

Russian Mass Destruction of the Natural Environment in Ukraine

Volume II: State Responsibility



GLOBAL
ACCOUNTABILITY
NETWORK



RUSSIAN MASS DESTRUCTION OF THE NATURAL ENVIRONMENT IN UKRAINE

VOLUME II: STATE RESPONSIBILITY

Spring 2025

PROJECT COORDINATORS: Sage Grant, Omar Hajajra, Isaiah Hutchinson, Alexandra Lane.

LEAD CONTRIBUTORS: Thea Charlotte Anderson, Sage Grant, Lindsey Griffin, Omar Hajajra, Isaiah Hutchinson, Victor Ivan, Bryan Paul Sicard.

CONTRIBUTORS: Landon Adams, Nicholas Antonellis, Albert S. Baaklini, Danny Bonsangue, Dioné van Gaalen, Sage Grant, Lindsey Griffin, Omar Hajajra, Isaiah Hutchinson, Alexandra Lane, Connor Mulcahy, Erica Perry, Kajol Raju, Isabelle Ritenhouse, Annika Stimac, Lindsey Stumpp, Christopher Arima, Hannah Hubler, Knut Helge Kirkhus, Caela A. Hall, Herlande Jasmine.

EDITORS: Isaiah Hutchinson, Sage Grant, Omar Hajajra.

COVER ART: Molly White

UKRAINE ACCOUNTABILITY PROJECT

LEADER: Professor David M. Crane, Former Chief Prosecutor, Special Court for Sierra Leone

SPECIAL ADVISOR: Fred Bryant, Col. Ret., United States Army

EXECUTIVE DIRECTOR: Omar Hajajra

DIRECTORS: Isaiah Hutchinson and Sage Grant

UBA LIAISON AND ATTORNEY ADVISOR: Alexandra Lane

FACULTY ADVISOR: Professor Sara Dillon

The Ukraine Accountability Project (UAP) is building a case against Vladimir Putin and 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) and Suffolk University Law School and their volunteers have provided invaluable support to the UAP.

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I. Introduction by the Authors

In August 2023, the Global Accountability Network's Ukraine Accountability Project published the *Russian Mass Destruction of the Natural Environment in Ukraine. Volume I: Individual Responsibility* (Volume I). Volume I focused on the definition of ecocide within the Criminal Code of Ukraine and analyzed the international and national legal responsibility for the crime of ecocide of individuals. The present publication, however, shifts to an exploration of State responsibility for the crime of ecocide, analyzing the Russian Federation's acts constituting ecocide committed in Ukraine.

Wartime environmental damage is a longstanding issue, with records of impacts reaching back to Ancient Rome.¹ As discussed in Volume I, the definition of ecocide is elusive and there is not yet a consensus in international law. Certain legal scholars, however, have defined ecocide as “the extensive destruction, damage to or loss of ecosystem(s) of a given territory, whether by human agency or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been severely diminished.”² Another proposed definition may also serve as a general guide: ecocide is the “unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.”³ Further development of the definition of ecocide is likely to take place as more and more tribunals address such actions.

Historically, the global community has been reluctant to classify wartime environmental damage as ecocide. This failure has allowed environmental destruction to remain largely unaddressed in the aftermath of major conflicts, leaving communities and ecosystems to suffer irreparable harm. This pattern of neglect has delayed recovery, hindered ecological sustainability, and impeded the full rehabilitation of war-torn regions. Examples of such destruction abound, including the scale of destruction during World War I and World War II. During WWI, parties to the conflict, primarily in Germany, developed and used chemical agents in warfare, causing extensive destruction to the areas that they were used in and resulting in the deaths of at least 100,000 people.⁴ In World War II, Wake Island rail (a species of bird) became extinct as a result of soldiers inhabiting their ecosystem and using them as food.⁵

¹ Jessica C Lawrence & Kevin Jon Heller, *The First Ecocentric Environmental War Crime : The Limits of Article 8(2)(b)(iv) of the Rome Statute*, 20 GEO. U. INT'L ENV'T L. REV. 1, 2-3 (2007), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=979460.

² Polly Higgins, *Eradicating Ecocide: Exposing the Corporate and Political Practices Destroying the Planet and Proposing the Laws Needed to Eradicate Ecocide* 3 (2010).

³ Liana Georgieva Minkova, *Ecocide, Sustainable Development and Critical Environmental Law Insights*, 22 J. OF INT'L. CRIM. JUST. 81, 85 (Mar. 2024), <https://academic.oup.com/jicj/article/22/1/81/7698934>, at 63.

⁴ United Nations Office of Disarmament Affairs, *Chemical Weapons*, <https://disarmament.unoda.org/wmd/chemical/> (accessed 24 February 2025).

⁵ John R. Platt, *Memorializing the Wake Island Rail: An Extinction Caused by War*, (May 25, 2015), <https://www.scientificamerican.com/blog/extinction-countdown/memorial-day-extinction/> (accessed 24 February 2025).

There are other examples that weave through cycles of coverage and remembrance, such as the Vietnam War and the use of chemical weapons like Agent Orange.⁶ Agent Orange and others included a compound known as dioxin, which is part of a combination of herbicides twenty times the normal concentration that destroyed over 5 million acres of land in Vietnam and more than 500,000 acres of crops (an area the size of Massachusetts), and is still being remediated today.⁷ Likewise, the effects of Agent Orange are still being felt by those who were exposed to the chemical.⁸ Dioxin is known to have caused cancer, diabetes, and birth defects in the American and Vietnamese populations that were exposed to it.⁹

The failure to address environmental destruction during past conflicts underscores the need for an expanded legal framework that can better address the multifaceted harms of modern warfare. It is unacceptable that impacted communities and countries are still experiencing the long-lasting environmental damages caused by armed conflicts, due to a lack of an effective mechanism to hold the responsible parties accountable. In addressing armed conflicts within the twenty-first century, clear standards must be applied in order to properly acknowledge and rectify the damage caused to a population. Such a redress cannot be done without giving due regard to environmental destruction.

Recent international efforts, such as the United Nations Compensation Mechanism, which awarded reparations following the Iraq-Kuwait War, reflect a growing recognition of ecocide-based accountability.¹⁰ There has been a growing movement within the international judicial tribunals to hold States legally liable for the crime of ecocide, as demonstrated by the recent International Court of Justice opinion regarding the armed activities in the Democratic Republic of the Congo.¹¹ Still, much work remains to be done to ensure that these mechanisms are robust enough to address the scale of damage caused by contemporary conflicts.

The Russian Federation is not immune to such scrutiny. Russia's invasion of and aggression toward Ukraine has led to numerous atrocities, including the significant and systematic destruction of Ukraine's natural environment. If this purposeful destruction and damage is not adequately addressed within the context of international legal accountability, then the world will fail to live up to its own legal obligations and standards of conduct toward the environment. The deterioration of norms and understandings underpinning the rules-based

⁶ *What is Agent Orange?* THE ASPEN INSTITUTE, <https://www.aspeninstitute.org/programs/agent-orange-in-vietnam-program/what-is-agent-orange/> (last visited Feb. 24, 2025).

⁷ *What is Agent Orange?* THE ASPEN INSTITUTE, <https://www.aspeninstitute.org/programs/agent-orange-in-vietnam-program/what-is-agent-orange/> (last visited Feb. 24, 2025).

⁸ *What is Agent Orange?* THE ASPEN INSTITUTE, <https://www.aspeninstitute.org/programs/agent-orange-in-vietnam-program/what-is-agent-orange/> (last visited Feb. 24, 2025).

⁹ *What is Agent Orange?* THE ASPEN INSTITUTE, <https://www.aspeninstitute.org/programs/agent-orange-in-vietnam-program/what-is-agent-orange/> (last visited Feb. 24, 2025).

¹⁰ United Nations, *UN panel pays out nearly \$1.2 billion in reparations for Iraq's invasion of Kuwait*, UNITED NATIONS, <https://news.un.org/en/story/2014/07/473742> (last visited Feb. 24, 2025).

¹¹ *Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda)*, Judgment, 2022 I.C.J. Rep. 405 (Feb. 9).

international order, coupled with the failure to hold Russia accountable, would set an abhorrent and dangerous precedent, undermining the international order, encouraging further armed conflict, and leading to devastating, potentially irreversible environmental consequences.

The purpose of this paper is to bring together various aspects of international law to assist legal experts and future tribunals in holding the Russian Federation accountable for the environmental harm caused to Ukraine during the invasion. By analyzing the factual circumstances of Russia's actions, this work aims to create a legal framework for Ukraine to seek reparations for environmental crimes. It delves into the existing international legal framework that outlines State obligations regarding environmental damage both during and outside of armed conflict, focusing on how Russia's actions may constitute ecocide. The paper specifically examines these actions under Articles 35(3) and 55(1) of Additional Protocol I to the Geneva Conventions (AP I), which prohibit States from knowingly causing environmental destruction during armed conflicts, and argues that these violations provide a basis for legal action and reparations.

II. Introduction by Professor David M. Crane

The conflict in Ukraine has evolved into one of the most pressing humanitarian crises of the 21st century, with deleterious consequences extending beyond human suffering to encompass grave environmental degradation. While the concept of “Ecocide”—the destruction of the natural environment as a result of human activity, particularly during warfare—has gained increasing attention as a potential crime under international law, its definition remains elusive and unsettled. The lack of a universally accepted definition complicates the discourse surrounding environmental protection in times of war, leaving a significant gap in the legal framework necessary for holding perpetrators accountable.

Despite the ambiguity surrounding the term Ecocide, it is crucial to recognize that the prohibition against wartime environmental damage is well established within the corpus of international law. This paper argues that, irrespective of the specifics of the Ecocide definition, existing legal instruments clearly articulate the obligations of warring parties to mitigate environmental harm. Essential provisions exist in Additional Protocol I to the Geneva Conventions, particularly Articles 35(3) and 55(1). These articles explicitly prohibit methods of warfare that may cause widespread, long-term, and severe damage to the natural environment and articulate the responsibility to protect and preserve ecological systems during armed conflict.

Russia’s military actions in Ukraine have led to multiple instances of environmental devastation, raising critical questions about accountability under international law. From the destruction of vital ecosystems to the contamination of air, water, and soil, the Russian military has engaged in activities that constitute violations of these established legal norms. This paper discusses instances of environmental harm within the context of the conflict, emphasizing that such actions not only threaten the immediate natural landscape but also have far-reaching implications for future generations.

As the discourse around Ecocide continues to develop, establishing this concept as a formalized crime within international law could represent a significant advancement in the protection of the environment during conflicts. The pressing need for accountability in the context of Russia’s actions in Ukraine serves as a timely impetus for the solidification of Ecocide into the legal framework of human rights and environmental law. This paper asserts that recognizing and codifying the crime of Ecocide is not merely an academic exercise but a necessary evolution in the endeavor to safeguard our planet amidst the ravages of warfare. In doing so, we aim to contribute to a broader understanding of the imperative to protect the environment as an integral component of global peace and security in the face of ongoing conflict.

The environment is the ‘silent casualty’ of armed conflict— the United Nations Environment Program (UNEP).

III. Applicable Law for State Responsibility

A. Law of State Responsibility

This section delves into the nuanced legal frameworks governing State responsibility during international armed conflicts. In this endeavor, international avenues of accountability are examined, shedding light on the intricate web of laws that seek to place responsibility on States during these conflicts. Later sections will analyze how these principles of State responsibility can be applied to environmental damage that is caused by armed conflicts.

1. The International Court of Justice

In 1945 the United Nations established the International Court of Justice (ICJ) as the principal judicial organ of the United Nations, the ICJ is the default court to hear State claims.¹² However, the ICJ is only competent to settle disputes between States that have accepted its jurisdiction, either through an international treaty, a special agreement concerning specific disputes, or a general acceptance of the Court's jurisdiction as compulsory.¹³ Neither Ukraine nor Russia appear on the list of countries that have made a declaration accepting compulsory jurisdiction,¹⁴ and there is also no treaty basis under which the Court can exercise its jurisdiction over Ukraine and Russia in this conflict. Otherwise, jurisdiction could also be conferred on an ad hoc tribunal, but the construction and design of such a tribunal falls outside the scope of this whitepaper.

2. International Law Commission

In 1947, the United Nations (UN) adopted the statute of the International Law Commission (ILC), which establishes in Article 1, paragraph 1 that “the Commission shall have for its object the promotion of the progressive development of international law and its codification.”¹⁵ The ILC focuses on a multitude of areas pertaining to international law, specifically, it has done extensive work in international criminal law, having created the Nuremberg Principles.¹⁶ Additionally, the ILC made significant contributions to international criminal jurisprudence, which were used in the drafting of the Rome Statute which created the International Criminal Court (ICC).¹⁷ The ILC currently consists of thirty-four members, all of whom must have expertise and practical knowledge of international law, and are elected to the

¹² United Nations, *Charter of the United Nations*, 1945, 92-96, <https://legal.un.org/repertory/art2.shtml> arts.

¹³ *Basis of Court's Jurisdiction*, INT'L CT. OF JUST., <https://www.icj-cij.org/basis-of-jurisdiction> (last visited Nov. 25 2024).

¹⁴ *Declarations Recognizing the Jurisdiction of the Court as Compulsory*, INT'L CT. OF JUST., <https://www.icj-cij.org/declarations> (last visited Nov. 25, 2024).

¹⁵ *Object of the Commission*, INT'L L. COMM'N <https://legal.un.org/ilc/work.shtml> (June 19, 2023).

¹⁶ *The Nuremberg Principles*, INT'L NUREMBERG PRINCIPLES ACAD. (last accessed Nov. 19, 2024), <https://www.nurembergacademy.org/about-us/nuremberg-principles>.

¹⁷ Nikolaos Voulgaris, *International Law Commission and Politics: Taking the Science Out of International Law's Progressive Development*, 33 EUROPEAN J. INT'L L. 761, 771-2 (Aug. 11, 2022).

position by the UN General Assembly.¹⁸ The Commission's members meet annually in Geneva, Switzerland to discuss a variety of topics related to international relations and to develop regulations and frameworks appropriately.¹⁹

3. Draft Articles on Responsibility of States for Internationally Wrongful Acts (2001)

The International Law Commission finalized the Draft Articles on Responsibility of State for Internationally Wrongful Acts in 2001 (ARSIWA),²⁰ about 45 years after the Commission began considering State responsibility on the international scale.²¹ While non-binding, “[i]n practical terms, the normative propositions contained in ARSIWA are treated as having the status of – or more precisely, as materially identical with – rules of customary international law.”²² With respect to international law, the Draft Articles are an important compilation of contributions and development, which “...are also very important for safeguarding international relations and maintaining the stability and healthy development of the international legal order.”²³

The key points of the Draft Articles include attribution of conduct, breach of international obligation, circumstances precluding wrongfulness, content of State responsibility, and invocation of responsibility.²⁴ For example, Article 31, widely considered international customary law, holds that a responsible State is obligated to pay full reparation for damages caused by their internationally wrongful acts.²⁵ This obligation occurs automatically upon commission of the acts, not upon the demands or protests by the State.²⁶

¹⁸ *Membership*, INT’L L. COMM’N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

¹⁹ *Membership*, INT’L L. COMM’N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

²⁰ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. INT’L L. COMM’n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

²¹ Ma Xinmin, *Statement on Responsibility of States for Internationally Wrongful Acts* (2007). 7 CHINESE J. INT’L L. 563, 563-566, (July 2008).

²² Sotirios-Ioannis Lekkas, *Use of Work of International Law Commission on State Responsibility in International Investment Arbitration*, in CUSTOMS AND ITS INTERPRETATION IN INTERNATIONAL INVESTMENT LAW, 102 (Panos Merkouris, Andreas Kulick, José Manuel Álvares-Zarate, Maciej Żenkiewicz, & Konrad Turnbull eds. 2024).

²³ Ma Xinmin, *Statement on Responsibility of States for Internationally Wrongful Acts* (2007). Ma Xinmin, *Statement on Responsibility of States for Internationally Wrongful Acts* (2007). 7 CHINESE J. INT’L L. 563, 563-566, (July 2008).

²⁴ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. INT’L L. COMM’n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

²⁵ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. INT’L L. COMM’n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

²⁶ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. INT’L L. COMM’n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

Article 31 provides that this obligation stems from an injury that “includes any material or moral damage caused.”²⁷ Damage that is “material” includes property and the “interests of the State and its nationals which is assessable in financial terms.”²⁸ This would include, for example, financial damage from agricultural loss.

Under these articles, an international wrongful act is considered a breach of an international obligation by State organs, which are composed of legislative, executive, and judicial bodies.²⁹ These bodies are considered unified which is consistent with being one legal body for the sake of international law and its regulation.³⁰

The Articles on Responsibility constitute a major step in the codification and development of State responsibility within international law. The Articles exist as a way to determine particular peremptory norms and obligations to the international community as a whole. These articles indicate that international legal norms have moved away from a pure bilateral idea of responsibility to accommodate categories of general public interest such as the environment.³¹

4. Protection of the Environment in Relation to Armed Conflicts – Principle 9

In 2013, the ILC formally adopted the Protection of the Environment in Relation to Armed Conflicts (PERAC).³² The twenty-seven principles outlined in PERAC describe how the environment should be protected before, during, and after times of armed conflict and in situations of occupation.³³

Principle 9 describes State responsibility, and specifically codifies “...that states should make full reparation for damage caused by internationally wrongful acts, and that this can

²⁷ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. Int'l L. Comm'n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

²⁸ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. Int'l L. Comm'n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

²⁹ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. Int'l L. Comm'n 34, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

³⁰ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. Int'l L. Comm'n 34, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

³¹ *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, with commentaries, [2001] 2 Y.B. Int'l L. Comm'n 31, 43, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf.

³² Stavros Pantazopoulos, *The ILC Draft Principles on Protection of the Environment in Armed Conflict* (Aug. 4, 2022), <https://lieber.westpoint.edu/ilc-protection-environment-armed-conflict/>.

³³ *The PERAC Legal Framework, Frequently Asked Questions*, CONFLICT & ENV'T OBSERVATORY (Sept. 2022), <https://ceobs.org/perac-principles-frequently-asked-questions/#1663066659896-802753cf-1d51>.

include the costs of damage to the environment”³⁴ Principal 9 appears in the PERAC as follows:

- (1) An internationally wrongful act of a State, in relation to an armed conflict, that causes damage to the environment entails the international responsibility of that State, which is under an obligation to make full reparation for such damages, including damage to the environment in and of itself.
- (2) The present draft principles are without prejudice to the rules on responsibility of States or of international organizations for internationally wrongful acts.
- (3) The present draft principles are also without prejudice to:
 - (a) The rules on the responsibility of non-State armed groups;
 - (b) The rules on individual criminal responsibility.³⁵

B. Compensation for Environmental Damage Resulting from the Use of Force

1. Charter of the United Nations Article 2(4)

Under Article 2(4) of the UN Charter, “[a]ll Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations.”³⁶

2. Compensation

Article 91 of AP I elaborates that “[a] Party to the conflict which violates the provisions of the Conventions or of this Protocol shall, if the case demands, be liable to pay compensation,” which underscores the obligation to address breaches through reparations.³⁷ As will be discussed below, there have been several instances where this principle was invoked and compensation was ordered.

3. The Gulf War

³⁴ *The PERAC Legal Framework, Frequently Asked Questions*, CONFLICT & ENV’T OBSERVATORY (Sept. 2022), <https://ceobs.org/perac-principles-frequently-asked-questions/#1663066659896-802753cf-1d51>.

³⁵ *The PERAC Legal Framework, Frequently Asked Questions*, CONFLICT & ENV’T OBSERVATORY (Sept. 2022), <https://ceobs.org/perac-principles-frequently-asked-questions/#1663066659896-802753cf-1d51>.

³⁶ United Nations, *Charter of the United Nations*, 1945, 2(4), <https://legal.un.org/repertory/art2.shtml>

³⁷ *Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts* art. 91, June 8, 1977, 1125 U.N.T.S. 3.

a) Iraq's Violation of Article 2(4) of the UN Charter

The invasion of Kuwait by Iraq (both States are members of the UN) violated the prohibition on the use of force enshrined in Article 2(4).³⁸ The devastating environmental impacts of Iraq's action highlights how acts constituting ecocide might be considered a violation of Article 2(4).³⁹

b) The United Nations Compensation Commission

The Gulf War was a conflict that began when Iraq, led by President Saddam Hussein, invaded Kuwait on 2 August 1990.⁴⁰ Iraq accused Kuwait of overproducing oil and exceeding Organization of the Petroleum Exporting Countries (OPEC) quotas, which allegedly depressed oil prices and harmed the Iraqi economy.⁴¹ Additionally, Iraq claimed that Kuwait was illegally extracting oil from the Rumaila oil field, which straddled the Iraq-Kuwait border.⁴² The invasion prompted widespread international condemnation and led to the formation of a U.S.-led coalition authorized by the United Nations to expel Iraqi forces from Kuwait.⁴³

After diplomatic efforts failed, Operation Desert Storm was launched on 17 January 1991, initiating a massive air offensive against Iraq.⁴⁴ This was followed by a ground assault on 24 February 1991, which lasted only 100 hours before President George H. W. Bush declared a ceasefire.⁴⁵ Iraqi forces were expelled from Kuwait, but Saddam Hussein remained in power in Iraq.⁴⁶

³⁸ United Nations, *Charter of the United Nations*, 1945, 2(4), <https://legal.un.org/repertory/art2.shtml>, "All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations."

³⁹ Jessica E. Seacor, *Environmental Terrorism: Lessons from the Oil Fires of Kuwait*, 10 AM. U. INT'L L. REV. 481, 483 (1996).

⁴⁰ *The Gulf War, 1991*. Office of the Historian. Milestones in the History of U.S. Foreign Relations - Office of the Historian, <https://history.state.gov/milestones/1989-1992/gulf-war> (last visited Mar. 2, 2025).

⁴¹ *The Gulf War, 1991*. Office of the Historian. Milestones in the History of U.S. Foreign Relations - Office of the Historian, <https://history.state.gov/milestones/1989-1992/gulf-war> (last visited Mar. 2, 2025).

⁴² *The Gulf War, 1991*. Office of the Historian. Milestones in the History of U.S. Foreign Relations - Office of the Historian, <https://history.state.gov/milestones/1989-1992/gulf-war> (last visited Mar. 2, 2025).

⁴³ *The Gulf War, 1991*. Office of the Historian. Milestones in the History of U.S. Foreign Relations - Office of the Historian, <https://history.state.gov/milestones/1989-1992/gulf-war> (last visited Mar. 2, 2025).

⁴⁴ *The Gulf War 1990-1991*. Naval History and Heritage Command. The Gulf War 1990-1991 (Operation Desert Shield/ Desert Storm) <https://www.history.navy.mil/our-collections/art/exhibits/conflicts-and-operations/the-gulf-war-1990-1991--operation-desert-shield--desert-storm-.html> (last visited Mar. 2, 2025).

⁴⁵ *The Gulf War 1990-1991*. Naval History and Heritage Command. The Gulf War 1990-1991 (Operation Desert Shield/ Desert Storm) <https://www.history.navy.mil/our-collections/art/exhibits/conflicts-and-operations/the-gulf-war-1990-1991--operation-desert-shield--desert-storm-.html> (last visited Mar. 2, 2025).

⁴⁶ *The Gulf War 1990-1991*. Naval History and Heritage Command. The Gulf War 1990-1991 (Operation Desert Shield/ Desert Storm) <https://www.history.navy.mil/our-collections/art/exhibits/conflicts-and-operations/the-gulf-war-1990-1991--operation-desert-shield--desert-storm-.html> (last visited Mar. 2, 2025).

The Gulf War resulted in extensive environmental destruction, primarily due to deliberate actions by retreating Iraqi forces.⁴⁷ During the war, Iraqi troops set fire to more than 700 Kuwaiti oil wells.⁴⁸ The fires burned for months, releasing approximately six million barrels of oil per day.⁴⁹ This resulted in severe air pollution, with soot and particulate matter affecting air quality and contributing to acid rain.⁵⁰ Burning wells also emitted several thousand tons of gasses such as sulfur dioxide, carbon monoxide, hydrogen sulfide, carbon dioxide, and nitrogen oxide, all of which affect both human health and vegetation growth.⁵¹ During the war, Iraq released an estimated eleven million barrels of oil into the Persian Gulf, creating massive oil slicks that devastated marine ecosystems.⁵² This constituted the largest oil spills in history, causing long-term damage to coral reefs, mangroves, and coastal habitats.⁵³ Moreover, the spillage of oil and the deposition of soot led to soil contamination, affecting agriculture and natural vegetation.⁵⁴ Groundwater resources were also polluted, impacting freshwater supplies.⁵⁵ The war also resulted in the destruction of industrial facilities such as desalination plants which led to additional environmental degradation and health hazards.⁵⁶

According to Article 31 of the Responsibility of States for Internationally Wrongful Acts, a country must provide reparations for any damage caused by a wrongful act.⁵⁷ In this case, reparations were imposed through UN Security Council Resolution 687 as Iraq had

⁴⁷ Linden O., Jerneloev, A., and Egerup, J., *The Environmental Impacts of the Gulf war 1991*. International Institute for Applied Systems Analysis, (Page 5) <https://core.ac.uk/download/pdf/33898896.pdf>.

⁴⁸ Linden O., Jerneloev, A., and Egerup, J., *The Environmental Impacts of the Gulf war 1991*. International Institute for Applied Systems Analysis, <https://core.ac.uk/download/pdf/33898896.pdf>.

⁴⁹ Mohamed Amin & Tahir Husain, *Kuwaiti Oil Fires – Air Quality Monitoring*, 28 ATMOSPHERIC ENV'T. 13 (1994).

⁵⁰ Mohamed Amin & Tahir Husain, *Kuwaiti Oil Fires – Air Quality Monitoring*, 28 ATMOSPHERIC ENV'T. 13 (1994).

⁵¹ Mohamed Amin & Tahir Husain, *Kuwaiti Oil Fires – Air Quality Monitoring*, 28 ATMOSPHERIC ENV'T. 13 (1994).

⁵² United Nations Environment Programme (UNEP). (1991). *Environmental Consequences of the Gulf War*, <https://digitallibrary.un.org/record/114760?v=pdf>.

⁵³ Fowler, S.W., *Pollution in the Gulf: Monitoring the Marine Environment*. International Atomic Energy Agency, <https://www.iaea.org/sites/default/files/35205980913.pdf>.

⁵⁴ Abdullah Toukan, *THE GULF WAR AND THE ENVIRONMENT: THE NEED FOR A TREATY PROHIBITING ECOLOGICAL DESTRUCTION AS A WEAPON OF WAR*, 15 FLETCHER F. OF WORLD AFF. 2 (1991)., 97, 98 <http://www.jstor.org/stable/45289999>.

⁵⁵ Abdullah Toukan, *THE GULF WAR AND THE ENVIRONMENT: THE NEED FOR A TREATY PROHIBITING ECOLOGICAL DESTRUCTION AS A WEAPON OF WAR*, 15 FLETCHER F. OF WORLD AFF. 2 (1991)., at 98, <http://www.jstor.org/stable/45289999>.

⁵⁶ Abdullah Toukan, *THE GULF WAR AND THE ENVIRONMENT: THE NEED FOR A TREATY PROHIBITING ECOLOGICAL DESTRUCTION AS A WEAPON OF WAR*, 15 FLETCHER F. OF WORLD AFF. 2 (1991)., at 97, <http://www.jstor.org/stable/45289999>.

⁵⁷ Responsibility of States for Internationally Wrongful Acts (2001) (art. 31).

violated Article 2(4) of the UN Charter⁵⁸ and Article 23(g) of the Hague Conventions.⁵⁹ The United Nations Compensation Commission (UNCC) was established in 1991 by UN Security Council Resolution 692 to process claims and award compensation for losses resulting from Iraq's invasion and occupation of Kuwait.⁶⁰ Environmental claims were a significant component of the Commission's work.⁶¹ Nineteen Panels made up of three Commissioners each reviewed and evaluated the claims submitted by governments, international organizations, companies, and individuals.⁶² In total, the Commission received approximately 2.7 million claims seeking approximately \$52.5 billion in compensation for death, injury, loss of or damage to property, commercial claims, and claims for environmental damage resulting from Iraq's unlawful invasion and occupation of Kuwait in 1991.⁶³ The commission closed on 13 December 2022 after fulfilling its mandate.⁶⁴

The UNCC was a fact-finding organ and didn't operate as a judicial organ. Unlike international tribunals, the UNCC did not determine liability but presumed Iraq's liability for all damages on the basis of UNSC Resolution 687.⁶⁵ The Commission focused on assessing, valuing, and providing compensation for damages resulting from Iraq's invasion and occupation of Kuwait, as established by the Security Council.⁶⁶ Its method informs judicial, quasi-judicial, and administrative bodies expected to perform similar functions in future.

Resolution 687 affirmed Iraq's responsibility for any direct loss, damage, or injury to foreign governments, nationals, and corporations as a result of its unlawful invasion and occupation of Kuwait.⁶⁷ The Commission held that environmental damage was recognized as compensable, including costs for reasonable measures to prevent or mitigate environmental harm.⁶⁸ The Commission determined that, based on the liability rules in Resolution 687, any environmental damage directly caused by Iraq's invasion and occupation of Kuwait should be compensated, whether or not the damaged environment had commercial value and whether the

⁵⁸ United Nations, *Charter of the United Nations*, 1945, 2(4), <https://legal.un.org/repertory/art2.shtml>, "All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations."

