<sup>136</sup> Further, Russia has made both the Nova Kakhovka Dam and the Zaporizhzhia nuclear plant (works or installations containing dangerous forces) objects of attack.<sup>137</sup> As such, it seems that individual accountability for the grave breaches of AP I via either Article 85(3)(b) or (c) should be further evaluated.

### *ii) Article 147 of the Fourth Convention*

An assessment of the applicability of GC IV, Art. 147 requires numerous steps. Article 147 states that “[g]rave breaches to which the preceding Article relates shall be those involving any of the following acts, if committed against persons or property protected by the present Convention: . . . extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly.”<sup>138</sup> Property protected under the Fourth Convention is defined by various provisions of the Convention, including Articles 18 (civilian hospitals), 21 (civilian hospital transports), 22 (civilian hospital aircrafts), 33 (protection from pillage and reprisals), and 53 (property on occupied territory).<sup>139</sup>

Most relevant to this inquiry, is the protection provided to property on occupied territory under GC IV, Art. 53.<sup>140</sup> Territory is considered occupied when “it is actually placed under the authority of the hostile army. The occupation extends only to the territory where such authority has been established and can be exercised.”<sup>141</sup> Whether the territory is actually placed under the authority of a hostile army is a factual question that depends on whether the hostile army has established effective control over the territory in question.<sup>142</sup> Effective control is exerted when the hostile power has a factual ability to assume *de facto* governmental functions like ensuring public security and law and order, whether or not it

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Parties’ own territory and under its control may be destroyed, removed, or rendered useless. This also applies to an Occupying Power as long as the destruction, removal, or rendering of the works or installations as useless is “rendered absolutely necessary by military operations” as required under GC IV, Article 53, and the Occupying Power ensures that there is no damage to the civilian population.

<sup>134</sup> AP I, *supra* note 55, art. 56(2)(c).

<sup>135</sup> *Id.* at art. 56(3).

<sup>136</sup> See *Environmental War Crimes Guide*, CLIMATE COUNSEL, <https://www.climatecounsel.org/warcrimes> (last visited Aug. 19, 2023).

<sup>137</sup> See *infra* Section III.

<sup>138</sup> GC IV, *supra* note 86, art. 147.

<sup>139</sup> COMMENTARY OF 1958, *supra* note 88, at 597.

<sup>140</sup> GC IV, *supra* note 86, art. 57.

<sup>141</sup> Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, art. 42, Oct. 18, 1907, 205 C.T.S. 277. See also Prosecutor v. Dario Kordić & Mario Čerkez, Case No. IT-95-14/2-T, Judgement, ¶¶ 338-339 (Int’l Crim. Trib. for the Former Yugoslavia Feb. 26, 2001),

<https://ucr.irmct.org/LegalRef/CMSDocStore/Public/English/Judgement/NotIndexable/IT-95-14%232/JUD28R0000031923.TIF> (affirming the customary status of this provision).

<sup>142</sup> See MELZER, *supra* note 107, at 60. See also Prosecutor v. Dario Kordić & Mario Čerkez, *supra* note 141, ¶ 339 (affirming that this is a factual question which must be determined on a case-by-case basis).

chooses to exercise this power, or if it chooses to exercise this power through a local proxy government.<sup>143</sup>

Article 53 of GC IV denotes that “Any destruction by the Occupying Power of real or personal property belonging . . . to private persons, or to the State . . . is prohibited, except where such destruction is rendered absolutely necessary by military operations.”<sup>144</sup> The prohibition only refers to actual destruction by the Occupying Power, and not other types of disposal, such as requisition or confiscation.<sup>145</sup> Such destruction is nonetheless considered lawful when imperative military requirements so demand.<sup>146</sup> It is up to the Occupying Power to determine the military necessity of such an action, but it must interpret the provision in a reasonable manner and with an eye for proportionality between the military advantages and the extent of the damage.<sup>147</sup>

To constitute a grave breach, the destruction by the Occupying Power must be extensive, unlawful, wanton, and not justified by military necessity.<sup>148</sup> To prove the crime of extensive destruction of property on occupied territory as a grave breach of the Geneva Conventions, the prosecution must show that:

1. The property is accorded protection under the Geneva Conventions on account of its location in occupied territory;
2. the destruction occurs on a large scale;
3. the destruction is not justified by military necessity; and
4. The perpetrator acted with the intent to destroy the property in question or in reckless disregard of the likelihood of its destruction.<sup>149</sup>

First, a determination of whether the property was located on occupied territory must therefore be made. As explained above, this is a factual determination of whether the territory was under the effective control of the Occupying Power.<sup>150</sup>

Whether the destruction is extensive or on a large scale is also a factual question to be assessed on a case-by-case basis.<sup>151</sup> Destruction is large-scale either when a large quantity of property has been destroyed or when the value of a single destroyed object is sufficiently

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<sup>143</sup> See MELZER, *supra* note 107.

<sup>144</sup> GC IV, *supra* note 86, art. 53.

<sup>145</sup> See COMMENTARY OF 1958, *supra* note 88, at 301.

<sup>146</sup> *Id.* at 302.

<sup>147</sup> *Id.*

<sup>148</sup> See GC IV, *supra* note 86, art. 147.

<sup>149</sup> Prosecutor v. Dario Kordić & Mario Čerkez, *supra* note 141, ¶ 341.

<sup>150</sup> MELZER, *supra* note 107; Prosecutor v. Dario Kordić & Mario Čerkez, *supra* note 141, ¶ 339 (affirming that this is a factual question that must be determined on a case-by-case basis).

<sup>151</sup> Prosecutor v. Tihomir Blaškić, *supra* note 96, ¶ 157.

great.<sup>152</sup> However, the threshold can be met through a single act or destruction of a single building, like a hospital.<sup>153</sup>

Military necessity permits only those actions which are actually necessary to accomplish a legitimate military purpose, that is to weaken the military capacity of the other party, and are not otherwise prohibited under IHL.<sup>154</sup> In this regard, a party is strictly limited to attacking military objectives, namely “those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”<sup>155</sup> To establish that the destruction was not justified by military necessity, the Prosecution, therefore, must prove not only that the destruction occurred, but also show when and how the destruction occurred, such that the finder of fact may be able to determine whether the property destroyed was a military objective or acceptable collateral damage to the destruction of a military objective at the time.<sup>156</sup> Whether a military advantage can be achieved must be decided from the perspective of the “person contemplating the attack, including the information available to the latter, that the object is being used to make an effective contribution to military action.”<sup>157</sup>

The *mens rea* element of the destruction is established when the Prosecutor has proven that the perpetrator acted “consciously and with intent, i.e., with his mind on the act and its consequences, and willing them” or “acted in reckless disregard of the likelihood of the destruction.”<sup>158</sup>

Case law interpreting this provision primarily focuses on armed forces utilizing a “scorched earth” tactic in their withdrawal to ensure that the advancing enemy can not take advantage of the existing infrastructure<sup>159</sup> or the destruction of civilian dwellings and

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<sup>152</sup> Prosecutor v. Enver Hadžihasanović & Amir Kubura, Case No. IT-01-47-T, Judgement, ¶ 43 (Int’l Crim. Trib. for the Former Yugoslavia Mar. 15, 2006), <https://ucr.irmct.org/LegalRef/CMSDocStore/Public/English/Judgement/NotIndexable/IT-01-47/JUD152R2000224478.pdf>. Note that this analysis was not provided for a violation of GC IV, Article 147, but for a violation of the customary international humanitarian law norm prohibiting wanton destruction of cities, towns or villages not justified by military necessity as specifically enumerated in Article 3(b) of the 1993 ICTY Statute. While the ICTY Trial Chamber specifically declined to analyze whether a distinction should be made between the extensive destruction required by GC IV, Article 147 and the large-scale destruction required under Article 3(b) of the ICTY Statute in the 2005 *Strugar* case Judgment, it found the provisions similar enough in the 2006 Hadžihasanović case Judgment for the Chamber to apply interpretation of one to the other. *See* Prosecutor v. Pavle Strugar, Case No. IT-01-42-T, Judgment, ¶ 294 (Int’l Crim. Trib. for the Former Yugoslavia Jan. 31, 2005),

<https://ucr.irmct.org/LegalRef/CMSDocStore/Public/English/Judgement/NotIndexable/IT-01-42/JUD133R2000184306.pdf>. *But see* Prosecutor v. Enver Hadžihasanović & Amir Kubura, ¶¶ 41-43.

<sup>153</sup> *See* Prosecutor v. Tihomir Blaškić, *supra* note 96, ¶ 157; Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui, Decision on confirmation of charges, Case No. ICC-01/04-01/07, ¶ 314 (ICC Sept. 30, 2008) [https://www.icc-cpi.int/sites/default/files/CourtRecords/CR2008\\_05172.PDF](https://www.icc-cpi.int/sites/default/files/CourtRecords/CR2008_05172.PDF).

<sup>154</sup> MELZER, *supra* note 107, at 79.

<sup>155</sup> AP I, *supra* note 55, art. 52.

<sup>156</sup> Prosecutor v. Milan Martić, Case No. IT-95-11-T, Judgment, ¶ 93 (Int’l Crim. Trib. for the Former Yugoslavia June 12, 2007), <https://ucr.irmct.org/LegalRef/CMSDocStore/Public/English/Judgement/NotIndexable/IT-95-11/JUD172R0000195620.TIF>.

<sup>157</sup> Prosecutor v. Pavle Strugar, *supra* note 152, ¶ 295.

<sup>158</sup> Prosecutor v. Enver Hadžihasanović & Amir Kubura, *supra* note 152, ¶ 40.

<sup>159</sup> *See, e.g.*, United States v. List et al. (The Hostage Case), NMT Case 7, Judgment (United States Military Tribunal at Nuremberg February 19, 1948); General Devastation case (Germany), Judgment, (Oberlandsgericht

livestock as a part of a coordinated ethnic expulsion plan in the former Yugoslavia. In *Blaškic*, the ICTY found that systematic torching of Muslim houses, farms, and stables, and slaughtering of livestock after forces had gained control of the village was extensive, unlawful, and wanton, and was not justified by military necessity, but rather done as a part of a coordinated and discriminatory expulsion plan.<sup>160</sup> Similarly in *Kordić & Čerkez*, the ICTY found wanton and extensive destruction, not justified by military necessity in a multitude of locations where the armed forces systematically targeted and torched Muslim houses, business premises, and restaurants.<sup>161</sup>

If any of the most egregious incidents covered by this paper is found to have taken place on occupied territory, there is reason to further analyze whether GC. IV, Art. 147 might be applicable. In the interest of focusing on those provisions with the broadest applicability, the below analysis in Section III under the Geneva Conventions and AP I will focus solely on AP I, Art. 85.

## 2. Rome Statute

The Rome Statute brought the International Criminal Court (ICC) into existence and serves as a cornerstone of international criminal law in practice. This section examines key components of the Rome Statute, elucidating its provisions that pertain to individual responsibility in instances of environmental devastation. While the ICC primarily focuses on prosecuting individuals for heinous acts such as war crimes, crimes against humanity, and genocide, an emerging concern for the global community has led to the consideration of an additional crime of ecocide which will also be discussed in this section.

Notably, the ICC Office of the Prosecutor is focusing on environmental harm. According to the Office of The Prosecutor’s 2016 Policy Paper on Case Selection and Prioritization, “[t]he manner of commission of the crimes may be assessed in light of, inter alia, . . . crimes committed by means of, or resulting in, the destruction of the environment . . . .”<sup>162</sup> While ICC prosecutors still must prove crimes listed in the Rome Statute, the Policy Paper recognizes that the effects of environmental destruction are as severe as war crimes.<sup>163</sup>

### a) Jurisdiction

The ICC may have jurisdiction over environmental crimes committed in Ukraine if they meet certain criteria. The Court may exercise its jurisdiction over alleged crimes under

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of Dresden March 21, 1947) (Although it appeared that the fire in the factory was accidental, the accused was found guilty of aiding and abetting the factory’s destruction.) The commentary to GC IV, Article 49 notes that “in certain extreme circumstances the Protocol does not rule out a “scorched earth” policy by a retreating belligerent in his own national territory. On the other hand, an Occupying Power cannot act in this way when it is withdrawing from territory under its control.” COMMENTARY OF 1958, *supra* note 88, at 604-05.

<sup>160</sup> Prosecutor v. Tihomir Blaškić, *supra* note 96, ¶¶ 418, 425-26, 510, 544, 548, 557-59, 574-79.

<sup>161</sup> Prosecutor v. Dario Kordić & Mario Čerkez, *supra* note 141, ¶¶ 805-08. However, because the Court did not find that the property was situated on occupied territory, the elements of GC IV, Article 147, were not made out.

<sup>162</sup> INTERNATIONAL CRIMINAL COURT OFFICE OF THE PROSECUTOR, POLICY PAPER ON CASE SELECTION AND PRIORITISATION, 14 (International Criminal Court Office of the Prosecutor, 2016),

[https://www.icc-cpi.int/sites/default/files/itemsDocuments/20160915\\_OTP-Policy\\_Case-Selection\\_Eng.pdf](https://www.icc-cpi.int/sites/default/files/itemsDocuments/20160915_OTP-Policy_Case-Selection_Eng.pdf).

<sup>163</sup> Richard Rogers, *ICL and Environmental Protection Symposium: The Environmental Crisis - Cases for ‘Particular Consideration’ at the ICC*, OPINIO JURIS (June 1, 2020),

<http://opiniojuris.org/2020/06/01/icl-and-environmental-protection-symposium-the-environmental-crisis-cases-for-particular-consideration-at-the-icc/>.

the Rome Statute based on either a State Party referral, a UNSC referral under Chapter VII of the Charter of the United Nations, or initiation by the Office of the Prosecutor under Article 15.<sup>164</sup> When the crime is referred by a State Party or the Office of the Prosecutor has independently initiated an investigation, the Court can only exercise jurisdiction when the alleged crime was committed by a State Party, on the territory of a State Party, or in some cases where a State has accepted jurisdiction under Article 12(3).<sup>165</sup> Neither Ukraine nor Russia is a State Party to the Rome Statute.<sup>166</sup> The Russian Federation signed the Rome Statute in September 2000 but in November of 2016 announced its intention not to become a State Party.<sup>167</sup> Ukraine signed the Rome Statute in January 2000 but has not ratified it.<sup>168</sup> However, in 2014, Ukraine accepted the jurisdiction of the ICC over crimes committed on its territory from 21 November 2013 onwards.<sup>169</sup> Additionally, the ICC may have jurisdiction over crimes outside of this date range committed in Ukraine if they are referred by the UNSC.<sup>170</sup>

In March 2022, the ICC Prosecutor opened an investigation into the “Situation in Ukraine” based on a preliminary investigation and numerous referrals by States Parties.<sup>171</sup> In March 2023, the ICC Pre-Trial Chamber II issued arrest warrants for Vladimir Putin and Maria Lvova-Belova for the war crime of unlawful deportation and transfer of children from occupied areas of Ukraine to the Russian Federation.<sup>172</sup> Included in this investigation is the mass destruction of the environment in Ukraine, specifically, the Nova Kakhovka Dam breach.<sup>173</sup>

## b) War Crimes

Article 8 of the Rome Statute governs war crimes, which entail grave breaches of the 1949 Geneva Conventions and other serious violations of the laws and customs applicable in international armed conflict, as well as serious violations of Article 3 common to all four Geneva Conventions and other serious violations of the laws and customs applicable in armed conflicts not of an international character.<sup>174</sup> Depending on the nature of the

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<sup>164</sup> Rome Statute of the International Criminal Court art. 13, July 17, 1998, 2187 U.N.T.S. 3 [hereinafter Rome Statute].

<sup>165</sup> *Id.* art. 12.

<sup>166</sup> INTERNATIONAL CRIMINAL COURT OFFICE OF THE PROSECUTOR, *supra* note 162.

<sup>167</sup> *Id.* n. 9.

<sup>168</sup> On reasons behind the ratification resistance, *see, e.g.*, Aloka Wanigasuriya, *After all this time, why has Ukraine not ratified the Rome Statute of the International Criminal Court?*, JUSTICE IN CONFLICT (Mar. 14, 2022), <https://justiceinconflict.org/2022/03/14/after-all-this-time-why-has-ukraine-not-ratified-the-rome-statute-of-the-international-criminal-court>.

<sup>169</sup> *See Ukraine*, INT’L CRIM. CRT., <https://www.icc-cpi.int/situations/ukraine> (last visited Aug. 20, 2023).

<sup>170</sup> *See Rome Statute* art. 12(2); 13.

<sup>171</sup> *Ukraine*, *supra* note 169.

