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Ecocide in War and Peace, From the Air Pollution Consequences of the War in Ukraine to Japan's Disposal of Fukushima Water into the Ocean

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ECOCIDE IN WAR AND PEACE: FROM THE AIR POLLUTION CONSEQUENCES OF THE WAR IN UKRAINE TO JAPAN'S DISPOSAL OF FUKUSHIMA WATER INTO THE OCEAN

Giovanni Chiarini[†]

ABSTRACT

This Article will propose and analyze potentially prosecutable cases of alleged global ecocide and propose targeted amendments to Articles 36(3) and (5) of the ICC Rome Statute. These proposed amendments may serve as a blueprint to procedurally ensure environmental expertise at the international judicial level. Ecocide is unfortunately not currently recognized under the Rome Statute. However, certain scholars have suggested defining it as a *fifth* international crime. This analysis identifies environmental crises, international criminal law expectations and examines the environmental pollution caused by the Russian invasion of Ukraine and the Japanese government's decision to dispose of radioactive treated water from the wrecked Fukushima-Daiichi nuclear site as examples. These templates vindicate the Article's recommendation of a need for a Special Prosecutor for Ecocide, recognizing the ICC as the proper court for ecocide prosecution.

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I. INTRODUCTION

According to the U.N. Secretary General’s statement at the conclusion of the recent U.N. Climate Conference (COP27),¹ “[c]limate chaos is a crisis of biblical proportions. The signs are everywhere. Instead of a burning bush, we face a burning planet.”² Indeed, the leading scientific authority on climate change, the Intergovernmental Panel on Climate Change (IPCC)³ stated that “the world is now in extraordinarily dangerous territory,”⁴ indicating that “every small delay to proportionate” mitigation action and adaption contributes to “irredeemable damage to the climate and its ability to meet human

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1. *Delivering for People and the Planet*, UNITED NATIONS (2022), <https://un.org/en/climatechange/cop27> [<https://perma.cc/K5A5-4NLK>].
 2. António Guterres, *Secretary-General, United Nations, Statement by the Secretary-General at the Conclusion of COP27 in Sharm el-Sheikh*, UNITED NATIONS (Nov. 19, 2022), <https://www.un.org/sg/en/content/sg/statement/2022-11-19/statement-the-secretary-general-the-conclusion-of-cop27%C2%A0-sharm-el-sheikh%C2%A0%C2%A0> [<https://perma.cc/URP7-RA7P>].
 3. *About the IPCC*, THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], <https://www.ipcc.ch/about/> [<https://perma.cc/MLB8-2JK4>].
 4. Ruth Townsend, *What are the Key issues at COP27?*, CHATHAM HOUSE (Nov. 2, 2022), <https://chathamhouse.org/2022/08/what-cop27> [<https://perma.cc/8HVY-GM5V>]; *Climate Change: A Threat to Human Wellbeing and Health of the Planet. Taking Action Now Can Secure Our Future*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC] (Feb. 28, 2022), <https://www.ipcc.ch/2022/02/28/pr-wgii-ar6/> [<https://perma.cc/PU7G-PWH3>].

needs.”⁵ According to the latest IPCC report, “international cooperation is a critical enabler for achieving ambitious climate change mitigation, adaptation, and climate resilient development.”⁶

Further, the Office of the United Nations High Commissioner for Human Rights (OHCHR)⁷ called on States to include human rights considerations in their nationally determined contributions and other planning processes related to slowing or reversing climate change.⁸

States should develop market-based mechanisms that effectively protect human rights by advancing effective environmental protection compliance and redress mechanisms, including mandatory environmental and human rights due diligence laws and policies. Moreover, according to the U.N. experts’ statement, “States must ensure that appropriate adaptation measures are taken to protect and fulfil the rights of all persons, particularly those most endangered by the negative impacts of climate change—such as those living in vulnerable areas (e.g. small islands, riparian and low-lying coastal zones, arid regions, and the poles).”⁹ What essentially emerges is the need for national political leaders to develop a strong global framework to protect and restore the natural environment. To this end, several environmental protection measures have been discussed at COP27,¹⁰ including proposals to recognize “ecocide”¹¹ as an international crime.