⁵⁹ Article 23 (g) of the Hague Conventions: "it is especially forbidden to destroy or seize the enemy's property, unless such destruction or seizure be imperatively demanded by the necessities of war."

⁶⁰ *United Nations Compensation Commission Pays Out \$250 Million*. United Nations. <https://www.ungeneva.org/en/node/52978>, (Jan. 28, 2020).

⁶¹ U.N., *Security Council Unanimously Adopts Resolution Confirming United Nations Compensation Commission Has Fulfilled Its Iraq-Kuwait Mandate* (Feb. 22, 2022), <https://press.un.org/en/2022/sc14801.doc.htm>.

⁶² U.N., *United Nations Compensation Commission Pays Out \$250 Million*. (Jan. 28, 2020), <https://www.ungeneva.org/en/node/52978>.

⁶³ UNCC., *UNCC at a Glance*. <https://uncc.ch/uncc-glance>.

⁶⁴ UNCC., *UNCC at a Glance*. <https://uncc.ch/uncc-glance>.

⁶⁵ UNCC., *UNCC at a Glance*. <https://uncc.ch/uncc-glance>.

⁶⁶ UNCC., *UNCC at a Glance*. <https://uncc.ch/uncc-glance>.

⁶⁷ United Nations. (1991). Resolution 687 (1991). Retrieved from [https://undocs.org/S/RES/687\(1991\)](https://undocs.org/S/RES/687(1991)).

⁶⁸ United Nations. (1991). Resolution 687 (1991). Retrieved from [https://undocs.org/S/RES/687\(1991\)](https://undocs.org/S/RES/687(1991)).

damage was temporary or permanent.⁶⁹ Additionally, the Commission rejected the argument that international law prohibits compensation for pure environmental damage solely because certain civil liability treaties exclude it.⁷⁰ It further asserted that international law, in general, does not prohibit compensation for internationally wrongful acts that cause environmental damage.⁷¹

Environmental claims were classified under category “F” claims, specifically “F4” for claims concerning environmental damage and the depletion of natural resources.⁷² The three commissioners of the F4 Panel were charged with assessing these claims and also ended speculation about the extent of Iraq’s liability for the approximately \$50 billion that was sought in this final group of claims, by recommending awards that totaled approximately \$252 million.⁷³

With regard to how the claims were assessed, claimants were required to provide detailed documentation, including scientific assessments, environmental impact studies, and cost estimates for remediation.⁷⁴ The UNCC appointed panels of experts in environmental science, law, and economics to evaluate the claims objectively.⁷⁵ The Commission also utilized various valuation methods, such as estimating the expenses required to restore the environment to its pre-damage condition.⁷⁶

⁶⁹ Payne Cymie, *UN Commission Awards Compensation for Environmental and Public Health Damage from 1990-1 Gulf War*. American Society of International Law. (Aug. 10, 2005). <https://www.asil.org/insights/volume/9/issue/25/un-commission-awards-compensation-environmental-and-public-health-damage>.

⁷⁰ Payne Cymie, *UN Commission Awards Compensation for Environmental and Public Health Damage from 1990-1 Gulf War*. American Society of International Law. (Aug. 10, 2005). <https://www.asil.org/insights/volume/9/issue/25/un-commission-awards-compensation-environmental-and-public-health-damage>.

⁷¹ Payne Cymie, *UN Commission Awards Compensation for Environmental and Public Health Damage from 1990-1 Gulf War*. American Society of International Law. (Aug. 10, 2005). <https://www.asil.org/insights/volume/9/issue/25/un-commission-awards-compensation-environmental-and-public-health-damage>.

⁷² Payne Cymie, *UN Commission Awards Compensation for Environmental and Public Health Damage from 1990-1 Gulf War*. American Society of International Law. (Aug. 10, 2005). <https://www.asil.org/insights/volume/9/issue/25/un-commission-awards-compensation-environmental-and-public-health-damage>.

⁷³ Payne Cymie, *UN Commission Awards Compensation for Environmental and Public Health Damage from 1990-1 Gulf War*. American Society of International Law. (Aug. 10, 2005). <https://www.asil.org/insights/volume/9/issue/25/un-commission-awards-compensation-environmental-and-public-health-damage>.

⁷⁴ Payne, Cymie. *Developments in the Law of Environmental Reparations: A Case Study of the UN Compensation Commission*. OXFORD. (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3312931.

⁷⁵ Payne, Cymie. *Developments in the Law of Environmental Reparations: A Case Study of the UN Compensation Commission*. OXFORD. (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3312931.

⁷⁶ Keith McManus, *Civil Liability for Wartime Environmental Damage: Adapting the United Nations Compensation Commission for the Iraq War*, 33 ENV’T AFF. L. R. 2, 417, 448 (2006), <https://lira.bc.edu/files/pdf?fileid=0a140577-7d3f-4c34-bc53-01614c5df02e>.

The UNCC awarded compensation for direct damages resulting from Iraq's actions.⁷⁷ Costs associated with reasonable measures to prevent or mitigate environmental damage were compensable and the UNCC ensured that compensation was proportional to the harm caused and the costs necessary for remediation.⁷⁸ In total, the UNCC awarded approximately \$5.26 billion for environmental and public health claims to over 1.5 million successful claimants.⁷⁹ Notable awards included: (1) funds for the costs incurred by Kuwait and other entities in putting out the fires; (2) expenses related to the cleanup of terrestrial and marine oil contamination; (3) projects aimed at restoring damaged ecosystems and wildlife populations; and (4) programs to address health impacts on the population due to environmental pollution.⁸⁰ The UNCC's approach to environmental compensation in the Gulf War context was groundbreaking due to the fact that it was one of the first instances where a State was held financially accountable for environmental damage resulting from armed conflict.⁸¹ Furthermore, the methodology used by the UNCC combined legal principles with scientific and economic analyses to quantify environmental harm and recognized the need for ongoing environmental monitoring which helped to set a standard for future environmental restoration efforts.⁸²

Despite the UNCC's successful processing of claims resulting from environmental damage during an unlawful invasion and occupation, there is no permanent body to monitor and address such compensation claims during international armed conflicts. The Rio Declaration attempts to create a compensation mechanism outside of armed conflict by mandating that States cooperate in developing international law regarding liability and

⁷⁷ Payne, Cymie. *Developments in the Law of Environmental Reparations: A Case Study of the UN Compensation Commission*. OXFORD. (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3312931.

⁷⁸ Payne, Cymie. *Developments in the Law of Environmental Reparations: A Case Study of the UN Compensation Commission*. OXFORD. (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3312931.

⁷⁹ Peter Sand, *Catastrophic Environmental Damage and the Gulf War Reparation Awards: The Experience of the UN Compensation Commission*. ACADEMIA, https://www.academia.edu/20920656/Catastrophic_Environmental_Damage_and_the_Gulf_War_Reparation_Awards_The_Experience_of_the_UN_Compensation_Commission; See also U.N., *Security Council Unanimously Adopts Resolution Confirming United Nations Compensation Commission Has Fulfilled Its Iraq-Kuwait Mandate*, UNITED NATIONS (Feb. 22, 2022), <https://press.un.org/en/2022/sc14801.doc.htm>.

⁸⁰ Peter Sand, *Catastrophic Environmental Damage and the Gulf War Reparation Awards: The Experience of the UN Compensation Commission*. ACADEMIA, https://www.academia.edu/20920656/Catastrophic_Environmental_Damage_and_the_Gulf_War_Reparation_Awards_The_Experience_of_the_UN_Compensation_Commission

⁸¹ Peter Sand, *Catastrophic Environmental Damage and the Gulf War Reparation Awards: The Experience of the UN Compensation Commission*. ACADEMIA, https://www.academia.edu/20920656/Catastrophic_Environmental_Damage_and_the_Gulf_War_Reparation_Awards_The_Experience_of_the_UN_Compensation_Commission

⁸² Peter Sand, *Catastrophic Environmental Damage and the Gulf War Reparation Awards: The Experience of the UN Compensation Commission*. ACADEMIA, https://www.academia.edu/20920656/Catastrophic_Environmental_Damage_and_the_Gulf_War_Reparation_Awards_The_Experience_of_the_UN_Compensation_Commission

compensation for cross-border environmental damage caused by a State party.⁸³ A similar structure to the UN Compensation Commission could thus be established to investigate and adjudicate violations of international law during international and non-international armed conflicts. This structure could also handle and process compensation claims related to environmental damage and loss of economic opportunities.

4. Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda), Reparations, Judgments of 2005 & 2022 (ICJ)

a) Article 2(4) of the UN Charter

The ICJ has a history of strict interpretation of the text of Article 2(4).⁸⁴ In striking a balance with regard to Uganda, the ICJ emphasized two important issues: first, that during the entire duration of the conflict from 1998 to 2003, the Ugandan State had no just cause for their presence in the Democratic Republic of the Congo (DRC) and thus had no standing to use or threaten force.⁸⁵ Due to the duration and magnitude of Uganda's military presence and their consistent use of force, the ICJ found a violation of Article 2(4) of the UN Charter.⁸⁶

The second issue raised by the ICJ was the looting of natural resources in the Ituri province while under Ugandan control.⁸⁷ The Court classified Uganda as an occupying power due to its presence and control in the Ituri territory.⁸⁸ Furthermore, although Uganda was not justified in their presence, as an occupying power they still had an "obligation to take appropriate measures to prevent the looting, plundering and exploitation of natural resources in the occupied territory."⁸⁹ The Court awarded damages to the DRC for the "loss of minerals, including gold,

⁸³ U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), annex I (Aug. 12, 1992). Principle 13 of the Rio Declaration proffers that "States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction."

Id.

⁸⁴ U.N., *Considerations of the Provisions of other Articles of the Charter*, in REPERTOIRE OF THE PRACTICE OF THE SECURITY COUNCIL: SUPPLEMENT 2004-2007 1027, at 1034-40, 2004-07 (Sept. 2014), <https://www.un-ilibrary.org/content/books/9789210563062c013>.

⁸⁵ Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgement, 2005 I.C.J. 168, ¶ 165 (Dec. 19, 2005).

⁸⁶ Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgement, 2005 I.C.J. 168, ¶ 165 (Dec. 19, 2005).

⁸⁷ Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgement, 2005 I.C.J. 168, ¶¶ 242-50 (Dec. 19, 2005).

⁸⁸ Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgement, 2005 I.C.J. 168, ¶ 178 (Dec. 19, 2005).

⁸⁹ Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Judgement, 2005 I.C.J. 168, ¶ 248 (Dec. 19, 2005).

diamonds, coltan, tin and tungsten, for the loss of coffee and timber, for damage to flora through deforestation, and damage to fauna.”⁹⁰

Article 2(4) clearly establishes territorial integrity as under its purview of protection, and *DRC v. Uganda* reflects the implications of violating Article 2(4).⁹¹ In Ukraine, there are similarities between Uganda’s and Russia’s violations of the right to freely use and enjoy sovereign territory, environmental destruction, and the deprivation of natural resources through the use of force.

b) Compensation

(1) Democratic Republic of the Congo v. Uganda, Judgment of 2005

The ICJ highlighted key findings on the environmental harm that was caused by the conflict between DRC and Uganda. First, as discussed above, the Court identified Uganda’s military forces and officials as responsible for the illegal extraction and exploitation of the DRC’s natural resources, including minerals such as gold, diamonds, and timber.⁹² These acts were conducted without any legal authorization or consent from the DRC, constituting a direct violation of the DRC’s sovereignty and the principles of non-interference in a State’s natural resource management.⁹³ The Court also focused on the fact that Uganda’s actions led to significant deforestation in regions like Ituri, resulting in substantial biodiversity loss.⁹⁴ The use of heavy machinery, defoliants, and other military equipment resulted in soil erosion, contamination of water sources, and general deterioration of the natural landscape, further compounding the environmental damage.⁹⁵ Finally, the ICJ considered the destruction of forests which not only diminished the DRC’s natural heritage but also disrupted ecosystems, leading to long-term ecological degradation and severe pollution that affects both the environment and the livelihoods of local communities.⁹⁶

Though Uganda claimed self-defense, the Court dismissed this, determining that the necessary conditions for lawful self-defense were not met, as there was no evidence of an

⁹⁰ Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda), Unofficial Summary, 2005 I.C.J. 168, at 16 (Feb. 9, 2022), <https://www.icj-cij.org/sites/default/files/case-related/116/116-20220209-SUM-01-00-EN.pdf>.

⁹¹ United Nations, *Charter of the United Nations*, 1945, 2(4), <https://legal.un.org/repertory/art2.shtml>.

⁹² Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

⁹³ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

⁹⁴ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

⁹⁵ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

⁹⁶ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

armed attack by the DRC against Uganda.⁹⁷ The Court concluded that the evidence that Uganda presented for the argument of self-defense lacked relevance and probative value under Article 51 of the United Nations Charter. The Court further found Uganda's argument meritless due to the fact that Uganda did not make a report to the United Nations Security Council of events requiring it to act in self-defence, that Uganda had not claimed that it had been subjected to armed attacks by armed forces of the DRC, and that Uganda did not provide satisfactory proof of involvement by the DRC government in alleged attacks on Uganda.⁹⁸ Consequently, the ICJ mandated Uganda to provide full reparation for the injuries inflicted upon the DRC. This encompassed compensation for loss of life, personal injuries, property damage, environmental harm, and the exploitation of natural resources.⁹⁹ The Court emphasized that reparation should aim to eradicate all consequences of the illegal acts and restore the DRC to the condition it would have been in had the violations not occurred.¹⁰⁰

In determining compensation for environmental destruction, the ICJ applied international law principles, requiring the DRC to present concrete evidence linking Uganda's actions directly to the environmental damage.¹⁰¹ The Court considered various types of environmental harm, including deforestation, biodiversity loss, and pollution resulting from military activities, and acknowledged the challenges in quantifying such damage due to limited data and the passage of time.¹⁰² The Court's approach involved utilizing expert assessments and flexible valuation methods, such as market value assessments and estimations of ecological services lost, to approximate the damage. The Court aimed to provide compensation that reflected the true extent of the environmental harm without necessitating precision, thereby ensuring that reparation comprehensively addressed both direct and indirect damage. Additionally, the Court emphasized the principles of full reparation, equity, and reasonableness, balancing the need for fair compensation with the practical limitations inherent in environmental damage quantification. By remaining available to decide on the compensation if negotiations failed, the Court promoted a fair and balanced resolution to the dispute, reinforcing the importance of equitable justice in international law. Ultimately, the parties did not reach an agreement on compensation, leading to the ICJ's reparations judgment in 2022.

⁹⁷ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

⁹⁸ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

⁹⁹ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰⁰ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰¹ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰² Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

(2) Democratic Republic of the Congo v. Uganda, Judgment
of 2022

On 9 February 2022, the ICJ issued a ruling on reparations for armed activities in the territory of the Congo.¹⁰³ The ICJ ordered Uganda to pay \$325 million in reparations, \$60 million of which was assessed for damage to the natural environment.¹⁰⁴ The Court, however, rejected the DRC's claims for compensation for the macroeconomic damages resulting from the degradation of the DRC's natural resources, among other impacts.¹⁰⁵ In so doing, the ICJ determined that while Uganda was liable for the direct and specific damages outlined, the broader macroeconomic consequences did not meet the necessary criteria for compensation under international law.¹⁰⁶ The Court emphasized that compensation should be based on quantifiable and directly attributable damage rather than diffuse and systemic economic impacts.¹⁰⁷ This distinction underscores the Court's focus on addressing tangible harms with clear causal links to Uganda's actions, setting a precedent for how reparations are assessed in complex conflict scenarios.

This decision was grounded in Article 31 of ARSIWA and stipulated that the responsible State must provide full reparation for any damage caused by an internationally wrongful act.¹⁰⁸ In this context, "damage" refers to both material and moral harm resulting from such acts.¹⁰⁹ The key term is "any" financially assessable damage, indicating that any damage must be quantified in monetary terms to qualify for compensation.¹¹⁰ The primary criterion is whether the damage in question is capable of any assessment or quantification, regardless of the difficulties involved, and whether causation can be established.¹¹¹

In awarding compensation, the ICJ applied the "global sum" doctrine, where the total compensation represents an approximate estimation of the damages that the Court can

¹⁰³ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰⁴ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰⁵ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰⁶ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰⁷ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 (Feb. 9, 2022).

¹⁰⁸ Int'l Law Comm'n, Draft Articles on Responsibility of States for Internationally Wrongful Acts with Commentaries, U.N. Doc. A/56/10, at 91 (2001).

¹⁰⁹ Int'l Law Comm'n, Draft Articles on Responsibility of States for Internationally Wrongful Acts with Commentaries, U.N. Doc. A/56/10, at 91 (2001).

¹¹⁰ Int'l Law Comm'n, Draft Articles on Responsibility of States for Internationally Wrongful Acts with Commentaries, U.N. Doc. A/56/10, at 98 (2001).

¹¹¹ Int'l Law Comm'n, Draft Articles on Responsibility of States for Internationally Wrongful Acts with Commentaries, U.N. Doc. A/56/10, at 91 (2001).

award.¹¹² Ultimately, the Court awarded \$60 million in damages “in the form of global sum” for the looting and exploitation of natural resources, which included the losses of minerals, coffee, timber, and harm to flora and fauna as initially claimed by the DRC.¹¹³ This approach involves relaxing the strict rules of causation and evidence to protect the rights of the plaintiff when the ideal of justice so requires.¹¹⁴ Specifically, the ICJ relaxed the standard requirements for proving a direct causal link between each individual harm and the wrongful actions of Uganda.¹¹⁵

The DRC also demanded more than one billion dollars as “compensation for damage to Congolese natural resources caused by acts of looting, plundering and exploitation.”¹¹⁶ This figure was based on losses of minerals, including gold, diamonds, coltan, tin, and tungsten, as well as coffee, timber and damage to flora and fauna.¹¹⁷ The DRC argued for lower standards of proof for natural resource claims, which the Court endorsed, noting that establishing a specific connection between the offense and individual resource items was not necessarily required.¹¹⁸ Applying the same global sum formula, the Court found Uganda liable for damages related to the looting and exploitation of these natural resources.¹¹⁹ However, the Court rejected DRC's claim for compensation for environmental damage specifically related to deforestation and biodiversity loss, stating that the DRC “did not provide the Court with any basis for assessing damage to the environment, in particular biodiversity, as a result of deforestation.”¹²⁰ The Court suggested, however, that it might have reached a different result concerning environmental damage if the DRC had provided even approximate estimates.¹²¹

The DRC further sought compensation for macroeconomic damages, which included the broader degradation of the DRC's natural resources, arguing that “Uganda's unlawful use of large-scale force caused a significant slowdown in DRC's economic activities, constituting a

¹¹² Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 107 (Feb. 9, 2022).

¹¹³ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 366 (Feb. 9, 2022).

¹¹⁴ Sebastian Lukic & Lili Hanna Feher, *Awarding Damages Flexibly*, VÖLKERRECHTSBLOG (Nov. 4, 2022), <https://voelkerrechtsblog.org/awarding-damages-flexibly/>.

¹¹⁵ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 107 (Feb. 9, 2022).

¹¹⁶ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 260 (Feb. 9, 2022).

¹¹⁷ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 260 (Feb. 9, 2022).

¹¹⁸ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 93 (Feb. 9, 2022).

¹¹⁹ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 93 (Feb. 9, 2022).

¹²⁰ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 350 (Feb. 9, 2022).

¹²¹ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 350 (Feb. 9, 2022).

loss of revenue for which full compensation must be paid.”¹²² Uganda countered that such damages were not compensable under customary international law and would be speculative in nature.¹²³ The Court rejected the DRC’s macroeconomic claim due to a lack of sufficient connection between the infringement and the damage:

[It] is not enough . . . to show an unbroken chain of events linking the damage to Uganda's wrongful conduct. Rather, the Court must determine whether there is a sufficiently direct and certain causal connection between the wrongful act . . . and the injury suffered by the applicant . . . Thus, compensation can only be awarded for damages that are not too far removed from the unlawful use of force . . . Violation of the prohibition of use force does not entail an obligation to compensate for everything that happens subsequently, and Uganda's conduct is not the only significant cause of everything that happened during the conflict . . .¹²⁴

These standards are relevant for Ukraine’s future claims for compensation against Russia.

The overall goal of a future special tribunal for Ukraine would be to hold Russia responsible and to pay fair compensation for its actions in Ukraine. It is important to also analyze what laws Ukraine can use in order to demonstrate the types of violations that would lead to such compensation. The following section will discuss international humanitarian law and how it can be applied specifically to environmental damage that occurs during an armed conflict and established relevant international legal standards.

C. International Humanitarian Law – the Law of Armed Conflict

1. Introduction

International humanitarian law (IHL) establishes parameters for State actions and conduct during an armed conflict. This section discusses the relevant framework within international humanitarian law that specifically addresses State responsibility toward the environment. IHL is important to the concept of ecocide because it is the primary mechanism that defines how a State must take the environment into consideration during a conflict. As ecocide gains recognition in international law, IHL serves as a foundational body of law that informs the development of legal mechanisms to hold States accountable for environmental harm during war. The growing acceptance of ecocide further strengthens IHL’s role in ensuring State responsibility for environmental damage.

¹²² Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 369 (Feb. 9, 2022).

¹²³ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶¶ 376-77 (Feb. 9, 2022).

¹²⁴ Armed Activities on the Territory of the Congo (Dem. Rep. Congo/Uganda), Judgment, 2022 I.C.J. Rep. 405 ¶ 382 (Feb. 9, 2022).

2. The Geneva Conventions and Additional Protocols

The four Geneva Conventions and their three Additional Protocols form the foundation of international humanitarian law, which regulates the conduct of armed conflict and seeks to limit its effects.¹²⁵ 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.¹²⁶ In addition, some IHL treaties preceding the Geneva Conventions, such as the 1907 Hague Regulations¹²⁷ remain in effect. Furthermore there are a number of subject-matter specific treaties such as Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD),¹²⁸ the 1954 Hague Convention on Cultural Property¹²⁹ and weapons-specific¹³⁰ treaties may also be applicable to wartime environmental destruction.

Both Russia and Ukraine are parties to the 1949 Geneva Conventions and its 1977 Additional Protocol I (AP I), which bind them to specific provisions governing conduct during armed conflict.¹³¹ Jurisdiction to adjudicate a claim of Russian violations of the Geneva Conventions is a more complicated question. While the Geneva Conventions confer criminal

¹²⁵ *Summary of the Geneva Conventions of 1949 and Their Additional Protocols*, AM. RED CROSS 2 (Apr. 2011), https://www.redcross.org/content/dam/redcross/atg/PDF_s/International_Services/International_Humanitarian_Law/IHL_SummaryGenevaConv.pdf.

¹²⁶ *Summary of the Geneva Conventions of 1949 and Their Additional Protocols*, AM. RED CROSS 1 (Apr. 2011), https://www.redcross.org/content/dam/redcross/atg/PDF_s/International_Services/International_Humanitarian_Law/IHL_SummaryGenevaConv.pdf.

¹²⁷ *Welcome to the Treaties, States Parties and Commentaries*, INT'L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties> (last visited Nov. 25, 2024).

¹²⁸ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, Dec. 10, 1976, UN, 1108 U.N.T.S. 151. *See States Party to the Following International Humanitarian Law and Other Related Treaties as of 22-November-2024*, INT'L COMM. OF THE RED CROSS 5-6, https://ihl-databases.icrc.org/public/refdocs/IHL_and_other_related_Treaties.pdf (last visited Nov. 25, 2024) (showing that both Russia and Ukraine have ratified this treaty).

¹²⁹ Convention for the Protection of Cultural Property in the Event of Armed Conflict, May 14, 1954, S. Treaty Doc. 106-1; 249 U.N.T.S. 216. *See Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT'L COMM. OF THE RED CROSS 71-73, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (explaining that this convention provides protection to the natural environment when it is a part of a cultural object protected by convention); *States Party to the Following International Humanitarian Law and Other Related Treaties as of 22-November-2024*, INT'L COMM. OF THE RED CROSS 5-6, https://ihl-databases.icrc.org/public/refdocs/IHL_and_other_related_Treaties.pdf (last visited Nov. 25, 2024) (showing that both Russia and Ukraine have ratified this treaty).

¹³⁰ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT'L COMM. OF THE RED CROSS 87-104, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹³¹ 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; *States Party to the Following International Humanitarian Law and Other Related Treaties as of 22-November-2024*, INT'L COMM. OF THE RED CROSS, 5-6, https://ihl-databases.icrc.org/public/refdocs/IHL_and_other_related_Treaties.pdf (last visited Nov. 25, 2024).

jurisdiction for serious violations of its provisions on its parties, as discussed in Volume I,¹³² no jurisdiction over State violations is conferred by the treaties themselves.

a) Rules Specifically Protecting the Environment

AP I of the Geneva Conventions have two specific articles that focus on the protection of the environment during an international armed conflict. This sets the minimum standard that States must comply with during war, in order to ensure that they are properly considering how their actions will affect the environment.

(1) Ecocentric Protection – Additional Protocol I, Article 35(3)

*It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.*¹³³

In order to understand the application of AP I Article 35(3), it is necessary to highlight several key facets. First, Article 35(3) prohibits not only means and methods specifically intended to cause damage to the natural environment, but also those which have incidental negative effects that are “wide-spread, long-term, and severe.”¹³⁴ This prohibition is reaffirmed throughout the International Committee of the Red Cross (ICRC) Commentary of 1987 which underscores that paragraph 3 refers “both to geophysical weapons, exclusively intended to affect for example the climate” and “non-intentional ecological war” by which the natural environment suffers simply as a result of “the large scale use of conventional weapons.”¹³⁵

The second critical component of paragraph 3 is the formula used to determine what means and methods are prohibited. Article 35(3) prohibits those methods or means which cause, or may be expected to cause, “widespread, long-term *and* severe” damage. These criteria are cumulative, and thus a method or mean is not unlawful unless it “simultaneously” fulfills all three conditions.¹³⁶ However, the provision and the accompanying commentary provide little

¹³² *Russian Mass Destruction of the Natural Environment in Ukraine - Volume I: Individual Accountability*, GLOB. ACCOUNTABILITY NETWORK 13-14 (Aug. 2023), https://www.globalaccountabilitynetwork.org/_files/ugd/a982f0_d3832c328ca14e76915dc47fb989cd0a.pdf.

¹³³ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts art. 35(3), June 8, 1977, 1125 U.N.T.S. 3.

¹³⁴ Commentary of 1987, INT’L COMM. OF THE RED CROSS, para. 1440, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 26, 2024). *See also Draft Principles on Protection of the Environment in Relation to Armed Conflicts*, U.N. 102 (2022), https://legal.un.org/ilc/texts/instruments/english/draft_articles/8_7_2022.pdf. Means are defined as the weapons of warfare. *Id.* Methods are defined as the way in which weapons of warfare can be used. *Id.*

¹³⁵ Commentary of 1987, INT’L COMM. OF THE RED CROSS, para. 1458, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 26, 2024).

¹³⁶ Commentary of 1987, INT’L COMM. OF THE RED CROSS, para. 1457, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 26, 2024).

clarity on how each should be measured.¹³⁷ Nevertheless, some clarification on each of the three can be found in the historical backdrop of their creation, military manuals, and scholarly interpretation.

According to the *travaux préparatoires* to AP I, the term *widespread* “contemplates the ‘scope or area affected,’”¹³⁸ This includes both damage “caused directly by the method or means of warfare in the very geographical area where they are used,” as well as the indirect effects which “may be expected to spread or materialize beyond the geographical area where the method or means of warfare has been employed.”¹³⁹ Assessments of such indirect or “reverberating” effects should be informed by current scientific knowledge on the interconnectedness of ecological processes and effects of harm to the natural environment.¹⁴⁰ The exact geographical size of the affected area necessary to trigger this element is unclear, but should be informed by the preceding negotiation of the similarly termed threshold in the ENMOD Convention.¹⁴¹ The Conference of the Committee of Disarmament (CCD) Understandings to the ENMOD Convention define “widespread” to mean “an area on the scale of several hundred square kilometres.”¹⁴² While several delegations to the Geneva Conference negotiating AP I held the position that “widespread” should not be interpreted in accordance with the correspondent term in ENMOD, no higher criteria was discussed or provided.¹⁴³ Some delegations referenced “the

¹³⁷ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 32,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹³⁸ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹³⁹ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁴⁰ Draft Principles on Protection of the Environment in Relation to Armed Conflicts, with Commentaries, at 142, U.N. Doc. A/77/10 (2022); *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁴¹ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 32,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁴² Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, Understandings, May 18, 1977, 1108 U.N.T.S. 151, <https://ihl-databases.icrc.org/en/ihl-treaties/enmod-1976/understandings> (last visited Nov. 28, 2024).