<sup>172</sup> *Situation in Ukraine: ICC judges issue arrest warrants against Vladimir Vladimirovich Putin and Maria Alekseyevna Lvova-Belova*, INT’L CRIM. CT. (Mar. 17, 2023), <https://www.icc-cpi.int/news/situation-ukraine-icc-judges-issue-arrest-warrants-against-vladimir-vladimirovich-putin-and>.

<sup>173</sup> *Ukraine’s Zelenskiy: Work has started on international investigation of dam breach*, REUTERS (June 11, 2023, 4:04 PM), <https://www.reuters.com/world/europe/ukraines-zelenskiy-work-has-started-international-investigation-dam-breach-2023-06-11>.

<sup>174</sup> *See supra* Section II(b)(1).

environmental harm, it may implicate numerous war crimes under Article 8. Among these, the unlawful, wanton, and extensive destruction or appropriation of property not justified by military necessity,<sup>175</sup> deliberately attacking non-military objects,<sup>176</sup> initiating an attack knowing it will cause disproportionate civilian damage or long-term environmental harm,<sup>177</sup> and pillaging towns.<sup>178</sup>

Most relevant to this inquiry is the war crime set out in Article 8(2)(b)(iv) of the Rome Statute that explicitly protects the natural environment.<sup>179</sup> The elements of Article 8(2)(b)(iv) provided by the ICC’s Elements of Crimes include the following:

1. The perpetrator launched an attack.
2. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.
3. The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.
4. The conduct took place in the context of and was associated with an international armed conflict.
5. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.<sup>180</sup>

While Article 8(2)(b)(iv) provides protections for damage to the natural environment, Article 8(2)(b)(ii) addresses only direct attacks against civilian objects.<sup>181</sup> While the environment may be described as a civilian object, consistent with IHL,<sup>182</sup> only Article 8(2)(b)(iv) provides such explicit environmental protection.<sup>183</sup>

Article 8(2)(b)(iv) has been criticized for the high threshold that a prosecutor must meet and for an outdated understanding of the key terms “widespread, long-term and severe” damage.<sup>184</sup> Article 8(2)(b)(iv) requires intent (*dolus directus*) or constructive intent (*dolus*

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<sup>175</sup> Rome Statute art. 8(2)(a)(iv).

<sup>176</sup> *Id.* art. 8(2)(b)(ii).

<sup>177</sup> *Id.* art. 8(2)(b)(iv).

<sup>178</sup> *Id.* art. 8(2)(b)(xvi).

<sup>179</sup> ELEMENTS OF CRIMES, INT’L CRIM. CT. art. 8(2)(b)(iv) note 12, <https://www.icc-cpi.int/sites/default/files/Publications/Elements-of-Crimes.pdf> (last visited Aug. 19, 2023).

<sup>180</sup> *Id.*

<sup>181</sup> Rome Statute art. 8(2)(b)(ii).

<sup>182</sup> *Environmental War Crimes Guide*, *supra* note 136, at 10; 20.

<sup>183</sup> *Id.*

<sup>184</sup> Jessica Lawrence & Kevin Heller, *The First Ecocentric Environmental War Crime: The Limits of Article 8(2)(b)(iv) of the Rome Statute*, 20 GEO. INT’L ENV’T L. REV. 61 (2007). There have been several proposed solutions to address shortcomings of Article 8(2)(b)(iv), including:

1. Supplementing the Article with a clear definition of what qualifies as “widespread, long-term and severe damage”;
2. Lowering the Article’s standard for finding an attack disproportionate;
3. Making the Article’s mens rea more objective; and



*eventualis*).<sup>185</sup> However, a problem that prosecutors may face is that this Article's mens rea is somewhat subjective in nature. Footnote 37 of the Elements of Crimes explains: "[T]his knowledge element requires that the perpetrator make the value judgment [that such death, injury or damage would be of such an [sic] extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated]. An evaluation of that value judgment must be based on the requisite information available to the perpetrator at the time."<sup>186</sup> As mentioned above, a court will give substantial deference to the judgment of the attacker, as long as they act as a reasonable military commander would and the attack is not patently excessive, making it hard for a prosecutor to meet their burden on this element of Article 8(2)(b)(iv).<sup>187</sup>

Climate Counsel provides examples of facts that might fit under Article 8(2)(b)(iv), including "the use of 'agent orange' by US forces in the Vietnam War and the burning of Kuwaiti oil fields by Iraqi forces in the First Gulf War."<sup>188</sup> The high threshold of Article 8(2)(b)(iv) may not allow battlefield damage incidental to conventional war to fall within the scope of environmental damage because environmental damage caused by a military attack cannot be readily quantified.<sup>189</sup> Notably, the ICTY's report on NATO's bombing campaign in Kosovo found that damage caused by heavy shelling would likely not fulfill the Article 8(2)(b)(iv) threshold.<sup>190</sup>

Some scholars suggest that the only way Article 8(2)(b)(iv)'s high threshold is likely to be met is by a particular means of warfare, specifically nuclear weapons.<sup>191</sup> The use of nuclear weapons and the resulting fallout would certainly cause a long-term impact on the environment, covering very large areas, and last for many years.<sup>192</sup> The intentional use of nuclear weapons would almost always fulfill the requirements of Article 8(2)(b)(iv).<sup>193</sup>

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#### 4. Making the Article applicable to internal armed conflicts.

These changes would certainly be met with resistance, especially if they also affected Article 8(2)(b)(iv)'s proportionality standard. However, such changes are necessary to address the many limitations of Article 8(2)(b)(iv) and provide real protection against wartime environmental damage.

<sup>185</sup> Rogier Bartels, *Dealing with the Principle of Proportionality in Armed Conflict in Retrospect: The Application of the Principle in International Criminal Trials*, 46 ISR. L. REV. 271 (2013).

<sup>186</sup> ELEMENTS OF CRIMES, *supra* note 179, art. 8(2)(b)(iv) n. 12.

<sup>187</sup> *Id.* See *supra* notes 124–125.

<sup>188</sup> *Environmental War Crimes Guide*, *supra* note 136, at 20.

<sup>189</sup> Lawrence & Heller, *supra* note 184, at 16–17. *But see* Julian Wyatt, *Law-making at the intersection of international environmental, humanitarian and criminal law: the issue of damage to the environment in international armed conflict*, 92 INT'L REV. OF THE RED CROSS 593, 641 (2010) ("Viewed in the context of the present state of international environmental law, therefore, the criminalization of wartime environmental damage, far from not going far enough, may actually seem to have gone too far. Is it really right, from a legal policy point of view that the crew of a ship that disgorges toxic waste into the high seas, or the director of a company that takes the decision to pollute an international watercourse, should not necessarily be sent to prison, while a military commander, whose *raison d'être* is to inflict harm on his enemies, may end up spending time in prison on the basis of the incidental environmental harm that his military activities caused?").

<sup>190</sup> *Id.*

<sup>191</sup> Bartels, *supra* note 185.

<sup>192</sup> *Id.*

<sup>193</sup> *Id.*

### c) Crimes Against Humanity

At the ICC, crimes against humanity, which are not recognized by the Criminal Code of Ukraine, are governed by Article 7 of the Rome Statute.<sup>194</sup> The provision does not reference the natural environment.<sup>195</sup> Crimes against humanity under Article 7 have a *chapeau* requirement and must be committed as “part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack.”<sup>196</sup>

Because crimes against humanity are not limited to armed conflicts, it creates an additional venue for attaching criminal liability to environmental destruction.<sup>197</sup> While environmental degradation is not mentioned in Article 7, environmental degradation, especially the depletion of natural resources essential to a population’s survival, could implicate Article 7(1)(d), the “deportation or forcible transfer of a population.”<sup>198</sup> Additionally, environmental degradation may fit within the category of “other inhumane acts” under Article 7(1)(k).<sup>199</sup> There are two requirements under this section.<sup>200</sup> First, the inhumane act must cause “great suffering, or serious injury to body or physical health.”<sup>201</sup> Instances of environmental degradation, like extremely high levels of poisoning from heavy metals, may satisfy this requirement.<sup>202</sup> Next, the harm must be “of a similar character” to other acts listed in Article 7.<sup>203</sup> The harms associated with environmental degradation, like poisoning, may be similar to other Article 7 acts.<sup>204</sup> While crimes under Article 7 require intent, this may be shown with knowledge of substantial certainty of harm that would occur from the environmental degradation.<sup>205</sup> Therefore, the ICC may have jurisdiction over environmental damage in Ukraine if such acts are committed in the context of crimes against humanity.<sup>206</sup>

### d) Genocide

At the ICC, genocide is governed by Article 6 of the Rome Statute.<sup>207</sup> Genocide can be proven by showing genocidal intent coupled with any of the acts listed in the provision.<sup>208</sup>

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<sup>194</sup> ELEMENTS OF CRIMES, *supra* note 179, art. 7. See also Kristina Kolchynska, *Crimes against humanity in Ukraine: Distinction from war crimes and challenges in bringing perpetrators to accountability*, LEXOLOGY (Apr. 19, 2023), <https://www.lexology.com/library/detail.aspx?g=615d8eba-5a33-47e8-acb6-3a3be3ca353c>.

<sup>195</sup> *Id.*

<sup>196</sup> *Protecting the Environment During Armed Conflict - An Inventory and Analysis of International Law*, *supra* note 84, at 31.

<sup>197</sup> *Id.*

<sup>198</sup> *Id.*

<sup>199</sup> Darryl Robinson, *ICL and Environmental Protection Symposium: Environmental Crimes Against Humanity*, OPINIO JURIS (June 2, 2020), <http://opiniojuris.org/2020/06/02/icl-and-environmental-protection-symposium-environmental-crimes-against-humanity/>.

<sup>200</sup> *Id.*

<sup>201</sup> *Id.*

<sup>202</sup> *Id.*

<sup>203</sup> ELEMENTS OF CRIMES, *supra* note 179, art. 7(1)(k).

<sup>204</sup> Rogers, *supra* note 163.

<sup>205</sup> *Id.*

<sup>206</sup> *Environmental War Crimes Guide*, *supra* note 136, at 10.

<sup>207</sup> Rome Statute art. 6.

<sup>208</sup> *Id.*

This provision does not explicitly mention the natural environment,<sup>209</sup> but environmental destruction may be prosecuted as an underlying act of genocide.<sup>210</sup> First, environmental destruction may be an underlying act of genocide under Article 6(b), genocide by causing serious bodily or mental harm to members of a group.<sup>211</sup> Second, environmental degradation may be an underlying act of Article 6(c), genocide by deliberately inflicting conditions of life calculated to bring about physical destruction in whole or in part.<sup>212</sup>

Case law supports using environmental degradation as an underlying act of genocide. In fact, an ICC prosecutor explored using environmental degradation as an underlying act of Article 6(c) genocide against Sudanese President Omar Al-Bashir.<sup>213</sup> After destroying the means of survival of the Masalit and Zaghawa ethnic groups by poisoning sources of water, such as communal wells, destroying water pumps, and stealing livestock, the ICC Prosecutor included genocide under Article 6(c) in his Application for a Warrant of Arrest against President Omar Al-Bashir, arguing that the environmental degradation was an underlying act of genocide.<sup>214</sup> While a majority of judges dismissed the charge of genocide against President Omar Al-Bashir, the judges did not deny that environmental degradation could be an underlying act of genocide.<sup>215</sup> Rather, the judges dismissed the charge of genocide because they questioned whether poisoning the wells was a core feature of the attacks.<sup>216</sup> In a dissenting opinion attached to President Omar Al-Bashir’s arrest warrant, Judge Usacka accepted the Prosecutor’s argument that the environmental destruction and deprivation of the population’s means of survival was an act underlying genocide based on Article 6(c).<sup>217</sup> Therefore, the ICC may have jurisdiction over the environmental degradation in Ukraine as an act underlying the crime of genocide.<sup>218</sup>

#### e) Proposed Crime of Ecocide

While there are international, regional, and domestic laws to protect the environment, they are arguably inadequate in addressing the mass destruction of the environment.<sup>219</sup> For this reason, the Independent Expert Panel for the Legal Definition of Ecocide (“the IEP”), a panel of twelve lawyers from around the world, proposed a definition of the crime of ecocide in order to criminalize mass environmental destruction in an effort to prevent future

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<sup>209</sup> ELEMENTS OF CRIMES, *supra* note 179, art. 6.

<sup>210</sup> *Protecting the Environment During Armed Conflict - An Inventory and Analysis of International Law*, *supra* note 84, at 30.

<sup>211</sup> *Id.*

<sup>212</sup> *Id.*

<sup>213</sup> *Id.*

<sup>214</sup> *Id.*

<sup>215</sup> *Id.*

<sup>216</sup> *Id.*

<sup>217</sup> *Id.* at 32.

<sup>218</sup> *See generally The Russian Federation’s Escalating Commission of Genocide in Ukraine: A Legal Analysis*, NEWLINES INSTITUTE (July 2023),

[https://newlinesinstitute.org/wp-content/uploads/20230726-Genocide-Ukraine-Report-NISLAP\\_.pdf](https://newlinesinstitute.org/wp-content/uploads/20230726-Genocide-Ukraine-Report-NISLAP_.pdf) (discussing Russia’s potential state responsibility for genocide in Ukraine under the Genocide Convention).

<sup>219</sup> Josie Fischels, *How 165 Words Could Make Mass Environmental Destruction An International Crime*, NATIONAL PUBLIC RADIO (June 27, 2021),

<https://www.npr.org/2021/06/27/1010402568/ecocide-environment-destruction-international-crime-criminal-court>.

environmental disasters.<sup>220</sup> Unlike other international crimes, direct human harm is not a prerequisite to prosecution.<sup>221</sup> While there are elements of human harm incorporated within the definition of ecocide, the crime extends to damage to ecosystems.<sup>222</sup>

To respond to the need for more international protection of the environment, the IEP met for six months to develop a practical and effective definition of the crime of ecocide.<sup>223</sup> The IEP members used their own expertise in criminal, environmental, and climate law to develop the proposed crime of ecocide.<sup>224</sup> Additionally, the IEP consulted with outside experts and the public to incorporate ideas from legal, economic, political, youth, faith, and indigenous perspectives into their work.<sup>225</sup> The IEP developed the definition in hopes that it would be included in the Rome Statute, which would add the new crime of ecocide to international criminal law.<sup>226</sup> The proposed crime of ecocide would build on the existing international crime of severe damage to the environment during armed conflict while reflecting that most environmental degradation, such as deforestation, occurs during times of peace.<sup>227</sup> With this definition, individual acts causing severe environmental damage during times of peace would now be within the jurisdiction of the ICC.<sup>228</sup>

This analysis builds on the IEP's definition of ecocide and consists of the following elements:

- a. Unlawful or wanton acts
- b. committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts.

Where:

- a. "Wanton" means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated;
- b. "Severe" means damage which involves very serious adverse changes, disruption or harm to any element of the environment, including grave impacts on human life or natural, cultural or economic resources;
- c. "Widespread" means damage which extends beyond a limited geographic area, crosses state boundaries, or is suffered by an entire ecosystem or species or a large number of human beings;
- d. "Long-term" means damage which is irreversible or which cannot be redressed through natural recovery within a reasonable period of time;
- e. "Environment" means the earth, its biosphere, cryosphere, lithosphere, hydrosphere and atmosphere, as well as outer space.<sup>229</sup>

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<sup>220</sup> *Id.*

<sup>221</sup> *Id.*

<sup>222</sup> *Id.*

<sup>223</sup> *Independent Expert Panel for the Legal Definition of Ecocide, Commentary and Core Text*, STOP ECOCIDE FOUNDATION 2 (2021),

<https://static1.squarespace.com/static/5ca2608ab914493c64ef1f6d/t/60d7479cf8e7e5461534dd07/1624721314430/SE+Foundation+Commentary+and+core+text+revised+%281%29>.

<sup>224</sup> *Id.*

<sup>225</sup> *Id.*

<sup>226</sup> *Id.* at 3.

<sup>227</sup> *Id.*

<sup>228</sup> *Id.*

<sup>229</sup> *Id.* at 5.