Additionally, ecocide has already been inserted into the European Parliament agenda, requiring the Members of the European Parliament to look “into how ‘ecocide’ can be recogni[z]ed under European Union (EU) law and diplomacy” to strengthen existing EU rules on companies’ environmental liability and reduce and prevent environmental harm.¹²

5. Townsend, *supra* note 4.

6. Hoesung Lee et al., *Climate Change 2022 Synthesis Report*, at 34, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC] (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

7. UNITED NATIONS OFFICE OF THE HIGH COMMISSIONER OF HUMAN RIGHTS [OHCHR], https://www.ohchr.org/en/ohchr_homepage [<https://perma.cc/3TJZ-F4R6>].

8. 21st Conference of the Parties to the United Nations Framework Convention of Climate Change, *Understanding Human Rights and Climate Change*, at 2 (Nov. 27, 2015).

9. *Id.*

10. *Five Key Takeaways from COP27*, U.N. CLIMATE CHANGE, <https://unfccc.int/process-and-meetings/conferences/sharm-el-sheikh-climate-change-conference-november-2022/five-key-takeaways-from-cop27> [<https://perma.cc/NT9G-SVTN>].

11. *Stop Ecocide International at COP27*, STOP ECOCIDE INT’L, <https://stop-ecocide.earth/cop27> [<https://perma.cc/8S4T-2BND>].

12. European Parliament Press Release 20210517IPR04121, Environmental Liability Rules Need Revamping (May 20, 2021).

The European Parliament also stated that “the European Union should make the fight against impunity of environmental crimes at global level one of its key foreign policy priorities,”¹³ thus encouraging Member States to encourage parties of new negotiations within the International Criminal Court (ICC) to recognize “ecocide” as an international crime under the ICC-constituting¹⁴ document, the Rome Statute.¹⁵

Even though climate change is a broader issue that is not solvable through international criminal law alone,¹⁶ criminalizing ecocide and mass environmental destruction as international crimes that can be committed during times of peace or war may represent a prevention mechanism.

II. ECOCIDE IN A NUTSHELL: STRENGTHS & WEAKNESSES OF RECOGNIZING ECOCIDE AS A FIFTH INTERNATIONAL CRIME

What is ecocide, and where does this definition come from? “Ecocide” is a “neologism derived from the Greek *oikos* (house, home) and the Latin *caedere* (destroy, kill), and essentially means the willful destruction of the environment.”¹⁷ Criminalizing “ecocide” has been

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13. European Parliament Press Release 20210517IPR04127, Protect Environmental Defenders from Intimidation and Violence, Demands Parliament (May 19, 2021).
 14. *Id.*; Since all the EU member states are parties of the International Criminal Court, developing ecocide offenses in national law is therefore critical to ensure effective implementation of the principle of complementarity. This principle, codified in paragraph 10 of the Rome Statute Preamble, as well as in articles 1 and 17(1)(a)–(c), affirms that “it is the duty of every State to exercise its criminal jurisdiction over those responsible for international crimes,” limiting ICC jurisdiction to only situations where State Parties are unwilling or unable genuinely to carry out the investigation or prosecution. *See generally* Fausto Pocar & Magali Maystre, *The Principle of Complementarity: A Means Towards a More Pragmatic Enforcement of the Goal Pursued by Universal Jurisdiction*, in COMPLEMENTARITY AND THE EXERCISE OF UNIVERSAL JURISDICTION FOR CORE INTERNATIONAL CRIMES 247, 292–293 (2010); Rome Statute of the International Criminal Court, July 12, 1999, U.N. Doc. A/CONF.183/9 [hereinafter Rome Statute].
 15. Rome Statute, *supra* note 14.
 16. *See* Nico Schrijver, *The Impact of Climate Change: Challenges for International Law*, in FROM BILATERALISM TO COMMUNITY INTEREST 1278, 1279 (2011).
 17. Giovanni Charini, *Ecocide: From the Vietnam War to International Criminal Jurisdiction? Procedural Issues In-Between Environmental Science, Climate Change, and Law*, 21 CORK L. REV. 1, 1 (2022) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4072727 [<https://perma.cc/5M6D-J34A>]; The father of this neologism is Dr. Arthur Galston. *See In Memoriam: Arthur Galston, Plant Biologist, Fought Use of Agent Orange*, YALE NEWS (July 18, 2008), <https://news.yale.edu/2008/07/18/>