¹⁴³ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024); 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, 624 (Sept. 2010).

destruction of entire regions,” and the destruction of 25,000 square kilometers caused by Agent Orange in Vietnam, as an example of widespread harm but without claiming this to be the threshold.¹⁴⁴ This standard may also include cases of cumulative damage to numerous smaller areas.¹⁴⁵

The Commentary of 1987, indicating that “long-term” should be understood as referring to a period of decades rather than months.¹⁴⁶ Although no official definition was adopted, this definition from the Commentary of 1987 differs from the definition provided by ENMOD, where “long-term” is understood as “a period of months, or approximately a season.”¹⁴⁷ This is supported by the fact that ordinary battlefield damage of the kind caused by artillery shelling or movement of heavy vehicles were not intended to be included.¹⁴⁸ However, when assessing whether damage may be considered long-term, it is necessary to take into account both the direct effects of a particular method or mean, as well as the duration of the indirect or “foreseeable reverberating” effects¹⁴⁹ such as “the ability of certain substances to persist in particular natural

¹⁴⁴ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁴⁵ See *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (explaining the example referenced in the ICRC Guidelines is the damage caused by the burning of oil wells in the 1990-91 Gulf War in Kuwait. Given that this tactic was a result of a common policy, rather than separate and unrelated events, it is reasonable to assume that some level of connection between the different instances of environmental harm will be required to count it as cumulative damage).

¹⁴⁶ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts*, INT’L COMM. OF THE RED CROSS, ¶ 1452, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024).

¹⁴⁷ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts*, INT’L COMM. OF THE RED CROSS, ¶ 1454, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024); Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, Understandings, May 18, 1977, 1108 U.N.T.S. 151, <https://ihl-databases.icrc.org/en/ihl-treaties/enmod-1976/understandings> (last visited Nov. 28, 2024); *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁴⁸ See *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 37,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (getting confirmed both by the *travaux préparatoires* to Additional Protocol I, as well as the legal interpretation of the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia).

¹⁴⁹ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

environments.”¹⁵⁰ As such assessments become increasingly informed by current scientific knowledge on the interconnectedness of ecological processes and effects of harm to the natural environment, this threshold may also become increasingly easier to reach.¹⁵¹

Finally, *travaux préparatoires* of Additional Protocol I indicate that the term “severe” refers to “the severity or prejudicial effect of the damage to the civilian population.”¹⁵² The ICRC Guidelines further elaborate that the term “should be understood to cover the disruption or damage to an ecosystem or harm to the health or survival of the population on a large scale, with normal damage caused by troop movements and artillery fire in conventional warfare generally falling outside the scope of this prohibition.”¹⁵³ This definition, thus, simultaneously encompasses the focuses of both Article 35(3) and Article 55(1). Within the context of Article 35(3), severity primarily takes into account ecological, rather than human, concerns, whereas within the context of Article 55(1), the same term refers to “damage prejudicing the health or survival of the population” and thus prioritizes human concerns.¹⁵⁴ Nonetheless, in order to comply with both Articles, States must inform themselves of the effects that *will* result in prohibited damage from the use of a given method or mean, as well as the *potential* effects.¹⁵⁵ For example, environmental damage that might have teratogenic, mutagenic, and carcinogenic effects may thus meet the threshold of severe, particularly as it pertains to Article 55(1).¹⁵⁶

¹⁵⁰ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁵¹ Draft Principles on Protection of the Environment in Relation to Armed Conflicts, with Commentaries, at 142-43, U.N. Doc. A/77/10 (2022); *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024);

¹⁵² *Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts*, Vol. 15, ¶ 27, https://tile.loc.gov/storage-services/service/l1/lmlp/RC-records_Vol-15/RC-records_Vol-15.pdf (last visited Nov. 28, 2024).

¹⁵³ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 38,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁵⁴ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 37,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁵⁵ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 37,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁵⁶ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 37,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

Additionally, the ICRC Guidelines state that “to the extent that effects on economic or other assets also result in disruption or damage to the ecosystem or harm to the health or survival of the population,” these effects must also be taken into account when contemplating potential harms.¹⁵⁷ Finally, States must consider “the interdependency of the natural environment,” as “damage to one component... can have effects that extend to other components.”¹⁵⁸

The third and most distinguishing feature of Article 35(3) is that it protects against damage to the natural environment or “[the] system of inextricable interrelations between living organisms and their inanimate environment.”¹⁵⁹ Consequently, Article 35(3) differs from Article 55 of Additional Protocol I in that the natural environment itself is protected even “... in the absence of any direct threat to the population or to the flora and fauna of the enemy State.”¹⁶⁰ Article 55 goes on to say that “[t]he natural environment is common property and should be retained for everyone’s use.”¹⁶¹ Alternatively, as mentioned previously, Article 55 is concerned primarily with “the survival of the population.”¹⁶²

Article 35(3) absolutely prohibits intentional or unintentional acts of ecological warfare, or “the serious disruption of the natural equilibrium permitting life and the development of man and all living organisms,” whose effects “may be felt for one or more decades.”¹⁶³ This

¹⁵⁷ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 38, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁵⁸ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 37, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁵⁹ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 1452, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024). 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, 622-23 (Sept. 2010) (noting that there is no consensus on exactly what the “natural environment” encompasses).

¹⁶⁰ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 1462, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024).

¹⁶¹ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 1462, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024).

¹⁶² *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2133, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁶³ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 1462, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024).

prohibition exists even in the absence of a direct threat to the population. Article 35(3) operates in conjunction with other relevant instruments of IHL, namely Article 55 of AP I, ENMOD, and the general principles.

As discussed throughout this subsection, Article 55 of AP I has some similarities and some differences to Article 35(3) and will be further analyzed in the following subsection.

(2) Anthropocentric Protection – Additional Protocol I, Article 55(1)

*Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.*¹⁶⁴

While the language employed in AP I Article 55(1) is similar to that of Article 35(3) they serve two distinct purposes and work in conjunction with each other.

Whereas Article 35(3) focuses on protecting the natural environment itself, Article 55(1) concentrates specifically on “the survival of the population.”¹⁶⁵ The ICRC Commentary of 1987 notes that “population” within the context of paragraph 1 refers not only to the civilian population which experiences the immediate effects of war, but also implies the inclusion of future populations who will continue to be impacted by the long-term consequences of war without distinction.¹⁶⁶ Furthermore, Article 55(1) outlaws the use of means and methods whose damage to the natural environment will thereby prejudice the health of the population.¹⁶⁷ Thus, the employment of means or methods which may, in turn, cause certain long-term non-life-threatening conditions such as “congenital defects, degenerations... or deformities” is also

¹⁶⁴ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts art. 55(1), June 8, 1977, 1125 U.N.T.S. 3.

¹⁶⁵ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2133, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁶⁶ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2134, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁶⁷ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2134, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

prohibited.¹⁶⁸ Importantly, however, Article 55(1) does not consider health effects which are “temporary or short-term” in nature as a violation.¹⁶⁹

An important distinction between the language in Article 35(3) and Article 55(1) is in the latter’s opening with the phrase “care shall be taken.”¹⁷⁰ Though this opening statement is supplemented in the same Article by a stronger “prohibition” in the second sentence, the Commentary of 1987 notes that “to some extent this formula seems to reduce the effect of the provision by allowing some latitude of judgment.”¹⁷¹ On the other hand, Article 35(3) is an outright prohibition and is therefore more stringent.¹⁷²

The ICRC’s database on international humanitarian law’s Article 45, further codifies the concepts in AP I Article 35(3) and Article 55(1) into customary international humanitarian law (CIHL).¹⁷³ This Article prescribes a merged and simplified version of the AP I Articles and the operative provisions of ENMOD: “[t]he use of methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment is prohibited. Destruction of the natural environment may not be used as a weapon.”¹⁷⁴

It is important to note that while Article 55(1) is a primary example of the Geneva Convention protections of the natural environment, Article 55(2) holds that “[a]ttacks against

¹⁶⁸ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2135, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁶⁹ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2135, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁷⁰ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2135, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁷¹ *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2133, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁷² *Commentary on Article 55 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, 8 June 1997, ¶ 2133, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-55/commentary/1987?activeTab=undefined> (last visited Nov. 28, 2024).

¹⁷³ *Customary International Humanitarian Law Database*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1> (last visited Nov. 28, 2024).

¹⁷⁴ *Rule 45. Causing Serious Damage to the Natural Environment*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule45> (last visited Nov. 28, 2024).

the natural environment by way of reprisals are prohibited.”¹⁷⁵ However, attacks would have to be evaluated on an individual basis as to whether they constitute a reprisal.

AP I’s Articles 35(3) and 55(1) specifically address standards for the environment in times of conflict. Also within CIHL there are concepts that even though they are not established for the protection of natural areas, can have implications and establish responsibilities toward the environment.

3. General Principles Regulating the Conduct of Hostilities

The foundation of IHL is built on certain general principles governing the conduct of hostilities which have been enshrined in both the Geneva Conventions of 1949 and their Additional Protocols of 1977, and CIHL. The general principles of military necessity, humanity, distinction, proportionality, and precautions and their related rules delineate such limitations to be placed on the conduct of hostilities.¹⁷⁶ As it is generally accepted that the natural environment is by default civilian in character, it is provided with all the same general protections as other civilian objects.¹⁷⁷ The following section will analyze these principles of military necessity, distinction, precautions, and proportionality with respect to the environment, through this lens.

a) Military Necessity

IHL as a whole is concerned with striking a balance between military necessity and humanitarian considerations. In attempting to find a middle ground between the two, the principle of military necessity permits only those measures which are actually necessary to accomplish a legitimate military purpose, where the only legitimate purpose is to weaken the military capacity of the other party to the conflict, and which are not otherwise prohibited under IHL.¹⁷⁸ Parties are strictly limited to targeting military objectives, meaning “those objects which by their nature, location, purpose or use make an effective contribution to military action and

¹⁷⁵ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts art. 55(2), June 8, 1977, 1125 U.N.T.S. 3.

¹⁷⁶ *Rule 43. Application of General Principles on the Conduct of Hostilities to the Natural Environment*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule43> (last visited 23 February 2025).

¹⁷⁷ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 46, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited 23 February 2025).

¹⁷⁸ Nils Melzer, *International Humanitarian Law: A Comprehensive Introduction*, INT’L COMM. OF THE RED CROSS 6, 79 (2019). See *The Practical Guide to Humanitarian Law: Military Necessity*, DOCTORS WITHOUT BORDERS, <https://guide-humanitarian-law.org/content/article/3/military-necessity/> (last visited Nov, 28, 2024). (explaining how other IHL principles are inherently interwoven with the concept of military necessity. For example, an attack may be considered “necessary” if the target is not linked to a specific military objective or if the attack was otherwise indiscriminate, disproportionate, or aimed at spreading terror among civilians. While this is significant for a comprehensive understanding of IHL, for the purposes of this application the requirements of each will be considered separately).

whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”¹⁷⁹ Where the natural environment has not been classified as a military objective on one of these bases, it is granted the same protections from direct attack as civilian objects.¹⁸⁰ The ICRC’s CIHL Rule 43(A) directly applies this principle to the natural environment, whereby “[n]o part of the natural environment may be attacked, unless it is a military objective.”¹⁸¹

The natural environment may be accorded military objective status under certain circumstances and subject to certain limitations. With regard to the first prong of the military objective inquiry, the natural environment may never be classified as a military objective on the basis of its “nature,” because its nature is inherently civilian.¹⁸² However, the natural environment may be classified as such based on its location, purpose, or use.¹⁸³ Important to note for the natural environment is that its contribution to military action may only be directed to the actual war-fighting capabilities, rather than war-sustaining capabilities.¹⁸⁴ As for the second prong, the same interpretation of “definite” and “military” are applied to the natural environment as with other military objectives.¹⁸⁵ The classification of the natural environment as a military

¹⁷⁹ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 55(2), June 8, 1977, 1125 U.N.T.S. 3; *see also* Jean-Marie Henckaerts and Louise Doswald-Beck, Customary International Humanitarian Law Volume I: Rules, INT’L COMM. OF THE RED CROSS, <https://www.icrc.org/sites/default/files/external/doc/en/assets/files/other/customary-international-humanitarian-law-i-icrc-eng.pdf>.

¹⁸⁰ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 7, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

¹⁸¹ *Rule 43. Application of General Principles on the Conduct of Hostilities to the Natural Environment*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule43> (last visited 23 February 2025).

¹⁸² *Rule 43. Application of General Principles on the Conduct of Hostilities to the Natural Environment*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule43> (last visited 23 February 2025).

¹⁸³ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 49, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (for example, the location of a hill could provide a vantage point over the adversary’s troops, or foliage could be used (or purposed, meaning intended for future use) to provide cover to moving troops. In both of these situations, the natural environment provides an effective contribution to military action).

¹⁸⁴ *See Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 50, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (explaining that “war-sustaining capabilities” denote the use of portions of the natural environment to generate significant revenue for the war effort as a whole).

¹⁸⁵ *See Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 50, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (explaining that “war-sustaining

objective is subject to one significant limitation: the “area” of the natural environment to be attacked must be specifically confined to the portion of it which is directly contributing to military action and whose total or partial destruction, capture, or neutralization would result in a definite military advantage.¹⁸⁶

b) Distinction

Under the principle of distinction as set out in Article 48 of AP I, parties “shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives” and may only direct attacks against combatants and military objectives.¹⁸⁷ In addition to this blanket prohibition on attacks against civilians and civilian objects, Article 51(4) of AP I further prohibits “indiscriminate attacks,” defined as:

- (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 this Protocol; and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.¹⁸⁸

Article 51(4)(a) stands for the proposition that not only must attacks *not* be directed against civilians and civilian objects, but attacks must *only* be directed at specifically defined military objectives.¹⁸⁹ Finally, Article 51(4)(c) broadens the definition of indiscriminate attacks by including “those [attacks] which employ a method or means of combat the effects of which cannot be limited as required by [AP I].”¹⁹⁰ An analysis under Article 51(4)(c) would be largely situational, as means or methods of combat may be used entirely legitimately under some circumstances, while under others their use would contravene requirements of AP I and therefore be prohibited as an indiscriminate attack.¹⁹¹

capabilities” denote the use of portions of the natural environment to generate significant revenue for the war effort as a whole).

¹⁸⁶ See *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 50,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (explaining that “war-sustaining capabilities” denote the use of portions of the natural environment to generate significant revenue for the war effort as a whole).

¹⁸⁷ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 48, June 8, 1977, 1125 U.N.T.S. 3.

¹⁸⁸ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 51(4), June 8, 1977, 1125 U.N.T.S. 3.

¹⁸⁹ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 51(4), June 8, 1977, 1125 U.N.T.S. 3.

¹⁹⁰ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 51(4)(c), June 8, 1977, 1125 U.N.T.S. 3.

¹⁹¹ ICRC, Commentary of 1987 to Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) 622-23 (1987), <https://ihl->

c) Precaution

Customary law largely reflects Article 57 of AP I,¹⁹² and expands precautions to include a duty of “constant care,”¹⁹³ and “due regard for the natural environment.”¹⁹⁴ The duty of constant care reminds parties that the precautionary principle does not end when an attack is launched, but rather is a continuous obligation.¹⁹⁵ The “due regard” principle articulated in the ICRC’s CIHL Rule 44 is a variation on the general precautionary principle under IHL, but goes further by incorporating the traditionally used in international environmental law’s precautionary principle.¹⁹⁶ This principle stipulates that a “[l]ack of scientific certainty as to the effects on the environment of certain military operations does not absolve a party to the conflict from taking such precautions.”¹⁹⁷ This has been described as “amount[ing] to a revolution,” within environmental protection in armed conflict, as this principle is seen by experts as both “more favourable for the environment and more flexible than the provisions of Additional Protocol I.”¹⁹⁸

d) Proportionality

In accordance with Article 57 of AP I, parties are prohibited from launching any attack which “may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.”¹⁹⁹ CIHL extends this principle to the environmental context by prohibiting attacks that may be expected to cause excessive incidental damage to the natural environment.²⁰⁰ Proportionality takes into consideration three factors: (1) concrete and direct military advantage; (2) expected civilian losses or environmental damage; and (3)

databases.icrc.org/en/ihl-treaties/api-1977/article-57/commentary/1987?activeTab=1949GCs-APs-and-commentaries.

¹⁹² *Chapter 5 Precautions in Attack*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1> (last visited Nov. 29, 2024) (referring to Rules 15-21).

¹⁹³ *Rule 15. Principle of Precautions in Attack*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule15> (last visited Nov. 29, 2024).

¹⁹⁴ *Rule 44. Due Regard for the Natural Environment in Military Operations*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule44> (last visited Nov. 29, 2024).

¹⁹⁵ *Rule 15. Principle of Precautions in Attack*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule15> (last visited Nov. 29, 2024).

¹⁹⁶ *Rule 15. Principle of Precautions in Attack*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule15> (last visited Nov. 29, 2024).

¹⁹⁷ *Rule 44. Due Regard for the Natural Environment in Military Operations*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule44> (last visited Nov. 29, 2024).

¹⁹⁸ Bothe et. al., *International Law Protecting the Environment During Armed Conflict: Gaps and Opportunities*, 92 INT’L COMM. OF THE RED CROSS 569, 575 (Sept. 2010).

¹⁹⁹ *Rule 14. Proportionality in Attack*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule14> (last visited 23 Feb. 2025)

²⁰⁰ *Rule 43. Application of General Principles on the Conduct of Hostilities to the Natural Environment*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule43> (last visited Nov. 28, 2024) (“Launching an attack against a military objective which may be expected to cause incidental damage to the environment which would be excessive in relation to the concrete and direct military advantage anticipated is prohibited.”).

excessiveness standard.²⁰¹ The factor most relevant to the environment is expected civilian losses or environmental damage and thus will be discussed below.

(1) Expected Civilian Losses or Environmental Damage

The ICRC has identified several factors which must be taken into consideration in evaluating expected harm to civilian population and civilian objects. These include “their location, . . . the terrain, . . . accuracy of the weapons used, . . . weather conditions, . . . the specific nature of the military objectives concerned, . . . [and] technical skill of the combatants”²⁰² The cumulative effects of repeated attacks against the same military objective or in the same area which result in compounding degradation of civilian infrastructure or the natural environment should also be considered.²⁰³

Due to the environment being classified as a civilian object under CIHL, it is important to apply the CIHL concepts of limitation on targets, military necessity, distinction, precaution, and proportionality to environmental targets. These concepts will be discussed in detail in the following section.

4. Limitations on Targets

Some protection might also be afforded to the natural environment through rules pertaining to other specifically protected objects.²⁰⁴ Most pertinent to this analysis are the protections afforded to objects indispensable to the civilian population.

a) Objects Indispensable to the Civilian Population

Article 54 of AP I prohibits the targeting of “objects indispensable to the survival of the civilian population.”²⁰⁵ Commentary clarifies that such targeting is prohibited no matter the

²⁰¹ *Rule 14. Proportionality in Attack*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule14> (last visited 23 Feb. 2025)

²⁰² ICRC, Commentary of 1987 to Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) 684 (1987), <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-57/commentary/1987?activeTab=1949GCs-APs-and-commentaries>.

²⁰³ Reference Guidelines on the Protection of the Natural Environment in Armed Conflict, INT’L COMM. OF THE RED CROSS (September 2020), https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited 22 March 2025).

²⁰⁴ *See Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 63-71, https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (The rules are selected based on provisions highlighted in part II, section 2 and narrowed to the most applicable rules to the Most Egregious Incidents in the second part of this whitepaper)

²⁰⁵ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 54, June 8, 1977, 1125 U.N.T.S. 3.

underlying purpose, whether that purpose is to affect the civilian population or not.²⁰⁶ The ICRC holds that there is not an all-encompassing list of “objects” protected from such actions.²⁰⁷ Though, such objects do include “foodstuffs, agricultural areas, crops, livestock, drinking water installations and supplies and irrigation works.”²⁰⁸

Special emphasis is put on the prohibitions under Article 54 of AP I. The protections afforded under this article are meant to “cover all possibilities, including pollution, by chemical or other agents, of water reservoirs, or destruction of crops by defoliants.”²⁰⁹ In the context of attacks on the natural environment, as a result, Article 54 of AP I serves as an encompassing protection of natural objects and resources that are deemed essential to the survival of civilian populations.²¹⁰

There are two exceptions to the prohibitions outlined in Article 54 of AP I.²¹¹ The first exception applies when the objects can be classified as military objectives.²¹² The second exception is called the “scorched earth policy.”²¹³ The scorched earth policy applies when actions are taken as a part of defending “national territory against invasion.”²¹⁴

While it is important to recognize State responsibility over civilian objects not within its own territory, different constraints under international law come into play during occupation. The next section analyzes the responsibilities an occupying State has over the environment of an occupied territory.

5. Responsibility towards the Environment in Situations of Occupation

In the context of occupation, international law, through various frameworks, increasingly acknowledges that the occupying power bears responsibility for the consequences

²⁰⁶ How Does Law Protect in Wars? *Objects indispensable to the survival of the civilian population*, https://casebook.icrc.org/a_to_z/glossary/objects-indispensable-survival-civilian-population.

²⁰⁷ How Does Law Protect in Wars? *Objects indispensable to the survival of the civilian population*, https://casebook.icrc.org/a_to_z/glossary/objects-indispensable-survival-civilian-population.

²⁰⁸ How Does Law Protect in Wars? *Objects indispensable to the survival of the civilian population*, https://casebook.icrc.org/a_to_z/glossary/objects-indispensable-survival-civilian-population.

²⁰⁹ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977. Commentary of 1987, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-54/commentary/1987>.

²¹⁰ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977. Commentary of 1987, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-54/commentary/1987>.

²¹¹ ICRC, International Humanitarian Law Databases, *Rule 54. Attacks against Objects Indispensable to the Survival of the Civilian Population*, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule54>

²¹² ICRC, International Humanitarian Law Databases, *Rule 54. Attacks against Objects Indispensable to the Survival of the Civilian Population*, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule54>

²¹³ ICRC, International Humanitarian Law Databases, *Rule 54. Attacks against Objects Indispensable to the Survival of the Civilian Population*, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule54>

²¹⁴ ICRC, International Humanitarian Law Databases, *Rule 54. Attacks against Objects Indispensable to the Survival of the Civilian Population*, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule54>

of the occupation. This section outlines the obligation that an occupying power has to avoid and even prevent harm to the environment.

The occupying force inherits two major environmental issues upon occupation of a foreign land: the collapse of environmental governance and the unequitable use or distribution of natural resources in the occupied territory.²¹⁵ The interpretation of the occupying force's responsibility is not entirely clear but should be assessed in light of the overall treatment of the local people, their property, and their respective resources.²¹⁶ This could take the form of managing the State's energy supply and natural resources to minimize disruptions of power, heat, and water, restoring the environmental governing authority and protecting access to natural resources.²¹⁷

The International Law Commission (ILC) has proposed new legal principles that would codify an occupier's roles and responsibilities in protecting the environment of an occupied country.²¹⁸ Draft Principle 19 states that the occupying country shall take environmental considerations into account during the administration of the occupied country and respect the legislation of the occupied territory as it pertains to environmental regulations and protections.²¹⁹ Draft Principle 20 states that the occupying party is allowed to administer natural resources in a manner that is sustainable and minimizes environmental harm.²²⁰ Lastly, Draft Principle 21 states that "[a]n Occupying Power shall take appropriate measures to ensure that activities in the occupied territory do not cause significant harm to the environment of other States or areas beyond national jurisdiction, or any area of the occupied State beyond the occupied territory."²²¹

The ILC has noted the nuanced application of Draft Principle 21 in occupied territories not necessarily comprising the entirety of an occupied State. Specifically, this would cover "situations in which a State is exercising *de facto* jurisdiction, even though it lacks jurisdiction

²¹⁵ Doug Weir, How Should the Environment Be Protected in Situations of Occupation?, Conflict & Env't Observatory (CEOBS) (Feb. 7, 2023), <https://ceobs.org/how-should-the-environment-be-protected-in-situations-of-occupation/>.

²¹⁶ Draft principles on protection of the environment in relation to armed conflicts (2022), https://legal.un.org/docs/?path=../ilc/texts/instruments/english/draft_articles/8_7_2022.pdf&lang=EF.

²¹⁷ Doug Weir, How Should the Environment Be Protected in Situations of Occupation?, Conflict & Env't Observatory (CEOBS) (Feb. 7, 2023), <https://ceobs.org/how-should-the-environment-be-protected-in-situations-of-occupation/>.

²¹⁸ Draft principles on protection of the environment in relation to armed conflicts (2022), https://legal.un.org/docs/?path=../ilc/texts/instruments/english/draft_articles/8_7_2022.pdf&lang=EF.

²¹⁹ Doug Weir, How Should the Environment Be Protected in Situations of Occupation?, Conflict & Env't Observatory (CEOBS) (Feb. 7, 2023), <https://ceobs.org/how-should-the-environment-be-protected-in-situations-of-occupation/>.

²²⁰ Doug Weir, How Should the Environment Be Protected in Situations of Occupation?, Conflict & Env't Observatory (CEOBS) (Feb. 7, 2023), <https://ceobs.org/how-should-the-environment-be-protected-in-situations-of-occupation/>.

²²¹ Draft principles on protection of the environment in relation to armed conflicts, with commentaries, principle 21 (2022), https://legal.un.org/docs/?path=../ilc/texts/instruments/english/commentaries/8_7_2022.pdf&lang=EF.

de jure, such as in cases of unlawful intervention, occupation and unlawful annexation.”²²² The ILC clarifies that

[T]he phrase ‘to the environment of other States or areas beyond national jurisdiction’ could be interpreted as excluding the territory of other parts of the occupied State, draft principle 21 is intended to cover three situations: the territory of other States, areas beyond national jurisdiction, and any territory of the occupied State not under occupation.²²³

Though the concept of protecting the environment during an armed conflict is fairly embedded in IHL and continuing to be further developed, it still leaves gaps. Thus, it is important to analyze international environmental law in order to fully address and evaluate a State’s responsibility toward the environment in times of conflict.

D. International Environmental Law

1. Introduction

International environmental law (IEL) is broadly defined as the field of international law that regulates the conduct of States concerning the environment.²²⁴ When applied to armed conflict, international humanitarian law and IEL can overlap. This relationship between IHL and IEL has not been explored extensively in international law practice or scholarly debate.²²⁵ Though IHL would prevail over IEL if the two were to conflict because of the concept of *lex specialis*, IEL is a vital element in the analysis of armed conflict.²²⁶ Scholars have noted that

[w]hile specific rules dedicated to the environment were included in the first 1977 Additional Protocol (API), it has become clear in post-1977 practice, especially in light of the two Gulf Wars, that IHL is unable to adequately protect the environment during

²²² Draft principles on protection of the environment in relation to armed conflicts, with commentaries (2022), https://legal.un.org/docs/?path=../ilc/texts/instruments/english/commentaries/8_7_2022.pdf&lang=EF.

²²³ Draft principles on protection of the environment in relation to armed conflicts, with commentaries (2022), https://legal.un.org/docs/?path=../ilc/texts/instruments/english/commentaries/8_7_2022.pdf&lang=EF.

²²⁴ *International Environmental Law*, CORNELL L. SCH.

https://www.law.cornell.edu/wex/international_environmental_law (last visited Feb. 23, 2025).

²²⁵ Raphaël van Steenberghe, *The Interplay between International Humanitarian Law and International Environmental Law: Towards a Comprehensive Framework for a Better Protection of the Environment in Armed Conflict*, *Journal of International Criminal Justice*, Vol. 20, Iss. 5, pp. 1123–1154, (Nov. 5, 2022), <https://academic.oup.com/jicj/article/20/5/1123/7005392>.

²²⁶ Raphaël van Steenberghe, *The Interplay between International Humanitarian Law and International Environmental Law: Towards a Comprehensive Framework for a Better Protection of the Environment in Armed Conflict*, *Journal of International Criminal Justice*, Vol. 20, Iss. 5, pp. 1149, (Nov. 5, 2022).

warfare. This has led to the consideration of IEL as a means to bridge that gap.²²⁷

This section will focus on the gaps that IEL helps IHL fill when addressing environmental harm. Though extensive, IHL does not place a lot of focus on the environment specifically. Thus, IEL acts as a wider resource for addressing environmental harm, even during armed conflict.

While IEL is quite expansive, the following section will focus on the topics of IEL that are relevant to the concept of ecocide.

2. The Polluter Pays Principle

*National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.*²²⁸

The polluter pays principle (PPP) is part of a set of broader principles within the Rio Declaration of 1992.²²⁹ The PPP urges States and entities to take responsibility for pollution and harm done to the natural environment and to remediate such damage.²³⁰ This idea has also been utilized to shift the cost of pollution protection onto the polluter.²³¹ The PPP has served as a basis of accountability in this context when it is applied to greenhouse gas emitters via a carbon tax.²³² This tax is usually equal to the associated potential cost imposed by future climate change, compelling emitters to bear the cost of pollution.²³³

Courts have, in addition, used the PPP in their interpretation of cases.²³⁴ In cases involving environmental damage, such as the *Milieudefensie et al. v. Royal Dutch Shell plc*, (*Shell*) case, the Hague District Court found that Shell was responsible for its actions that have

²²⁷ Raphaël van Steenberghe, *The Interplay between International Humanitarian Law and International Environmental Law: Towards a Comprehensive Framework for a Better Protection of the Environment in Armed Conflict*, *Journal of International Criminal Justice*, Vol. 20, Iss. 5, pp. 1123–1154, (Nov. 5, 2022), <https://academic.oup.com/jicj/article/20/5/1123/7005392>.