In this definition of ecocide, there are two thresholds of prohibited conduct.<sup>230</sup> First, there must be a substantial likelihood that the act or omission will result in severe and either widespread or long-term damage to the environment.<sup>231</sup> Because this threshold may capture conduct that is legal, socially beneficial, and responsibly conducted to minimize its environmental impact while still causing severe environmental damage, the IEP included the second threshold, requiring the conduct to be unlawful or wanton.<sup>232</sup> This second threshold uses the concept of sustainable development to balance the social and economic benefits of the conduct with the environmental harm caused by that conduct.<sup>233</sup> This allows legitimate development while prohibiting acts that are illegal under both international and national laws.<sup>234</sup>

Rather than relying on the *mens rea* default provided in Rome Statute Article 30, the IEP proposes a *mens rea* of recklessness, capturing actors that are aware of the substantial likelihood that their acts or omissions could cause a high likelihood of severe and either widespread or long-term damage to the environment.<sup>235</sup> Lastly, this proposed crime is a crime of endangerment.<sup>236</sup> Rather than attaching to a material result, this crime attaches to the creation of a dangerous situation.<sup>237</sup>

There are several key arguments for adopting the international crime of ecocide. First, adopting this definition of ecocide would create international accountability for environmental degradation.<sup>238</sup> This proposed crime would expand the possibility of prosecution for significant environmental harm beyond the context of armed conflict, allowing prosecutors to hold actors accountable for oil spills, deforestation, land contamination, and pollution.<sup>239</sup> The adoption of this statute may also create a deterrence effect for business owners, politicians, and financiers who want to avoid being classed in the same category as war criminals.<sup>240</sup> Additionally, while the ICC is constrained by its jurisdiction, State Parties to the Rome Statute that ratify the crime of ecocide may pursue prosecutions under their own domestic law, potentially expanding accountability.<sup>241</sup> Furthermore, the criminalization of ecocide would have symbolic importance by indicating that the international community views environmental destruction as a serious crime.<sup>242</sup> Because humanity has grown acutely aware of its ability to severely damage the environment, there is an incentive for the global community to adopt the criminalization of

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<sup>230</sup> *Id.* at 7.

<sup>231</sup> *Id.*

<sup>232</sup> *Id.*

<sup>233</sup> *Id.*

<sup>234</sup> *Id.*

<sup>235</sup> *Id.* at 11.

<sup>236</sup> *Id.* at 12.

<sup>237</sup> *Id.*

<sup>238</sup> Rachel Killean, *The Benefits, Challenges, and Limitations of Criminalizing Ecocide*, GLOBAL OBSERVATORY (Mar. 30, 2022),

<https://theglobalobservatory.org/2022/03/the-benefits-challenges-and-limitations-of-criminalizing-ecocide>.

<sup>239</sup> *Id.*

<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

<sup>242</sup> *Id.*

ecocide.<sup>243</sup> Adopting the crime of ecocide is a low-cost political action that governments can take as pressure increases on the global community to combat environmental degradation.<sup>244</sup>

### 3. Ad Hoc Tribunal

A third option for holding individuals responsible for international crimes is through the creation of an ad hoc or “special” tribunal. An ad hoc tribunal is a temporary court or judicial body established for a specific purpose or to address a particular set of legal issues. Ad hoc tribunals are typically created when existing institutions, whether national or international, are unable or unwilling to address the crimes at issue. The first modern international criminal tribunals were the Nuremberg Trials and the Tokyo War Crimes Trials, held after World War II. Since the early 1990s, additional ad hoc tribunals have been created for international crimes committed in the former Yugoslavia, Rwanda, Sierra Leone, Cambodia, Lebanon, and Chad.

Historically, ad hoc tribunals have been established through different procedures. The International Criminal Tribunal for the former Yugoslavia (ICTY) and the International Criminal Tribunal for Rwanda (ICTR) were established via United Nations Security Council (UNSC) resolutions<sup>245</sup> under their Chapter VII authority to act in order to maintain or restore international peace and security.<sup>246</sup> Alternatively, the Special Court for Sierra Leone (SCSL) was not created by the UNSC but rather by the UN General Assembly (UNGA). While there was a UNSC resolution (notably not invoking Chapter VII) requesting the Secretary-General to negotiate an agreement between the UN and the Government of Sierra Leone, the SCSL was not created by the Security Council; instead, it was created by a bilateral agreement between Sierra Leone and the UN following authorized negotiations.<sup>247</sup> Similarly, the Extraordinary Chambers in the Courts of Cambodia (ECCC) was a special tribunal established by a bilateral agreement between the government of Cambodia and the UN outside of the UNSC.<sup>248</sup> Another alternative procedure was used to establish the Extraordinary African Chambers, a hybrid court created to prosecute Hissène Habré, the former president of Chad. In that case, the African Union, a regional body, entered into an agreement with the government of Senegal to create the Court.<sup>249</sup> Finally, the Kosovo Specialist Chambers were established by an exchange of letters between the President of Kosovo and the EU High Representative for Foreign Affairs/Vice President of the Commission.<sup>250</sup>

Although the historical record demonstrates that various paths have been successfully followed to create ad hoc tribunals, the likelihood of a special court being established to prosecute environmental crimes in Ukraine is probably low. Generally, the process of

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<sup>243</sup> Gillett, *supra* note 12.

<sup>244</sup> *Id.*

<sup>245</sup> S.C. Res. 827 (1993); S.C. Res. 955 (1994).

<sup>246</sup> U.N. Charter, arts. 39-41.

<sup>247</sup> Ukraine Accountability Project, *Considerations for the Setting up of the Special Tribunal for Ukraine on the Crime of Aggression* 26-27, GLOBAL ACCOUNTABILITY NETWORK (July 2022).

<sup>248</sup> *Introduction to the ECCC*, EXTRAORDINARY CHAMBERS IN THE COURTS OF CAMBODIA, <https://www.eccc.gov.kh/en/introduction-eccc> (last visited Aug. 19, 2023).

<sup>249</sup> *Statute of the Extraordinary African Chambers*, HUMAN RIGHTS WATCH (Sept. 2, 2023), <https://www.hrw.org/news/2013/09/02/statute-extraordinary-african-chambers>.

<sup>250</sup> *See, e.g., Considerations for the Setting up of the Special Tribunal for Ukraine on the Crime of Aggression*, *supra* note 247, at 18.

establishing a new international criminal court or amending existing frameworks is complex and requires significant international consensus and political will. These obstacles are apparent with respect to efforts by some in the international community to establish a Special Tribunal for Ukraine on the Crime of Aggression. While environmental crimes are distinct from the crime of aggression, the current roadblocks to establishing an aggression-specific tribunal can be instructive here. In the aggression context, there is no possibility of establishing a tribunal via a UNSC resolution, as Russia is a permanent member that wields veto power. Moreover, calls for the UNGA to authorize negotiations between the UN Secretary-General, as well as calls for a regional body such as the European Union to establish a tribunal have yet to muster the necessary political will. Moreover, the prospect of establishing an ad hoc tribunal for crimes against the natural environment faces additional obstacles. Unlike the crime of aggression, other courts do have the ability (and perhaps even the willingness) to address certain environmental crimes, as discussed elsewhere in this paper. When the ICC, for example, does have jurisdiction over such crimes, it seems very unlikely that the international community would expend significant time, resources, and political capital to create this special court.

### III. MOST EGREGIOUS INCIDENTS

Most Egregious Incidents (MEIs) are alleged violations of Ukrainian domestic law or international law as defined by the Geneva Conventions, the Rome Statute, and the proposed crime of ecocide. All MEIs share certain characteristics and go through a strict elemental test. Our goal is not to exhaustively analyze each element, but rather to facilitate discussion around their interpretation.

Only MEIs committed on Ukrainian soil since Russia's full-scale invasion on 24 February 2022 were considered for this paper, and those below are non-exhaustive.<sup>251</sup> The MEIs examined below address egregious crimes against the natural environment and cases of ecocide: including the destruction of Ukrainian critical infrastructure and urban areas, including the Nova Kakhovka Dam breach and the attack on the Azovstal Steel Plant. MEIs include attacks on and destruction of industrial sites, specifically, the Sievierodonetsk "Azot" chemical plant and the Zaporizhzhia Nuclear Power Plant. MEIs also include the attacks on and destruction of fuel infrastructure, specifically the attack on the Kalynivka Oil Depot. The planting of landmines and unexploded ordinances across Eastern Ukraine is examined.

While some incidents are examined as crimes independently, such as the Nova Kakhovka Dam breach or the Zaporizhzhia Nuclear Power Plant attack, others are included as representative crimes of a larger scheme, that when taken together, may amount to the crime analyzed. Each of these MEIs poses unique threats to Ukraine's military, civilians, animals, organisms, and ecology; and carries immediate and long-term risks that jeopardize individual, state, and global interests regarding the economy, agriculture, environment, health, and security of the region.

#### A. Nova Kakhovka Dam

On 6 June 2023, the Nova Kakhovka Dam and hydroelectric plant, located on the Dnipro River in the Kherson Oblast, were destroyed.<sup>252</sup> Evidence has pointed toward an explosion early in the morning that led to its collapse. Norsar, the Norwegian Seismic Array, detected seismic data signals from a regional station in Romania which indicated an explosion at 2:54 AM.<sup>253</sup> In addition, residents in the vicinity of the hydroelectric plant reported on social media hearing a major explosion at approximately the same time identified by Norsar.<sup>254</sup>

According to experts, an internal explosion is the likeliest cause of the dam's destruction.<sup>255</sup> Ihor Syrota, head of Ukrhydroenergo, the Ukrainian state's hydroelectric company, identified the structure as being designed to withstand the external force of an

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<sup>251</sup> See e.g. Natalia Zinets & Aleksandar Vasovic, *Missiles rain down around Ukraine*, REUTERS (Feb. 23, 2022), <https://www.reuters.com/world/europe/putin-orders-military-operations-ukraine-demands-kyiv-forces-surrender-2022-02-24>.

<sup>252</sup> Julian Borger & Pjotr Sauer, *Seismic Data Adds to Evidence Ukraine's Kakhovka Dam was Blown Up*, THE GUARDIAN (June 9, 2023), <https://www.theguardian.com/world/2023/jun/09/seismic-data-adds-evidence-ukraine-kakhovka-dam-blown-up>.

<sup>253</sup> *Id.*

<sup>254</sup> *Id.*

<sup>255</sup> James Glanz, Marc Santora, & Richard Pérez-Peña, *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE NEW YORK TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.



atomic bomb.<sup>256</sup> A blast from inside of the structure would have had the most damaging impact.<sup>257</sup> After more than a year of intense fighting in the region, the Dam had already sustained some damage, but it is unlikely that the Dam's breakdown could be entirely attributed to the damage it sustained during the war.<sup>258</sup> At the time of its destruction, Russian forces were in control of the Dam.<sup>259</sup>

The Nova Kakhovka Dam's destruction has had a devastating impact on the surrounding communities and environment.<sup>260</sup> The Dam, which served as the sixth and southernmost structure in the Dnipro River Cascade, a series of dams and hydroelectric plants constructed in the 1950s on the Dnipro River, created the largest reservoir of water in Ukraine in terms of volume prior to its destruction.<sup>261</sup> The reservoir created by the Dam had been deemed a critical water source for millions of people in Kherson as well as the Dnipro and Zaporizhzhia regions.<sup>262</sup> The water of the reservoir was key in agricultural irrigation for much of southern Kherson and the Crimean peninsula.<sup>263</sup> According to the Ukrainian Agricultural Ministry, the Dam's collapse has left 94% of irrigation systems in the Kherson region without water.<sup>264</sup> Also, 74% of irrigation systems in the Zaporizhzhia region and 30% of irrigation systems in the Dnipro region have been left without a source of water since the Dam's destruction.<sup>265</sup> The breach has also led to catastrophic flooding of both agricultural land and civilian infrastructure.<sup>266</sup>

The final death toll is still unknown but has been confirmed at over 100 people per both Ukrainian and Russian officials.<sup>267</sup> The flooding has severely affected 17,000 people and will potentially impact more than 42,000.<sup>268</sup> In southern Ukraine, at least 28 towns and villages have been put under a state of emergency due to the flooding.<sup>269</sup> Between 35 and 80 settlements are expected to be impacted by the flooding.<sup>270</sup> Thousands have already been displaced due to the destruction with many being evacuated out of safety concerns.<sup>271</sup> The flooding has also brought concerns of displaced landmines being spread into areas once deemed safe.<sup>272</sup>

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<sup>256</sup> *Id.*

<sup>257</sup> *Id.*

<sup>258</sup> *Id.*

<sup>259</sup> *Id.*

<sup>260</sup> *Id.*

<sup>261</sup> Josh Pennington, et al., *Collapse of Ukraine's Nova Kakhovka Dam an 'Ecological Catastrophe'*, CNN WORLD (June 7, 2023),

<https://www.cnn.com/2023/06/07/europe/ukraine-nova-kakhovka-dam-environment-damage-intl-hnk/index.html>.

<sup>262</sup> *Id.*

<sup>263</sup> *Id.*

<sup>264</sup> *Id.*

<sup>265</sup> *Id.*

<sup>266</sup> *Floods in Ukraine: Destruction of Kakhovka Dam will Impact Thousands*, UN OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS (June 13, 2023),

<https://reliefweb.int/report/ukraine/floods-ukraine-destruction-kakhovka-dam-will-impact-thousands>.

<sup>267</sup> Elizabeth Wolfe, et al., *June 28, 2023 — Russia-Ukraine News*, CNN (June 29, 2023),

[https://www.cnn.com/europe/live-news/russia-ukraine-war-news-06-28-23/h\\_d27fdd7ddc4ffac69388d0fbdfbffe](https://www.cnn.com/europe/live-news/russia-ukraine-war-news-06-28-23/h_d27fdd7ddc4ffac69388d0fbdfbffe)

<sup>268</sup> *Id.*

<sup>269</sup> *Id.*

<sup>270</sup> Pennington, *supra* note 261.

<sup>271</sup> *Floods in Ukraine: Destruction of Kakhovka Dam will Impact Thousands*, *supra* note 266.

<sup>272</sup> Pennington, *supra* note 261.

Ruslan Strilets, the Ukrainian Environment Minister, has also claimed that at least 150 metric tons of oil from the Dam have leaked into the Dnipro River.<sup>273</sup> According to Yevheniia Zasiadko, Head of the Climate Department at Ecoaction, a Kyiv-based environmental non-profit organization, just one liter of oil can contaminate one million liters of water.<sup>274</sup> The oil is able to spread over the water’s surface, preventing oxygen from reaching plants and animals that live in the water.<sup>275</sup> The oil will also spread into the Black Sea as it travels with the Dnipro River, affecting the marine ecosystem as the contaminated water spreads.<sup>276</sup> In addition to the massive oil leak, “the floodwaters included heavy metals, pesticides and nutrients — nitrogen and phosphorus in particular — that had built up in the sediment behind the dam. Those nutrients triggered a massive algae bloom, which can become toxic.”<sup>277</sup>

Thousands of animals have also died as a result of the flooding.<sup>278</sup> Investigations are ongoing into the cause of hundreds of dolphin deaths in the Black Sea.<sup>279</sup> According to Ruslan Strilets, Ukraine’s minister of environmental protection and natural resources, in just one week in July 2023, roughly a month after the Dam breach, 10 dead dolphins were found.<sup>280</sup>

#### a. Criminal Code of Ukraine Article 441

It can be argued that the Russian actors’ explosion of the Nova Kakhovka Dam likely meets the requirements of CCU Article 441. However, the question of whether intent should be considered a required element remains open.

##### i. *mass destruction of flora and fauna; or*

As a result of the explosion of the Nova Kakhovka Dam, whole ecosystems and biosystems of national and regional importance disappeared and are disappearing. The destruction of the Dam threatens the existence of entire species of animals and plants. The Kakhovka Reservoir, which is itself an artificially created ecosystem, de facto ceased to exist. In addition, national parks and wetlands such as Velykyi Luh and Kamianska Sich, a complex of lakes on the island of Khortytsia, were completely destroyed.<sup>281</sup>

<sup>273</sup> *Id.*

<sup>274</sup> *Id.*

<sup>275</sup> *Id.*

<sup>276</sup> *Id.*

<sup>277</sup> Marc Santora, *As dead dolphins wash ashore, Ukraine builds the case for ecocide*, THE NEW YORK TIMES (Aug. 17, 2023), <https://www.nytimes.com/2023/08/17/world/europe/russia-war-dolphin-deaths-ukraine.html>.

<sup>278</sup> Pennington, *supra* note 261.

<sup>279</sup> Santora, *supra* note 277.

<sup>280</sup> *Id.*

<sup>281</sup> *Who and What may Suffer Most from Kakhovka Dam Destruction – Expert Interview*, THE NEW VOICE OF UKRAINE, <https://english.nv.ua/nation/who-and-what-may-suffer-most-from-kakhovka-dam-destruction-expert-interview-50333043.html> (last visited July 26, 2023); *Kakhovka Reservoir and Zaporizhzhia: What is Happening After the Explosion of the Dam*, SVIDOMI, <https://svidomi.in.ua/page/kakhovka-reservoir-and-zaporizhzhia-what-is-happening-after-the-explosion-of-the-dam> (last visited July 26, 2023); *Due to the Explosion at Kakhovka HPP, National Parks such as Velykyi Luh and Kamianska Sich are Gradually Turning into Deserts — Ministry of Environment*, SVIDOMI, <https://svidomi.in.ua/en/page/du-to-the-explosion-at-kakhovka-hpp-national-parks-such-as-velykyi-luh-and-kamianska-sich-are-gradually-turning-into-deserts-ministry-of-environment> (last visited July 26, 2023).