discussed by a range of experts for almost fifty years and is of increasing relevance.¹⁸ Starting as scientific and biological debates during the Vietnam War,¹⁹ ecocide arguments became foremost political²⁰ and then juridical,²¹ with Richard Falk's proposal as the actual trailblazer for criminalizing ecocide in 1970.²² After decades of discussions, even within the United Nations,²³ in 2021, the Stop Ecocide Foundation proposed

memoriam-arthur-galston-plant-biologist-fought-use-agent-orange
[\[https://perma.cc/GQP3-K83K\]](https://perma.cc/GQP3-K83K).

18. Josie Fischels, *How 165 Words Could Make Mass Environmental Destruction An International Crime*, NPR (June 27, 2021, 8:00 AM), <https://www.npr.org/2021/06/27/1010402568/ecocide-environment-destruction-international-crime-criminal-court> [<https://perma.cc/22W2-FKMT>].
19. *See Chemical-Biological Warfare: U.S. Policies and International Effects, Before the Subcomm. on Nat'l Sec. and Pol'y Sci. Dev.*, 91st Cong. 107–10 (1969) (statement of Arthur W. Galston).
20. *See, e.g.*, Olof Palme, Swedish Prime Minister, Statement by Prime Minister Olof Palme in the Plenary Meeting of the U.N. Conference on the Human Environment (June 6, 1972), http://www.olofpalme.org/wp-content/dokument/720606a_fn_miljo.pdf (“The air we breathe is not the property of any one nation – we share it. The big oceans are not divided by national frontiers – they are our common property . . . In the field of human environment there is no individual future, neither for humans nor for nations. Our future is common. We must share it together. We must shape it together. . . . The immense destruction brought about by indiscriminate bombing, by large scale use of bulldozers and pesticides is an outrage sometimes described as ecocide, which requires urgent international attention. It is shocking that only preliminary discussions of this matter have been possible so far in the United Nations and at the conferences of the International Committee of the Red Cross, where it has been taken up by my country and others. We fear that the active use of these methods is coupled by a passive resistance to discuss them.”).
21. *See* BARRY WEISBERG, *ECOCIDE IN INDOCHINA: THE ECOLOGY OF WAR* 4 (1970).
22. Richard A. Falk, *Environmental Warfare and Ecocide – Facts, Appraisal, and Proposals*, 4 BULLETIN OF PEACE PROPOSALS 80, 93 (1973) (“a) The use of weapons of mass destruction, whether nuclear, bacteriological, chemical, or other; b) The use of chemical herbicides to defoliate and deforest natural forests for military purposes; c) The use of bombs and artillery in such quantity, density, or size as to impair the quality of soil or the enhance the prospect of diseases dangerous to human beings, animals, or crop; d) The use of bulldozing equipment to destroy large tracts of forest or cropland for military purposes; e) The use of techniques designed to increase or decrease rainfall or otherwise modify weather as a weapon of war; f) The forcible removal of human beings or animals from their habitual places of habitation to expedite the pursuit of military or industrial objectives.”).
23. *See* Nicodeme Ruhashyankiko (Special Rapporteur), *Study of the Question of the Prevention and Punishment of the Crime of Genocide*, at 128, UN Doc. E/CN.4/Sub.2/416 (July 4, 1978); *see also* Benjamin Whitaker, *Revised and Updated Report on the Question of the Prevention*

to add ecocide as a new crime to the ICC by amending the Rome Statute.²⁴ These advocates proposed amendments regarding substantive law and the structure of the crime of ecocide.²⁵