²²⁸ Rio Declaration on Environment and Development, Jun. 13, 1992 31 ILM 874 (1992), Principle 16.

²²⁹ Rio Declaration on Environment and Development, Jun. 13, 1992 31 ILM 874 (1992), Principle 16.

²³⁰ Rio Declaration on Environment and Development, Jun. 13, 1992 31 ILM 874 (1992), Principle 16.

²³¹ Rio Declaration on Environment and Development, Jun. 13, 1992 31 ILM 874 (1992), Principle 16. *See also*, Katarina Ruhland, *Explainer: What Is the Polluter Pays Principle and How Can It Be Used in Climate Policy?*, <https://earth.org/explainer-what-is-the-polluter-pays-principle-and-how-can-it-be-used-in-climate-policy/>.

²³² Katarina Ruhland, *Explainer: What Is the Polluter Pays Principle and How Can It Be Used in Climate Policy?*, <https://earth.org/explainer-what-is-the-polluter-pays-principle-and-how-can-it-be-used-in-climate-policy/>.

²³³ Jose Felix Pinto-Bazurco, *How to Enforce the Polluter-Pays Principle*, INT’L INST. FOR SUSTAINABLE DEV. 6 (Feb. 8, 2022), <https://www.iisd.org/articles/polluter-pays-principle>.

²³⁴ Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules*, 2nd edn. (Oxford, 2020; online edn, Oxford Academic, 21 Jan. 2021), <https://doi.org/10.1093/oso/9780198844358.001.0001>.

caused harm to the environment.²³⁵ Although the Hague Court of Appeals later overturned the District Court's decision, the underlying rationale of the District Court's judgment aligns with the "polluter pays" approach to environmental liability. Even though this case concerns climate change, it has direct relevance to purposeful harm towards the natural environment in the context of armed conflict. However, the decision by the Hague Court of Appeals demonstrates judicial application and recognition of the PPP. Likewise, in *Smelter*, the mandated that Canada and the Consolidated Mining and Smelting Company decrease and avoid air pollution in Washington State.²³⁶

In comparison to these cases, the war in Ukraine has caused more than \$71 billion in damage to the environment as of November 2024.²³⁷ There has been widespread chemical contamination of air, water, and soil, and Ukraine has been contaminated with landmines and unexploded ordnance.²³⁸ Under the PPP, Russia could potentially be held liable for the future financial costs of remediating pollution caused by its action in Ukraine.

3. The Prevention Principle

The prevention principle requires States to "address tangible risks" and anticipate ecological damage "or, where [damage] has already occurred, try to ensure it does not spread."²³⁹ This principle, "as a customary rule, has its origins in the due diligence incumbent upon each State within its own territory."²⁴⁰ Some scholars acknowledge prevention as "now widely recognised as reflecting a rule of customary international law, placing preventive duties on the right of States to carry out activities within their territory or under their jurisdiction."²⁴¹ Moreover, scholars hold that States are bound by a due diligence standard "to prevent transboundary harm."²⁴² Yet, they acknowledge that there is a lack of clarity in terms of what "diligent conduct" means and there are no "concrete measures [that] States

²³⁵ *Milieudefensie et al. v. Royal Dutch Shell plc*, 12 Nov., 2024, 200.302.332/01 (English translation), available at https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2024/20241112_8918_judgment.pdf.

²³⁶ *Trail Smelter Case* (U.S. v. Can.), 16 Apr. 1938 & 11 Mar. 1941, 3 R.I.A.A. 1905, 1966; Murase Shinya (Special Rapporteur on the Protection of the Atmosphere) *Sixth Rep. on the Protection of the Atmosphere*, U.N. Doc. A/CN.4/736, 24 (Feb. 11, 2020).

²³⁷ *Russian invasion toll on environment \$71 billion, Ukraine says*, (Nov. 19, 2024), <https://www.france24.com/en/live-news/20241119-russian-invasion-toll-on-environment-71-billion-ukraine-says>

²³⁸ *Russia's War on Ukraine: High Environmental Toll*, EUROPEAN PARLIAMENT 1-2 (2023), [https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/751427/EPRS_ATA\(2023\)751427_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/751427/EPRS_ATA(2023)751427_EN.pdf).

²³⁹ Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT'L ENV'T L. 152, 153 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

²⁴⁰ Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT'L ENV'T L. 152, 156 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

²⁴¹ Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT'L ENV'T L. 152, 154 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

²⁴² Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT'L ENV'T L. 152, 155 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

are required to take in order to fulfill their duties”²⁴³ However, the International Law Commission published the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities with Commentaries which tries to outline standards for due diligence.²⁴⁴ Though deriving from many multilateral environmental agreements (MEAs) the prevention principle has not been codified into a binding treaty.²⁴⁵

Furthermore, in regard to armed-conflicts, the concept of prevention may be able to expand to similar concepts that are applied to civilians. The prevention principle is similar to the ideals found under Articles 35 and 55 in Additional Protocol I to the Geneva Conventions of 1949. In which case, the application of the prevention principle to armed conflicts may use the standards applied to those articles.

a) Convention on the Prohibition of Military or Hostile Use of Environmental Modification Techniques

The treaty that most directly addresses the impact of armed conflict on the environment is ENMOD.²⁴⁶ This treaty tackles an array of issues ranging from the lasting environmental impacts of armed conflict to the dire humanitarian issues that arise from the environmental damage caused by war. The Russian Federation ratified ENMOD on 30 May 1978.²⁴⁷

Each party that signed ENMOD did so in the interest of peace and to promote disarmament.²⁴⁸ ENMOD has ten articles though this section will only focus on a relevant few. Article I of the treaty states very clearly that the Parties undertake the responsibility not to engage in military action or any hostile use that would have negative long-lasting effects by means of destruction.²⁴⁹ Article II then specifies the meaning of environmental modification techniques creating a duty to not deliberately manipulate the natural order of the

²⁴³ Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT’L ENV’T L. 152, 155 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

²⁴⁴ Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT’L ENV’T L. 152, 156 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

²⁴⁵ Nicolas de Sadeleer, *The Principles of Prevention and Precaution in International Law: Two Heads of the Same Coin?* in RSCH. HANDBOOK INT’L ENV’T L. 152, 156 (2nd ed., 2021) <https://tradeenvironment.eu/wp-content/uploads/2021/10/Research-Handbook-of-IEL.pdf>.

²⁴⁶ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)*, U.N., <https://disarmament.unoda.org/enmod/> (last visited Dec. 19, 2024).

²⁴⁷ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques*, art. 7, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁴⁸ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques*, preamble, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁴⁹ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques*, art. 1, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

environment.²⁵⁰ Article III of the treaty requires states to take appropriate measures to implement provisions of the treaty and emphasizes the importance of domestic legislation.²⁵¹

Article IV requires that Parties take all measures they consider “necessary in accordance with its constitutional processes to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control.”²⁵²

Finally Article V of ENMOD addresses dispute resolution; this article underscores the importance of consultation among states to the treaty.²⁵³ It encourages states to cooperate through peaceful settlement using methods such as negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or regional agencies or other arrangements.²⁵⁴

As previously mentioned, ENMOD was designed to address situations that caused long-lasting environmental damage such as the use of agent orange in Vietnam.²⁵⁵ ENMOD’s provisions apply during all circumstances including armed conflict, to prevent the manipulation of environmental factors in ways that cause widespread, long-lasting, or severe harm to human health, natural ecosystems, or property.²⁵⁶ Thus, the Russian Federation, as a signatory, is obligated under the treaty to uphold these provisions regardless of the geopolitical context. Within the context of Russia’s war against Ukraine, the destruction of the Nova Kakhovka Dam on 6 June 2022, which is attributed to the Russian military, limited access to drinking water, introduced contaminants from sewage, petrol stations, agrochemicals and pesticides, and also dislodged land mines all across the region.²⁵⁷ Another example of military action that caused negative long-lasting effects in Ukraine is the Russian shelling of the Severodonetsk Azot Chemical Plant on 10 June 2022, that caused a massive leak of ten tons of oil from damaged radiators which will have lasting impacts to the land for decades.²⁵⁸

²⁵⁰ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. 2, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁵¹ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. 3, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁵² Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. 4, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁵³ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. 5, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁵⁴ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. 5, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁵⁵ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

²⁵⁶ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, preamble, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁵⁷ *Russia’s War on Ukraine: High Environmental Toll*, NAT’L EUROPEAN PARLIAMENT 2, [https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/751427/EPRS_ATA\(2023\)751427_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/751427/EPRS_ATA(2023)751427_EN.pdf) (last visited Dec. 19, 2024).

²⁵⁸ *Ukraine War: Chemical Plant Hit as Fighting Rages in Severodonetsk*, BBC (June 11, 2022), <https://www.bbc.com/news/world-europe-61773356>.

The ENMOD Convention prohibits states from using environmental modification techniques for military or hostile purposes against other states.²⁵⁹ This prohibition reinforces the principle of non-interference and respects State sovereignty by prohibiting environmental manipulation as an act of aggression or warfare.

The principles of international customary law concerning the environment, alongside multilateral agreements, underscore the global commitment to sustainable development and environmental protection. These principles, including the duty to prevent environmental harm and promote cooperation, serve as vital guidelines for responsible governance and international relations. In the face of the invasion of Ukraine, adherence to these principles and agreements remain crucial, even amidst armed conflict. Environmental degradation resulting from warfare can have long-lasting and far-reaching consequences, transcending borders and affecting neighboring states and ecosystems. Therefore, upholding international environmental norms is imperative to mitigate the environmental impacts of conflict and pave the way for post-war recovery and environmental sustainability in Ukraine.

As discussed at the beginning of this section, IEL helps fill the gaps that IHL leaves behind. Similarly, the next section discusses yet another way in which international law protects the environment through the lens of human rights.

E. International Human Rights Law

1. Introduction

When examining international human rights law (IHRL) in the context of armed conflict as applied to the concept of ecocide, “[t]he relationship between . . . IHL and IEL should be envisaged, together with IHRL, as forming a common regulation specific to armed conflict, characterized, like any legal system, not only by a consistency between its norms but also by a coherence which gives sense to them when taken together.”²⁶⁰ Thus, it is important to analyze how international human rights law may be applicable to conserving or protecting the environment in armed conflicts.

It is important to note that both Ukraine and the Russian Federation are parties to several core human rights treaties.²⁶¹ States have international legal obligations to safeguard the rights

²⁵⁹ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. 2, opened for signature Dec. 10, 1976, 1108 U.N.T.S. 151 (entered into force Oct. 5, 1978).

²⁶⁰ Raphaël van Steenberghe, The Interplay between International Humanitarian Law and International Environmental Law: Towards a Comprehensive Framework for a Better Protection of the Environment in Armed Conflict, *Journal of International Criminal Justice*, Volume 20, Issue 5, November 2022, 1123–1154, <https://doi-org.ezproxysuf.flo.org/10.1093/jicj/mqac062>.

²⁶¹ These include, but are not limited to, the International Covenant on Economic, Social and Cultural Rights (ICESC), Convention Against Torture, International Convention on the Elimination of All Forms of Racial Discrimination, Convention on the Elimination of All Forms of Discrimination against Women, Convention on the Rights of the Child, and the Convention on the Rights of Persons with Disabilities.

of all individuals under their jurisdiction, even extraterritorially.²⁶² The following sections examine how IHRL has addressed environmental harm through international treaties and court decisions.

2. The International Covenant on Civil and Political Rights

The International Covenant on Civil and Political Rights (ICCPR) is an international treaty that was adopted in 1966 and entered into force in 1976 by the United Nations General Assembly.²⁶³ Russia ratified the ICCPR in 1973.²⁶⁴ The purpose of the ICCPR is to protect the civil and political rights of individuals.²⁶⁵ The ICCPR is part of the International Bill of Human Rights, which also includes the Universal Declaration of Human Rights (UDHR) and the International Covenant on Economic, Social and Cultural Rights.²⁶⁶ The ICCPR codifies the rights to life, freedom from torture and inhumane treatment, the freedom of expression, and the right to liberty and security of a person, among others.²⁶⁷ The ICCPR is considered to be international customary law.²⁶⁸

Article 6 of the ICCPR emphasizes the right to life and how this principle is protected by international law.²⁶⁹ Article 6 specifically states that “[e]very human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.”²⁷⁰ In order for the right to life to be fully enjoyed, the protection of the environment is essential. Humans have a right to live free from environmental degradation especially when

²⁶² U.N. Sec.-Gen., *Torture and other cruel, inhuman or degrading treatment or punishment*, ¶ 33, U.N. Doc. A/70/303 (Aug. 7, 2015),

<https://documents.un.org/doc/undoc/gen/n15/248/97/pdf/n1524897.pdf?token=mCxAMxt3tZpZQx5TYZ&fe=true>

²⁶³ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976.

²⁶⁴ <https://indicators.ohchr.org/>

²⁶⁵ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.

²⁶⁶ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.

²⁶⁷ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.

²⁶⁸ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.; see also *The Interaction Of Legal Systems in the Work of the International Criminal Tribunal For The Former Yugoslavia*, 16 ILSA J Int'l & Comp L 5.

²⁶⁹ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.

²⁷⁰ International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.

caused by armed conflict.²⁷¹ As a party to the ICCPR, Russia may not derogate its obligations under Article 6.²⁷²

3. The International Covenant on Economic, Social, and Cultural Rights

Russia ratified the The International Covenant on Economic, Social, and Cultural Rights (ICESCR) in 1973.²⁷³ Russia's ratification of the ICESCR means that its provisions are applicable even during armed conflict.²⁷⁴

General Comment 14 of the Committee on Economic Social and Cultural Rights (CESCR) states that the right to health as contained in Article 12(2) of the ICESCR includes a "wide range of socio-economic factors that promote conditions in which people can lead a healthy life."²⁷⁵ Likewise, the right to health "extends to the underlying determinants of health, such as food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions, and a healthy environment."²⁷⁶ The CESCR expanded more on what this right encompasses in their General Comment 15, incorporating the right to water as part of environmental hygiene guaranteed and the right to health under Article 12.²⁷⁷ This includes the prevention of unsafe and toxic water conditions and ensures its availability, quality, and accessibility.²⁷⁸ The Comment states that

Environmental hygiene, as an aspect of the right to health under Article 12, paragraph 2(b), of the Covenant, encompasses taking steps on a non-discriminatory basis to prevent threats to health from

²⁷¹ United Nations, International Covenant on Civil and Political Rights, General Comment No. 36 (Sept. 3, 2019) <https://documents.un.org/doc/undoc/gen/g19/261/15/pdf/g1926115.pdf> (explaining how environmental protection is essential to protecting right to life). "Environmental degradation, climate change and unsustainable development constitute some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life." *Id.* "Implementation of the obligation to respect and ensure the right to life, and in particular life with dignity, depends, inter alia, on measures taken by States parties to preserve the environment and protect it against harm, pollution and climate change caused by public and private actors." *Id.*

²⁷² International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171, entered into force Mar. 23, 1976.

²⁷³ *Ratification Status for CESCR - International Covenant on Economic, Social and Cultural Rights*, https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?Treaty=CESCR.

²⁷⁴ United Nations High Commissioner for Human Rights, *Protection of economic, social and cultural rights in conflict*, <https://www.ohchr.org/sites/default/files/Documents/Issues/ESCR/E-2015-59.pdf>.

²⁷⁵ CESCR General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12), (11 August 2000) (Contained in Document E/C.12/2000/4), <https://www.ohchr.org/sites/default/files/Documents/Issues/Women/WRGS/Health/GC14.pdf>

²⁷⁶ CESCR General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12), para. (11 August 2000) (Contained in Document E/C.12/2000/4), <https://www.ohchr.org/sites/default/files/Documents/Issues/Women/WRGS/Health/GC14.pdf>.

²⁷⁷ UN Economic and Social Council, General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant), E/C.12/2002/11, UN Committee on Economic, Social and Cultural Rights (CESCR), 20 January 2003, <https://www.refworld.org/legal/general/cescr/2003/en/39347>.

²⁷⁸ UN Economic and Social Council, General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant), E/C.12/2002/11, UN Committee on Economic, Social and Cultural Rights (CESCR), 20 January 2003, <https://www.refworld.org/legal/general/cescr/2003/en/39347>.

unsafe and toxic water conditions. For example, States Parties should ensure that natural water resources are protected from contamination by harmful substances and pathogenic microbes. Likewise, States Parties should monitor and combat situations where aquatic eco-systems serve as a habitat for vectors of diseases wherever they pose a risk to human living environments.²⁷⁹

The connection between Article 12 and the right to a healthy environment continued in Report No. 1 where the Human Rights Council (HRC) prepared an Individual Report on the ICESCR (the report).²⁸⁰ The report holds that realization of the right to a healthy environment requires environmental and industrial hygiene, safe water, and sanitation and is threatened by the pollution of water, air, and soil.²⁸¹ Finally, in its conclusion, the report states that “[n]otwithstanding the absence of an express right to a healthy environment in the ICESCR, the [CESCR] has firmly established that the enjoyment of several economic, social and cultural rights depends upon the existence of a healthy environment.”²⁸²

States are bound by the ICESCR including in times of armed conflict and public emergencies.²⁸³ The duties contained in the ICESCR include the obligation of States to refrain from “any action that would interfere with an individual’s enjoyment of economic and social rights.”²⁸⁴ Thus, Russia has a legal obligation to not take any action that would interfere with anyone’s right to a healthy environment.

4. European Convention on Human Rights

The Convention for the Protection of Human Rights and Fundamental Freedoms, better known as the European Convention on Human Rights (ECHR), was the first instrument to make certain rights provided by the Universal Declaration of Human Rights effective and binding.²⁸⁵ The governing body of the ECHR is the Council of Europe while the European Court of Human Rights (ECtHR) implements the Convention in its judgments.²⁸⁶ This section

²⁷⁹SUBSTANTIVE ISSUES ARISING IN THE IMPLEMENTATION OF THE INTERNATIONAL COVENANT ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS, ECOSOC, Para. 8(2003)

<https://documents.un.org/doc/undoc/gen/g03/402/29/pdf/g0340229.pdf>.

²⁸⁰ Report No. 1 Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, (Dec. 2013).

²⁸¹ Report No. 1 Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, (Dec. 2013) para. 30, 31, & 34

²⁸² Report No. 1 Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, (Dec. 2013). Para. 104

²⁸³ United Nations High Commissioner for Human Rights, *Protection of economic, social and cultural rights in conflict*, <https://www.ohchr.org/sites/default/files/Documents/Issues/ESCR/E-2015-59.pdf>.

²⁸⁴ United Nations High Commissioner for Human Rights, *Protection of economic, social and cultural rights in conflict*, <https://www.ohchr.org/sites/default/files/Documents/Issues/ESCR/E-2015-59.pdf>.

²⁸⁵ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights> (last visited Oct. 4, 2024).

²⁸⁶ *A Convention to Protect Your Rights and Liberties*, COUNCIL OF EUROPE PORTAL, <https://www.coe.int/en/web/human-rights-convention> (last visited Oct. 4, 2024).

discusses key cases and relevant provisions of the ECHR concerning environmental destruction. In 2022 Russia left the Council of Europe and the jurisdiction of the ECtHR, however, international tribunals and courts, including the ICJ, look to ECtHR decisions for persuasive authority.²⁸⁷ While the ECHR was not initially designed to address environmental crimes explicitly, its application in environmental cases has expanded, with the ECtHR recognizing the devastating effects that environmental harm can have on human rights.

Through landmark rulings, the Court has clarified the responsibilities of states in preventing and mitigating environmental harm in times of armed conflict. In this context, the discussion will explore how the Court addresses the intersection of environmental warfare, crimes, and disasters, examining whether the broader notion of ecocide could emerge as a recognized violation under the ECHR framework. While ecocide and environmental warfare cases in the ECtHR are rare, other cases heard by the court relating to environmental destruction show the responsibility of States and other actors under the ECHR.

a) Article 1: Obligation to Respect Human Rights

Article 1 of the ECHR states that “High Contracting Parties shall secure to everyone within their jurisdiction the rights and freedoms defined in Section I of this convention.”²⁸⁸ The obligations of a State under the meaning of this Article are primarily territorial.²⁸⁹

The ECtHR has found that the subject-matter of the applicant’s complaints is solely relevant to the jurisdiction of a State.²⁹⁰ A question arises in the applicability of jurisdiction (especially in environmental cases) where an individual is

Affected by environmental degradation or an environmental risk and the alleged cause is not located in the territory of the State in which he or she is resident, but in that of another State, the question arises whether, as an exception to the principle of territoriality, the jurisdiction of this second State is triggered.²⁹¹

²⁸⁷ Council of Europe, *The Russian Federation is excluded from the Council of Europe* (Mar. 16, 2022), <https://www.coe.int/en/web/portal/-/the-russian-federation-is-excluded-from-the-council-of-europe>; See also International Commission of Jurists, *European Court of Human Rights: ICJ welcomes a landmark decision upholding judicial independence in Poland* (Jul. 17, 2023), <https://www.icj.org/european-court-of-human-rights-icj-welcomes-a-landmark-decision-upholding-judicial-independence-in-poland/>.

²⁸⁸ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 1 (last visited Oct. 4, 2024).
²⁸⁹ *Guide on Article 1 of the European Convention on Human Rights: Obligation to Respect Human Rights – Concepts of “Jurisdiction” and Immutability*, COUNCIL OF EUROPE, para. 19 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_1_eng.

²⁹⁰ *Guide on Article 1 of the European Convention on Human Rights: Obligation to Respect Human Rights – Concepts of “Jurisdiction” and Immutability*, COUNCIL OF EUROPE, para. 19 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_1_eng, at para. 20.

²⁹¹ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 2 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

In *Banković and Others v. Belgium and Others* (*Banković*), several applicants sought to hold the North Atlantic Treaty Organization (NATO) member states accountable for deaths and injuries resulting from airstrikes.²⁹² The applicants claimed that these strikes violated Article 1 of the ECHR.²⁹³ However, the ECtHR found that the case was inadmissible because the convention did not apply extraterritorially unless the respondent State exercised “effective control” over the foreign territory.²⁹⁴ This case is significant in outlining the jurisdictional scope of the ECHR as it emphasized that State obligations to secure human rights apply extraterritorially in exceptional circumstances. This limits the ability of individuals to claim violations of human rights, creating complications in cases involving cross-border issues, such as environmental destruction caused by international armed conflict.

If the ECtHR finds that the environmental degradation or harm does not have a significant enough impact on the applicant's alleged article violations as in, *Kyrtatos v. Greece* (*Kyrtatos*), the Court will not find a violation of human rights.²⁹⁵ The ECtHR in *Kyrtatos* found no violation of Article 8, where the applicants claimed that the unregulated urban development in their area and the destruction of local wetland and wildlife habitats violate their rights under Article 6 and Article 9.²⁹⁶ The ECtHR’s decision emphasizes the difficulty of linking environmental harm to human rights violations, especially where there is no clear affect to the individual’s immediate living and health conditions. This case illustrates the cautious approach of the ECtHR to extend the scope of the ECHR to environmental issues, especially where the connection is indirect.

Duarte Agostinho and Others v. Portugal and Others (*Duarte Agostinho*) is a recent case heard by the ECtHR in 2024 that had the potential to change the current legal framework on cross-border and transnational environmental harm.²⁹⁷ The applicants claim that 33 European countries have failed to take adequate action in mitigating climate change; endangering their right to life and right to private and family life.²⁹⁸ The applicants argue that these countries should be held responsible for emissions within their borders and with their contribution to global emissions.²⁹⁹ *Duarte Agostinho* challenges the narrow scope of Article 1 by pushing the ECtHR to consider if States can be held accountable for contributing to environmental harm on a global scale. The ECtHR determined that the applicants failed to

²⁹² *Banković and Others v. Belgium and Others* (dec.) [GC], no. 52207/99 ECHR 2001-XII at para. 10, 11.

²⁹³ *Banković and Others v. Belgium and Others* (dec.) [GC], no. 52207/99 ECHR 2001-XII at para. 20.

²⁹⁴ *Banković and Others v. Belgium and Others* (dec.) [GC], no. 52207/99 ECHR 2001-XII at para., 31, 39-41, 67-73.

²⁹⁵ *Kyrtatos v. Greece* (dec.) [Committee], no. 41666/98 § 50, 52-4, 67-73, ECHR 2003-VI.

²⁹⁶ *Kyrtatos v. Greece* (dec.) [Committee], no. 41666/98 § 50, 52-4, 67-73, ECHR 2003-VI. 28, 53. *See also* ECHR, *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 6, 9 (last visited Oct. 4, 2024). (Article 6 of the ECHR grants a right to a fair trial. Article 9 of the ECHR grants the freedom of thought, conscience, and religion).

²⁹⁷ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024.

²⁹⁸ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024, at para.19-24.

²⁹⁹ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024, at para.13, 17.

establish a sufficient causal link between the climate change harm they experienced and the actions of the 33 respondent states.³⁰⁰ Under Article 1 of the ECHR, the Court emphasized that State responsibility extends only to violations within their jurisdiction.³⁰¹ An ecocide analysis could challenge this narrow interpretation, arguing that global environmental harm should trigger State accountability under Article 1, broadening the scope to include cross-border actions. However, the Court's repeated unwillingness to expand jurisdiction to include transboundary harm may make it difficult to raise the issue of ecocide under Article 1.

Ecocide, by its very nature, involves transboundary environmental damage.³⁰² For the ECHR to address ecocide, it would require a broader interpretation of Article 1. The ECtHR's decision in *Banković* underscores the current limitations of using the ECHR in addressing widespread environmental harm.³⁰³ *Kyrtatos* is relevant to ecocide in that it shows the challenge of establishing a direct connection between environmental destruction and human rights violations.³⁰⁴ In cases of ecocide where environmental destruction may have long-term or widespread effects, proving immediate impact may be difficult.³⁰⁵ However, *Kyrtatos* also highlights the potential for developing legal arguments around how ecocide could impact human rights even if the effects are not immediately felt.³⁰⁶ The applicants in *Duarte Agostinho*, by arguing for State accountability for global environmental harm, parallels the concept of justice for ecocide.³⁰⁷ If the States' responsibility for global environmental harm is recognized by the ECtHR, a legal framework could be created to address ecocide under the ECHR.

Scholars often discuss the applicability of Article 1 to environmental war crimes and ecocide by exploring how human rights obligations can extend to environmental harm, particularly when it has cross-border or extraterritorial effects. Traditionally, the ECtHR has applied a territorial approach to jurisdiction, but there are exceptions where extraterritorial obligations are applied.³⁰⁸ Some argue that this Article applies to environmental harm, especially when States exercise "effective control" over areas or individuals outside their

³⁰⁰ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024, at para. 231.

³⁰¹ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024, at para. 216, 231.

³⁰² Sean Fleming, *What is Ecocide and Which Countries Recognize it in Law?*, WORLD ECONOMIC FORUM (Aug. 30, 2021), <https://www.weforum.org/agenda/2021/08/ecocide-environmental-harm-international-crime/>.

³⁰³ *Banković and Others v. Belgium and Others* (dec.) [GC], no. 52207/99 ECHR 2001-XII.

³⁰⁴ *Kyrtatos v. Greece* (dec.) [Committee], no. 41666/98 § 50, 52-4, 67-73, ECHR 2003-VI.

³⁰⁵ Kevin Jon Heller, *Skeptical Thoughts on the Proposed Crime of "Ecocide" (That Isn't)*, OPINIOJURIS (June 23, 2026), <https://opiniojuris.org/2021/06/23/skeptical-thoughts-on-the-proposed-crime-of-ecocide-that-isnt/>.

³⁰⁶ *Kyrtatos v. Greece* (dec.) [Committee], no. 41666/98 § 50, 52-4, 67-73, ECHR 2003-VI.

³⁰⁷ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024.

³⁰⁸ Sarah Miller, *Revisiting Extraterritorial Jurisdiction: A Territorial Justification for Extraterritorial Jurisdiction Under the European Convention*, 20 EUROPEAN J. OF INT'L L. 1223, 1226 (Nov. 1, 2009), <https://academic.oup.com/ejil/article/20/4/1223/530744>.

territory.³⁰⁹ For example, scholars have examined whether the ECtHR could hold States responsible for environmental harm beyond their borders if they exercise significant control over the source of that harm.³¹⁰

Furthermore, scholars have discussed how international human rights bodies, including the ECtHR, might handle environmental destruction as a violation of human rights.³¹¹ While not directly addressing ecocide, the ECtHR has expanded its scope to include environmental matters when they significantly impact human well-being.³¹² Scholars also point out that the integration of ecocide into international law, including under the framework of human rights, faces challenges, particularly with the intersection of IEL and international criminal law (ICL).³¹³ One key issue is that IEL and ICL are governed by different principles and objectives.³¹⁴ IEL is primarily preventative and focused on State responsibilities for protecting the environment, while ICL deals with individual criminal responsibility for acts that severely violate international norms, such as war crimes and crimes against humanity.³¹⁵

While the ECtHR has traditionally maintained a territorial approach to jurisdiction under Article 1 of the ECHR, there is growing discourse around the potential for extending State responsibility to cross-border environmental harm, particularly in the context of ecocide. Cases like *Banković* and *Kyrtatos* illustrate the challenges of linking environmental destruction to human rights violations within the existing legal framework, especially where there is no immediate and direct impact on individuals.³¹⁶ However, the recent case of *Duarte Agostinho* shows a shift towards questioning whether States can be held accountable for global environmental harm, pushing the boundaries of jurisdiction under Article 1.³¹⁷ As discussions around ecocide and environmental accountability continue, there is potential for developing new legal arguments that could bridge human rights and environmental law, particularly in addressing transboundary harm and its long-term effects on human well-being.