Following the flooding of the territories of the Kherson region downstream from the Dam, the Dnipro Delta and the Oleshky sands were temporarily flooded, causing the death of terrestrial animals (mammals, reptiles, insects, etc.) and colonies of birds populating the area.<sup>282</sup> In addition, populations of globally endangered mammal species were impacted to a catastrophic degree: 70% of the world population of Nordmann's birch mouse (*Sicista loriger*) was flooded and is now under threat of extinction, and the population of the sandy blind mole-rat (*Spalax arenarius*) as well as the Falz-Fein's thick-tailed jerboa (*Stylodipus telum falzfeini*) has been reduced by up to 50%.<sup>283</sup>

ii. *poisoning of air or water resources; or*

As a result of the explosion of the Dam, 150 tons of engine oil from the Kakhovka HPP turbines got into the Dnipro, and further into the Black Sea.<sup>284</sup> Following the full drainage of the Kakhovka Reservoir, pesticides and other poisonous substances, which had accumulated at the bottom of the Kakhovka Reservoir since the middle of the 20th century, entered the Dnipro, downstream from the blown-up dam, and the Black Sea.<sup>285</sup> Downstream from the Dam, facilities storing waste, pesticides, oil products, and sewage treatment plants were flooded, releasing toxic materials into the Dnipro and the Black Sea, into the soil, and into the groundwater, creating a long-term health hazard for the population.<sup>286</sup>

iii. *any other actions that may cause an environmental disaster.*

While the Nova Kakhovka Dam breach does not pose an immediate risk to the Zaporizhzhia Nuclear Power Plant, it does pose a long-term threat to the power plant, which if not mitigated could result in further environmental disaster.<sup>287</sup> Furthermore, the ICRC warns that landmines uprooted by the flooding caused by the Dam breach could pose a grave danger to civilians for decades to come.<sup>288</sup> The landmines also put wild animals at risk, for

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<sup>282</sup> *The Consequences of the Russian Terrorist Attack on the Kakhovka Hydroelectric Power Plant (HPP) for wildlife*, UNCG, <https://uncg.org.ua/en/the-consequences-of-the-russian-terrorist-attack-on-the-kakhovka-hydroelectric-power-plant-hps-for-wildlife> (last visited July 26, 2023).

<sup>283</sup> *Id.*

<sup>284</sup> *Blowing up the Kakhovka Dam: How Russian Terror will Damage Ukraine's Ecology*, VISIT UKRAINE, <https://visitukraine.today/blog/2023/blowing-up-the-kakhovka-dam-how-russian-terror-will-damage-ukraines-ecology> (last visited July 26, 2023).

<sup>285</sup> *Potential Long-Term Impact of the Destruction of the Kakhovka Dam: UNCT Joint Analytical Note*, RELIEFWEB (June 9, 2023) <https://reliefweb.int/report/ukraine/potential-long-term-impact-destruction-kakhovka-dam-unct-joint-analytical-note-9-june-2023>.

<sup>286</sup> *A Preliminary Environmental Risk Assessment of the Kakhovka Dam Flooding*, PAX, [https://paxvoorvrede.nl/wp-content/uploads/2023/06/PAX\\_REPORT\\_Kakhovka\\_FIN.pdf](https://paxvoorvrede.nl/wp-content/uploads/2023/06/PAX_REPORT_Kakhovka_FIN.pdf) (last visited July 26, 2023).

<sup>287</sup> Julien Borger, *Ukrainian dam collapse 'no immediate risk' to Zaporizhzhia nuclear plant*, THE GUARDIAN (June 6, 2023) <https://www.theguardian.com/world/2023/jun/06/nova-kakhovka-ukraine-dam-collapse-zaporizhzhia-nuclear-plant-iaea>.

<sup>288</sup> Gabrielle Tétrault-Farber & Guy Faulconbridge, *Mines uprooted in Ukraine dam disaster could pose danger for years, Red Cross says*, REUTERS (June 8, 2023), <https://www.reuters.com/world/europe/mines-uprooted-ukraine-dam-disaster-could-pose-danger-years-come-red-cross-2023-06-08/>.

war-torn regions of the world have long seen defenseless animals maimed and killed by landmines long after warfare has ended.<sup>289</sup>

**b. Additional Protocol I to the Geneva Conventions, Article 85(3)(c)**

It can be argued that the Russian actors' explosion of the Dam likely meets the requirements for a grave breach of the Geneva Conventions AP I under Article 85(3)(c). However, whether the breach of the Dam would qualify as an "attack" would be a crucial issue for the prosecutor to overcome.

- i. Launching an attack<sup>290</sup> against works or installations containing dangerous forces;*

The Nova Kakhovka Dam is a hydroelectric plant, which qualifies as an installation containing dangerous forces. It is designed to hold a large volume of water and generate hydroelectric power. The explosion of the dam resulted in its destruction, indicating that an attack was launched against this installation.

- ii. in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;*

Given that the Dam is a critical water source for millions of people in the Kherson, Dnipro, and Zaporizhzhia regions, its destruction would inevitably result in loss of life and injury to civilians. Additionally, the Dam's collapse led to catastrophic flooding, which affected thousands of people and resulted in the destruction of civilian infrastructure. The explosion occurred while Russian forces were in control of the dam, suggesting that they were aware of the potential consequences of their actions. The widespread, longterm, and catastrophic impact of this explosion is almost certainly excessive in relation to the Russian actors' anticipated military advantage against Ukraine's counteroffensive.

- iii. causing death or serious injury to body or health; and*

The dam's destruction resulted in the loss of at least 100 lives, massive displacement of people, and thousands of animals dying due to the flooding. The contaminated oil leak from the Dam further impacted the health of the ecosystem and potentially endangered human health by contaminating water sources.

<sup>289</sup> See e.g. Seth Mydans, *Mines Maim the Ultimate Civilians: Animals*, THE NEW YORK TIMES (Mar. 5, 2023), <https://www.nytimes.com/2001/03/05/world/mines-maim-the-ultimate-civilians-animals.html> (pertaining to Asian elephants who are too often killed or permanently injured when grazing along the Thailand-Myanmar border by exploding landmines that remain from decades of interference from insurgents, and military operations: foreign and domestic.).

<sup>290</sup> See COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 101 at ¶ 2152. It should be noted that Article 56(1) only provides protection against an "attack," as defined by Article 49 as "acts of violence against the adversary" and extends to works and installations on enemy territory and on the Parties' own territory that is under the control of the adverse Party. Works and installations on the Parties' own territory and under its control may be destroyed, removed, or rendered useless. This also applies to an Occupying Power as long as the destruction, removal, or rendering of the works or installations as useless is "rendered absolutely necessary by military operations" as required under GC IV, Article 53, and the Occupying Power ensures that there is no damage to the civilian population.

*iv. the attack was committed willfully.*

The breach of the Nova Kakhovka Dam appears to have been willful, as the Dam's destruction was likely caused by an internal explosion, indicating a deliberate and intentional act.

**c. Rome Statute Article 8(2)(b)(iv)**

It can be argued that the Russian actors' breach of the Nova Kakhovka Dam could meet the requirements of Rome Statute Article 8(2)(b)(iv). However, whether the breach of the Dam would qualify as an "attack" would be a crucial issue for the prosecutor to overcome.<sup>291</sup>

*i. The perpetrator launched an attack.*

The breach of the Nova Kakhovka Dam occurred on 6 June 2023 when an explosion caused the Dam's collapse. The explosion was identified through seismic data signals and was reported by residents in the vicinity of the hydroelectric plant.

*ii. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The destruction of the Dam resulted in catastrophic flooding of agricultural land and civilian infrastructure, causing severe damage to the natural environment. The release of water from the Dam led to the displacement of thousands of people and affected at least 28 towns and villages, potentially impacting up to 80 settlements. The flooding also resulted in the death of thousands of animals and caused a significant ecological impact, such as oil leaks contaminating the Dnipro River and further spreading into the Black Sea.

*iii. The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

Given the strategic location and control of the Dam by Russian forces at the time of its destruction, it can be reasonably inferred that the perpetrator knew that breaching the Dam would result in incidental death or injury to civilians and widespread damage to civilian infrastructure.

*iv. The conduct took place in the context of and was associated with an international armed conflict.*

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<sup>291</sup> For a discussion on the definition of an attack under the Additional Protocols to the Geneva Conventions, see *supra* text accompanying note 290.

The explosion of the Nova Kakhovka Dam took place in the context of the ongoing armed conflict between Russia and Ukraine, making it associated with an international armed conflict.

- v. *The perpetrator was aware of factual circumstances that established the existence of an armed conflict.*

Given the prolonged armed conflict between Russia and Ukraine, it can be reasonably assumed that the perpetrator was aware of the factual circumstances that established the existence of the armed conflict.

#### **d. Proposed Crime of Ecocide**

It can be argued that the Russian actors' breach of the Nova Kakhovka Dam likely meets the requirements of the proposed crime of ecocide.

- i. *Unlawful or wanton acts*

The Nova Kakhovka Dam breach could be classified as unlawful but likely not as wanton. First, the explosion of the Nova Kakhovka Dam may be considered unlawful under CCU Article 441; AP I Article 85(3)(c); or Rome Statute Article 8(2)(b)(iv). Second, the attack may not be considered wanton. Under the proposed definition of ecocide, "wanton means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated." This category is meant to capture lawful activities undertaken in pursuit of economic and other development, and as such, it may not be applicable to acts of war.

- ii. *committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts.*

The Russian actors, being in control of the Dam at the time of its destruction, can be presumed to have known that breaching the dam would cause severe and widespread or long-term damage to the environment. The Dam's collapse led to catastrophic flooding, which caused severe adverse changes and harm to the environment, including damage to agricultural land, civilian infrastructure, and contamination of water sources with oil, pesticides, fertilizers, heavy metals, and other harmful substances.

#### **B. Mariupol Azovstal Steel Plant**

The Russian siege on the eastern Ukrainian city of Mariupol, which ultimately centered on the Azovstal steel plant, lasted from 2 March 2022 to 17 May 2022.<sup>292</sup> During that period, the industrial plant was repeatedly targeted by heavy shelling and artillery fire,<sup>293</sup> and the "duration and intensity" of the bombardment was described by the Conflict and Environment Observatory as "highly unusual."<sup>294</sup>

<sup>292</sup> *Ukraine conflict environmental briefing: Industry*, CONFLICT AND ENVIRONMENT OBSERVATORY (Oct. 2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-industry>.

<sup>293</sup> Eugene Z. Stakhiv, *Destroying the Environment Is a War Crime, Too*, FOREIGN POLICY (July 27, 2022), <https://foreignpolicy.com/2022/07/27/russia-ukraine-war-environment-war-crime>.

<sup>294</sup> *Ukraine conflict environmental briefing: Industry*, *supra* note 292.

While the number of civilian deaths directly resulting from the attack on the Azovstal steel plant is unknown, in June 2022 the OHCHR verified 1,348 individual civilian deaths directly in hostilities in Mariupol, including 70 children, caused by air strikes, tank and artillery shelling and small arms and light weapons during street fighting.<sup>295</sup> The OHCHR noted that the actual death toll of hostilities on civilians in Mariupol is likely thousands higher.<sup>296</sup>

The attack on the Azovstal plant led to and continues to cause extensive environmental damage.<sup>297</sup> Ground-level infrastructure, chemical storage facilities, wastewater treatment plants, and other waste disposal sites were destroyed.<sup>298</sup> Such destruction sent vast amounts of raw sewage into nearby rivers, posing “a grave threat to the nearshore coastal ecosystems of the Sea of Azov.”<sup>299</sup> Pre-existing soil contamination “has now been exacerbated by pollutants emitted from munitions and the consequences of explosive damage.”<sup>300</sup>

Other hazardous substances, including heavy metals and chemicals, were also released into the environment. On 29 May 2022, for example, a damaged pumping station released liquid ammonia for up to 2.5 kilometers.<sup>301</sup> The Mariupol City Council reported that thousands of tons of concentrated hydrogen sulfide solution could end up in surrounding waters.<sup>302</sup>

The Azovstal Steel Plant is analyzed here as a representative MEI of the mass destruction of the environment in Mariupol. While alone it may not meet the threshold of certain crimes analyzed, taken together with other attacks in a general scheme, it may.

#### **a. Criminal Code of Ukraine Article 441**

It can be argued that the Russian actors’ attack on the Azovstal Steel Plant likely meets the requirements of the proposed crime of ecocide under CCU Article 441. However, the question of whether intent should be considered a required element remains open.

##### *i. mass destruction of flora and fauna; or*

During the Russian siege on Mariupol from 2 March to 17 May 2022, the Azovstal steel plant was subjected to heavy shelling and artillery fire, leading to extensive destruction of ground-level infrastructure, chemical storage facilities, wastewater treatment plants, and waste disposal sites. This destruction resulted in the release of pollutants, raw sewage, and

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<sup>295</sup> Office of the High Commissioner for Human Rights, *High Commissioner Updates the Human Rights Council on Mariupol, Ukraine*, UNITED NATIONS HUMAN RIGHTS OFFICE OF THE HIGH COMMISSIONER (June 16, 2022), <https://www.ohchr.org/en/statements/2022/06/high-commissioner-updates-human-rights-council-mariupol-ukraine>.

<sup>296</sup> *Id.*

<sup>297</sup> Stakhiv, *supra* note 293.

<sup>298</sup> *Id.*

<sup>299</sup> *Id.*

<sup>300</sup> *Ukraine conflict environmental briefing: Industry*, *supra* note 292.

<sup>301</sup> *The Environmental Impact of the Conflict in Ukraine: A Preliminary Review (2022)*, UNITED NATIONS ENVIRONMENT PROGRAMME 18, [https://wedocs.unep.org/bitstream/handle/20.500.11822/40746/environmental\\_impact\\_Ukraine\\_conflict.pdf?sequence=3&isAllowed=1](https://wedocs.unep.org/bitstream/handle/20.500.11822/40746/environmental_impact_Ukraine_conflict.pdf?sequence=3&isAllowed=1) (last visited July 27, 2023).

<sup>302</sup> *See* Stakhiv, *supra* note 293.

hazardous substances into the environment. The bombardment’s “duration and intensity” were highly unusual, causing severe harm to the local flora and fauna.

*ii. poisoning of air or water resources; or*

As a consequence of the attack on the Azovstal Steel Plant, various hazardous substances, including heavy metals, chemicals, and pollutants, were released into the air, soil, and water. The destruction of chemical storage facilities and wastewater treatment plants contributed to the release of raw sewage and harmful chemicals into nearby rivers and the Sea of Azov. Liquid ammonia and concentrated hydrogen sulfide solution were also released, posing a serious threat to air and water quality in the surrounding areas.

*iii. any other action that may cause an environmental disaster.*

The attack on the Azovstal Steel Plant caused significant and long-lasting environmental damage. The destruction of critical infrastructure, release of pollutants, and contamination of water bodies resulted in an ecological catastrophe. The pre-existing soil contamination was exacerbated by the emissions from munitions and explosive damage, amplifying the scale of the environmental disaster. The continued release of hazardous substances and pollutants into the environment further exacerbated the environmental crisis.

#### **b. Additional Protocol I to the Geneva Conventions, Article 85(3)(b)**

It can be argued that the Russian actors’ attack on the Azovstal Steel Plant meets the requirements for a grave breach of the Geneva Conventions AP I under Article 85(3)(b). However, the proportionality element would likely be difficult for a prosecutor to overcome. While the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated due to the strategic importance of Mariupol.

*i. Launching an indiscriminate attack<sup>303</sup> affecting the civilian population or civilian objects;*

The attack on the Azovstal Steel Plant involved heavy shelling and artillery fire that lasted for an extended period. The Conflict and Environment Observatory described the “duration and intensity” of the bombardment as “highly unusual.” The Azovstal Steel Plant is an industrial facility located in a populated area of Mariupol, making it highly likely that the attack affected the civilian population in the vicinity.

*ii. in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;*

Given the nature of the attack, with heavy shelling and artillery fire directed at an industrial facility located in a populated area, the perpetrators must have known that such an attack would likely cause excessive loss of life, injury to civilians, and damage to civilian objects. The verified 1,348 individual civilian deaths in Mariupol, including 70 children, and

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<sup>303</sup> For a discussion on the definition of an attack under the Additional Protocols to the Geneva Conventions, see *supra* text accompanying note 290.



the extensive environmental damage resulting from the attack support the notion that the perpetrators were aware of the potential consequences of their actions.

However, while the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated. Mariupol, situated along the Sea of Azov, holds immense strategic importance due to its port and naval routes. Its capture by Russia not only severed Ukrainian access to the port but also established a crucial land bridge between Russia's sovereign territory and occupied Crimea.

*iii. causing death or serious injury to body or health; and*

The attack on the Azovstal Steel Plant resulted in numerous civilian deaths in Mariupol, with the OHCHR verifying at least 1,348 individual civilian deaths, and it is suspected that the actual death toll on civilians is likely even higher. Moreover, the attack caused extensive environmental damage, including the release of hazardous substances such as heavy metals and chemicals into the environment, posing a serious threat to human health and ecosystems.

*iv. the attack was committed willfully.*

The attack on the Azovstal Steel Plant was carried out intentionally and willfully by subjecting the industrial plant to heavy shelling and artillery fire for an extended period during the Russian siege of Mariupol.

**c. Rome Statute Article 8(2)(b)(iv)**

It can be argued that the Russian actors' attack on the Azovstal Steel Plant meets the requirements under Rome Statute Article 8(2)(b)(iv). However, the proportionality element would likely be difficult for a prosecutor to overcome. While the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated due to the strategic importance of Mariupol.

*i. The perpetrator launched an attack.*

Russian forces launched an attack involving weeks of nearly constant naval and field artillery, rockets, incendiary weapons, and bunker-busting bombs, which resulted in the near-total destruction of the Azovstal Steel Plant.<sup>304</sup>

*ii. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The attack was such that it caused and likely will continue to cause widespread, long-term and severe damage to the natural environment, as extensive air, water, and soil contamination has been documented and is further expected.

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<sup>304</sup> *Ukraine conflict environmental briefing: Industry*, supra note 292.

While such damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated. Mariupol is a port city located along the Sea of Azov. Its capture would not only cut off Ukrainian access to the port and important naval routes, but more importantly, Russian control of the city provided a strategically important land bridge between Russia's sovereign territory and occupied Crimea. Because environmental damage predated the siege, one might reasonably argue that exacerbating existing damage is not disproportionate to the significant military advantage that the full capture of such a key city provided.

- iii. The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

Russian leaders and/or soldiers executing the attack almost certainly knew that the attack would cause widespread, long-term and severe damage to the natural environment. The Azovstal plant was significant and well known. Prior to the invasion, it was well documented that the site already produced negative environmental impacts.<sup>305</sup> Perpetrators are likely to have been aware that damage to such a massive industrial site, particularly destruction to the parts of the plant responsible for the cleanup and safe processing of hazardous materials would occur in the ordinary course of events. However, it could be argued that the perpetrator made a value judgment, based on the information available to him or her at the time, that the resulting environmental damage would not outweigh the anticipated military advantage of capturing Mariupol.

- iv. The conduct took place in the context of and was associated with an international armed conflict.*

The conduct clearly took place in the context of and was associated with an international armed conflict. Russian forces launched a full-scale invasion into the territory of Ukraine in February 2022.

- v. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.*

The attacker was aware of factual circumstances that established the existence of an armed conflict. The full-scale invasion was obvious and known to the entire world.

#### **d. Proposed Crime of Ecocide**

It can be argued that the Russian actors' attack on the Azovstal Steel Plant in Mariupol likely meets the requirements of the proposed crime of ecocide.

- i. Unlawful or wanton acts*

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<sup>305</sup> *The Environmental Impact of the Conflict in Ukraine: A Preliminary Review (2022)*, *supra* note 301 at 23.

The attack could potentially be classified as unlawful but likely not as wanton. First, the attack on the Azovstal Steel Plant may be considered unlawful under CCU Article 441; AP I Article 85(3)(b); or Rome Statute Article 8(2)(b)(iv). Second, the attack may not be considered wanton. Under the proposed definition of ecocide, “wanton means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated.” This category is meant to capture lawful activities undertaken in pursuit of economic and other development, and as such, it may not be applicable to acts of war.

- ii. *committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts.*

The attack was carried out with the knowledge that there was a substantial likelihood of severe and either widespread or long-term damage to the environment. Russian forces were likely reckless, as they must have been aware that damage to such a massive industrial site, particularly destruction to the parts of the plant responsible for the cleanup and safe processing of hazardous materials, would compromise the surrounding natural environment. The damage to the surrounding natural environment is likely severe. The significant contamination of the air, water, and soil expected to result from the attack involves serious adverse change, disruption, or harm. Moreover, the proposed crime of ecocide is a crime of endangerment: “rather than attaching to a material result, this crime attaches to the creation of a dangerous situation.” Certainly, attacking an industrial site that processes toxic chemicals creates a dangerous situation. This attack may have caused long-term damage to the environment of the affected area. The contaminated soil and water may not be capable of being redressed through natural recovery within a reasonable period of time. This is particularly true if Russian forces continue to occupy the city and do not undertake to address the environmental harms.

### C. Sievierodonetsk Azot Chemical Plant

Between May and June 2022, Russian forces repeatedly bombed the Azot Chemical Plant in the eastern Ukrainian city of Sievierodonetsk.<sup>306</sup> At the time of the attacks, Russian forces controlled approximately 90% of the city, but Ukrainian troops had managed to maintain control of the Plant.<sup>307</sup> As the largest chemical plant in the region, the Azot Plant provided 100% of Sievierodonetsk’s sewage purification and produces nitrogen-based fertilizers for the needs of the Ukrainian agricultural industry.<sup>308</sup>

During this period, the Plant was attacked repeatedly. On 24 May, the Plant was shelled by Russian forces, reportedly killing four people (unknown if civilian) and seriously

<sup>306</sup> Kim Sengupta, *All this suffering because of a madman*, INDEPENDENT (May 30, 2022), <https://www.independent.co.uk/news/world/europe/ukraine-russia-war-donbas-zelensky-b2089288.html>

<sup>307</sup> RFE/RL’s Ukrainian Service, *Russian Shelling Sets Ukrainian Chemical Plant Ablaze as Defenders Hold Out*, RADIO FREE EUROPE/RADIO LIBERTY (June 11, 2022), <https://www.rferl.org/a/ukraine-heavy-weaponry-heavy-fighting-donbas/31893437.html>.

<sup>308</sup> *Russians Plan to Resume Azot Plant Operation which may Lead to Industrial Disaster — Luhansk RMA*, RUBRYKA: UKRAINIAN SOLUTIONS MEDIA (July 14, 2022), <https://rubryka.com/en/2022/07/14/rosiyany-planuyut-zapusk-azotu-tse-mozhe-pryzvesty-do-tehnogennoyi-katastrofy-golova-luganskoyi-ova>; *Four Killed as Russians Again Shell Azot Chemicals Plant in Luhansk Oblast*, THE NEW VOICE OF UKRAINE (May 24, 2022), <https://english.nv.ua/nation/russian-invaders-shell-severodonetsk-azov-chemical-plant-50244821.html>.

injuring a civilian who later died from their injuries.<sup>309</sup> On 11 June, the Plant was heavily shelled for several hours, damaging radiators and causing them to leak tens of tonnes of oil, in turn causing a massive fire at the Plant.<sup>310</sup> On 16 June, Russian forces destroyed all of the bridges into Sievierodonetsk and continued shelling the Plant.<sup>311</sup> On 25 June, Russia launched artillery and air strikes on Sievierodonetsk, striking the Azot Plant again.<sup>312</sup> The Plant was sheltering hundreds of Ukrainian soldiers and civilians during the attacks; Ukrainian officials estimated that there were approximately 800 civilians hiding in the underground bomb shelters at the Azot Plant during these attacks, including dozens of children.<sup>313</sup>

By July 2022, Russian forces seized control of the Azot Plant.<sup>314</sup> Russian occupying forces wanted to resume the Plant's operations and began forcing Sievierodonetsk residents to work at the plant, despite warnings that resuming the Plant's operations would lead to industrial disaster due to the significant destruction and damage the Plant withstood under Russian shelling.<sup>315</sup> Specifically, Russian shelling had damaged ammonia and nitric acid tanks, damaged almost the entire enterprise infrastructure, including water supply and water treatment systems, energy supply systems, logistics, and railway management, destroyed two methanol storage facilities, completely destroyed the Azot power supply system, and severely damaged four CAM storage facilities.<sup>316</sup> Further, the Azot Plant was unable to receive electricity due to Russian damage to support and power transformers at Lysychanska-110, Yuvileyna, and Shchastya points and the Kreminska 500 kV substation.<sup>317</sup> The damage to the Azot Plant from Russian strikes had significant consequences for residents in Sievierodonetsk, as Russian shelling destroyed the plant's water supply workshop and sewage treatment system.<sup>318</sup>

The Azot Chemical Plant is analyzed here as a representative MEI of the mass destruction of critical civilian infrastructure affecting the environment in Ukraine. While alone it may not meet the threshold of certain crimes analyzed, taken together with other attacks in a general scheme, it may.

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<sup>309</sup> *Id.*

<sup>310</sup> *Invaders Shelled Azot Plant Causing Release of Dozens of Tons of Oil and Resulting Major Fire*, TCH (June 12, 2022), <https://tsn.ua/en/ato/invaders-shelled-azot-plant-causing-release-of-dozens-of-tons-of-oil-and-resulting-major-fire-2084929.html>.

<sup>311</sup> *Here's What We Know About the Azot Chemical Plant Sheltering Civilians During the Russian War in Ukraine*, ABC NEWS (June 16, 2022), <https://www.abc.net.au/news/2022-06-16/ukraine-chemical-plant-siege-what-we-know/101156928>.

<sup>312</sup> *Russian Shelling Hits Chemical Plant Where Civilians are Trapped, says Ukraine*, CNBC (June 25, 2022), <https://www.cnbc.com/2022/06/25/russian-shelling-hits-chemical-plant-where-civilians-trapped-says-ukraine.html>.

<sup>313</sup> *Ukraine War: Chemical Plant Hit as Fighting Rages in Severodonetsk*, BBC (June 12, 2022), <https://www.bbc.com/news/world-europe-61773356>; *Luhansk Oblast: Russia Hits Azot Chemical Plant, Ramps Up Attack on Lysychansk*, UKRAINSKA PRAVDA (June 21, 2022), <https://www.pravda.com.ua/eng/news/2022/06/21/7353734>.

<sup>314</sup> *See Serhiy Hayday*, FACEBOOK (July 14, 2022), <https://www.facebook.com/sergey.gaidai.loga/posts/pfbid0212qRGZk425J2c5qEJTFgqoVBDvZdKLtQQY9aQu2SljqE5aRHt9gsSycnzapnsvdWl>.

<sup>315</sup> *Alona Mazurenko, The Restart of the Azot Plant, Which the Occupiers are Planning, May Lead to a Man-Made Disaster – Haidai*, UKRAINSKA PRAVDA (July 14, 2022), <https://www.pravda.com.ua/eng/news/2022/07/14/7358140>.

<sup>316</sup> *Russians Plan to Resume Azot Plant Operation which may Lead to Industrial Disaster*, *supra* note 308.

<sup>317</sup> *Id.*

<sup>318</sup> *Id.*

**a. Criminal Code of Ukraine Article 441**

It can be argued that the Russian actors’ attack on the Azot Chemical Plant in Sievierodonetsk likely meets the requirements of the proposed crime of ecocide under CCU Article 441. However, the question of whether intent should be considered a required element remains open.

*i. mass destruction of flora and fauna; or*

The relentless bombings and shelling inflicted substantial destruction on the Azot Chemical Plant, which is likely to have had a profound impact on the surrounding environment. The damages to infrastructure and facilities likely disrupted the local ecosystem, potentially leading to the loss of native vegetation, soil degradation, and harm to various animal species that inhabit the area. The shelling’s direct impact and the subsequent environmental fallout from the damaged facilities could contribute to the loss of biodiversity and ecological balance.

*ii. poisoning of air or water resources; or*

Russian attacks on the Azot Plant between May to June 2022 and the subsequent release of toxic industrial chemicals into the area’s air and water supply would *prima facie* satisfy Art. 441 (“poisoning of air or water resources”), which is broadly defined and does not require that specific harm be established. The attacks on the Azot Plant severely damaged the plant by 70%,<sup>319</sup> leading to significant environmental risks to the atmosphere and water supply in the region. According to local residents, fire engulfed the plant on numerous occasions after Russian strikes, including its chlorine storage, paint warehouse, and outhouses where antiseptics were stored.<sup>320</sup> If this is indeed the case, then the air has been polluted by emissions from the Plant and would have potentially dangerous levels of formaldehyde, phenol, hydrogen fluoride, ammonia, nitrogen dioxide, and carbon monoxide.<sup>321</sup>

The Ukrainian Ministry of Environment has previously noted that Russian forces failed to take any measures to eliminate or mitigate environmental hazards, leading to an increased and ‘significant’ risk of pollution of water bodies with surface runoff containing pollutants.<sup>322</sup> In June 2022, the Operational headquarters at the State Environmental Inspectorate of Ukraine reported at least seven confirmed incidents of the release of toxic industrial chemicals caused by Russian Armed Forces military activities, including the heavy shelling of the Azot Plant on 5 May 2022.<sup>323</sup> The Inspectorate specifically noted with concern the impact of hostilities on the tailing storage facilities of the Azot Plant, which contains

<sup>319</sup> Anatol Shevchenko, *New Losses to the Environment of Ukraine from the War in a Week Have Been Announced*, CIKAVOSTI (July 11, 2022), <https://cikavosti.com/new-losses-to-the-environment-of-ukraine-from-the-war-in-a-week-have-been-announced>.

<sup>320</sup> *Donbas Environment: Invisible Front*, NGO TRUTH HOUNDS (2021), [https://truth-hounds.org/wp-content/uploads/2021/09/donbas-ecology-report-2021-truth-hounds\\_en.pdf](https://truth-hounds.org/wp-content/uploads/2021/09/donbas-ecology-report-2021-truth-hounds_en.pdf).

<sup>321</sup> *Id.*; *Ukraine’s Environmental Damage From War Will Take Years to Clean Up*, RADIO FREE EUROPE/RADIO LIBERTY (14 Nov. 2022), <https://www.rferl.org/a/ukraine-war-environmental-damage/32125620.html>.

<sup>322</sup> *Briefing on the Environmental Damage Caused by the Russia’s War of Aggression Against Ukraine (March 9-15, 2023)*, ECOZAGROZA: OFFICIAL RESOURCE OF THE MINISTRY OF ENVIRONMENTAL PROTECTION AND NATURAL RESOURCES OF UKRAINE (Mar. 17, 2023), <https://ecozagroza.gov.ua/en/news/104>.

<sup>323</sup> *The Environmental Impact of the Conflict in Ukraine: A Preliminary Review (2022)*, *supra* note 301 at 18.

649,000 tons of solvents and sludge obtained from the regeneration of ion exchangers and magnesite sludge from the process of potassium nitrate production.<sup>324</sup>

*iii. any other action that may cause an environmental disaster.*

No other action that may cause an environmental disaster resulting from the attacks on the Azot Plant is known at this time.

**b. Additional Protocol I to the Geneva Conventions, Article 85(3)(b)**

It can be argued that the Russian actors' attack on the Azot Chemical Plant in Sievierodonetsk may meet the requirements for a grave breach of the Geneva Conventions AP I under Article 85(3)(b). However, the proportionality element would likely be difficult for a prosecutor to overcome. While the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated due to the strategic importance of Sievierodonetsk.

*i. Launching an indiscriminate attack<sup>325</sup> affecting the civilian population or civilian objects;*

The repeated bombings and shelling of the "Azot" Chemical Plant by Russian forces in Sievierodonetsk during May and June 2022 can be considered indiscriminate attacks. These attacks targeted a chemical plant that provided essential services for the local population, including sewage purification and the production of fertilizers for the agricultural industry. The attacks on the plant put the civilian population at risk and targeted vital civilian infrastructure.

*ii. in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;*

It can be reasonably inferred that Russian forces knew the consequences of their attacks on the Azot Plant. The attack on 24 May seriously injured a civilian who later died from their injuries and caused the death of four individuals (unknown if civilian). The attacks also caused extensive damage to civilian infrastructure, including the water supply and sewage treatment systems that affected the local civilian population. The damage to critical facilities of the plant, such as ammonia and nitric acid tanks, methanol storage facilities, and power supply systems, further demonstrates the knowledge that the attacks would cause excessive harm to civilian objects.

However, while the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated. At the time of these attacks, Sievierodonetsk and Lysychansk were the last two major Ukrainian-controlled cities in the Luhansk area.<sup>326</sup> The Donetsk and Luhansk

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<sup>324</sup> *Id.*

<sup>325</sup> For a discussion on the definition of an attack under the Additional Protocols to the Geneva Conventions, *see supra* text accompanying note 290.