³⁰⁹ Armando Rocha, *States' Extraterritorial Jurisdiction for Climate Related Impacts*, SABIN CTR. FOR CLIMATE CHANGE L. (Apr. 12, 2024), <https://blogs.law.columbia.edu/climatechange/2024/04/12/states-extraterritorial-jurisdiction-for-climate-related-impacts/>.

³¹⁰ Armando Rocha, *States' Extraterritorial Jurisdiction for Climate Related Impacts*, SABIN CTR. FOR CLIMATE CHANGE L. (Apr. 12, 2024), <https://blogs.law.columbia.edu/climatechange/2024/04/12/states-extraterritorial-jurisdiction-for-climate-related-impacts/>.

³¹¹ Helen Keller & Corina Heri, *The Future is Now: Climate Cases Before the ECtHR*, 40 NORDIC J. OF HUM. RTS. 153, 154 (Apr. 27, 2022), <https://www.tandfonline.com/doi/full/10.1080/18918131.2022.2064074>.

³¹² Helen Keller & Corina Heri, *The Future is Now: Climate Cases Before the ECtHR*, 40 NORDIC J. OF HUM. RTS. 157 (Apr. 27, 2022), <https://www.tandfonline.com/doi/full/10.1080/18918131.2022.2064074>.

³¹³ Liana Georgieva Minkova, *Ecocide, Sustainable Development and Critical Environmental Law Insights*, 22 J. OF INT'L. CRIM. JUST. 81, 85 (Mar. 2024), <https://academic.oup.com/jicj/article/22/1/81/7698934>.

³¹⁴ Liana Georgieva Minkova, *Ecocide, Sustainable Development and Critical Environmental Law Insights*, 22 J. OF INT'L. CRIM. JUST. 82-83 (Mar. 2024), <https://academic.oup.com/jicj/article/22/1/81/7698934>.

³¹⁵ Liana Georgieva Minkova, *Ecocide, Sustainable Development and Critical Environmental Law Insights*, 22 J. OF INT'L. CRIM. JUST. 85-86 (Mar. 2024), <https://academic.oup.com/jicj/article/22/1/81/7698934>.

³¹⁶ *Banković and Others v. Belgium and Others* (dec.) [GC], no. 52207/99 ECHR 2001-XII; *Kyrtatos v. Greece* (dec.) [Committee], no. 41666/98 § 50, 52-4, 67-73, ECHR 2003-VI.

³¹⁷ *Duarte Agostinho and Others v. Portugal and Others* (dec.) [GC], no. 39371/20, 9 April 2024.

b) Article 2: Right to Life

Article 2 of the ECHR relates to the right to life.³¹⁸ This Article states:

Everyone's right to life shall be protected by law . . . Deprivation of life shall not be regarded as inflicted in contravention of this Article when it results from the use of force which is no more than absolutely necessary: (a) in defence of any person from unlawful violence; (b) in order to effect a lawful arrest or to prevent the escape of a person lawfully detained; (c) in an action lawfully taken for the purpose of quelling a riot or insurrection.³¹⁹

This Article contains two substantive obligations. The first being to protect, by law, the right to life, and the prohibition of the intentional deprivation of life (outside of a limited list of exceptions).³²⁰ The second obligation is a procedural one: to carry out an investigation of alleged breaches.³²¹ Thus, there are positive obligations on the State to carry out steps to safeguard individuals within its jurisdiction where their right to life may be at stake.³²² The ECtHR's interpretation of the Article is also guided by the purpose of the ECHR to protect individuals and to ensure that all articles are practical and effective.³²³

In the context of environmental disasters, the ECtHR has emphasized the State's obligation to implement regulations that address the specific risks posed by hazardous activities, especially those that endanger human lives.³²⁴ These regulations must govern the authorization, operation, and oversight of such activities, ensuring that practical measures are taken to protect citizens from environmental threats.³²⁵ A key element of these preventative measures is the public's right to information, allowing individuals to be adequately informed of

³¹⁸ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 2 (last visited Oct. 4, 2024).

³¹⁹ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 2 (last visited Oct. 4, 2024).

³²⁰ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 3 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng; See also, *Boso v. Italy* (dec.), no. 50490/99, 2002-VII (explaining the exceptions of the obligations of states to protect the right to life and prohibit the intentional deprivation of life).

³²¹ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 2 (last visited Oct. 4, 2024).

³²² *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, at paras. 10, 11. (last visited Oct. 4, 2024).

³²³ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, at paras. 1. (last visited Oct. 4, 2024). See also, *McCann and Others v. The United Kingdom* (dec.), § 146, 27 September 1995, Series A no. 324 (the decision by the ECtHR ruling that provisions must be interpreted as to make sure safeguards are practical and effective).

³²⁴ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 39 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng.

³²⁵ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 41 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng.

potential environmental risks, with systems in place to detect and address any shortcomings.³²⁶ While States have discretion in choosing specific protective measures, they are required to take positive steps to mitigate environmental risks. The State will only be held liable if environmental damage occurs due to insufficient regulation or oversight, rather than unavoidable or unforeseeable events.³²⁷ The State's responsibility is assessed based on the complexity of the situation, the domestic legal framework, and the degree to which the environmental risk could have been mitigated.³²⁸ Article 2 has been invoked in cases where environmental destruction directly endangers human lives.³²⁹ In the context of warfare, environmental harm, such as herbicides, chemicals, and bombings, can threaten civilians' lives, making this Article applicable to cases of ecocide and environmental warfare.³³⁰

In 2004, the ECtHR heard the case of *Öneryildiz v. Turkey* (*Öneryildiz*), which concerned the deaths of over thirty people due to a methane explosion at a rubbish dump.³³¹ Turkey had failed to take adequate preventative measures, making this a case of State responsibility for failing to protect life from environmental hazards; the failure constituted an Article 2 violation.³³²

Although this case dealt with a domestic disaster rather than international environmental destruction, it emphasizes the State's responsibility to prevent large-scale environmental harm, which could be relevant to ecocide. This case is also critical in establishing that States have a positive obligation to prevent foreseeable environmental damage.

In *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (*Schweiz*), applicants argued that Switzerland's inadequate response to climate change endangered their right to life, especially in extreme weather events.³³³ This case emphasizes the State's obligation to prevent environmental threats that pose serious risks to life, particularly for the elderly and other at-risk groups.³³⁴ The applicants argued that Switzerland's failure to act on climate change constitutes

³²⁶ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 40 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng.

³²⁷ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 40, 43. (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng.

³²⁸ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 42 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng.

³²⁹ Jasper Krommendijk, *Beyond Urgenda: The Role of the ECHR and Judgements of the ECtHR in Dutch Environmental and Climate Litigation*, 31 REV. OF EUR., COMPAR. & INT'L ENV'T. L., 60 (June 20, 2021).

³³⁰ Anastacia Greene, *The Campaign to Make Ecocide an International Crime: Quixotic Quest or Moral Imperative?*, 30 FORDHAM ENV'T. L. REV., 1, 8, 9, 14 (2019).

³³¹ *Öneryildiz v. Turkey* (dec.) [GC], no. 48939/99, §§ 2, 18, ECHR 2004-XII.

³³² *Öneryildiz v. Turkey* (dec.) [GC], no. 48939/99, §§ 29, 75, 80, 93, 102, 165., ECHR 2004-XII.

³³³ *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (dec.) [GC], no. 53600/20, 4 September 2024. See also *KlimaSeniorinnen v. Switzerland* (ECtHR), SABIN CENTER FOR CLIMATE CHANGE LAW, <https://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/> (last accessed Oct. 4, 2024) (mentioning that the applicants are a group named Senior Women for Climate Protection Switzerland and the three main complaints they brought before the ECtHR).

³³⁴ *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (dec.) [GC], no. 53600/20, 4 September 2024.

a violation of their right to life under Article 2, setting a precedent for how environmental degradation, through climate change, could infringe on the right to life.³³⁵ The Court held, in 2024, that Switzerland's actions, although potentially inadequate in mitigating climate change, did not amount to a breach of its positive obligations under Article 2.³³⁶ The decision reflects the Court's reluctance to extend State responsibility for global environmental harm under the right to life, emphasizing the challenges in attributing specific life-threatening conditions to a single State's climate policies. While the applicants argued that Switzerland's failure to take stronger climate action endangered their lives, particularly considering increased risks from extreme weather events, the Court found that there was no direct and immediate risk to life attributable to Switzerland alone.³³⁷ The decision indicates that while environmental threats may indeed impact the right to life, the Court requires a clear causal link between the state's actions and the specific life-threatening harm, thereby limiting the potential for broad claims related to ecocide under the current framework.

Ecocide often involves preventable environmental destruction that results in significant harm to human populations and the *Öneryildiz* ruling illustrates that states can be held responsible for failing to prevent environmental disasters.³³⁸ This case supports the idea that States engaging in ecocide could be held accountable under Article 2.³³⁹ Under Article 2, scholars focus on how severe environmental harm can directly threaten human life and well-being. It is argued that States have a positive obligation under this Article that includes not only preventing harm caused by State actions, but also ensuring that private actors do not engage in activities that risk human life due to environmental destruction.³⁴⁰ Cases such as *Öneryildiz*, set a precedent that could apply to situations involving ecocide or environmental war crimes if the destruction of ecosystems leads to a loss of life.³⁴¹

There is also an emphasis that large-scale environmental destruction can result in loss of life either directly by the use of harmful substances, or indirectly, through long-term impacts

³³⁵ *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (dec.) [GC], no. 53600/20, 4 September 2024.

³³⁶ *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (dec.) [GC], no. 53600/20, 4 September 2024.

³³⁷ *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (dec.) [GC], no. 53600/20, 4 September 2024.

³³⁸ Stephanie Safdie, *Ecocide: Definition and Examples*, GREENLY INSTITUTE (Nov. 7, 2023), <https://greenly.earth/en-us/blog/ecology-news/ecocide-definition-and-examples>. See generally *Öneryildiz v. Turkey* (dec.) [GC], no. 48939/99, §§ 2, 18, ECHR 2004-XII.

³³⁹ *Environmental Damage and Ecocide of Ukraine*, COUNCIL OF EUROPE (Mar. 10, 2023), <https://www.razomforukraine.org/environmental-damage-and-ecocide-of-ukraine/>;

Nicholas Kusnetz et al., *'Ecocide' Movement Pushes for a New International Crime, Environmental Destruction*, NBC WORLD NEWS (Apr. 7, 2021), <https://www.nbcnews.com/news/world/ecocide-movement-pushes-new-international-crime-environmental-destruction-n1263142>.

³⁴⁰ Vladislava Stoyanova, *Framing Positive Obligations Under the European Convention on Human Rights Law: Mediating Between the Abstract and the Concrete*, 23 HUM. RTS. L. REV. 1, 16-9 (Jun. 1, 2023), <https://academic.oup.com/hrlr/article/23/3/ngad010/7187933>.

³⁴¹ *Öneryildiz v. Turkey* (dec.) [GC], no. 48939/99, §§ 2, 18, ECHR 2004-XII.

on resources vital for human survival.³⁴² The application of Article 2 remains an evolving area, but it builds on the premise that States must ensure that actions taken during conflict do not endanger civilian lives through environmental destruction.³⁴³ For ecocide, the applicability is more complex as the ECtHR has not directly ruled on whether acts of widespread environmental destruction could constitute a violation of the right to life. However, it has been proposed by scholars that if ecocide leads to conditions that threaten human life, it could be framed as a violation of obligations.³⁴⁴

Article 2 of the ECHR, which safeguards the right to life, places both substantive and procedural obligations on States to protect individuals within their jurisdiction.³⁴⁵ While the Article has traditionally focused on the State's duty to prevent the intentional deprivation of life, it has also been applied in cases where environmental harm poses a direct threat to life, such as in the *Öneryildiz* case. This ruling highlights the state's responsibility to prevent foreseeable environmental disasters that can endanger lives, making it potentially relevant to discussions of ecocide.³⁴⁶ Although the ECtHR has yet to address ecocide directly under Article 2, cases like *Schweiz* reflect the growing recognition that environmental degradation can impact the right to life, particularly for vulnerable populations.³⁴⁷ As environmental destruction increasingly intersects with human rights, the positive obligations of States under Article 2 may continue to evolve, with potential implications for how ecocide is addressed within the framework of international law.

c) Article 3: Prohibition of Torture

Article 3 of the ECHR relates to the prohibition of torture.³⁴⁸ This Article states that “[n]o one shall be subjected to torture or to inhuman or degrading treatment or punishment.”³⁴⁹ This highlights one of the most fundamental values of the ECHR and the international community as a whole as it is a value of civilization closely related to the respect for human

³⁴² Danuta Palarczyk, *Ecocide Before the International Criminal Court: Simplicity is Better than an Elaborate Embellishment*, Crim. L. F. 147, 184 (Feb. 20, 2023), <https://link.springer.com/article/10.1007/s10609-023-09453-Z>.

³⁴³ *Guide on Article 2 of the European Convention on Human Rights: Right to Life*, COUNCIL OF EUROPE, para. 39-44 (Aug. 31, 2023), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_2_eng.

³⁴⁴ *European Court of Human Rights Rules on the Positive Obligations of Convention States in the Face of the Climate Crisis – Key Takeaways*, GIBSON DUNN, 3 (Apr. 16, 2004), <https://www.gibsondunn.com/european-court-of-human-rights-rules-on-positive-obligations-of-convention-states-in-the-face-of-climate-crisis-key-takeaways/?pdf=display>; Danuta Palarczyk, *Ecocide Before the International Criminal Court: Simplicity is Better than an Elaborate Embellishment*, Crim. L. F. 148 (Feb. 20, 2023), <https://link.springer.com/article/10.1007/s10609-023-09453-z>.

³⁴⁵ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 2 (last visited Oct. 4, 2024).

³⁴⁶ *Öneryildiz v. Turkey* (dec.) [GC], no. 48939/99, §§ 2, 18, ECHR 2004-XII.

³⁴⁷ *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (dec.) [GC], no. 53600/20, 4 September 2024.

³⁴⁸ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 3 (last visited Oct. 4, 2024).

³⁴⁹ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 3 (last visited Oct. 4, 2024).

dignity.³⁵⁰ The Article is mostly placing a negative obligation on States, forcing them to refrain from inflicting serious harm on individuals within their jurisdiction.³⁵¹ This is in contrast to positive responsibilities which require States to put in place a legislative and regulatory framework, as well as to take operational measures to protect specific individuals.³⁵² The Article however, does not relate to all instances of ill-treatment, but a certain level of severity is necessary and is obtained by taking three factors into consideration: (1) the purpose and intention or motivation of the ill-treatment; (2) the context of the ill-treatment; and (3) the vulnerability of the individual in the situation.³⁵³

The ECtHR has examined cases in which individuals have claimed that environmental issues they have been exposed to have amounted to treatment that could be considered as a violation of Article 3.³⁵⁴ However, many cases under this context have not reached the threshold for applicability of this Article, making it useful to also consider how case-law also considered conditions of detention – “the exposure of a prisoner to pollutants, environmental nuisance, or a polluted prison environment is at a minimum a factor to be taken into consideration in assessing cases.”³⁵⁵

The applicant in *López Ostra v. Spain* (*López Ostra*) lived near a waste treatment plant that emitted harmful fumes and caused significant pollution, which negatively impacted her health and quality of life.³⁵⁶ She argued that the pollution violated her rights under Article 3.³⁵⁷ The ECtHR found no violation of Article 3 but, the pollution from the waste treatment plant in this case significantly affected the applicant’s quality of life and, if more severe health issues occurred, it could have been framed as degrading treatment.³⁵⁸ *López Ostra* highlights the

³⁵⁰ *Guide on Article 3 of the European Convention of Human Rights: Prohibition of Torture*, COUNCIL OF EUROPE, para 2 (Aug. 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_3_eng [hereinafter *Prohibition of Torture*].

³⁵¹ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art 3. (last visited Oct. 4, 2024).

³⁵² *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 4 (last visited Oct. 4, 2024).

³⁵³ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 6-7 (last visited Oct. 4, 2024). *See also* *Khlaifia and Others v. Italy* (dec.) [GC], no. 16483/12, § 160, 15 December 2016 (discussing the three factors that must be taken into consideration of ill-treatment to determine if the applicant has met the necessary level of severity).

³⁵⁴ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 39 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

³⁵⁵ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 39-41 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

³⁵⁶ *López Ostra v. Spain* (dec.) [Committee], 9 December 1994, Series A no. 303 [hereinafter *López Ostra*] at §§ 7-9.

³⁵⁷ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 59-60 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

³⁵⁸ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 31 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

potential for environmental degradation to lead to violations of Article 3, particularly when unlivable conditions are created.

The government of Cyprus alleged multiple human rights violations by Turkey during Turkey's military occupation in Northern Cyprus in *Cyprus v. Turkey*.³⁵⁹ These allegations included the destruction of the environment as it led to inhumane living conditions for the residents in occupied territories.³⁶⁰ The environmental destruction that occurred was not the primary focus of the case but the ECtHR found Turkey responsible for various violations of the ECHR including violations relating to inhumane treatment; the destruction of the environment was considered to be a contributing factor of the inhumane living conditions.³⁶¹ These findings show that environmental harm can exacerbate conditions that violate Article 3, particularly where environmental degradation makes life unbearable or unsafe.

In cases of ecocide, environmental destruction often leads to inhumane living conditions, such as displacement, loss of access to natural resources, or exposure to dangerous pollutants.³⁶² If the environmental damage in *López Ostra* had been more extreme, it could have amounted to degrading treatment under Article 3, illustrating how ecocide could similarly violate this article. Ecocide can also cause dangerous and inhumane living conditions such as displacement, loss of access to clean water, or exposure to hazardous material.³⁶³ The *Cyprus v. Turkey* case demonstrates how environmental destruction can lead to violations of Article 3, particularly when it contributes to severe human suffering or degrading treatment and therefore allows ecocide to be framed as a violation of this Article.³⁶⁴

The ECtHR has traditionally interpreted Article 3 in the context of direct actions by State agents or conditions in state-controlled facilities. Extending this to environmental damage would require a substantial evolution in the Court's jurisprudence.³⁶⁵ However, the Court has shown some flexibility in applying Article 3 to environmental contexts, particularly in cases involving toxic emissions and second-hand smoke for individuals under State authority.³⁶⁶ In the context of ecocide, it can be argued that severe environmental damage, especially when it

³⁵⁹ *Cyprus v. Turkey* (dec.) [GC], no. 25781/94, §§ 12-6, 20-55, ECHR 2001-IV.

³⁶⁰ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 167 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

³⁶¹ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 154-158 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

³⁶² Sean Fleming, *What is Ecocide and Which Countries Recognize it in Law?*, WORLD ECONOMIC FORUM (Aug. 30, 2021), <https://www.weforum.org/agenda/2021/08/ecocide-environmental-harm-international-crime/>.

³⁶³ Andriy Kostin, *Ecocide as a Weapon of War*, INT'L. BAR ASS'N. (May 21, 2024), <https://www.ibanet.org/Ecocide-as-a-weapon-of-war>.

³⁶⁴ *Cyprus v. Turkey* (dec.) [GC], no. 25781/94, §§ 12-6, 20-55, ECHR 2001-IV.

³⁶⁵ Corina Heri, *Climate Change Before the European Court of Human Rights: Capturing Risk, Ill-Treatment and Vulnerability*, 33 EUROPEAN J. OF INT'L L. 925, 973 (Aug. 3, 2022), <https://academic.oup.com/ejil/article/33/3/925/6717882>.

³⁶⁶ Corina Heri, *Climate Change Before the European Court of Human Rights: Capturing Risk, Ill-Treatment and Vulnerability*, 33 EUROPEAN J. OF INT'L L. 942 (Aug. 3, 2022), <https://academic.oup.com/ejil/article/33/3/925/6717882>.

causes or is likely to cause death or serious harm to health, could potentially amount to inhuman or degrading treatment. This interpretation would require the ECtHR to expand its understanding of what constitutes "inhuman or degrading treatment" to include the effects of severe environmental degradation on human life and health.³⁶⁷

The concept of eco-anxiety, stemming from climate change and environmental degradation, presents an interesting avenue for potential Article 3 claims.³⁶⁸ Some scholars argue that the fear and anxiety related to States' contributions to the climate crisis could potentially amount to degrading treatment under certain circumstances.³⁶⁹ However, for eco-anxiety to engage Article 3, it would likely need to be combined with vulnerability, such as in the case of children, the elderly, or those in poor health.³⁷⁰ The ECtHR uses a twin-trigger test to assess whether fear and anxiety constitute ill-treatment under Article 3, examining both the character of the wrong and the victim's vulnerability.³⁷¹ For eco-anxiety to meet this threshold, it would likely need to involve particularly intense suffering or be linked to specific instances of State action or inaction.³⁷²

However, applying Article 3 to ecocide cases would face significant challenges. The issue of causation, which is already complex in environmental cases, becomes even more challenging in the context of ecocide. Applicants would need to establish a clear link between the actions (or inactions) of a State and the severe environmental damage they have experienced.³⁷³ Moreover, the Court has consistently held that the Convention does not guarantee the general protection of the environment as such.³⁷⁴ This means that applicants would need to demonstrate how ecocide specifically violates their individual rights under the Convention, rather than arguing for environmental protection in general.

³⁶⁷ Corina Heri, *Climate Change Before the European Court of Human Rights: Capturing Risk, Ill-Treatment and Vulnerability*, 33 EUROPEAN J. OF INT'L L. 928-9 (Aug. 3, 2022), <https://academic.oup.com/ejil/article/33/3/925/6717882>.

³⁶⁸ Weronika Galka, *Apocalypse Now: Climate Change, Eco-Anxiety and Art.3 ECHR's Prohibition of Degrading Treatment*, FACULTY LAW BLOGS / UNIVERSITY OF OXFORD (Dec. 28, 2022), <https://blogs.law.ox.ac.uk/oxford-university-undergraduate-law-journal-blog/blog-post/2022/12/apocalypse-now-climate-change>.

³⁶⁹ Weronika Galka, *Apocalypse Now: Climate Change, Eco-Anxiety and Art.3 ECHR's Prohibition of Degrading Treatment*, FACULTY LAW BLOGS / UNIVERSITY OF OXFORD (Dec. 28, 2022), <https://blogs.law.ox.ac.uk/oxford-university-undergraduate-law-journal-blog/blog-post/2022/12/apocalypse-now-climate-change>.

³⁷⁰ Weronika Galka, *Apocalypse Now: Climate Change, Eco-Anxiety and Art.3 ECHR's Prohibition of Degrading Treatment*, FACULTY LAW BLOGS / UNIVERSITY OF OXFORD (Dec. 28, 2022), <https://blogs.law.ox.ac.uk/oxford-university-undergraduate-law-journal-blog/blog-post/2022/12/apocalypse-now-climate-change>.

³⁷¹ Weronika Galka, *Apocalypse Now: Climate Change, Eco-Anxiety and Art.3 ECHR's Prohibition of Degrading Treatment*, FACULTY LAW BLOGS / UNIVERSITY OF OXFORD (Dec. 28, 2022), <https://blogs.law.ox.ac.uk/oxford-university-undergraduate-law-journal-blog/blog-post/2022/12/apocalypse-now-climate-change>.

³⁷² Weronika Galka, *Apocalypse Now: Climate Change, Eco-Anxiety and Art.3 ECHR's Prohibition of Degrading Treatment*, FACULTY LAW BLOGS / UNIVERSITY OF OXFORD (Dec. 28, 2022), <https://blogs.law.ox.ac.uk/oxford-university-undergraduate-law-journal-blog/blog-post/2022/12/apocalypse-now-climate-change>.

³⁷³ Helen Keller & Corina Heri, *The Future is Now: Climate Cases Before the ECtHR*, 40 NORDIC J. OF HUM. RTS. 155 (Apr. 27, 2022), <https://www.tandfonline.com/doi/full/10.1080/18918131.2022.2064074>.

³⁷⁴ Helen Keller & Corina Heri, *The Future is Now: Climate Cases Before the ECtHR*, 40 NORDIC J. OF HUM. RTS. 156-7 (Apr. 27, 2022), <https://www.tandfonline.com/doi/full/10.1080/18918131.2022.2064074>.

Despite these challenges, there's growing recognition of the need to address severe environmental harm within the human rights framework. The proposed definition of ecocide by the Independent Expert Panel (IEP) as "unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts" could potentially provide a basis for Article 3 claims in extreme cases.³⁷⁵ The European Citizens' Initiative proposes prohibiting ecocide on European territories and maritime areas under EU legislation, as well as acts committed by EU nationals or entities outside the EU.³⁷⁶ While this proposal is not directly related to Article 3, it demonstrates a growing recognition of the need to address severe environmental harm within a legal framework that extends beyond national borders.

Article 3 of the ECHR prohibits torture and inhuman or degrading treatment and has traditionally focused on direct actions by State agents.³⁷⁷ However, environmental degradation, particularly when severe, has the potential to fall within the scope of this Article. Cases such as *López Ostra* and *Cyprus* demonstrate how environmental harm can exacerbate inhumane living conditions, suggesting that in extreme circumstances, environmental destruction could lead to violations of Article 3.³⁷⁸ While the ECtHR has not yet applied this Article directly to cases of ecocide, there is potential for evolving interpretations that link severe environmental damage to degrading treatment, especially when it significantly impacts vulnerable populations. As the legal understanding of ecocide and its implications on human rights continues to develop, the connection between environmental destruction and violations of Article 3 may become more pronounced.

d) Article 13: Right to an Effective Remedy

Article 13 of the ECHR establishes the right to an effective remedy.³⁷⁹ This Article states that "[e]veryone whose rights and freedoms as set forth in this Convention are violated shall have an effective remedy before a national authority notwithstanding that the violation has been committed by persons acting in an official capacity."³⁸⁰ Article 13 operates to guarantee the availability of a national remedy as a procedural right in conjunction with

³⁷⁵ Liana Georgieva Minkova, *Ecocide, Sustainable Development and Critical Environmental Law Insights*, 22 J. OF INT'L. CRIM. JUST. 81, 85 (Mar. 2024), <https://academic.oup.com/jicj/article/22/1/81/7698934>, at 63.

³⁷⁶ Weronika Galka, *Apocalypse Now: Climate Change, Eco-Anxiety and Art.3 ECHR's Prohibition of Degrading Treatment*, FACULTY LAW BLOGS / UNIVERSITY OF OXFORD (Dec. 28, 2022), <https://blogs.law.ox.ac.uk/oxford-university-undergraduate-law-journal-blog/blog-post/2022/12/apocalypse-now-climate-change>.

³⁷⁷ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 3 (last visited Oct. 4, 2024).

³⁷⁸ *Cyprus v. Turkey* (dec.) [GC], no. 25781/94, §§ 12-6, 20-55, ECHR 2001-IV; *See also López Ostra v. Spain* (dec.) [Committee], 9 December 1994, Series A no. 303 [hereinafter *López Ostra*] at §§ 7-9.

³⁷⁹ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 13 (last visited Oct. 4, 2024).

³⁸⁰ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 13 (last visited Oct. 4, 2024).

another substantive right of the ECHR and the Protocols.³⁸¹ For Article 13 to apply, the ECtHR must have found a violation of another ECHR substantive Article or an Article within a Protocol; otherwise, an independent claim under Article 13 can be made only when a complaint on the merits is not in dispute.³⁸² The principles relating to the right to an effective remedy apply in a standard manner to cases with an environmental background.³⁸³

In 2022, the ECtHR ruled in the case of *Kotov and Others v. Russia*.³⁸⁴ There, the applicants argued that they lacked adequate legal remedies to address the harm caused by Russia's expropriation of their property – resulting from flawed legislation and administrative practices.³⁸⁵ The ECtHR found no violation of Article 13, stating that the applicants had access to legal channels through which they could challenge the expropriation and seek redress.³⁸⁶ It was determined that the Russian legal system provided adequate mechanisms to address their grievances, and that dissatisfaction with the outcome does not equate to a lack of remedies.³⁸⁷ Overall, *Kotov* shows that the mere fact that remedies provided within a State were not successful, does not indicate a violation of Article 13.

The ECtHR, however, did find a violation of Article 13 in *Di Sarno and Others v. Italy* (2012).³⁸⁸ The applicants of this case claimed that the Italian government's failure to address a waste crisis in the region led to serious environmental degradation.³⁸⁹ The crisis resulted from improper waste collection and disposal, causing trash to pile up in the streets for months – affecting public health and living conditions.³⁹⁰ The ECtHR found that Italy had violated Article 13 by failing to provide effective remedies to allow the applicants to challenge the failure of their policies.³⁹¹

³⁸¹ *Guide on Article 13 of the European Convention on Human Rights: Right to an Effective Remedy*, COUNCIL OF EUROPE, para. 11 (Aug. 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_13_eng.