<sup>326</sup> Roman Goncharenko, *The Strategic Value of Sievierodonetsk*, DW (June 9, 2022), <https://www.dw.com/en/why-ukraines-sievierodonetsk-is-so-important/a-62001664>; Cassandra Vinograd, *The*

regions are known collectively as the Donbas.<sup>327</sup> Sievierodonetsk and Lysychansk connect this part of Donbas with other regions of Ukraine.<sup>328</sup>

*iii. causing death or serious injury to body or health; and*

Given the Azot Plant's role in providing essential services to civilians, it is reasonable to assume that the Russian forces were aware that attacking the Plant would cause excessive harm to civilians and civilian infrastructure. The attack on 24 May seriously injured a civilian who later died from their injuries and caused the death of four individuals (unknown if civilian). The 24 May attack also caused significant damage to the Plant's infrastructure, affecting water supply, sewage treatment, and other essential systems to the health of the surrounding civilian population.

*iv. the attack was committed willfully.*

The attacks on the Azot Plant were deliberate and planned actions carried out by Russian forces, targeting the Plant on multiple occasions despite knowing the presence of civilians at the facility. The intent to bomb the Plant and cause damage and harm to civilians and civilian objects can be inferred from the repeated nature of the attacks and the destruction caused.

**c. Rome Statute Article 8(2)(b)(iv)**

It can be argued that the Russian actors' attack on the Azot Chemical Plant in Sievierodonetsk may meet the requirements for Rome Statute Article 8(2)(b)(iv). However, the proportionality element would likely be difficult for the prosecutor to overcome. While the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated due to the strategic importance of Sievierodonetsk.

*i. The perpetrator launched an attack.*

Russian forces repeatedly bombed the Azot Chemical Plant in Sievierodonetsk during the period between May and June 2022. The attacks involved shelling, artillery, and air strikes, indicating that the perpetrator initiated and executed the attacks.

*ii. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The attacks on the Azot Chemical Plant caused significant harm and damage to civilians and civilian objects. The plant was a critical civilian infrastructure facility,

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*eastern city of Lysychansk is a big prize for Putin.*, The New York Times (July 3, 2022), <https://www.nytimes.com/2022/07/03/world/europe/lysyhansk-ukraine-putin.html>.

<sup>327</sup> *Id.*

<sup>328</sup> *Id.*

providing sewage purification and nitrogen-based fertilizers for the agricultural industry. The attacks caused extensive damage to the plant's infrastructure, including ammonia and nitric acid tanks, methanol storage facilities, power supply systems, and sewage treatment systems. The destruction of the plant's water supply workshop and sewage treatment system had severe consequences for the local civilian population.

- iii. The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The attacks on the Azot Plant were carried out by Russian forces, and it can be inferred that they were aware of the potential consequences of their actions. They knew that targeting the Plant, which was critical for providing sewage purification and nitrogen-based fertilizers to the civilian population, would cause incidental death or injury to civilians and damage to civilian objects. The destruction of the Plant's infrastructure and the release of tens of tonnes of oil, leading to a massive fire, indicate the knowledge of the potential severe and widespread damage to the natural environment.

However, while the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated. At the time of these attacks, Sievierodonetsk and Lysychansk were the last two major Ukrainian-controlled cities in the Luhansk area.<sup>329</sup> The Donetsk and Luhansk regions are known collectively as the Donbas.<sup>330</sup> Sievierodonetsk and Lysychansk connect this part of Donbas with other regions of Ukraine.<sup>331</sup>

- iv. The conduct took place in the context of and was associated with an international armed conflict.*

The attacks on the Azot Plant took place during the ongoing international armed conflict between Russia and Ukraine.

- v. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.*

The Russian military was aware of the existence of the armed conflict between Russia and Ukraine, as evidenced by their involvement in the attack on the Azot facility during the ongoing conflict.

#### **d. Proposed Crime of Ecocide**

It can be argued that the Russian actors' attack on the Azot Chemical Plant in Sievierodonetsk may meet the requirements for the proposed crime of ecocide.

- i. Unlawful or wanton acts*

<sup>329</sup> Goncharenko, *supra* note 326; Vinograd, *supra* note 326.

<sup>330</sup> *Id.*

<sup>331</sup> *Id.*



The attack could potentially be classified as unlawful but likely not as wanton. First, the attack on the Azot Chemical Plant may be considered unlawful under CCU Article 441; AP I Article 85(3)(b); or Rome Statute Article 8(2)(b)(iv). Second, the attack may not be considered wanton. Under the proposed definition of ecocide, “wanton means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated.” This category is meant to capture lawful activities undertaken in pursuit of economic and other development, and as such, it may not be applicable to acts of war.

- ii. *committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts*

The perpetrators likely had knowledge that if they shelled the Azot Chemical Plant, which mainly produces nitrogen-based fertilizers for Ukraine’s agricultural industry, there would be a substantial likelihood that violent fires and explosions would occur.<sup>332</sup> The intense Russian bombardment of the Azot Chemical Plant damaged radiators which caused tens of tons of oil to leak from the plant, escalating the severity of the fires in the plant.<sup>333</sup> The damage done to the Azot Plant also resulted in the destruction of water treatment and sewage purification systems, which will now have severe effects on the population of Sievierodonetsk, of which Azot provided 100% of the city’s sewage purification.

#### **D. Zaporizhzhia Nuclear Power Plant**

Zaporizhzhia Nuclear Power Plant (ZNPP) is a nuclear power plant located in the steppe zone near the former shore of the Kakhovka Reservoir in the Zaporizhzhia region, next to the city of Energodar.<sup>334</sup> It is the largest in Europe and one of the largest in the world, consisting of six nuclear power units.<sup>335</sup>

On 4 March 2022, Russian troops seized the nuclear and thermal power plants.<sup>336</sup> Much indicates that Russian troops have deliberately turned the ZNPP into a military base: there are about 500 armed Russians permanently at the plant; military equipment is located in the machine rooms; missile systems, anti-aircraft systems, machine gun nests on the roofs of reactor compartments and checkpoints between power units are located on the territory of ZNPP.<sup>337</sup> Military equipment, weapons, and explosives are located directly inside the turbine compartments of power units 1, 2, and 4.<sup>338</sup>

<sup>332</sup> Marc Lallanilla, *What Causes Fertilizer Explosions?*, SCIENTIFIC AMERICAN, (Apr. 18, 2013), <https://www.scientificamerican.com/article/what-causes-fertilizer-explosions>.

<sup>333</sup> See ABC NEWS, *supra* note 311.

<sup>334</sup> Olena Harmash, *Kyiv says Zaporizhzhia nuclear plant switched to reserve power line*, REUTERS (Aug. 10, 2023), <https://www.reuters.com/world/europe/kyiv-says-zaporizhzhia-nuclear-plant-switched-reserve-power-line-2023-08-10/>; Juliana Kim, *Power is back at Europe’s largest nuclear plant. IAEA warns the situation can’t last*, NPR (Oct. 9, 2022), <https://www.npr.org/2022/10/09/1127750930/ukraine-russia-nuclear-plant-restored-temporary>.

<sup>335</sup> *Id.*

<sup>336</sup> Hannah Knowles, *et al.*, *Russian Forces Seize Ukrainian Power Plant After Shelling Sets it on Fire*, THE WASHINGTON POST (Mar. 4, 2022), <https://www.washingtonpost.com/world/2022/03/03/nuclear-power-plant-fire-ukraine-zaporizhzhia/>.

<sup>337</sup> Liliya Rzhetska, *What is Happening at the Zaporizhzhia NPP After a Year of Occupation?*, DW NEWS (3 Mar. 2023), <https://www.dw.com/uk/so-vidbuvaetsa-na-zaporizkij-aes-pisla-roku-okupacii/a-64879618>.

<sup>338</sup> Iryna Balachuk, *The Occupiers Placed Explosives in the Premises of the ZNPP – State Nuclear Regulatory Authority*, PRAVDA (May 4, 2023), <https://www.pravda.com.ua/news/2023/05/4/7400572/>.

The station's Ukrainian staff is subjected to kidnappings, murders, torture, and inhuman treatment, which increases the risk of nuclear incidents and accidents.<sup>339</sup> IAEA employees are present at the station, however, negotiations on the demilitarization of ZNPP have not been successful.<sup>340</sup>

Since September 2022, ZNPP has been out of operation but it consumes about 100 MW from the united power grid of Ukraine to run the nuclear reactor cooling pumps.<sup>341</sup> The station is not designed to be at the center of military actions: The danger of artillery fire and possible detonation of explosives was never taken into account.<sup>342</sup> The plant is operated by pressurized VVER-1000 water reactors, which, if destroyed, depressurize and release the radioactivity into the environment along with the water.<sup>343</sup>

In the event of significant releases of radioactivity, an exclusion zone would need to be created.<sup>344</sup> According to the requirements of Ukrainian legislation, the evacuation of the people from the radioactive contamination zone around the ZNPP will be carried out within a radius of 50 kilometers.<sup>345</sup> Not only Ukraine but Romania, Bulgaria, and Turkey could be affected by the radioactive plume.<sup>346</sup> The location of the nuclear power plant on the Dnipro

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<sup>339</sup> Zhanna Bezpyatchuk, "The Situation is Close to Fukushima, There is No Help From the World." *Interview with the Engineer of the Zaporizhzhya NPP*, BBC NEWS (Aug. 13, 2022),

<https://www.bbc.com/ukrainian/features-62532425>; John Hudson & Karen DeYoung, *Ukraine Nuclear Plant Worker Killed by Russian Mortar as Tensions Rise*, THE WASHINGTON POST (Aug. 23, 2022),

<https://www.washingtonpost.com/world/2022/08/23/ukraine-zaporizhzhia-nuclear-plant-death-tensions-rising/>; Isabella Boneham, *Russia Tortures Staff at Zaporizhzhia Nuclear Power Plant and Kidnaps Children, Ukraine Chief Claims*, YAHOO NEWS (July 21, 2023),

<https://uk.news.yahoo.com/russia-tortures-staff-zaporizhzhia-nuclear-070428490.html>.

<sup>340</sup> Diana Kwasnevska, *There will be a Permanent Presence of the Mission: the Head of the IAEA Reported on the Visit to the ZNPP*, 24TV (Sept. 2, 2022),

[https://24tv.ua/glava-magate-zvituye-pro-vizit-zaporizku-aes-onlayn-translyatsiya\\_n2149841](https://24tv.ua/glava-magate-zvituye-pro-vizit-zaporizku-aes-onlayn-translyatsiya_n2149841).

<sup>341</sup> Rzhetska, *supra* note 337.

<sup>342</sup> Pavel Vasiliev, *Fighting Has Been Going on Near the Zaporizhzhia Nuclear Power Plant for Five Months. How Likely is a Nuclear Catastrophe?*, ZONA MEDIA (Aug. 5, 2022),

<https://zona.media/article/2022/08/05/nuclear>.

<sup>343</sup> Avdeenko Nina, "According to Calculations, Radioactive Fallout will Fall in the Krasnodar Territory" – is a Catastrophe Possible at the Zaporizhzhia Nuclear Power Plant and What Does it Threaten?, THE INSIDER (Aug. 20, 2022), <https://theins.info/news/254254>.

<sup>344</sup> *Zaporozhe 3 enters next 10 years of operation*, WORLD NUCLEAR NEWS (Nov. 7, 2017),

<https://web.archive.org/web/20171107183055/http://www.world-nuclear-news.org/RS-Zaporozhe-3-enters-next-10-years-of-operation-07111701.html>; Ellen Ioanes, *The Risks to Ukraine's Zaporizhzhia Power Plant, Explained*, VOX (Aug. 20, 2022),

<https://www.vox.com/2022/8/20/23314161/ukraines-zaporizhzhia-nuclear-power-plant-russia-united-nations>.

<sup>345</sup> *Id.* This zone includes such settlements as Enerhodar, Nikopol, Marhanets, Chervonohoryvka, Kam'yanka-Dniprovsk, Velyka Znam'yanka, Velyka Bilozerka, Mala Bilozerka, Dniprorudne, Verhnyi Rohachyk, Tomakivka, etc. See also Yulia Petrychenko, *Sytuatsiia na ZAES: de mozhe statysia vybukh i kudy pide radiatsiia* [Situation at ZNPS: where the explosion may occur and in which direction the radiation will go], UNIAN (May 23, 2023),

<https://www.unian.ua/society/shcho-bude-yakshcho-vibuhne-zaes-yaki-mista-postrazhdayut-12266079.html>.

<sup>346</sup> Nina, *supra* note 343.

River means that any release of radiation can also spread to the Black Sea.<sup>347</sup> In the event of an accident at the ZNPP, radioactive elements would spread downwind.<sup>348</sup>

ZNPP is the first nuclear power plant in Ukraine with a dry cask storage (a method of storing high-level radioactive waste, such as spent nuclear fuel).<sup>349</sup> As of 2022, it contained 174 concrete containers, each containing 24 spent nuclear fuel assemblies.<sup>350</sup> According to experts, the destruction of these containers is comparable to the destruction of reactors and would lead to radioactive contamination of the environment.<sup>351</sup>

This MEI not only examines the Russian actors' ongoing attack on the ZNPP, but also any potential catastrophic attack that would result in the release of radioactive materials.

**a. Criminal Code of Ukraine Article 441**

It can be argued that the Russian actors' attack on the ZNPP likely meets the requirements of CCU Article 441. Any attack that causes the release of radioactive material would certainly meet the requirements of CCU Article 441. However, the question of whether intent should be considered a required element remains open.

*i. mass destruction of flora and fauna; or*

The military occupation and presence of Russian Armed Forces at the ZNPP, along with the placement of military equipment, weapons, and explosives, increase the risk of accidental detonations or deliberate destruction of critical infrastructure. This could lead to significant releases of radioactive material into the environment, significantly affecting flora and fauna in the surrounding area. The presence of armed forces and explosives could also disrupt the ecosystem through direct damage and disturbances, potentially leading to long-lasting environmental damage.

*ii. poisoning of air or water resources; or*

Destruction of the nuclear reactors or the dry cask storage containers would result in the release of radioactive elements into the air and water. The radioactive plume could spread downwind, affecting not only Ukraine but also neighboring countries like Romania, Bulgaria, and Turkey. The ZNPP's location on the Dnipro River could lead to the spread of radioactive contamination into the river and potentially into the Black Sea. This contamination would pose a severe threat to air and water resources, making them hazardous to humans, animals, and aquatic life.

*iii. any other action that may cause an environmental disaster.*

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<sup>347</sup> Mary Glantz, *Russia's New Nuclear Threat: Power Plants as Weapons*, UNITED STATES INSTITUTE OF PEACE (Aug. 24, 2022), <https://www.usip.org/publications/2022/08/russias-new-nuclear-threat-power-plants-weapons>.

<sup>348</sup> Greg Heilman & Maite Knorr-Evans, *What Would Happen if Zaporizhzhia Nuclear Power Plant Were to Explode?*, AS (Aug. 7, 2022),

[https://en.as.com/latest\\_news/what-would-happen-if-zaporizhzhia-nuclear-power-plant-were-to-explode-n](https://en.as.com/latest_news/what-would-happen-if-zaporizhzhia-nuclear-power-plant-were-to-explode-n).

<sup>349</sup> *Zaporizhzhia NPP*, UATOM, <https://www.uation.org/en/general-information/zaporizhzhya-npp> (last visited July 27, 2023).

<sup>350</sup> Nina, *supra* note 343.

<sup>351</sup> *Id.*

The hostile environment created by the military occupation, along with the reported human rights abuses suffered by the Ukrainian staff, increases the likelihood of accidents and incidents due to fear, stress, and compromised safety protocols. The presence of military equipment and personnel within the ZNPP's critical areas creates a situation where accidents, sabotage, or unplanned events could result in environmental disasters, such as radioactive releases or explosions.

**b. Additional Protocol I to the Geneva Conventions, Article 85(3)(c)**

It can be argued that an attack on the ZNPP would certainly meet the requirements for a grave breach of the Geneva Conventions AP I under Article 85(3)(c).

- i. Launching an attack<sup>352</sup> against works or installations containing dangerous forces;*

The ZNPP is a nuclear power plant, which is considered an installation containing dangerous forces. It is a critical infrastructure facility with nuclear reactors that can potentially pose a significant threat if attacked or sabotaged. Russian forces attacked and seized the ZNPP and turned it into a military base.

- ii. in the knowledge that such an attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;*

The attack on ZNPP poses an imminent risk to the surrounding civilian population and environment. Any attack or accident at or near the ZNPP could lead to a catastrophic release of radiation, causing excessive loss of life, injuries, and damage to civilian objects. The potential widespread, longterm, and catastrophic impact of an attack on or near or sabotage of the ZNPP would almost certainly be excessive in relation to the Russian actors' anticipated military advantage over controlling the ZNPP.

- iii. causing death or serious injury to body or health; and*

An attack or accident at a nuclear power plant like the ZNPP would certainly lead to the release of harmful radiation, causing death or serious injury to the people living in the vicinity. Additionally, the situation where the Ukrainian staff is subjected to kidnappings, murders, and inhuman treatment further increases the risk of nuclear incidents and accidents, putting both the staff and nearby civilians' lives and health in danger.

- iv. the attack was committed willfully*

The seizure and militarization of the ZNPP by Russian troops, including the placement of military equipment, weapons, and explosives within the ZNPP's premises, indicates a willful and intentional act. The continued occupation and use of the plant for military purposes demonstrate a clear intention to maintain control over the ZNPP and to utilize it as part of their military strategy.

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<sup>352</sup> For a discussion on the definition of an attack under the Additional Protocols to the Geneva Conventions, *see supra* text accompanying note 290.

**c. Rome Statute Article 8(2)(b)(iv)**

Applying these elements to a potential attack on the ZNPP, it can be argued that such an attack would certainly meet the requirements for Rome Statute Article 8(2)(b)(iv).

*i. The perpetrator launched an attack.*

Russian forces seized and controlled the ZNPP, turning it into a military base and stationing their military and weapons there.

*ii. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The attack on the nuclear power plant, a critical civilian infrastructure facility, poses a significant risk of incidental death or injury to civilians due to the potential for nuclear incidents and accidents. The potential widespread, longterm, and catastrophic impact resulting from an attack or sabotage on the ZNPP would undoubtedly outweigh any anticipated military advantage that the Russian actors might gain from controlling the plant.

*iii. The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The Russian forces were aware of the potential consequences of their actions. They knew that the attack on the nuclear power plant, along with the militarization, posed significant risks to civilian lives, the environment, and civilian objects. The potential widespread, longterm, and catastrophic impact resulting from an attack or sabotage on the ZNPP would undoubtedly outweigh any anticipated military advantage that the Russian actors might gain from controlling the plant.

*iv. The conduct took place in the context of and was associated with an international armed conflict.*

The attack on the ZNPP occurred within the context of the international armed conflict between Russia and Ukraine.

*v. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.*

The Russian forces were aware of the existence of the armed conflict between Russia and Ukraine, as demonstrated by their involvement in the attack on the ZNPP during the ongoing conflict.

**d. Proposed Crime of Ecocide**

It can be argued that an attack on the ZNPP would certainly meet the requirements for the Proposed Crime of Ecocide.

*i. Unlawful or wanton acts*

This attack is likely to be considered unlawful, but not wanton. First, the attack on the ZNPP may be considered unlawful under CCU Article 441; AP I Article 85(3)(c); or Rome Statute Article 8(2)(b)(iv). Second, the attack may not be considered wanton. Under the proposed definition of ecocide, “wanton means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated.” This category is meant to capture lawful activities undertaken in pursuit of economic and other development, and as such, it may not be applicable to acts of war.

*ii. committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts.*

The Russian military is aware that their actions at the ZNPP have a substantial likelihood of causing severe, widespread, and long-term damage to the environment. The presence of military equipment and explosives in the nuclear facility increases the risk of nuclear incidents and accidents, potentially leading to significant releases of radioactivity. Such releases could result in the creation of an exclusion zone, affecting not only Ukraine but also neighboring countries like Romania, Bulgaria, and Turkey due to the spread of radioactive plumes. The location of the plant on the Dnipro River could further spread radiation downstream to the Black Sea, impacting a large geographic area and posing grave impacts on human life and the environment.

### **E. Kalynivka KLO Oil Depot**

The Russian military’s repeated attacks on Ukraine’s oil depots convey the goal of crippling the country’s overall energy infrastructure.<sup>353</sup> These targeted attacks are aimed at weakening Ukraine’s military capabilities and disrupting their government’s ability to meet the energy needs of their civilian populace.<sup>354</sup> Furthermore, the attacks often cause great ecological damage.<sup>355</sup> Just one example of this is the attack carried out on the KLO Oil Depot in Kalynivka.

On 24 March 2022, in Kalynivka, Vinnytsia Oblast, a Russian cruise missile struck the KLO Oil Depot.<sup>356</sup> The strike immediately detonated all of the fuel tanks and massive fires broke out.<sup>357</sup> The explosion and resulting smoke and fire was said to be visible from as far as 30 miles away, appearing even brighter than central Kyiv from space.<sup>358</sup> The massive fire raged for the better part of three days, releasing 10,000 tons of chemical byproducts into

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<sup>353</sup> Jeff Stein & Michael Birnbaum, *The war in Ukraine is a human tragedy. It’s also an environmental disaster*, THE WASHINGTON POST (Mar. 13, 2023), <https://www.washingtonpost.com/world/2023/03/13/ukraine-war-environment-impact-disaster/>; *Ukraine Conflict Environmental Briefing, Fossil Fuel Infrastructure*, CONFLICT AND ENVIRONMENT OBSERVATORY (Nov. 2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#4>.

<sup>354</sup> *Id.*

<sup>355</sup> *Id.*

<sup>356</sup> *Id.*

<sup>357</sup> *Id.*

<sup>358</sup> *Id.*

the air.<sup>359</sup> Among these byproducts were high volumes of CO<sub>2</sub> and many other harmful substances such as black carbon particulates.<sup>360</sup> These particulates have been linked to numerous serious and sometimes fatal health issues when inhaled or ingested in significant quantities, including pregnancy complications and lung diseases.<sup>361</sup> After the KLO Oil Depot exploded and caught fire, the resulting black carbon particulates and other airborne chemicals quickly spread and contaminated the local water sources and agricultural products.<sup>362</sup> By September 2022, oil byproducts had heavily contaminated the lakes, destroying the local freshwater ecosystems.<sup>363</sup>

The KLO Oil Depot is analyzed here as a representative MEI of the coordinated destruction of Ukraine’s fuel infrastructure causing significant harm to the natural environment. While alone it may not meet the threshold of certain crimes analyzed, taken together with other attacks in a general scheme, it may.

**a. Criminal Code of Ukraine Article 441**

It can be argued that the Russian actors’ attack on the KLO Oil Depot likely meets the requirements of CCU Article 441. However, the question of whether intent should be considered a required element remains open.

*i. mass destruction of flora and fauna; or*

Attacks on fuel infrastructure significantly impact and alter the natural environment resulting in unprecedented threats and dangers to living organisms. First, the Kalynivka shelling and the subsequent fuel detonation resulted in fires altering natural habitats, and destroying native fauna and flora. Second, fires caused by the blast went on for several days with fuels and firefighting liquids spilling into agricultural lands and a nearby fish-processing factory. Notwithstanding, the fire continued burning above ground, and reports indicated that the fuel stored underground burned for three consecutive days.<sup>364</sup> Third, the aftermath of the explosion potentially altered and disrupted the local ecosystem, extinguishing native species and potentially triggering the migration of native species. The aforementioned circumstances constitute a grave and large-scale attack against the local fauna and flora in the Kalynivka region.

*ii. poisoning of air or water resources; or*

As a result of the shelling, the KLO Oil Depot caught fire, and released toxic fumes, fuel, and firefighting liquids which spilled onto agricultural lands, affecting the fish processing factory located nearby and resulting in air, land, and water contamination. The incident resulted in nonpoint-source pollution spreading into local lakes, exterminating local

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<sup>359</sup> *Id.*

<sup>360</sup> *Id.*

<sup>361</sup> Eva Bongaerts, *et al.*, *Maternal exposure to ambient black carbon particles and their presence in maternal and fetal circulation and organs: an analysis of two independent population-based observational studies*, 6, THE LANCET (Oct. 2022), [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(22\)00200-5/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(22)00200-5/fulltext); *Carbon Black*, WIS. DEP’T OF HEALTH SERVS. (Mar. 29, 2023), <https://www.dhs.wisconsin.gov/chemical/carblack.htm>.

<sup>362</sup> *Ukraine Conflict Environmental Briefing, Fossil Fuel Infrastructure*, *supra* note 353.

<sup>363</sup> *Id.*

<sup>364</sup> *Id.*

marine life.<sup>365</sup> Furthermore, several water bodies surround the oil depot, and some of them already display signs of severe environmental damage, such as the Riznytsia pond.<sup>366</sup> These bodies are said to be contaminated with oil and firefighting waste.<sup>367</sup> As such, point sources of pollution in addition to industrial and chemical pollution all of which are going into the flood waters of the River Irpin are a threat to local, national, and potentially global ecosystems. As the Rizhysia pond can potentially reach River Irpin, this establishes a causal link between the KLO Oil Depot and the poisoning of larger water basins can be reasonably expected.

*iii. any other action that may cause an environmental disaster.*

Further, in the aftermath of the attack, oil has been consistently concentrated beneath the ground, and soil samples collected by the State Environmental Inspectorate suggest physical, chemical, and biological soil damage.<sup>368</sup> It thus seems that soil deterioration significantly impacts the agricultural sector, which in the future, may impact crop selection. Albeit having first and foremost ecological consequences, such a consequence also influences local economies and the usage of specific agricultural machinery. If efforts to reinvigorate local farming prove futile, this can lead to more pollution as foods and other goods would have to be transported to local communities in need. This leads to further pollution and environmental threats to local communities and ecosystems.

#### **b. Additional Protocol I to the Geneva Conventions, Article 85(3)(b)**

It can be argued that the Russian actors' attack on the KLO Oil Depot may meet the requirements for a grave breach of the Geneva Conventions AP I under Article 85(3)(b). However, the proportionality element may be difficult for a prosecutor to overcome. While the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated in destroying fuel depots used by or within access to the Ukrainian military.

*i. Launching an indiscriminate attack<sup>369</sup> affecting the civilian population or civilian objects;*

The Russian military attacked the KLO Oil Depot. It appears the KLO Oil Depot was a mixed-use facility, with some fuel depots supplying the military and some civilian supplies. Thus, while potentially being a military objective, the attack destroyed the fuel supply to the civilian population. This attack was one in a series aimed to cripple the country's energy capabilities and disrupt the government's ability to meet the energy needs of its civilian population.

*ii. in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;*

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<sup>365</sup> *Id.*

<sup>366</sup> *Id.*

<sup>367</sup> *Id.*

<sup>368</sup> *Id.*

<sup>369</sup> For a discussion on the definition of an attack under the Additional Protocols to the Geneva Conventions, see *supra* text accompanying note 290.



The attack on the oil depot resulted in massive fires and explosions, releasing harmful chemical byproducts, including high volumes of CO<sub>2</sub> and black carbon particulates, into the air. These harmful substances have been linked to serious health issues, including pregnancy complications and lung diseases when inhaled or ingested in significant quantities, posing a severe risk to civilian lives and health.

However, while the damage was likely foreseeable by the perpetrator at the time, such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated. There is likely a concrete and direct military advantage in destroying fuel depots used by or within access to the Ukrainian military.

*iii. causing death or serious injury to body or health; and*

The attack on the KLO Oil Depot resulted in the release of toxic chemical byproducts, which contaminated local water sources and agricultural products. The ecological damage caused the death of marine life in nearby lakes and heavily contaminated the water sources, making them more than 40 times higher than state standards. The soil in the area also showed contamination levels 16 times higher than national standards, affecting agricultural products and posing a significant risk to the health and well-being of the civilian populace.

*iv. the attack was committed willfully*

Given the ongoing armed conflict and repeated attacks on Ukraine's energy infrastructure, the attack on the KLO Oil Depot in Kalynivka was a willful and intentional act. It was part of a broader pattern of attacks carried out by the Russian military with the knowledge of the potential harm to civilians and civilian objects.

**c. Rome Statute Article 8(2)(b)(iv)**

It can be argued that such an attack could meet the requirements for Rome Statute Article 8(2)(b)(iv). However, the proportionality element may be difficult for a prosecutor to overcome. Such damage may not be clearly excessive in relation to the concrete and direct overall military advantage anticipated in destroying fuel depots used by or within access to the Ukrainian military.

*i. The perpetrator launched an attack.*

The Russian military carried out an attack on the KLO Oil Depot in Kalynivka, Vinnytsia Oblast, using a cruise missile that detonated all of the fuel tanks, resulting in massive fires and explosions.

*ii. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The attack on the KLO Oil Depot caused a significant release of harmful chemical byproducts, including high volumes of CO<sub>2</sub> and black carbon particulates, into the air. These

substances have been linked to serious and sometimes fatal health issues when inhaled or ingested in significant quantities, posing a severe risk to civilian lives and health. The ecological damage caused by the attack, including contamination of water sources, destruction of freshwater ecosystems, and contamination of agricultural products, is widespread, long-term, and severe.

However, whether the KLO Oil Depot was a legitimate military objective would need to be determined. If it was a valid military objective, the resulting damage may not be clearly excessive in relation to the concrete and direct overall military advantage of depriving Ukrainian forces of access to fuel.

- iii. The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The Russian military was aware of the potential consequences of their attack on the KLO Oil Depot. They knew that the release of harmful chemical byproducts and the ecological damage would pose significant risks to civilian lives, health, and the environment.

However, whether the KLO Oil Depot was a legitimate military objective would need to be determined. If it was a valid military objective, the resulting damage may not be clearly excessive in relation to the concrete and direct overall military advantage of depriving Ukrainian forces of access to fuel.

- iv. The conduct took place in the context of and was associated with an international armed conflict.*

The attack on the Kalynivka Oil Depot occurred within the context of the international armed conflict between Russia and Ukraine.

- v. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.*

The Russian military was aware of the existence of the armed conflict between Russia and Ukraine, as evidenced by their involvement in the attack on the KLO Oil Depot during the ongoing conflict.

#### **d. Proposed Crime of Ecocide**

Applying these elements to an attack on the KLO Oil Depot, it can be argued that such an attack could meet the requirements for the proposed crime of Ecocide.

- i. Unlawful or wanton acts*

The KLO Oil Depot attack would likely be classified as unlawful, but not as wanton. First, the attack on the KLO Oil Depot may be considered unlawful under CCU Article 441; AP I Article 85(3)(b); or Rome Statute Article 8(2)(b)(iv). Second, the attack may not be considered wanton. Under the proposed definition of ecocide, “wanton means with reckless disregard for damage which would be clearly excessive in relation to the social and economic

benefits anticipated.” This category is meant to capture lawful activities undertaken in pursuit of economic and other development, and as such, it may not be applicable to acts of war.

- ii. *committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts.*

The Russian military was aware of the substantial likelihood of severe and widespread damage to the environment caused by the attack. Attacks on oil depots result in the release of harmful substances into nearby ecosystems. The explosion and fires released 10,000 tons of chemical byproducts, including harmful substances like CO<sub>2</sub> and black carbon particulates, into the air, which poses serious health risks to human beings and significant harm to the environment. The ecological damage extended beyond a limited geographic area, impacting nearby water sources, lakes, and agricultural land, causing severe adverse changes and disruptions to the local ecosystem. This attack likely caused long-term damage to the environment of the affected area. The local environment is unlikely to fully recover on its own within a short period of time. The implementation of clean-up efforts is also not currently possible within the foreseeable future due to the current state of conflict in Ukraine.

## F. Landmines planted throughout Eastern Ukraine

Not only is Russia using antipersonnel mines to defend its position in Ukraine and slow Ukrainian forces, but Russian soldiers have deliberately left behind booby traps, landmines, and unexploded ordnance while retreating in Ukraine.<sup>370</sup> Today, there are more active landmines in Ukraine than any other nation in the world.<sup>371</sup> They are often buried underground, along with grenades, rockets, and other explosives.<sup>372</sup> The Ukrainian Ministry of Foreign Affairs estimates that 174,000 square kilometers of territory (especially in Eastern Ukraine) is contaminated with mines and unexploded bombs.<sup>373</sup> The presence of mines and rockets is so common across Ukraine that some residents have had to wait over seven months for the overburdened State Emergency Services to remove theirs.<sup>374</sup>

Since February 2022, 758 casualties caused by the remnants of war in Ukraine have been verified, and mine accidents are reported daily.<sup>375</sup> Since February 2022, over 55,000 explosives have been found in Kharkiv alone, more than have been found anywhere else in Ukraine, killing at least 29 civilians and injuring at least 121 others.<sup>376</sup>

<sup>370</sup> Rich Wordsworth, *Russia Has Turned Eastern Ukraine Into a Giant Minefield*, WIRED (Dec. 21, 2022), <https://www.wired.com/story/russian-landmines-ukraine-psychological-warfare>.

<sup>371</sup> Guillaume Ptak, *Ukraine Now Has More Landmines Than Any Other Nation — What Can Be Done?*, WORLD CRUNCH (Apr. 23, 2023), <https://worldcrunch.com/focus/landmines-in-ukraine>; Daniel Fata, *Demining Ukraine: An Urgent but Under-Resourced Priority*, CSIS (June 8, 2023), <https://www.csis.org/analysis/demining-ukraine-urgent-under-resourced-priority>.