³⁸² *Guide on Article 13 of the European Convention on Human Rights: Right to an Effective Remedy*, COUNCIL OF EUROPE, paras. 14, 15. (Aug. 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_13_eng. See also *Guide on Article 13 of the European Convention on Human Rights: Right to an Effective Remedy*, COUNCIL OF EUROPE, para. 11 (Aug. 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_13_eng, at paras. 18, 19 (“The fact that a complaint has been declared admissible may be an indication that it can be regarded as “arguable” . . . the inadmissibility of a complaint may be an indication of the inapplicability or non-violation of article 13.”).

³⁸³ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, para. 190 (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng.

³⁸⁴ *Kotov and Others Russia* (dec.) [Committee], no. 6142/18, §§ 111-5, 11 October 2022.

³⁸⁵ *Kotov and Others Russia* (dec.) [Committee], no. 6142/18, §§ 111-5, 11 October 2022.

³⁸⁶ *Kotov and Others Russia* (dec.) [Committee], no. 6142/18, §§ 128-135, 11 October 2022.

³⁸⁷ *Kotov and Others Russia* (dec.) [Committee], no. 6142/18, §§ 128-135, 11 October 2022.

³⁸⁸ *Di Sarno and Others v. Italy*, no. 30765/08, 10 January 2012.

³⁸⁹ *Di Sarno and Others v. Italy*, no. 30765/08, 10 January 2012. See also *The Case of Di Sarno and Others v. Italy*, Strali, <https://www.strali.org/3-ambiente-e-generazioni-future> (last accessed Oct. 15, 2024) (the waste management system's effectiveness was non-existent due to multiple years of organized crime).

³⁹⁰ *Di Sarno and Others v. Italy*, no. 30765/08, 10 January 2012, at §§ 6-19.

³⁹¹ *Di Sarno and Others v. Italy*, no. 30765/08, 10 January 2012, at §§ 123. See also *Guide on Article 13 of the European Convention on Human Rights: Right to an Effective Remedy*, COUNCIL OF EUROPE, para. 11 (Aug. 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_13_eng at para. 2 (“the object of Article 13 is to

Victims of ecocide often face significant barriers to accessing justice, as large-scale environmental harm – particularly when sanctioned or caused by the State – makes it difficult to hold governments or corporations accountable.³⁹² The ruling in *Kotov* illustrates the ECtHR’s focus on the availability of remedies rather than their effectiveness in practical terms.³⁹³ In ecocide cases, this distinction is crucial, as the existence of legal remedies may not necessarily lead to justice for victims of large-scale environmental crimes. The ECtHR’s decision suggests that even though States must provide accessible legal frameworks, the outcomes are not guaranteed to favor the claimants. The ruling in *Di Sarno* underscores the importance of providing legal remedies for harm caused by environmental degradation.³⁹⁴ The ECtHR’s ruling parallels ecocide cases, where large scale environmental harm often goes unchecked without adequate legal remedies. Holding states accountable for failing to manage environmental risks is key in ensuring that victims of environmental destruction, whether caused by negligence or other interests, have access to justice and effective remedies.

In this respect, Article 13 plays a crucial role in ensuring that individuals can seek recourse when their rights, including those related to environmental harm, are infringed.³⁹⁵ The Article may be invoked by citizens where deliberate environmental degradation affects human health, safety, or well-being.³⁹⁶ In support of this, scholars highlight that States are required to establish mechanisms to investigate and address rights violations, including those caused by environmental destruction during warfare.³⁹⁷ However, this can lead to inconsistency in the

provide a means whereby individuals can obtain relief at national level for violations of their Convention rights before having to set in motion the international machinery of complaint before the Court. Article 13 thus in principle concerns complaints of substantive violations of Convention provisions. This Article, in giving direct expression to the States’ obligation to protect human rights first and foremost within their own legal system, establishes an additional guarantee for an individual in order to ensure that he or she effectively enjoys those rights.”).

³⁹² Eileen Skinnider, *Victims of Environmental Crime – Mapping the Issues*, The Int’l Ctr. for Criminal L. Reform and Criminal Just. Pol’y., 49-50 (Mar. 2011),

<https://globalinitiative.net/wp-content/uploads/2017/12/ICCLR-Victims-of-Environmental-Crime.pdf>; and Rachel Killean, *The Benefits, Challenges, and Limitations of Criminalizing Ecocide*, THE GLOB. OBSERVATORY (Mar. 30, 2022), <https://theglobalobservatory.org/2022/03/the-benefits-challenges-and-limitations-of-criminalizing-ecocide/>.

³⁹³ *Kotov and Others v. Russia* (dec.) [Committee], no. 6142/18, §§ 111-5, 11 October 2022.

³⁹⁴ *Di Sarno and Others v. Italy*, no. 30765/08, 10 January 2012.

³⁹⁵ *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 13 (last visited Oct. 4, 2024).

³⁹⁶ *Guide to the Case-Law of the European Court of Human Rights: Environment*, EUROPEAN COURT OF HUMAN RIGHTS, (May 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_environment_eng; *European Court of Human Rights*, EUROPEAN CONVENTION ON HUMAN RIGHTS, <https://www.echr.coe.int/european-convention-on-human-rights>, art. 29-30 (last visited Oct. 4, 2024).

³⁹⁷ *European Standards on Legal Remedies, Complaints Mechanisms and Effective Investigations at Borders*, EUROPEAN UNION AGENCY FOR FUNDAMENTAL RTS., 2 (Jul. 9, 2021), <https://fra.europa.eu/en/publication/2021/legal-remedies-borders>. See also *Guide on Article 13 of the European Convention on Human Rights: Right to an Effective Remedy*, COUNCIL OF EUROPE, para. 11 (Aug. 31, 2024), https://ks.echr.coe.int/documents/d/echr-ks/guide_art_13_eng, at para. 195 (discussing how the case of *Hatton and Others v. the United Kingdom* (2003), where there was excessive noise caused by night flights, entailed a violation of Article 13 as the domestic courts were limited to law concepts that did not allow consideration of whether the claimed increase in flights represented a justifiable limitation under Article 8).

types of remedies offered in cases of environmental harm. In addition, in situations involving ecocide or war crimes, it may be difficult to secure appropriate compensation or reparations, especially when the environmental destruction is widespread or occurs outside the State's borders.³⁹⁸ Moreover, the ECtHR has historically focused on direct violations of human rights, and applying Article 13 to environmental harm cases necessitates demonstrating a clear connection between the environmental damage and the violation of an individual's rights under the ECHR.³⁹⁹

5. Advisory Opinion on Legality of the Threat or Use of Nuclear Weapons (1996) (ICJ)

The United Nations Secretary-General Boutros Boutros-Ghali requested an advisory opinion in 1994 on the legality of nuclear weapons.⁴⁰⁰ Boutros-Ghali's request mirrored a similar inquiry made by the World Health Organization (WHO) earlier in 1993, which the ICJ ultimately declined to answer because the WHO lacked standing.⁴⁰¹ For the opinion requested by Boutros-Ghali, twenty-eight states – including the United States and the Russian Federation – submitted written statements and briefs, and the ICJ held oral hearings for nations and organizations in October and November 1995.⁴⁰²

In the advisory opinion, the ICJ noted that the use of nuclear weapons does not necessarily constitute a violation of international law or environmental law, because warfare is inherently destructive and environmental damage is often a tragic by-product.⁴⁰³ The ICJ cited a 1992 resolution from the UN General Assembly, which recognized that the “destruction of the environment, [when] not justified by military necessity and carried out wantonly, is clearly

³⁹⁸ Rachel Killean, *Reparation in the Aftermath of Ecocide*, THE PROMISE INST. FOR HUM. RTS., 9 (2023), <https://ecocidelaw.com/wp-content/uploads/2023/08/8-Killean-Reparation-in-the-aftermath-of-ecocide.pdf>; Danuta Palarczyk, *Ecocide Before the International Criminal Court: Simplicity is Better than an Elaborate Embellishment*, Crim. L. F. 158 (Feb. 20, 2023), <https://link.springer.com/article/10.1007/s10609-023-09453-z>.

³⁹⁹ Helen Keller & Corina Heri, *The Future is Now: Climate Cases Before the ECtHR*, 40 NORDIC J. OF HUM. RTS. 167-8 (Apr. 27, 2022), <https://www.tandfonline.com/doi/full/10.1080/18918131.2022.2064074>; Norwegian Human Rights Institution, *Climate and Human Rights* (May 19, 2021), <https://www.nhri.no/en/report/climate-and-human-rights/5-the-european-convention-on-human-rights/>.

⁴⁰⁰ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996 (July 8), p. 226, ¶ 1 (noting the General Assembly's request and the text of their question). Stating that “pursuant to Article 96, paragraph 1, of the Charter of the United Nations, [we] request the International Court of Justice urgently to render its advisory opinion on the following question: ‘[i]s the threat or use of nuclear weapons in any circumstance permitted under international law?’” *Id.*

⁴⁰¹ *Resolution WHA46.40 Adopted on 14 May 1993 at the 13th Plenary Meeting of the Forty-Sixth World Health Organization, Legality of the Use by a State of Nuclear Weapons in Armed Conflict*: Vol. I, 7 (regarding the text of the WHO's question before the ICJ). “In view of the health and environmental effects, would the use of nuclear weapons by a State in war or other armed conflict be a breach of its obligations under international law, including the WHO Constitution?” *Id.*

⁴⁰² *Legality of the Threat or Use of Nuclear Weapons*, ¶¶ 5-6 (listing the nations that took part in the ICJ's call for statements and testimonies).

⁴⁰³ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 30 (quoting Principle 24 of the Rio Declaration).

contrary to existing international law.”⁴⁰⁴ The question of when such actions are “justified by” a “necessity” can be resolved by the ICJ, such as when it upheld the developing and testing of nuclear weapons in *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court’s Judgment of 20 December 1974 in the Nuclear Tests (N.Z.-Fr.)*.⁴⁰⁵ Considering that France’s nuclear tests were conducted “without prejudice to the obligations of States to respect and protect the natural environment,” it did not constitute a clear violation of international environmental law.⁴⁰⁶

The ICJ reasoned that while international law relating to environmental protection did not specifically ban using nuclear weapons, relevant environmental concerns were one of many factors countries should consider when assessing whether or not to use nuclear weapons.⁴⁰⁷ The Court emphasized in the Advisory Opinion that “the existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.”⁴⁰⁸ Notwithstanding any preexisting international environmental laws or treaties, the use of nuclear weapons does not, in theory, constitute a violation of international law simply from their environmental impact.⁴⁰⁹

Although President Vladimir Putin and the Russian military have not resorted to using nuclear weapons, they have frequently threatened nuclear use toward Ukraine and its

⁴⁰⁴ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 32 (quoting the General Assembly’s resolution 47/37 from November 1992).

⁴⁰⁵ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 32 (citing the ICJ’s precedents on the issue of nuclear testing).

⁴⁰⁶ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 32. *See also, France Overview*, NTI (Apr. 15, 2021), <https://live-nuclear-threat-initiative.pantheonsite.io/analysis/articles/france-overview/> (summarizing France’s historic involvement in nuclear weapons and energy, biological weapons, chemical weapons, and missiles).

⁴⁰⁷ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 33 (identifying the role environmental effects should play in nuclear considerations in times of warfare).

The Court thus finds that while the existing international law relating to the protection and safeguarding of the environment does not specifically prohibit the use of nuclear weapons, it indicates important environmental factors that are properly to be taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict.

Id.

⁴⁰⁸ Int’l Ct. of Just., *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, PEACE PALACE

Summary 2010/1 (Apr. 20, 2010) <https://www.icj-cij.org/sites/default/files/case-related/135/15895.pdf>

⁴⁰⁹ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 95 (recognizing “the unique characteristics of nuclear weapons, [where] the use of such weapons in fact seems scarcely reconcilable with respect for [customary international law and the fundamental principle of humanity.]”). But “[n]evertheless, the Court considers that it does not have sufficient elements to enable it to conclude with certainty that the use of nuclear weapons would necessarily be at variance with the principles and rules of law applicable in armed conflict in any circumstance.”

Id.

supporters.⁴¹⁰ The wording of the General Assembly's request is quite clear that the ICJ's opinion addresses not just using nuclear weapons but also "the threat or use of nuclear weapons" by a country.⁴¹¹ Such statements by Russia forewarning that the presence of external troops in Ukraine would create "a conflict with the use of nuclear weapons and the destruction of civilization" would thus be contrary to the ICJ's analysis in the Advisory Opinion.⁴¹² Likewise, given Russia's usage of non-nuclear weapons to ruthlessly target Ukraine's environment since February 2022, Russia's potential usage of nuclear weapons would presumably not be interpreted as having been proportional to the needs of war.⁴¹³

This paper has analyzed the theoretical and historical application of international law and how it applies to environmental harm. The below section will look at real world examples from Russia's invasion of Ukraine and the environmental destruction thus far inflicted. Two articles from API are used as an initial framework to assess how to hold Russia accountable for its actions. While the events discussed are not exhaustive, they represent some of the most significant incidents that have occurred throughout the conflict. This analysis establishes legal principles regarding State responsibility for the crime of ecocide and should serve as a starting point for a future tribunal on the war in Ukraine.

⁴¹⁰ See e.g., Javier G. Cuesta, *The 6,000 nuclear warheads that Russia uses to deter Western support for Ukraine*, EL PAÍS (Mar. 4, 2024), [https://english.elpais.com/international/2024-03-04/the-6000-nuclear-warheads-that-russia-uses-](https://english.elpais.com/international/2024-03-04/the-6000-nuclear-warheads-that-russia-uses-to-deter-western-support-for-ukraine.html)

[to-deter-western-support-for-ukraine.html](https://english.elpais.com/international/2024-03-04/the-6000-nuclear-warheads-that-russia-uses-to-deter-western-support-for-ukraine.html) "‘This really threatens a conflict with the use of nuclear weapons and the destruction of civilization,’ Putin told the Russian Parliament on Thursday.” *Id.*

⁴¹¹ *Legality of the Threat or Use of Nuclear Weapons*, ¶ 1 (quoting the Assembly's question).

⁴¹² Javier G. Cuesta, *The 6,000 nuclear warheads that Russia uses to deter Western support for Ukraine*, EL PAÍS (Mar. 4, 2024), <https://english.elpais.com/international/2024-03-04/the-6000-nuclear-warheads-that-russia-uses-to-deter-western-support-for-ukraine.html>

⁴¹³ See e.g. Daniel Hryhorczuk, et al. *The environmental health impacts of Russia's war on Ukraine*, 19:1 J. OF OCCUPATIONAL MED. & TOXICOLOGY (2024) (analyzing the environmental impact of both specific acts of Russian aggression and impacts from Russia's invasion as a whole).

IV. Most Egregious Incidents

A. Introduction

Most Egregious Incidents (MEIs) are alleged violations of international law as defined by the Geneva Convention Additional Protocol I. All MEIs share certain characteristics and go through a strict elemental test. This analysis is not exhaustive for each element, but rather serves to facilitate discussion around their interpretation.

The following events were chosen due to the nature of the attacks leading to environmental harm and destruction. The incidents that were used in Vol I: Individual Responsibility Russian Mass Destruction of the Natural Environment in Ukraine (Ecocide I) and mentioned again below also include updates on the events since the publishing of Ecocide I in August 2023. Though many international laws may apply to these incidents, the analysis will solely focus on Article 35(3)⁴¹⁴ and Article 55(1)⁴¹⁵ of the Geneva Convention Additional Protocol I (Article 35(3)) (Article 55(1)).

Only MEIs committed on Ukrainian territory since Russia's full-scale invasion on 24 February 2022 were considered for this paper, and those below are non-exhaustive. While some of the events were originally mentioned in Ecocide I, within the context of individual responsibility, the analysis here will focus on state responsibility.

It must be acknowledged that Article 35(3) and Article 55(1) of API overlap in scope, coverage, and elements. Scholars argue that it “[h]as never been seriously contended that the protection of the natural environment under [Article 55(1)] breaks any new ground as compared to [Article 35(3)].”⁴¹⁶ However, the purpose of analyzing both articles is to “advocat[e] the notion that the protection of the environment in wartime is an end in itself [Article 35(3)], and [to] subscrib[e] to the view that the protection is only designed to guarantee the survival or health of human beings [Article 55(1)].”⁴¹⁷ Thus, each incident will be analyzed under both of these articles.

1. Additional Protocol I to the Geneva Conventions

a) Article 35(3) – Basic Rules

⁴¹⁴ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 35(3), June 8, 1977, 1125 U.N.T.S. 3, 21.

⁴¹⁵ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 55(1), June 8, 1977, 1125 U.N.T.S. 3, 28.

⁴¹⁶ Yoram Dinstein, *Protection of the Environment in International Armed Conflict*, 5 MAX PLANCK Y.B. UN L. 523, 532 (2001), https://www.mpil.de/files/pdf1/mpunyb_dinstein_5.pdf.

⁴¹⁷ Yoram Dinstein, *Protection of the Environment in International Armed Conflict*, 5 MAX PLANCK Y.B. UN L. 523 (2001), https://www.mpil.de/files/pdf1/mpunyb_dinstein_5.pdf.

*It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.*⁴¹⁸

Article 35(3) consists of three elements, the first element being the “methods or means of warfare.”⁴¹⁹ The second element is the intent or the concept of an act being expected to cause a specific outcome.⁴²⁰ The third element is that the damage is widespread, “long-term and severe to the natural environment.”⁴²¹

According to the *travaux préparatoires* to AP I, the term *widespread* “contemplates the ‘scope or area affected,’”⁴²² This includes both damage “caused directly by the method or means of warfare in the very geographical area where they are used,” as well as the indirect effects which “may be expected to spread or materialize beyond the geographical area where the method or means of warfare has been employed.”⁴²³ Further, the term may also include cases of cumulative damage to numerous smaller areas.⁴²⁴ It should be emphasized that Article 35(3) prohibits such damage.⁴²⁵

Further, *travaux préparatoires* of Additional Protocol I indicate that the term “severe” refers to “the severity or prejudicial effect of the damage to the civilian population.”⁴²⁶ The ICRC Guidelines further elaborate that the term “should be understood to cover the disruption or damage to an ecosystem or harm to the health or survival of the population on a large scale,

⁴¹⁸ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 35(3), June 8, 1977, 1125 U.N.T.S. 3, 21.

⁴¹⁹ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 35(3), June 8, 1977, 1125 U.N.T.S. 3, 21.

⁴²⁰ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 35(3), June 8, 1977, 1125 U.N.T.S. 3, 21.

⁴²¹ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 35(3), June 8, 1977, 1125 U.N.T.S. 3, 21.

⁴²² *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

⁴²³ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

⁴²⁴ See *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 33,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024) (explaining example referenced in the ICRC Guidelines). Given that this tactic was a result of a common policy, rather than separate and unrelated events, it is reasonable to assume that some level of connection between the different instances of environmental harm will be required to count it as cumulative damage. *Id.*

⁴²⁵ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 35(3), June 8, 1977, 1125 U.N.T.S. 3, 21.

⁴²⁶ *Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts*, Vol. 15, ¶ 27, https://tile.loc.gov/storage-services/service/ll/llmlp/RC-records_Vol-15/RC-records_Vol-15.pdf (last visited Nov. 28, 2024).

with normal damage caused by troop movements and artillery fire in conventional warfare generally falling outside the scope of this prohibition.”⁴²⁷

Finally, the Commentary of 1987, indicated that “long-term” should be understood as referring to a period of decades rather than months.⁴²⁸ Although no official definition was adopted, this definition from the Commentary of 1987 differs from the definition provided by ENMOD, where “long-term” is understood as “a period of months, or approximately a season.”⁴²⁹

b) Article 55(1) – Protection of the Natural Environment

1. *Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.*⁴³⁰

The elements of Article 55(1) are generally the same elements discussed under Article 35(3), with the exception that Article 55(1) addresses damage to the environment that harms “the health or survival of the [human] population.”⁴³¹ It should be noted that Article 55(1) uses the term “population” without the specification of “civilian.” This was purposeful with the intent that Article 55(1) would apply to the entire population “without regard to combatant status.”⁴³² Article 35(3) and Article 55(1) share the first three elements. Thus, analysis for

⁴²⁷ *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 38,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

⁴²⁸ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts*, INT’L COMM. OF THE RED CROSS, ¶ 1452, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024).

⁴²⁹ *Commentary on Article 35 of Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts*, INT’L COMM. OF THE RED CROSS, ¶ 1454, <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-35/commentary/1987> (last visited Nov. 28, 2024); *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques*, Understandings, May 18, 1977, 1108 U.N.T.S. 151, <https://ihl-databases.icrc.org/en/ihl-treaties/enmod-1976/understandings> (last visited Nov. 28, 2024); *Guidelines on the Protection of the Natural Environment in Armed Conflict*, INT’L COMM. OF THE RED CROSS 35,

https://www.icrc.org/sites/default/files/document_new/file_list/guidelines_on_the_protection_of_the_natural_environment_in_armed_conflict_advance-copy.pdf (last visited Nov. 25, 2024).

⁴³⁰ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 55(1), June 8, 1977, 1125 U.N.T.S. 3, 28.

⁴³¹ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 55(1), June 8, 1977, 1125 U.N.T.S. 3, 28.

⁴³² Yoram Dinstein, *Protection of the Environment in International Armed Conflict*, 5 MAX PLANCK Y.B. UN L. 523, 532 (2001), https://www.mpil.de/files/pdf1/mpunyb_dinstein_5.pdf.

Article 55(1) will only focus on its fourth element since the first three elements will already have been analyzed under Article 35(3).

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 and the Sievierodonetsk “Azot” chemical plant. MEIs also include the attacks on and destruction of fuel infrastructure, specifically the attack on the Kalynivka Oil Depot. Also analyzed is the poisoning of the Desna River, the destruction of Dzharylhach National Park and two protected wetlands.

B. Nova Kakhovka Dam

1. Summary of Incident

On 6 June 2023, the Nova Kakhovka Dam and hydroelectric plant, located on the Dnipro River in the Kherson Oblast was destroyed.⁴³³ Evidence has pointed towards an explosion early in the morning that led to its collapse.⁴³⁴ Norsar, the Norwegian Seismic Array, detected seismic data signals from a regional station in Romania which indicated an explosion at 2:54 AM.⁴³⁵ Residents in the vicinity of the hydroelectric plant reported hearing a major explosion at approximately the same time.⁴³⁶

According to experts, an internal explosion was the most likely cause for the dam’s destruction.⁴³⁷ Ihor Syrota, head of Ukrhydroenergo, the Ukrainian State’s hydroelectric company, had identified the structure as being designed to withstand the external force of an atomic bomb.⁴³⁸ A blast from inside of the structure would have had the most damaging impact.⁴³⁹ Notably, after more than a year of intense fighting in the region, the Nova Kakhovka Dam had been damaged, however, it is believed that the Dam’s breakdown was not entirely

⁴³³ 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/06/nova-kakhovka-dam-everything-you-need-to-know-about-ukraines-strategically-important-reservoir>

⁴³⁴ 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/06/nova-kakhovka-dam-everything-you-need-to-know-about-ukraines-strategically-important-reservoir>.

⁴³⁵ 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/06/nova-kakhovka-dam-everything-you-need-to-know-about-ukraines-strategically-important-reservoir>.

⁴³⁶ 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/06/nova-kakhovka-dam-everything-you-need-to-know-about-ukraines-strategically-important-reservoir>.

⁴³⁷ James Glanz, et al., *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE N.Y. TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.

⁴³⁸ James Glanz, et al., *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE N.Y. TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.

⁴³⁹ James Glanz, et al., *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE N.Y. TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.

attributed to the external damage it sustained during the war.⁴⁴⁰ Furthermore, at the time of its destruction, Russian forces were in control of the Dam.⁴⁴¹

The Nova Kakhovka Dam's destruction has had a devastating impact on the surrounding communities and environment.⁴⁴² 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.⁴⁴³ 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.⁴⁴⁴ The water of the reservoir was key in agricultural irrigation for much of southern Kherson and the Crimean peninsula.⁴⁴⁵

Initially, according to the Ukrainian Agricultural Ministry, the dam's collapse left 94% of irrigation systems in the Kherson region without water.⁴⁴⁶ Further, 74% of irrigation systems in the Zaporizhzhia region and 30% of irrigation systems in the Dnipro region were also left without a source of water following the dam's destruction by Russia.⁴⁴⁷ The dam's destruction also led to catastrophic flooding of both agricultural land and civilian infrastructure.⁴⁴⁸ The flooding affected about 100,000 people in the immediate term.⁴⁴⁹ Over eighty settlements were

⁴⁴⁰ James Glanz, et al., *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE N.Y. TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.

⁴⁴¹ James Glanz, et al., *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE N.Y. TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.

⁴⁴² James Glanz, et al., *Internal Blast Probably Breached Ukraine Dam, Experts Say (Cautiously)*, THE N.Y. TIMES (June 6, 2023), <https://www.nytimes.com/2023/06/06/world/europe/ukraine-kakhovka-dam-russia.html>.

⁴⁴³ Josh Pennington, et al., *Collapse of Ukraine's Nova Kakhovka Dam an 'Ecological Catastrophe'*, CNN (June 7, 2023), <https://www.cnn.com/2023/06/07/europe/ukraine-nova-kakhovka-dam-environment-damage-intl-hnk/index.html#:~:text=Ukrainian%20Environment%20Minister%20Ruslan%20Strilets,million>.

⁴⁴⁴ Josh Pennington, et al., *Collapse of Ukraine's Nova Kakhovka Dam an 'Ecological Catastrophe'*, CNN (June 7, 2023), <https://www.cnn.com/2023/06/07/europe/ukraine-nova-kakhovka-dam-environment-damage-intl-hnk/index.html#:~:text=Ukrainian%20Environment%20Minister%20Ruslan%20Strilets,million>.

⁴⁴⁵ Josh Pennington, et al., *Collapse of Ukraine's Nova Kakhovka Dam an 'Ecological Catastrophe'*, CNN (June 7, 2023), <https://www.cnn.com/2023/06/07/europe/ukraine-nova-kakhovka-dam-environment-damage-intl-hnk/index.html#:~:text=Ukrainian%20Environment%20Minister%20Ruslan%20Strilets,million>.

⁴⁴⁶ Josh Pennington, et al., *Collapse of Ukraine's Nova Kakhovka Dam an 'Ecological Catastrophe'*, CNN (June 7, 2023), <https://www.cnn.com/2023/06/07/europe/ukraine-nova-kakhovka-dam-environment-damage-intl-hnk/index.html#:~:text=Ukrainian%20Environment%20Minister%20Ruslan%20Strilets,million>.

⁴⁴⁷ Josh Pennington, et al., *Collapse of Ukraine's Nova Kakhovka Dam an 'Ecological Catastrophe'*, CNN (June 7, 2023), <https://www.cnn.com/2023/06/07/europe/ukraine-nova-kakhovka-dam-environment-damage-intl-hnk/index.html#:~:text=Ukrainian%20Environment%20Minister%20Ruslan%20Strilets,million>.

⁴⁴⁸ *Floods in Ukraine: Destruction of Kakhovka Dam will Impact Thousands*, UN OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS (June 3, 2023), <https://reliefweb.int/report/ukraine/floods-ukraine-destruction-kakhovka-dam-will-impact-thousands>.

⁴⁴⁹ *Kakhovka Dam destruction inflicted US\$14 billion damage and loss on Ukraine*, GOV'T. OF UKR. (Oct. 17, 2023), <https://ukraine.un.org/en/249742-kakhovka-dam-destruction-inflicted-us14-billion-damage-and-loss-ukraine-government-ukraine>. See also *See Kakhovka Dam destruction, one year on*, UNITED NATIONS (June 6, 2024), <https://ukraine.un.org/en/270890-kakhovka-dam-destruction-one-year>.

impacted by the flooding.⁴⁵⁰ About 4,000 individuals were displaced.⁴⁵¹ The flooding has also brought concerns of displaced landmines being spread into areas once deemed safe.⁴⁵² In addition, thousands of animals have died as a result of the flooding.⁴⁵³ Ruslan Strilets, the Ukrainian Environment Minister, has also claimed that at least 150 metric tons of oil from the dam have been leaked into the Dnipro River.⁴⁵⁴ According to Yevheniia Zasiadko, Head of Climate Department at Ecoaction, a Kyiv-based environmental non-profit organization, just one liter of oil can contaminate one million liters of water.⁴⁵⁵ The oil is able to spread over the water's surface, preventing oxygen from reaching plants and animals that live in the water.⁴⁵⁶ 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.⁴⁵⁷ Overall, the destruction of the Khakhova Dam has caused damage estimated to be approximately \$14 billion USD.⁴⁵⁸

2. Additional Protocol I to the Geneva Conventions, Article 35(3)

a) Element 1 – Means and Methods of Warfare

From the first day of the full-scale Russian invasion of Ukraine on 24 February 2022, Russian military forces captured the Kakhovka hydropower plant (“Kakhovka HPP”).⁴⁵⁹ The Kakhovka HPP and the dam were not only under Russian occupation, but were patrolled by the Russian army, making the HPP and dam (civilian objects) a military base.⁴⁶⁰ After the Russian forces dismissed the Ukrainian personnel from the Kakhovka HPP in the fall of 2022, later in

⁴⁵⁰ TRUTH HOUNDS, PROJECT EXPEDITE JUST., STUDY OF THE DESTRUCTION OF THE KAKHOVKA DAM AND ITS IMPACTS ON ECOSYSTEMS, AGRARIANS, OTHER CIVILIANS, AND INTERNATIONAL JUSTICE (June 6, 2024), *available at* <https://truth-hounds.org/en/cases/submerged-study-of-the-destruction-of-the-kakhovka-dam-and-its-impacts-on-ecosystems-agrarians-other-civilians-and-international-justice/>.