<sup>372</sup> *Id.*

<sup>373</sup> *Id.* See also Daniel Fata, *Demining Ukraine: An Urgent but Under-Resourced Priority*, CSIS (June 8, 2023), <https://www.csis.org/analysis/demining-ukraine-urgent-under-resourced-priority>.

<sup>374</sup> Ptak, *supra* note 370.

<sup>375</sup> Save the Children, *Ukraine: 1 in 8 landmine casualties is a child as detonation accidents spike*, RELIEFWEB (Apr. 3, 2023), <https://reliefweb.int/report/ukraine/ukraine-1-8-landmine-casualties-child-detonation-accidents-spike>.

<sup>376</sup> James Waterhouse, *Ukraine war: The deadly landmines killing hundreds*, BBC (Apr. 11, 2023), <https://www.bbc.com/news/world-europe-65204053>.

In southern Ukraine, land mines have been uprooted by floodwaters surging from the breached Nova Kakhovka Dam, dispersing countless mines across Ukraine in a mix of seawater and debris.<sup>377</sup> The spreading of mines and potential concealment by debris fields has significantly increased the risk of harm to civilians and further exacerbates the situation for anyone in the country.<sup>378</sup>

There has been widespread use of tripwires and anti-personnel landmines (APL): most notably PFM-1 mines.<sup>379</sup> Tripwires have been used in Ukraine by the Russian military, typically when abandoning an area the Ukrainian military is reclaiming, and must be set by hand by Russian troops.<sup>380</sup> Additionally, PFM-1 mines (also known as “butterfly mines” or “petal mines”) have been used extensively, but they cannot be disarmed upon deployment and their playful shape and typically green color make them more likely to be grabbed by curious children mistaking them as a toy.<sup>381</sup> In part because of these increased risks, PFM-1 mines are banned under international law.<sup>382</sup>

The Russian military has also adopted aggressive and unusual techniques to lure not just Ukrainian troops but also humanitarian aid and Ukrainian civilians into the path of landmines: most notably by using the bodies of dead Russian soldiers to camouflage active mines.<sup>383</sup> In addition to using dead Russian troops, open doors, boxes, crates, and toys are also deployed and show a clear intent to target civilians; especially those who are often the most vulnerable in a war-torn environment: medical personnel and children.<sup>384</sup>

Anti-personnel mines have a shelf-life of roughly 10 years and release toxic chemicals into the environment upon explosion.<sup>385</sup> Given the vast number of mines populating Ukraine, residents will be navigating deadly minefields and environmental toxicity for at least a decade after this conflict ends.<sup>386</sup> Beyond their immediate impact on

<sup>377</sup> Tétrault-Farber & Faulconbridge, *supra* note 288.

<sup>378</sup> See e.g., Save the Children, *supra* note 375.

<sup>379</sup> E.U. Action Fiche for the 2007 ENPI-East Regional Action Programme, *Destruction of PFM-1 series ammunition in Belarus* (Mar. 2007), [https://neighbourhood-enlargement.ec.europa.eu/system/files/2017-03/enpi\\_2007\\_c2007\\_4230\\_rap\\_east\\_landminesclearance.pdf](https://neighbourhood-enlargement.ec.europa.eu/system/files/2017-03/enpi_2007_c2007_4230_rap_east_landminesclearance.pdf); see also OCHA, *Eastern Ukraine one of the areas most contaminated by landmines in the world*, UN (Apr. 4, 2019), <https://www.unocha.org/story/eastern-ukraine-one-areas-most-contaminated-landmines-world>.

<sup>380</sup> Wordsworth, *supra* note 370.

<sup>381</sup> Waterhouse, *supra* note 376; see also Tamás Orbán, *Human Rights Watch: Landmines Undermining Civilians’ Safety in Ukraine*, THE EUROPEAN CONSERVATIVE (Feb. 2, 2023), <https://europeanconservative.com/articles/news/human-rights-watch-landmines-undermining-civilians-safety-in-ukraine>.

<sup>382</sup> Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Sept. 18, 1997, 2056 U.N.T.S. 211, 36 I.L.M 1507, Preamble, arts. 2, 4, 5 [hereinafter *Ottawa Treaty*] (Ukraine is a State Party, Russia is not).

<sup>383</sup> Vladyslav Smilianets, *On Ukraine’s landmine-strewn front, even the corpses can kill*, REUTERS (Aug. 3, 2023), <https://www.reuters.com/world/europe/ukraines-landmine-strewn-front-even-corporse-can-kill-2023-08-03>. (According to a Ukrainian sapper named Volodymyr, Russian units will essentially prop up “three or four of their dead” around an APL because “[t]hey know that our med-evac groups lift the wounded and the dead, under which they then find these explosives. And this is very dangerous for us.” Volodymyr emphasized however that this is not an unusual tactic employed by Russia, adding that Russia will “mine everything. Open doors, boxes and crates, even toys.”)

<sup>384</sup> *Id.*

<sup>385</sup> See E.U. Action Fiche, *supra* note 379; see also OCHA, *supra* note 379.

<sup>386</sup> Eve Sampson & Samuel Granados, *Ukraine is now the most mined country. It will take decades to make safe.*, THE WASHINGTON POST (July 22, 2023),

human life, the mines have long-term effects regarding how humans can interact with other elements like animals and the environment, such as farmers who now frequently try to demine their own fields to efficiently sow them, and thus supply for their families economically and other Ukrainians nutritionally.<sup>387</sup>

Of course, these mines additionally have a clear and direct impact on animals in Ukraine. Wild animals are perhaps more obviously at risk, and this is not a problem new or unique to Ukraine: for war-torn regions of the world have long seen defenseless animals maimed and killed by landmines long after warfare has ceased.<sup>388</sup> However, domesticated animals are also heavily at risk: both from the immediate risk of death or injury like those suffered by wild animals, but also from other direct risks like abandonment or starvation that may likely occur if their military or civilian owner is killed by one of the millions of landmines in Ukraine.<sup>389</sup> Additionally, landmines and other incidents stemming from warfare, whether injuring the animal themselves or through their owner's well-being, will naturally cause long-term traumatic impacts on the animal's emotional and mental health.<sup>390</sup>

As these mines are often dispersed by airplanes, helicopters, and rockets that scatter them across the environment, they cannot be easily traced after being deployed.<sup>391</sup> However, thermal-imaging cameras used in drones have proved to be a safer way to identify mined areas than traditional methods.<sup>392</sup> The World Bank estimates that the process of "de-mining" Ukraine will cost \$37.4 billion USD<sup>393</sup> and clearing mines can take decades without proper support.<sup>394</sup>

#### a. Criminal Code of Ukraine Article 441

It can be argued that the Russian actors' planting of landmines throughout Eastern Ukraine likely meets the requirements of CCU Article 441. However, the question of whether intent should be considered a required element remains open.

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<https://www.washingtonpost.com/world/2023/07/22/ukraine-is-now-most-mined-country-it-will-take-decades-make-safe>.

<sup>387</sup> See e.g. Wright, Watson, Konovalova, & Booth; *Clearing land mines by hand, farmers in Ukraine risk their lives for planting season*; CNN (Mar. 27, 2023),

<https://www.cnn.com/2023/03/27/europe/farmers-land-mines-clearance-ukraine-russia-invasion-intl-hnk/index.html>.

<sup>388</sup> See e.g. Mydans, *supra* note 289 (pertaining to Asian elephants who are too often killed or permanently injured when grazing along the Thailand-Myanmar border by exploding landmines that remain from decades of interference from insurgents, and military operations: foreign and domestic).

<sup>389</sup> *Id.* (pertaining to the impact of landmines on wild animals); see Aleksandra Klitina, 'One Dog Looked Like the Terminator Before He Was Pinned Down' - an AFU soldier, KYIV POST (Apr. 16, 2023),

<https://www.kyivpost.com/post/15856> (pertaining to landmines impact on domestic animals); see also Sampson & Granados, *supra* note 385 (pertaining to the amount of landmines in Ukraine).

<sup>390</sup> Klitina, *supra* note 389.

<sup>391</sup> See e.g. *Landmine Use in Ukraine*, HRW (June 13, 2023), <https://www.hrw.org/news/2023/06/13/landmine-use-ukraine>.

<sup>392</sup> Jeremy Hsu, *Drones Used to Find Toylike "Butterfly" Land Mines*, SCIENTIFIC AMERICAN (Dec. 28 2018), <https://www.scientificamerican.com/article/drones-used-to-find-toylike-butterfly-land-mines>.

<sup>393</sup> Olha Hlushchenko, *Mine clearance in Ukraine to cost upwards of US \$37 billion – Prime Minister*, UKRAINSKA PRAVDA (Apr. 5, 2023), <https://www.pravda.com.ua/eng/news/2023/04/5/7396480>.

<sup>394</sup> *Id.* The geographical location of Ukraine has made it a geopolitical hotspot historically: where it served as a prime stage for Nazi German-Soviet warfare and conflict, meaning the nation has been clearing mines ever since they were left behind from World War II: and continue the effort to this day.

*i. mass destruction of flora and fauna; or*

The widespread planting of landmines and explosive devices across eastern Ukraine has the potential to cause significant destruction to flora and fauna. The detonation of these devices can lead to habitat destruction, killing or injuring wildlife, disrupting ecosystems, and damaging plant life. The presence of unexploded ordnance further increases the risk of delayed environmental damage as these remnants pose ongoing threats to the environment and wildlife.

*ii. poisoning of air or water resources; or*

The detonation of landmines releases toxic chemicals into the environment, polluting the air, soil, and water resources. Toxic chemicals can be released both from the explosive components themselves and from the ordnance casing. In cases where landmines are dispersed by water, as in the situation with the breached Nova Kakhovka Dam, the floodwaters can spread mines across a wide area, contaminating water bodies and causing a risk to human health and aquatic life.

*iii. any other action that may cause an environmental disaster.*

The intentional use of landmines as a tactical strategy, including tactics involving dead soldiers and camouflaging active mines, indicates a deliberate effort to target civilians and military personnel alike. Such tactics can cause lasting psychological, emotional, and physical harm to both humans and animals. Animals, whether domesticated or wild, are at risk of injury or death due to landmines. Abandoned or injured animals could further contribute to environmental imbalances. Additionally, the long-lasting presence of landmines in the environment will impact the ability of humans to engage in activities such as farming, affecting agricultural practices and potentially leading to food security issues.

**b. Additional Protocol I to the Geneva Conventions, Article 85(3)(b)**

It can be argued that the Russian actors' planting of landmines throughout eastern Ukraine would likely meet the requirements for a grave breach of the Geneva Conventions AP I under Article 85(3)(b).

*i. Launching an indiscriminate attack<sup>395</sup> affecting the civilian population or civilian objects;*

The perpetrator planted landmines throughout eastern Ukraine, knowing that these mines would affect the civilian population and civilian objects in the region. Landmines are indiscriminate weapons that do not distinguish between military targets and civilians, posing a severe threat to anyone who comes into contact with them, including innocent civilians.

*ii. in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, in relation to the concrete and direct military advantage anticipated;*

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<sup>395</sup> For a discussion on the definition of an attack under the Additional Protocols to the Geneva Conventions, see *supra* text accompanying note 290.

The perpetrator was aware that planting landmines in densely populated areas and civilian infrastructure would lead to excessive loss of life, injuries, and damage to civilian objects. The vast contamination of over 174,000 square kilometers of Ukraine with landmines, unexploded ordnance, and shrapnel poses a substantial risk to civilians and civilian infrastructure, far in excess of what would be considered proportional to any military advantage sought by the Russian actors.

*iii. causing death or serious injury to body or health; and*

The planting of landmines throughout Eastern Ukraine has directly caused death and serious injury to civilians and will almost certainly cause further harm in the future. These mines remain active for approximately ten years and pose a long-term threat to the safety and health of residents in the affected areas. Additionally, the explosions of landmines release toxic chemicals into the environment, further endangering the well-being of civilians and contributing to environmental contamination.

*iv. the attack was committed willfully*

The planting of landmines and unexploded ordnance by Russian soldiers in Ukraine was done with deliberate intent. It was not an accidental act, but rather a willful decision to use these devices as part of their military strategy, despite knowing the harm they would cause to civilians and civilian objects for years to come.

**c. Rome Statute Article 8(2)(b)(iv)**

It can be argued that the Russian actors' planting of landmines throughout Eastern Ukraine would likely meet the requirements of Rome Statute Article 8(2)(b)(iv).

*i. The perpetrator launched an attack.*

Russian soldiers deliberately plant landmines, booby traps, and unexploded ordnance throughout eastern Ukraine. This act constitutes an attack on civilian-populated areas, civilian infrastructure, and the natural environment.

*ii. The attack was such that it would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The planting of landmines, booby traps, and unexploded ordnance in civilian areas poses a significant risk of death and injury to civilians, and it has resulted in numerous casualties. The extensive contamination of up to 174,000 square kilometers of Ukraine with landmines, unexploded ordnance, and shrapnel has caused severe and widespread damage to the natural environment. The impact is also long-term, as these unexploded ordnance remain active for up to 10 years after their placement. The overwhelming presence of these deadly explosives in densely populated civilian regions is clearly excessive in relation to any anticipated military advantage by the Russian actors.

- iii. *The perpetrator knew that the attack would cause incidental death or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment and that such death, injury or damage would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*

The perpetrators were aware of the indiscriminate nature of landmines and the risks they posed to civilian lives, health, and infrastructure. They knew that the use of landmines in civilian-populated areas would cause death, injury, and damage far beyond any direct military advantage sought during the conflict. Landmines recognize no ceasefire and continually affect and kill civilians years after conflicts end. Landmines left in fields severely damage the natural environment by causing land degradation, erosion, amongst others.

- iv. *The conduct took place in the context of and was associated with an international armed conflict.*

The planting of landmines and explosives occurred within the context of the ongoing international armed conflict between Russia and Ukraine.

- v. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.

The Russian soldiers were aware of the existence of an armed conflict between Russia and Ukraine as their actions were part of their military engagement in the conflict.

#### **d. Proposed Crime of Ecocide**

It can be argued that the Russian actors' planting of landmines throughout Eastern Ukraine would likely meet the requirements of the Proposed Crime of Ecocide.

- i. *Unlawful or wanton acts*

The placing of landmines throughout eastern Ukraine would likely be classified as unlawful, but not as wanton. First, the placing of landmines throughout eastern Ukraine may be considered unlawful under CCU Article 441; AP I Article 85(3)(b); or Rome Statute Article 8(2)(b)(iv). Second, the attack may not be considered wanton. Under the proposed definition of ecocide, "wanton means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated." This category is meant to capture lawful activities undertaken in pursuit of economic and other development, and as such, it may not be applicable to acts of war.

- ii. *committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment caused by those acts.*

The perpetrators were aware of the substantial likelihood that placing landmines, unexploded ordnance, and other explosives in civilian areas would cause severe and widespread or long-term damage to the environment. The contamination of a vast area of approximately 174,000 square kilometers of Ukrainian territory with active landmines and unexploded bombs has resulted in serious adverse changes to the environment, posing grave



impacts on human life, natural resources, and economic activities. The damage to the environment caused by landmines and explosives is severe as it involves very serious adverse changes and harm to elements of the environment. The damage is also widespread as it extends beyond a limited geographic area and affects a large number of human beings, animals, and different ecosystems. The long-term nature of the damage is evident since anti-personnel mines have a shelf-life of roughly 10 years, and the environmental toxicity caused by the explosives will persist for at least a decade after the conflict ends.

#### IV. CONCLUSION

This Volume I underscores the vital importance of accountability in addressing environmental devastation during armed conflicts. The thorough examination of four significant paths to justice—the Criminal Code of Ukraine Article 441, the Geneva Conventions, the Rome Statute, and the prospect of an Ad Hoc Tribunal—has illuminated the multifaceted nature of combating environmental crimes.

The meticulous analysis of each case instance within Volume I evidences that the deliberate destruction of critical infrastructure, urban areas, industrial sites, fuel infrastructure, and the deployment of minefields has not only caused immediate harm but has also inflicted lasting ecological scars. The implications are far-reaching, underscoring the dire necessity of addressing these crimes to ensure both short-term relief and long-term ecological restoration.

While Volume I centers on individual responsibility for these crimes, Volume II will shift to an exploration of state responsibility for these grave offenses against the natural environment in Ukraine. Volume II will delve into the intricate interplay of diplomatic, legal, and ethical dimensions, probing the extent to which states can be held accountable and the potential avenues for reparations and restoration.

In the global pursuit of justice, these two volumes collectively forge a comprehensive narrative aimed at redressing the Russian Mass Destruction of the Natural Environment in Ukraine. By unraveling the legal intricacies and delving into the depths of environmental devastation, these volumes serve as a clarion call for action—urging the international community to unite in the safeguarding of our planet, even amid the tumult of conflict.