⁴⁵¹ Ma Xinmin, *Statement on Responsibility of States for Internationally Wrongful Acts* (2007). 7 CHINESE J. INT'L L. 563, 563-566, (July 2008). *See also* TRUTH HOUNDS, PROJECT EXPEDITE JUST., STUDY OF THE DESTRUCTION OF THE KAKHOVKA DAM AND ITS IMPACTS ON ECOSYSTEMS, AGRARIANS, OTHER CIVILIANS, AND INTERNATIONAL JUSTICE (June 6, 2024), *available at* <https://truth-hounds.org/en/cases/submerged-study-of-the-destruction-of-the-kakhovka-dam-and-its-impacts-on-ecosystems-agrarians-other-civilians-and-international-justice/>.

⁴⁵² *Membership*, INT'L L. COMM'N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

⁴⁵³ *Membership*, INT'L L. COMM'N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

⁴⁵⁴ *Membership*, INT'L L. COMM'N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

⁴⁵⁵ *Membership*, INT'L L. COMM'N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

⁴⁵⁶ *Membership*, INT'L L. COMM'N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

⁴⁵⁷ *Membership*, INT'L L. COMM'N <https://legal.un.org/ilc/ilcmembe.shtml> (Jul. 31, 2024).

⁴⁵⁸ *See Kakhovka Dam destruction inflicted US\$14 billion damage and loss on Ukraine*, GOV'T OF UKR. (Oct. 17, 2023), <https://ukraine.un.org/en/249742-kakhovka-dam-destruction-inflicted-us14-billion-damage-and-loss-ukraine-government-ukraine>.

⁴⁵⁹ *See* Elizabeth Ingram, *Russian forces capture Kakhovka hydropower plant in the Ukraine*, FACTOR THIS (Feb. 25, 2022), <https://www.hydroreview.com/dams-and-civil-structures/dam-safety/russian-forces-capture-kakhovka-hydropower-plant-in-the-ukraine/#gref>.

⁴⁶⁰ *See* Isabella Khurshudyan & David L. Stern, *In Kherson, misery under Russian occupation, hope over Ukrainian gains*, THE WASH. POST, (June 12, 2022), <https://www.washingtonpost.com/world/2022/06/12/ukraine-kherson-counteroffensive-russian-occupation/>.

October 2022 it was reported that the Kakhovka dam was mined.⁴⁶¹ Since the Russian forces occupied the Kakhovka HPP and the dam and used it as a military base, the explosion of the Kakhovka dam by Russian forces is the most likely version of the dam's destruction. The totality of other evidence also leads to the opinion that Russia blew the dam up from within (in the passageway, or gallery), such as the telltale signs of large explosions detected early in the morning on 6 June 2023 by seismic sensors in Ukraine and Romania, the explanations of American and Ukrainian engineers on the basis of the available videos and photos of the Kakhovka dam's destruction.⁴⁶² It is clear that Russian military forces used mines as the means and methods of warfare to cause the explosion of the Kakhovka HPP, and dam, and the subsequent consequences.⁴⁶³

b) Element 2 – Intended or May be Expected to Cause

As soon as the information appeared that the Kakhovka dam had been mined in October, 2022, many analytical resources reported on the possible intentions of Russia to blow the dam up.⁴⁶⁴

It was reported that as the result of the explosion of the Kakhovka dam, 80 settlements, including Kherson, were in the flood zone, water supply chains in southern Ukraine were damaged, and the cooling water supply to Zaporizhzhia NPP was put in danger of collapse.⁴⁶⁵

The fact that Russia understood the consequences of blowing up the Kakhovka dam is confirmed by Russia itself when the latter accused Ukraine of preparing to carry out a missile attack on the dam and predicted the consequences of such an attack.⁴⁶⁶ Regardless of the

⁴⁶¹ See Veronika Lutska, *Russians mined Kakhovka hydroelectric power plant and have been planning a terrorist attack*, BRAND UKR. (Oct. 21, 2022), <https://war.ukraine.ua/war-news/russians-mined-kakhovka-hydroelectric-power-plant/>. See also *Back in April, Occupiers Mined Kakhovka Hydroelectric Power Plant and Currently Working to Mine Floodgates and Supports*, DEFENCE INTEL. OF THE MINISTRY OF DEFENCE OF UKR. (Oct. 21, 2022), <https://gur.gov.ua/en/content/okupanty-shche-v-kvitni-zaminuvaly-kakhovsku-hes-i-narazi-provodiut-roboty-z-minuvannia-shliuziv-ta-opor.html>.

⁴⁶² See James Glanz, et. al, *Why the Evidence Suggests Russia Blew Up the Kakhovka Dam*, THE N.Y. TIMES (June 16, 2023), <https://www.nytimes.com/interactive/2023/06/16/world/europe/ukraine-kakhovka-dam-collapse.html>.

⁴⁶³ See James Glanz, et. al, *Why the Evidence Suggests Russia Blew Up the Kakhovka Dam*, THE N.Y. TIMES (June 16, 2023), <https://www.nytimes.com/interactive/2023/06/16/world/europe/ukraine-kakhovka-dam-collapse.html>.

⁴⁶⁴ See Katherine Lawlor, et. al, *Russian offensive campaign assessment, October 21*, THE INST. FOR THE STUDY OF WAR (Oct. 21, 2022), <https://www.understandingwar.org/backgrounder/russian-offensive-campaign-assessment-october-21>.

⁴⁶⁵ See TRUTH HOUNDS, PROJECT EXPEDITE JUST., *STUDY OF THE DESTRUCTION OF THE KAKHOVKA DAM AND ITS IMPACTS ON ECOSYSTEMS, AGRARIANS, OTHER CIVILIANS, AND INTERNATIONAL JUSTICE* (June 6, 2024), *available at* <https://truth-hounds.org/en/cases/submerged-study-of-the-destruction-of-the-kakhovka-dam-and-its-impacts-on-ecosystems-agrarians-other-civilians-and-international-justice/>. See also Julian Borger, *Ukraine: cooling pond at Zaporizhzhia plant at risk after dam collapse*, THE GUARDIAN (June 8, 2023), <https://www.theguardian.com/world/2023/jun/08/ukraine-cooling-pond-at-zaporizhzhia-plant-at-risk-after-dam-collapse-report>.

⁴⁶⁶ See Reuters, *Is the Kakhovka dam in Ukraine about to be blown?*, REUTERS (Oct. 21, 2022), <https://www.reuters.com/world/europe/is-kakhovka-dam-ukraine-about-be-blown-2022-10-21/>.

purported purpose of the destruction of the Kakhovka dam by Russia, the consequences on the natural environment were obvious, predictable, and expected.

c) Element 3 – Widespread, Long-Term and Severe Damage; to the Natural Environment

Russian forces, being in control of the dam at the time of its destruction and orchestrating its destruction, were on notice that destroying the dam may be expected to cause severe, widespread, and 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, fish populations, and contamination of water sources with oil, pesticides, fertilizers, heavy metals, and other harmful substances.⁴⁶⁷

In regard to the concept of “widespread” the destruction of the dam caused damage to 94% of the irrigation systems in the Kherson region, affected more than eighty settlements, and at least 200,000 people.⁴⁶⁸ Furthermore it was reported that the destruction of the dam caused 100,000 people to be evacuated or displaced from an area the size of Switzerland.⁴⁶⁹

To the concept of severity, again, the flooding affected more than 200,000 people, eighty settlements, and caused many downstream environmental effects by carrying oil, industrial chemicals, and other substances into Ukraine's waterways and soil.

Under the definitions of “long-term,” in both Commentary 1987 and ENMOD Russian's destruction of the dam may have been expected to cause the above-mentioned damages for decades to come, especially damages related to the contamination of water and soil.

3. Additional Protocol I to the Geneva Conventions, Article 55(1)

a) Element 4 – Thereby to Prejudice the Health or Survival of the Population

The blasting of the Kakhovka dam created an immediate and direct threat to the lives of the population of the territories that were flooded as a result of the leakage of the Kakhovka

⁴⁶⁷ See TRUTH HOUNDS, PROJECT EXPEDITE JUST., STUDY OF THE DESTRUCTION OF THE KAKHOVKA DAM AND ITS IMPACTS ON ECOSYSTEMS, AGRARIANS, OTHER CIVILIANS, AND INTERNATIONAL JUSTICE (June 6, 2024), available at <https://truth-hounds.org/en/cases/submerged-study-of-the-destruction-of-the-kakhovka-dam-and-its-impacts-on-ecosystems-agrarians-other-civilians-and-international-justice/>.

⁴⁶⁸ See *Kakhovka Dam destruction, one year on*, UNITED NATIONS (June 6, 2024), <https://ukraine.un.org/en/270890-kakhovka-dam-destruction-one-year>.

⁴⁶⁹ See Simeon Djankov, *The cost of the Kakhovka Dam destruction*, VOXEU (July 10, 2023), <https://cepr.org/voxeu/columns/cost-kakhovka-dam-destruction>.

reservoir.⁴⁷⁰ At least 17,000 people had to be evacuated immediately.⁴⁷¹ It has been reported that hundreds of people died as a result of the flooding of the territory, and a large number of people also went missing.⁴⁷²

In addition, the destruction of the dam and the disappearance of the Kakhovka reservoir deprived approximately one million people of access to drinking water, which will also negatively affect the health of the population in the long term.⁴⁷³ There is also a high risk of worsening the quality of the population's health due to the contamination of ecosystems with heavy metals, petroleum products, and fertilizers, because these substances have entered not only the Dnipro and the Black Sea, but also the soil and groundwater.⁴⁷⁴

In general, the disaster affects the mental health of the population of both the affected areas and the population of Ukraine as a whole.⁴⁷⁵ Mine contamination also stands out as a huge long-term problem for civilians as the mines were washed away from the places they were originally placed.⁴⁷⁶

C. Mariupol Azovstal Steel Plant

1. Summary of Incident

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 2022.⁴⁷⁷ During that period, the industrial plant was repeatedly targeted by heavy shelling and artillery fire,⁴⁷⁸ the attack's

⁴⁷⁰ See *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>.

⁴⁷¹ See Samya Kullab & Illia Novikov, *What we know from AP Investigation into Russia's cover-up of deaths caused by dam explosion in Ukraine*, AP NEWS (Dec. 28, 2023), <https://apnews.com/article/russia-ukraine-war-dam-takeaways-1990ddd405844c189bb4cfac9384b6ec>

⁴⁷² See Samya Kullab & Illia Novikov, *What we know about Russia's cover-up of deaths caused by dam explosion in Ukraine*, AP NEWS (Dec. 28, 2023), <https://apnews.com/article/russia-ukraine-war-dam-takeaways-1990ddd405844c189bb4cfac9384b6ec>.

⁴⁷³ See *Destruction of the Kakhovka HPP: preliminary conclusions and possible consequences*, CTR. FOR ENV'T INITIATIVES FOR ECOACTION, <https://en.ecoaction.org.ua/destruction-of-the-kakhovka-hpp-preliminary-conclusions.html> (last visited July 1, 2023).

⁴⁷⁴ See PAX FOR PEACE, *A Preliminary Environmental Risk of Assessment of the Kakhovka Dam Flooding*, ENV'T AND CONFLICT ALERT UKR. (June 2023), https://paxvoorvrede.nl/wp-content/uploads/2023/06/PAX_REPORT_Kakhovka_FIN.pdf.

⁴⁷⁵ See *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>.

⁴⁷⁶ See *Novokakhovka Dam breach on 06 June 2023*, REACH, https://repository.impact-initiatives.org/document/reach/d1178ae6/REACH_UKR-Emergency-Brief-Novokakhovka-Dam-06-June.pdf (last visited July 1, 2023).

⁴⁷⁷ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, *3. Industry*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-industry/#7>.

⁴⁷⁸ Eugene Z. Stakhiv, *Destroying the Environment Is a War Crime, Too*, FOREIGN POLICY, (July 27, 2022, 2:30 PM), <https://foreignpolicy.com/2022/07/27/russia-ukraine-war-environment-war-crime/>.

duration and intensity was described as “highly unusual.”⁴⁷⁹ Throughout the month-long siege, Russia continuously attacked the steel plant using at least 35 airstrikes during the nights of April 25th and April 26th, as well as attacks by ground forces. Soldiers and over 300 civilians sought refuge in the plant.⁴⁸⁰ The attack resulted in the near-total destruction of the facility.⁴⁸¹

The attack on the Azovstal plant led to and continues to cause extensive environmental damage.⁴⁸² Ground-level infrastructure, chemical storage facilities, wastewater treatment plants, and other waste disposal sites were destroyed.⁴⁸³ 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.”⁴⁸⁴ Pre-existing soil contamination “has now been exacerbated by pollutants emitted from munitions and the consequences of explosive damage.”⁴⁸⁵

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.⁴⁸⁶ The Mariupol City Council reported that thousands of tons of concentrated hydrogen sulfide solution could end up in surrounding waters.⁴⁸⁷

2. Additional Protocol I to the Geneva Conventions, Article 35(3)

a) Element 1 – Means and Methods of Warfare

⁴⁷⁹ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 3. *Industry*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-industry/#7>.

⁴⁸⁰ See also *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁸¹ See also *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁸² See Eugene Z. Stakhiv, *Destroying the Environment Is a War Crime, Too*, FOREIGN POLICY, (July 27, 2022, 2:30 PM), <https://foreignpolicy.com/2022/07/27/russia-ukraine-war-environment-war-crime/>. See also *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁸³ See Eugene Z. Stakhiv, *Destroying the Environment Is a War Crime, Too*, FOREIGN POLICY, (July 27, 2022, 2:30 PM), <https://foreignpolicy.com/2022/07/27/russia-ukraine-war-environment-war-crime/>. See also *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁸⁴ See Eugene Z. Stakhiv, *Destroying the Environment Is a War Crime, Too*, FOREIGN POLICY, (July 27, 2022, 2:30 PM), <https://foreignpolicy.com/2022/07/27/russia-ukraine-war-environment-war-crime/>. See also *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁸⁵ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 3. *Industry*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-industry/#7>.

⁴⁸⁶ See UNITED NATIONS ENV'T PROGRAMME, THE ENVIRONMENTAL IMPACT OF THE CONFLICT IN UKRAINE: A PRELIMINARY REVIEW 1, 18 (2022), https://wedocs.unep.org/bitstream/handle/20.500.11822/40746/environmental_impact_Ukraine_conflict.pdf?sequence=3&isAllowed=.

⁴⁸⁷ See Eugene Z. Stakhiv, *Destroying the Environment Is a War Crime, Too*, FOREIGN POLICY, (July 27, 2022, 2:30 PM), <https://foreignpolicy.com/2022/07/27/russia-ukraine-war-environment-war-crime/>.

Russian forces repeatedly targeted the Azovstal plant with heavy shelling. For weeks, Russian forces fired naval and field artillery, rockets, incendiary weapons, and bunker-busting bombs, which resulted in the near-total destruction of the Azovstal site.⁴⁸⁸

b) Element 2 – Intended or May be Expected to Cause

Russia's likely objective in targeting the Azovstal plant was to defeat the last holdouts of Ukrainian forces in Mariupol and complete its capture of the city.⁴⁸⁹ As of yet, there is no publicly available evidence to indicate that Russian forces intended to cause widespread, long-term, and severe damage to the natural environment. However, that outcome was likely to be expected. The industrial activities carried out at the plant were well-known to Russia, it was a key part of the Soviet Union's transportation industry and was State-owned until 1990.⁴⁹⁰ Therefore Russia knew that the plant had hazardous chemicals and other substances.⁴⁹¹ Further, it may be expected that these chemicals would be quickly released into the natural environment given the plant's location on the coast of the Sea of Azov.⁴⁹² Thus, even if Russia's intent was not to cause environmental damage, there would be an expectation that any attack on the plant would cause such harm.

c) Element 3 – Widespread, Long-Term and Severe Damage; to the Natural Environment

Although the full extent of the damage has still not been assessed, contaminants from the plant spread into surrounding soil and into the Sea of Azov.⁴⁹³ Debris was also found in the River of Kalmius.⁴⁹⁴ The attack created 214 impact craters and fifty-two fires where the siege took place.⁴⁹⁵ However, the element of widespread, long-term, and severe damage may be difficult to attribute to Russia's attack of the plant, due to the fact that studies of the surrounding area of the plant had previously found that the plant had been "the single biggest source of pollution into the Sea of Azov."⁴⁹⁶ Furthermore in 2014 a study found that the

⁴⁸⁸ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 3. *Industry*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-industry/#7>.

⁴⁸⁹ See Becky Sullivan & Joanna Kakissis, *How a Mariupol steel plant became a center of Ukraine's resistance*, NPR (May 5, 2022), <https://www.npr.org/2022/05/05/1096880452/mariupol-steel-plant-ukraine-resistance>.

⁴⁹⁰ See Becky Sullivan & Joanna Kakissis, *How a Mariupol steel plant became a center of Ukraine's resistance*, NPR (May 5, 2022), <https://www.npr.org/2022/05/05/1096880452/mariupol-steel-plant-ukraine-resistance>.

⁴⁹¹ See Becky Sullivan & Joanna Kakissis, *How a Mariupol steel plant became a center of Ukraine's resistance*, NPR (May 5, 2022), <https://www.npr.org/2022/05/05/1096880452/mariupol-steel-plant-ukraine-resistance>.

⁴⁹² See Becky Sullivan & Joanna Kakissis, *How a Mariupol steel plant became a center of Ukraine's resistance*, NPR (May 5, 2022), <https://www.npr.org/2022/05/05/1096880452/mariupol-steel-plant-ukraine-resistance>.

⁴⁹³ See *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁹⁴ See *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁹⁵ See *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁹⁶ See *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>. See also V.

outflows of Azovstal led to “an increase in death of the biomarkers, *Ceriodaphnia* crustaceans, and that the wastewater discharged exhibited lethal toxicity.”⁴⁹⁷ Also, prior to the attack through satellite imagery and social media there had been visual evidence of water pollution.⁴⁹⁸ Further comparative analysis would have to be completed in order to fully assess the environmental impact Russia’s attack had on the area as compared to pollution levels prior to the plant’s destruction.

3. Additional Protocol I to the Geneva Conventions, Article 55(1)

a) Element 4 – Thereby to Prejudice the Health or Survival of the Population

The influx of hazardous chemicals and other substances that have contaminated the surrounding air, water, and soil as a result of the attack on the Azovstal plant certainly prejudiced the health, if not also the survival, of the population.⁴⁹⁹ However, this impact, again, may be difficult to prove due to the level of pollution in the area of the plant prior to Russia’s attack. Therefore, the extent to which Russian attacks on the plant prejudiced the health or survival of the population would have to be further assessed.

D. Sievierodonetsk “Azot” Chemical Plant

1. Summary of Incident

Between May and June 2022, Russian forces repeatedly bombed the Azot Chemical Plant (the Plant) in the eastern Ukrainian city of Sievierodonetsk.⁵⁰⁰ 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.⁵⁰¹ As the largest chemical plant in the region, the Azot Plant provided 100% of Sievierodonetsk’s sewage purification and produced nitrogen-based fertilizers for the needs of the Ukrainian agricultural industry.⁵⁰²

Yurchenko, et. al, *Inventory of Point Sources Of Pollution and Their Ranking by the Degree of Impact on the Aquatic Ecosystem of the Sea of Azov*, COLLECTION OF SCIENTIFIC WORKS, <http://www.niiep.kharkov.ua/sites/default/files/sbornik2019.pdf#page=256>.

⁴⁹⁷ See *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁹⁸ See *Examples of environmental harm in Ukraine: Azovstal Iron and Steel Works*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-azovstal-iron-and-steel-works/>.

⁴⁹⁹ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 3. *Industry*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-industry/#7>.

⁵⁰⁰ 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>

⁵⁰¹ 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>.

⁵⁰² See *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/rosianyany-planuyut-zapusk-azotu-tse-mozhe-pryzvesty-do-tehnogennoyi-katastrofy-golova-luganskoyi-ova>. See also *Four Killed as*

During this period, the Plant was attacked repeatedly.⁵⁰³ On 24 May 2022, the Plant was shelled by Russian forces, reportedly killing four people and seriously injuring a civilian who later died from their injuries.⁵⁰⁴ On 11 June 2022, 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.⁵⁰⁵ On 16 June 2022, Russian forces destroyed all of the bridges into Sievierodonetsk and continued shelling the Plant.⁵⁰⁶ On 25 June 2022, Russia launched artillery and air strikes on Sievierodonetsk, striking the Azot Plant again.⁵⁰⁷ The Plant was sheltering hundreds of Ukrainian soldiers and civilians during the attacks.⁵⁰⁸ 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.⁵⁰⁹

Russian shelling had damaged almost the entire infrastructure of the Plant.⁵¹⁰ This included “environmentally sensitive objects” such as methanol, ammonia, and nitric acid tanks, water supply and treatment systems, and energy supply systems.⁵¹¹ Further, the Azot Plant was unable to receive electricity because of damage to power transformers at Lysychanska-110,

Russians Again Shell Azot Chemicals Plant in Luhansk Oblast, THE NEW VOICE OF UKR. (May 24, 2022), <https://english.nv.ua/nation/russian-invaders-shell-severodonetsk-azov-chemical-plant-50244821.html>.

⁵⁰³ *See 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>. *See also Four Killed as Russians Again Shell Azot Chemicals Plant in Luhansk Oblast*, THE NEW VOICE OF UKR. (May 24, 2022), <https://english.nv.ua/nation/russian-invaders-shell-severodonetsk-azov-chemical-plant-50244821.html>.

⁵⁰⁴ *See 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>. *See also Four Killed as Russians Again Shell Azot Chemicals Plant in Luhansk Oblast*, THE NEW VOICE OF UKR. (May 24, 2022), <https://english.nv.ua/nation/russian-invaders-shell-severodonetsk-azov-chemical-plant-50244821.html>.

⁵⁰⁵ *See 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>. *See also 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>.

⁵⁰⁶ *See 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>.

⁵⁰⁷ *See Russian Shelling Hits Chemical Plant Where Civilians are Trapped, says Ukraine*, CNBC (June 25, 2022), <https://www.cnn.com/2022/06/25/russian-shelling-hits-chemical-plant-where-civilians-trapped-says-ukraine.html>.

⁵⁰⁸ *See Ukraine War: Chemical Plant Hit as Fighting Rages in Severodonetsk*, BBC (June 12, 2022), <https://www.bbc.com/news/world-europe-61773356>. *See also 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>.

⁵⁰⁹ *See Ukraine War: Chemical Plant Hit as Fighting Rages in Severodonetsk*, BBC (June 12, 2022), <https://www.bbc.com/news/world-europe-61773356>. *See also 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>.

⁵¹⁰ *See Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵¹¹ *See Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

Yuvileyna, and Shchastya points and the Kreminska 500 kilovolt substation.⁵¹² 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 which caused the subsequent contamination of soil and surface water.⁵¹³

2. Additional Protocol I to the Geneva Conventions, Article 35(3)

a) Element 1 – Means and Methods of Warfare

During the attack the Plant was hit with artillery and airstrikes, damaging radiators and causing them to leak tens of tonnes of oil, in turn causing a massive fire at the Plant.⁵¹⁴ Russian forces also destroyed all of the bridges into Sievierodonetsk, cutting off access to the plant and surrounding area while continuing to shell the Plant.⁵¹⁵

Russia's use of chemical material in the initial explosion attack on and the subsequent shelling of the Azot Chemical Plant, including reportedly the use of nitric acid, produced a reddish-brown plume of nitrogen oxides that spread widely and to a high altitude.⁵¹⁶ An assessment has been made that these means used in the attack are "highly toxic if inhaled" and "the plume presented a significant public health emergency for nearby troops and the few thousand civilians remaining nearby" the Azot Plant.⁵¹⁷

b) Element 2 – Intended or May be Expected to Cause

The Azot Plant's operators claim that almost all the site's infrastructure has been damaged.⁵¹⁸ Though Russia's intention to cause environmental harm cannot be readily established at this point in time, it was well known by Russia that hazardous chemicals were stored at the facility, due to Russia's previous ownership of the Plant under the USSR.⁵¹⁹ The

⁵¹² See *Statement of the press office regarding the situation at "Sievierodonetsk Azot,"* GDF (July 14, 2022), <https://groupdf.com/en/press-center/news/statement-of-the-press-office-regarding-the-situation-at-severodonetskyi-azot/>.

⁵¹³ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵¹⁴ See *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>. See also *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>.

⁵¹⁵ See *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>.

⁵¹⁶ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵¹⁷ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵¹⁸ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵¹⁹ See Brian Milakovsky, *A frontline factory, an embattled oligarch and Ukraine's industrial drift*, OPENDEMOCRACY (May 2, 2018), <https://www.opendemocracy.net/en/odr/a-frontline-factory/>.

Plant held “environmentally sensitive objects” which included “ammonia and nitric acid workshops; methanol and urea-ammonia-nitrate storage, the power station and substations; water supply systems; and the wastewater treatment system.”⁵²⁰ Thus, it would be expected that Russia’s destruction of the Plant would likely cause hazardous chemicals to be released into the environment and, therefore cause environmental harm.

c) Element 3 – Widespread, Long-Term and Severe Damage; to the Natural Environment

The attack on the Azot plant led to contaminants being released into the soil.⁵²¹ Due to the explosion, numerous pollutants were released into the air, including nitric acid, contaminated dusts, and pollution caused from the fires.⁵²² Furthermore, the damage caused to the infrastructure of the plant led to “leaks of unidentified liquids from damaged storage tanks; widespread damage to pipelines; cratering and disturbance to ash and sludge deposits; and the large volume of debris from damaged or destroyed buildings.”⁵²³ Similar to the Azovstal Steel Plant, there will have to be a comparative assessment of the environmental damage prior to and after the attack in order to fully assess how widespread the harm from the attack was.⁵²⁴ The longevity of the effects of this attack is, of course, undetermined at this time. Accordingly a proper analysis of the effects after the attack will have to be monitored and compared to baseline pollution levels to determine the longevity of the attack’s effects. However, it can be reasonably asserted that attacking a chemical plant, even one that produces pollution, may be expected to cause additional environmental harm for months or years to come.

The severity of the attack may require additional qualification but it is clear that there were immediate impacts on ecosystems and the civilian population through the release of chemicals into the Siverskyi Donetsk River.⁵²⁵ Direct impact on the civilian population is further evidenced by damage to the wastewater treatment plant to the extent that it is no longer able to serve the surrounding population.⁵²⁶

3. Additional Protocol I to the Geneva Conventions, Article 55(1)

⁵²⁰ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²¹ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²² See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²³ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²⁴ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²⁵ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²⁶ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV'T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

d) Element 4 – Thereby to Prejudice the Health or Survival of the Population

One harm that will certainly have major impacts towards the health of the population is the damage to the local water treatment plant ending its ability to “supply the needs of Sievierodonetsk.”⁵²⁷ The pollutants released from the attack will likely cause harm to the population, though again, a comparative analysis would have to be done in order to compare the pollution levels from before and after the attack.⁵²⁸

E. Kalynivka KLO Oil Depot

1. Summary of Incident

The Russian military’s repeated attacks on Ukraine’s oil depots demonstrates Russia’s goal of crippling the country’s overall energy infrastructure.⁵²⁹ These targeted attacks have the potential of not only weakening Ukraine’s military capabilities but also disrupting their government’s ability to meet the energy needs of their civilian populace. Furthermore, the attacks often cause great ecological damage. A prime example of this is the attack carried out on the KLO oil depot in Kalynivka (the KLO Oil Depot).

On 24 March 2022, in Kalynivka, Vinnytsia Oblast, a Russian cruise missile struck the KLO Oil Depot.⁵³⁰ The strike caused fuel tanks to explode and a massive fire broke out.⁵³¹ The explosion and resulting smoke and fire were said to be visible from as far as 30 miles away, appearing even brighter than central Kyiv from space.⁵³² The massive fire raged for the better part of three days, releasing 10,000 tonnes of chemical byproducts into the air.⁵³³ Among these byproducts were high volumes of CO₂ and many other harmful substances such as black carbon particulates.⁵³⁴ These particulates have been linked to numerous, serious, and sometimes fatal health issues when inhaled or ingested in significant quantities, including pregnancy

⁵²⁷ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV’T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²⁸ See *Examples of environmental harm in Ukraine: Sievierodonetsk Azot Association*, UKR. CONFLICT ENV’T BRIEFING (Jan. 1, 2024), <https://ceobs.org/ukraine-damage-map-sievierodonetsk-azot-association/>.

⁵²⁹ See CONFLICT AND ENV’T OBSERVATORY & ZOÏ ENV’T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV’T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>. Despite a steady decline in their usage, fossil fuels met around 70.5% of Ukraine’s energy needs in 2020: gas comprising 27.6%, coal and peat 26.4%, and crude oil and oil product 16.5%. *Id.*

⁵³⁰ See CONFLICT AND ENV’T OBSERVATORY & ZOÏ ENV’T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV’T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³¹ See CONFLICT AND ENV’T OBSERVATORY & ZOÏ ENV’T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV’T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³² See CONFLICT AND ENV’T OBSERVATORY & ZOÏ ENV’T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV’T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³³ See CONFLICT AND ENV’T OBSERVATORY & ZOÏ ENV’T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV’T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³⁴ See CONFLICT AND ENV’T OBSERVATORY & ZOÏ ENV’T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV’T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

complications and lung diseases.⁵³⁵ 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.⁵³⁶

Yet, the ecological damage did not end there. By September 2022, the water levels of the nearby lakes receded to reveal piles of dead, decomposing marine life.⁵³⁷ Oil byproducts had also heavily contaminated the lakes.⁵³⁸ In April 2022, a local soil sampling was also taken and recorded that the soil's concentration of oil products was sixteen times higher than the standards set by the State.⁵³⁹ In July 2022, government agencies found that oil byproducts in nearby water sources were more than "40 times higher than the state standards."⁵⁴⁰

2. Additional Protocol to the Geneva Conventions, Article 35(3)

a) Element 1 – Means and Methods of Warfare

The attack on the KLO Oil Depot happened due to a Russian cruise missile hitting the site in Ukraine.⁵⁴¹ Russia admitted to using "Kalibr high-precision sea-based cruise missiles" in its strike against the KLO Oil Depot.⁵⁴² The Kalibr missile has a range of 2,500 kilometers, and a payload weighing up to 500 kilograms.⁵⁴³ The use of Kalibr cruise missiles is estimated to have caused "the destruction of approximately 80% of Ukraine's energy sector as of 2023."⁵⁴⁴ The

⁵³⁵ See Eva Bongaerts, Laetitia L Lecante, 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). See also *Carbon Black*, WIS. DEP'T OF HEALTH SERVS., <https://www.dhs.wisconsin.gov/chemical/carblack.htm#:~:text=The%20most%20likely%20effect%20of,lodge%20deep%20in%20their%20lungs> (last updated Mar. 29, 2023).

⁵³⁶ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³⁷ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³⁸ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵³⁹ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵⁴⁰ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵⁴¹ See *Russian fuel strike casts pall of war over Ukraine village*, FRANCE24 (March 25, 2022), <https://www.france24.com/en/live-news/20220325-russian-fuel-strike-casts-pall-of-war-over-ukraine-village>.

⁵⁴² See *Russian fuel strike casts pall of war over Ukraine village*, FRANCE24 (March 25, 2022), <https://www.france24.com/en/live-news/20220325-russian-fuel-strike-casts-pall-of-war-over-ukraine-village>.

⁵⁴³ See *In-depth Analysis of 3M Series Kalibr Cruise Missiles*, AIRPRA (July 4, 2023), <https://airpra.com/in-depth-analysis-of-3m-series-kalibr-cruise-missiles/>.

⁵⁴⁴ See *In-depth Analysis of 3M Series Kalibr Cruise Missiles*, AIRPRA (July 4, 2023), <https://airpra.com/in-depth-analysis-of-3m-series-kalibr-cruise-missiles/>.

allowable margin of error for target hitting is approximately 10 meters at a distance of 1,500 kilometers.⁵⁴⁵

b) Element 2 – Intended or May be Expected to Cause

The Russian military announced that it had fired “Kalibr high-precision sea-based cruise missiles”⁵⁴⁶ at the KLO Oil Depot, part of a pattern of intentional strikes on Ukraine’s fuel infrastructure.⁵⁴⁷ Russia had stated that its purpose for targeting the KLO Oil Depot was because it was “the largest fuel base remaining in the Armed Forces of Ukraine, from which fuel was supplied to military units in the central part of the country.”⁵⁴⁸

The use of the Kalibr cruise missile indicates that Russia had intended to cause the damage to the KLO Oil Depot, given the missile’s destructive power and range, and given Russia’s official announcement of the use of such missiles. In addition to Russia’s stated intention, the use of the Kalibr high-precision cruise missiles in the attack on the KLO Oil Depot, given their high payload and small allowable margin of error, is expected to cause widespread damage to the target and its immediate surrounding areas. Though environmental destruction may not have been the main purpose of the attack, it can be expected that damage to an oil depot would cause environmental harm.

c) Element 3 – Widespread, Long-Term and Severe Damage; to the Natural Environment

The destruction and burning of fuel storage facilities, including oil depots, releases pollutants into the air.⁵⁴⁹ By 2024, 108,000 tons of oil, oil products, and gasoline were burned in the destruction of Ukrainian oil storage facilities greatly increasing the air, water, and soil pollution in the country.⁵⁵⁰ The burning of these products at the KLO Oil Depot released carbon monoxide, carbon dioxide, nitrogen dioxide, and sulphur dioxide, among other contaminants,

⁵⁴⁵ See Bohdan Tuzov, *Kalibr Cruise Missiles: How Does Ukraine Cope with Them?*, KYIV POST (Nov. 19, 2023), <https://www.kyivpost.com/post/24105>.

⁵⁴⁶ See *Russian fuel strike casts pall of war over Ukraine village*, FRANCE24 (March 25, 2022), <https://www.france24.com/en/live-news/20220325-russian-fuel-strike-casts-pall-of-war-over-ukraine-village>.

⁵⁴⁷ See Liam James, *Satellite images show sky turned black by thick smoke after Russian bombing of fuel depot near Kyiv*, THE INDEPENDENT (March 26, 2022), <https://www.the-independent.com/news/world/europe/ukraine-russia-fuel-fire-kyiv-b2044831.html>.

⁵⁴⁸ See Leif Reigstad, *How the War Came to Kalynivka*, THE NATION. (May 16, 2022), <https://www.thenation.com/article/world/ukraine-war-kalynivka/>.

⁵⁴⁹ See Daniel Hryhorczuk, et. al, *The environmental health impacts of Russia’s war on Ukraine*, 19 J. OCCUPATIONAL MEDICINE & TOXICOLOGY (2024), <https://occup-med.biomedcentral.com/articles/10.1186/s12995-023-00398-y#:~:text=The%20war%20has%20caused%20more,with%20landmines%20and%20unexploded%20ordnance>.

⁵⁵⁰ See Daniel Hryhorczuk, et. al, *The environmental health impacts of Russia’s war on Ukraine*, 19 J. OCCUPATIONAL MEDICINE & TOXICOLOGY (2024), <https://occup-med.biomedcentral.com/articles/10.1186/s12995-023-00398-y#:~:text=The%20war%20has%20caused%20more,with%20landmines%20and%20unexploded%20ordnance>.

into the air.⁵⁵¹ In addition to what was burned, 6,000 tonnes of oil leaked from the facility.⁵⁵² Oil products further entered the soil and groundwater.⁵⁵³ Once the oil contaminants enter the water and air they can reasonably be expected to spread through means such as air currents, rivers, estuaries, the Sea of Azov, and the Black Sea.

Evidence suggests that the contaminants released from the KLO Oil Depot entered the nearby Riznystia pond and caused ecological harm, especially to the fish population.⁵⁵⁴ Ukrainian governmental analysis of this pond in July 2022, approximately four months after the attack, showed oil product levels were forty times higher than acceptable State standards.⁵⁵⁵ Importantly, the water that flows out of this pond eventually makes its way into the River Irpin, a tributary of the Dnipro River, which flows into the Black Sea.⁵⁵⁶ Ukraine, Bulgaria, Moldova, Russia, Georgia, and Turkey rely on the Black Sea.⁵⁵⁷ Thus, it is possible that the oil contaminants had widespread environmental effects across the water and air of not only Ukraine but the entire region.

The longevity of the effects of the attack are evidenced by the oil product levels in the Riznystia pond months after the attack.⁵⁵⁸ Furthermore, the oil contamination of the soil will likely meet any definition of long-term as oil can remain in soil for thirty years if not remediated.⁵⁵⁹

⁵⁵¹ See Viktor Karamushka, et. al, *Environmental Consequences resulted from the oil depots' deterioration by the RF's missile attacks*, RESEARCHGATE (March 2024) https://www.researchgate.net/publication/379108834_Environmental_consequences_resulted_from_the_oil_depot_s'_deterioration_by_the_RF's_missile_attacks.

⁵⁵² See Carolyn Beeler, *A coalition of Ukrainians is documenting environmental crimes*, THE WORLD (Aug. 2, 2023), <https://theworld.org/stories/2023/08/02/coalition-ukrainians-documenting-environmental-crimes>.

⁵⁵³ See Viktor Karamushka, et. al, *Environmental Consequences resulted from the oil depots' deterioration by the RF's missile attacks*, RESEARCHGATE (March 2024) https://www.researchgate.net/publication/379108834_Environmental_consequences_resulted_from_the_oil_depot_s'_deterioration_by_the_RF's_missile_attacks.

⁵⁵⁴ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵⁵⁵ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵⁵⁶ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>. See also Svitlana Madzhd, *Environmental Assessment of Small Rivers of Irpin River Basin by Ekosystem Principle*, 77 PROCEEDINGS OF THE NAT'L AVIATION U. 81, 82 (2018), https://www.researchgate.net/publication/333615448_ENVIRONMENTAL_ASSESSMENT_OF_SMALL_RIVERS_OF_IRPIN_RIVER_BASIN_BY_EKOSYSTEM_PRINCIPLE#pf2. See also *Dnieper River*, BRITANNICA, <https://www.britannica.com/place/Dnieper-River> (last updated Jan. 13, 2025).

⁵⁵⁷ Poala Agostinicolina, Eolina Milovas, & Sameer Akbar, *Addressing Pollution in the Black Sea, Eurasian Perspectives*, WORLD BANK BLOGS (June 4, 2023), <https://blogs.worldbank.org/europeandcentralasia/addressing-pollution-black-sea>.

⁵⁵⁸ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 4. *Fossil fuel infrastructure*, UKR. CONFLICT ENV'T BRIEFING (2022), <https://ceobs.org/ukraine-conflict-environmental-briefing-fossil-fuel-infrastructure/#3>.

⁵⁵⁹ See Ellen Warren, *What Happens When Oil Contaminates Soil?*, ICE CLEANING (Feb. 21, 2023), <https://www.icecleaning.co.uk/blog/what-happens-when-oil-contaminates-soil>.

Given the risk to the population that relies on the nearby pond, the Irpin River, the Dnipro River, and the Black Sea, the effect of the contamination of the water resulting from the attack can be considered severe.

3. Additional Protocol I to the Geneva Conventions, Article 55(1)

a) Element 4 – Thereby to Prejudice the Health or Survival of the Population

The release of harmful chemical byproducts resulting from the attack on the KLO Oil Depot posed significant risks to civilian lives, health, and the environment. The KLO Oil Depot fires emitted numerous pollutants into the air that spread and tainted the nearby soil and water sources.⁵⁶⁰ The explosion also released oil byproducts into the surrounding area, worsening the situation and raising local pollution levels even further.⁵⁶¹ As a result, the region's local food and water resources were heavily contaminated by high concentrations of toxic chemicals known to cause serious, sometimes fatal health complications.⁵⁶²

F. Seym River Poisoning

1. Summary of Incident

While the chemical spill that this discussion covers has not been conclusively attributed to Russia in the context of the war, the spill originated from a Russian sugar factory.⁵⁶³ Evidence suggests that Russia is culpable in creating the spill though additional investigation is needed to conclusively determine that this was a deliberate act by Russia's government.

On 17 August 2024, a toxic slick was detected coming from the Russian border village of Tyotkino.⁵⁶⁴ The toxic slick was caused by chemical waste from a sugar factory being

⁵⁶⁰ See Viktor Karamushka, et. al, *Environmental Consequences resulted from the oil depots' deterioration by the RF's missile attacks*, RESEARCHGATE (March 2024) https://www.researchgate.net/publication/379108834_Environmental_consequences_resulted_from_the_oil_depots'_deterioration_by_the_RF's_missile_attacks.

⁵⁶¹ See Viktor Karamushka, et. al, *Environmental Consequences resulted from the oil depots' deterioration by the RF's missile attacks*, RESEARCHGATE (March 2024) https://www.researchgate.net/publication/379108834_Environmental_consequences_resulted_from_the_oil_depots'_deterioration_by_the_RF's_missile_attacks.

⁵⁶² *The Toxic Legacy of the Ukraine War*, UN ENV'T PROGRAMME (Feb. 22, 2023), <https://www.unep.org/news-and-stories/story/toxic-legacy-ukraine-war>.

⁵⁶³ See Jacques Follorou, *Who killed Ukraine's Seym River? Investigation into accusations of ecocide*, LE MONDE (Nov. 5, 2024), https://www.lemonde.fr/en/environment/article/2024/11/05/who-killed-ukraine-s-seym-river-investigation-into-accusations-of-ecocide_6731683_114.html.

⁵⁶⁴ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

dumped into the Seym River (the Seym).⁵⁶⁵ The toxins that were dumped included ammonia, magnesium and other poisonous nitrates.⁵⁶⁶

The pollution originated from Russia, then traveled about a mile downstream and made its way into the Sumy region of Ukraine.⁵⁶⁷ The toxic waste caused oxygen levels to fall to near zero and destroyed the ecosystem in the Seym.⁵⁶⁸ This led to the mass death of fish, mollusks, and crayfish reported among settlements along the Seym.⁵⁶⁹ On 11 September 2024, the first dead fish was spotted, quickly followed by riverbanks clogged with rotting fish stretching out from the shore, three meters into the water.⁵⁷⁰ People described the destruction by saying, “the stench was terrible. You could scarcely breathe. The river was quiet. Nothing moved apart from a few frogs.”⁵⁷¹

The Seym is connected to the Desna River (the Desna) which connects to a reservoir that serves as a large water supply resource for the Kyiv.⁵⁷² Before this poisoning, the Desna was one of the cleanest in Ukraine, it was used as a source for drinking water, and provided food for the community but now it’s depleted of its living resources.⁵⁷³ The oxygen content was recorded as being zero on 29 August 2024, and the next day was recorded at 0.1 milligram per cubic decimeter.⁵⁷⁴ Fish need at least four milligrams per cubic decimeter to breathe. The

⁵⁶⁵ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁶⁶ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁶⁷ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁶⁸ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁶⁹ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷⁰ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷¹ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷² See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷³ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->. (explaining result of the poisoning in the community). Due to the destruction “[a] ban was imposed on fishing, swimming, and on using the river to water cattle or gardens.” *Id.*

⁵⁷⁴ See Luke Harding and Artem Mazhulin, ‘Everything is dead’: Ukraine rushes to stem ecocide after river poisoning, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

lack of oxygen caused the death of forty-four tonnes of fish.⁵⁷⁵ Serhiy Zhuk, the head of Chernihiv's ecology inspectorate, described this event as an act of Russian ecocide and stated "[Russian ecocide] won't stop until the war stops."⁵⁷⁶

2. Additional Protocol I to the Geneva Conventions, Article 35(3)

a) Element 1 – Means and Methods of Warfare

Chemical waste was dumped into the Seym. This included poisonous nitrates, magnesium, ammonia, and other compounds.⁵⁷⁷ The amount of chemical waste dumped into the river was vast.⁵⁷⁸ By way of the Seym, the chemical waste crossed into Ukraine's borders, polluting one of Ukraine's cleanest rivers.⁵⁷⁹ Pollution reached over 650 kilometers of the Seym and Desna Rivers, resulting in the loss of a source of water, food, and industry.⁵⁸⁰ Should this chemical spill be found attributable to Russia, it may be considered poisoning, which is also, prohibited action during wartime under international customary law.⁵⁸¹

b) Element 2 – Intended or May be Expected to Cause

Again, definitive evidence needs to be found in order to properly hold the spill as an intentional act by Russia. The objective Russia would have had for destroying the Seym would likely be related to wanting to limit Ukraine's water resources for its citizens.⁵⁸² If that was Russia's purpose, then environmental harm was likely their intention. However, even if environmental harm was not deliberately intended, it would be reasonably expected that dumping large quantities of chemicals into a river would cause environmental harm. The spill

⁵⁷⁵ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷⁶ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷⁷ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷⁸ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁷⁹ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸⁰ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸¹ See Rule 72. Poison, INT'L HUMANITARIAN L. DATABASES, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule72> (last accessed Feb. 9, 2025).

⁵⁸² See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

did result in forty-four tonnes of fish being killed, and the water quality deteriorating to the point that the river could no longer be used as a water source for the surrounding populations.⁵⁸³

c) Element 3 – Widespread, Long-Term and Severe Damage; to the Natural Environment

The consequences of the spill are likely to be considered widespread. The contamination of the river has caused ecologists to call the Seym the first river in Europe to be completely dead.⁵⁸⁴ The oxygen level needed to support fish is at least four milligrams per cubic decimeter, the immediate aftermath of the pollution was oxygen levels being at zero and 0.1 milligrams per cubic decimeter. Forty-four tonnes of dead fish were pulled from the Seym and there are many more tonnes that still need to be collected.⁵⁸⁵ Furthermore, due to armed conflict areas being near the Seym, fuel and debris are constantly adding to the pollution levels.⁵⁸⁶

To the element of long-term damage, Serhiy Zhuk, Chernihiv's head of ecology inspectorate has predicted that the Seym will not recover from the pollution for years.⁵⁸⁷ In regards to severity, damage to the Seym further impacted farmers living on the river by limiting their ability to use the river as a water source for livestock.⁵⁸⁸ The pollution has also resulted in the death of already-endangered species of fish, such as the red book sturgeon, which have died in large numbers as a result of this toxic release.⁵⁸⁹

3. Additional Protocol I to the Geneva Conventions, Article 55(1)

⁵⁸³ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸⁴ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸⁵ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸⁶ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸⁷ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁸⁸ See Viktoria Hubareva, *Dead water from Russia: Fish and other life perish in the polluted waters of the Seim River*, UKR. WAR ENV'T CONSEQUENCES WORK GRP., (Nov. 7, 2024), <https://uwecworkgroup.info/dead-water-from-russia-fish-and-other-life-perish-in-the-polluted-waters-of-the-seim-river/>.

⁵⁸⁹ See *Pollution of Seym and Desna rivers in the Chernihiv region caused the wholesale death of fish including the red-book sturgeons*, ASSOCIAÇÃO NATUREZA PORT. (Oct. 2 2024), <https://www.natureza-portugal.org/?15193816/Pollution-of-Seym-and-Desna-rivers-Chernihiv-region-caused-the-wholesale-death-of-fish>.

a) Element 4 – Thereby to Prejudice the Health or Survival of the Population

The pollution of the Seym and smell from the dead fish made it difficult to breathe in the area.⁵⁹⁰ The water could not be used as a fishing source or water source for livestock and agriculture.⁵⁹¹ Furthermore, the Seym is also connected to the Desna which connects to a reservoir that serves as a large water supply resource for the Kyiv.⁵⁹² Had any of the contaminated fish or water reached Kyiv, the city's source of water would have been greatly affected.⁵⁹³ The long-term effects on the health of the population along the Seym will have to be monitored and studied in order to determine the full impact that the spill had.

G. Destruction of Dzharylhach National Park and Other Protected Natural Areas

1. Summary of Incident

Dzharylhach National Park (the National Park) was established as a Ukrainian national park in 2009 but had been a protected nature preserve for more than 100 years.⁵⁹⁴ The National Park is an island in the Black Sea that covers more than 24,000 acres of land and more than 2,000 acres of water.⁵⁹⁵ As of June 2023, more than twenty percent of Ukraine's protected natural areas have been affected by the war.⁵⁹⁶ This represents an area of about 120,000 square kilometers, which is roughly the size of England.⁵⁹⁷

During the 2023 occupation of the Kherson region, where the Dzharylhach National Park is located, the Russian military built a land bridge from the island to the mainland and

⁵⁹⁰ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁹¹ See Viktoria Hubareva, *Dead water from Russia: Fish and other life perish in the polluted waters of the Seim River*, UKR. WAR ENV'T CONSEQUENCES WORK GRP., (Nov. 7, 2024), <https://uwecworkgroup.info/dead-water-from-russia-fish-and-other-life-perish-in-the-polluted-waters-of-the-seim-river/>.

⁵⁹² See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁹³ See Luke Harding and Artem Mazhulin, *'Everything is dead': Ukraine rushes to stem ecocide after river poisoning*, THE GUARDIAN (Oct. 1, 2024), <https://www.theguardian.com/world/2024/oct/01/ukraine-seim-river-poisoning-chernihiv-ecocide->.

⁵⁹⁴ See *Military Ecocide of Dzharylhach Island, Ukraine*, ECOHUBMAP (2023) <https://www.ecohubmap.com/hot-spot/military-ecocide-of-dzharylhach-island-ukraine/rumzjkljbw013m>.

⁵⁹⁵ See *Military Ecocide of Dzharylhach Island, Ukraine*, ECOHUBMAP (2023) <https://www.ecohubmap.com/hot-spot/military-ecocide-of-dzharylhach-island-ukraine/rumzjkljbw013m>.

⁵⁹⁶ See Maria Tril, *Two internationally important wetlands in Ukraine almost destroyed*, EUROMAIDAN PRESS (June 11, 2023) <https://euromaidanpress.com/2023/11/06/two-internationally-important-wetlands-in-ukraine-almost-destroyed/>.

⁵⁹⁷ See Maria Tril, *Two internationally important wetlands in Ukraine almost destroyed*, EUROMAIDAN PRESS (June 11, 2023) <https://euromaidanpress.com/2023/11/06/two-internationally-important-wetlands-in-ukraine-almost-destroyed/>.

claimed the area for training, hunting, and heavy equipment storage.⁵⁹⁸ The military use of the National Park has caused massive ecological damage.⁵⁹⁹ As a result of Russian occupation of the area, a fire broke out in August 2023.⁶⁰⁰ This fire burned for nearly a week and consumed an area of about sixteen kilometers and caused damage to plant and animal life.⁶⁰¹ Many flora and fauna in the National Park are endangered species and it is estimated that it will take 10 to 30 years for the various species to recover.⁶⁰²

2. Additional Protocol I to the Geneva Conventions, Article 35(3)

a) Element 1 – Means and Methods of Warfare

The Russian military created a land bridge, connecting the National Park to the mainland.⁶⁰³ Russia then used the National Park for military training and hunting.⁶⁰⁴ Furthermore, they stored and used heavy equipment in the National Park, disrupting the ecology of the land, destroying the soil, and making it more susceptible to degradation.⁶⁰⁵

b) Element 2 – Intended or May be Expected to Cause

Evidence shows that the Russian military has published plans for the use of the National Park.⁶⁰⁶ Although it was reported that the Russian military's use would be for hunting

⁵⁹⁸ See Maria Tril, *Two internationally important wetlands in Ukraine almost destroyed*, EUROMAIDAN PRESS (June 11, 2023) <https://euromaidanpress.com/2023/11/06/two-internationally-important-wetlands-in-ukraine-almost-destroyed/>.

⁵⁹⁹ See Maciej Szefer, “Ukrainian Maldives” in Russian hands. They are threatened with destruction, WIADOMSCI (May, 20, 2023) <https://wiadomosci.wp.pl/rosjanie-zajeli-ukrainskie-malediwy-robia-tam-poligon-6899973547277184a>; *As a result of the actions of Russian troops, the area of the Dzhyrlygacz National Park burned down*, POLSKA AGENCJA PRASOWA (Aug. 17, 2023), <https://www.pap.pl/aktualnosci/na-skutek-dzialan-rosyjskich-wojsk-splonal-teren-parku-narodowego-dzarylgacz>. See also Viktoriia Hubareva, *Are the Russians destroying Dzhyrlyhak National Nature Park?*, RUBRYKA (July 11, 2024), <https://rubryka.com/en/article/russians-destroy-dzharylhach-island/>. While there are natural processes that can cause the sand bank to be destroyed and created, the persistence of the current sandbank indicates that it is of unnatural origin. *Id.*

⁶⁰⁰ See *As a result of the actions of Russian troops, the area of the Dzhyrlygacz National Park burned down*, POLSKA AGENCJA PRASOWA (Aug. 17, 2023), <https://www.pap.pl/aktualnosci/na-skutek-dzialan-rosyjskich-wojsk-splonal-teren-parku-narodowego-dzarylgacz>.

⁶⁰¹ See *As a result of the actions of Russian troops, the area of the Dzhyrlygacz National Park burned down*, POLSKA AGENCJA PRASOWA (Aug. 17, 2023), <https://www.pap.pl/aktualnosci/na-skutek-dzialan-rosyjskich-wojsk-splonal-teren-parku-narodowego-dzarylgacz>.

⁶⁰² See *As a result of the actions of Russian troops, the area of the Dzhyrlygacz National Park burned down*, POLSKA AGENCJA PRASOWA (Aug. 17, 2023), <https://www.pap.pl/aktualnosci/na-skutek-dzialan-rosyjskich-wojsk-splonal-teren-parku-narodowego-dzarylgacz>.

⁶⁰³ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶⁰⁴ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶⁰⁵ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶⁰⁶ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

and clay collection, they used the area of the National Park for military training grounds, maneuvering and storing heavy military equipment and supplies.⁶⁰⁷ Russia has intentionally used the equipment on the grounds of the National Park, which has resulted in severe soil degradation and massive ecological damage.⁶⁰⁸ In addition, a massive fire broke out in the National Park, which was expected to cause damage.⁶⁰⁹ A naturally-occurring fire of this scale has not happened in the last twenty-four years in the National Park, as evidenced by satellite imaging.⁶¹⁰ Indeed, the fire has engulfed an area of about sixteen kilometers, endangering flora and fauna, with an estimate of around thirty years time for recovery.⁶¹¹

c) Element 3 – Widespread, Long-Term and Severe Damage; to the Natural Environment

Fires at unprecedented levels hit the National Park during Russia's military use of the land.⁶¹² In August 2023, a fire burned approximately half the island.⁶¹³ Due to the significance of the fire, populations of endangered species and rare grasses that were inhabiting the island are expected to have been harmed.⁶¹⁴ The entire protected area was declared to have been destroyed.⁶¹⁵

3. Additional Protocol I to the Geneva Conventions, Article 55(1)

a) Element 4 – Thereby to Prejudice the Health or Survival of the Population

As a result of Russia's continued occupation and use of the National Park which has resulted in ecosystem degradation and fire destruction, Ukrainian or other independent scientists have not been able to assess their impact as it relates to prejudicing the health or

⁶⁰⁷ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶⁰⁸ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶⁰⁹ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶¹⁰ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶¹¹ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶¹² See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶¹³ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶¹⁴ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

⁶¹⁵ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

survival of the population.⁶¹⁶ Further studies would need to be carried out in order to fully analyze this element.

⁶¹⁶ See CONFLICT AND ENV'T OBSERVATORY & ZOÏ ENV'T NETWORK, 7. *Nature*, UKR. CONFLICT ENV'T BRIEFING (2024), <https://ceobs.org/ukraine-conflict-environmental-briefing-nature/#8>.

V. Conclusion

The environmental devastation caused by the Russian Federation's invasion of Ukraine represents an unparalleled crisis, not only for Ukraine but for global ecological stability. The deliberate destruction of ecosystems, contamination of water, air, and soil, and the use of warfare tactics that inflict long-term environmental damage are clear violations of international law. This paper has shown that these acts are not isolated incidents but part of a broader pattern of intentional environmental harm, reflecting the Russian Federation's disregard for its international obligations under both the Law of State Responsibility and the Geneva Conventions.

The principle of State responsibility holds that States are accountable for wrongful acts that cause harm to another State, including environmental harm. The Russian Federation's actions, ranging from direct attacks on Ukraine's natural resources to the widespread contamination caused by military operations, violate specific legal frameworks that protect the environment in times of war. By deliberately inflicting such damage, the Russian Federation has not only violated Ukraine's sovereignty but has also undermined the global commitment to environmental protection, reinforcing the urgent need for robust legal accountability.

This paper emphasizes the importance of holding the Russian Federation accountable for these environmental crimes. The Law of State Responsibility offers a critical avenue for addressing this issue and preventing the normalization of ecocide in future conflicts. The failure to act decisively would send a dangerous message—that the destruction of the environment is an acceptable collateral consequence of war. This would not only undermine the effectiveness of international law but also erode the standards that safeguard both human and ecological well-being across the globe.

The international community must seize this moment to act with resolve. Ukraine should pursue reparations, both to begin the long process of ecological recovery and to reinforce the principle that no state can be above the law, particularly when it comes to the protection of the environment. This response must go beyond the immediate conflict; it requires a long-term commitment to strengthening international legal frameworks that address ecocide and ensure that future wars do not come at the irreversible cost of the planet's health.

In conclusion, the recognition of and accountability for the Russian Federation's environmental crimes under international law are paramount not only for securing justice for Ukraine but also for upholding the integrity of the global legal order. The world must act now to prevent such violations from becoming normalized, reaffirming that the protection of the environment is an inalienable responsibility of every State. Only through such action can the world ensure that future conflicts are conducted with the understanding that environmental destruction has profound, lasting consequences that cannot be ignored or accepted.