Under the definition proposed by the Stop Ecocide Foundation, ecocide, which would be classified under Article 8 of the Rome Statute, means “unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.”²⁶ The proposed norm clarifies any definition in the second paragraph of Section II(C) of the Stop Ecocide Foundation’s *Independent Expert Panel for the Legal Definition of Ecocide: Commentary and Core Text*:

- a. “Wanton” means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated;
- b. “Severe” means damage which involves very serious adverse changes, disruption or harm to any element of the environment, including grave impacts on human life or natural, cultural or economic resources;
- c. “Widespread” means damage which extends beyond a limited geographic area, crosses state boundaries, or is suffered by an entire ecosystem or species or a large number of human beings;
- d. “Long-term” means damage which is irreversible or which cannot be redressed through natural recovery within a reasonable period of time;
- e. “Environment” means the earth, its biosphere, cryosphere, lithosphere, hydrosphere and atmosphere, as well as outer space.²⁷

Introducing the crime of ecocide is essential because the existing ICC-substantive law is characterized by at least two negative traits: first, by an over-consideration, *quasi* sacralization, of the principle of military necessity, as Article 8(2)(b)(4) of the Rome Statute implicitly demonstrates;²⁸ and second, by a *de facto* lack of environmental

and Punishment of the Crime of Genocide, at 17, UN Doc E/CN.4/Sub.2/1985/6 (July 2, 1985).

- 24. STOP ECOCIDE FOUND., INDEPENDENT EXPERT PANEL FOR THE LEGAL DEFINITION OF ECOCIDE, § II (2021) [hereinafter STOP ECOCIDE FOUNDATION].
- 25. *Id.*; see also Matthew Gillet, PROSECUTING ENVIRONMENTAL HARM BEFORE THE INTERNATIONAL CRIMINAL COURT 2 (2022).
- 26. STOP ECOCIDE FOUNDATION, *supra* note 24.
- 27. *Id.*
- 28. Rome Statute, *supra* note 14, art. 8(2)(b).

protection in the statutory law because Article 8(2)(b)(4) of the Rome Statute represents the only dedicated norm.²⁹ Even though attacks against the natural environment are prohibited by the Rome Statute,³⁰ the First Protocol to the Geneva Conventions,³¹ and the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques,³² the existing legal framework is insufficient to provide a solid foundation for imposing criminal responsibility for such environmental destruction. Article 8(2)(b)(4) of the Rome Statute defines the international crime as causing “long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.”³³

However laudable the inclusion of this crime into this ICC statute may have been, it has two main limits. First, it is limited to international armed conflict, whilst widespread destruction of the environment occurs primarily in times of peace.³⁴ Second, it can be prosecuted only if (i) the *actus reus* (criminal act) is widespread, severe and causing long-term environmental damage, (ii) the *actus reus* was not committed as a part of concrete or direct military advantage, and (iii) the *mens rea* (criminal mental state) demonstrates proof that the destruction was intentional.³⁵

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29. Matthew Gillet, *Eco-Struggles: Using International Criminal Law to Protect the Environment During and After Non-International Armed Conflict*, in ENVIRONMENTAL PROTECTION AND TRANSITION FROM CONFLICTS TO PEACE: CLARIFYING NORMS, PRINCIPLES, AND PRACTICES 220, 225 (Carsten Stahn ed., 2017); see Rome Statute, *supra* note 14, art. 8(2)(b)(iv).
 30. Gillet, *supra* note 29; Rome Statute, *supra* note 14, art. 8(2)(b)(iv).
 31. Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, art. 35(3), Dec. 12, 1977, 1125 U.N.T.S. 3.
 32. Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, art. II, May 18, 1977, 1108 U.N.T.S. 151.
 33. Rome Statute, *supra* note 14, art. 8(2)(b)(4).
 34. Mohadmmmed Saif-Alden Wattad, *The Rome Statute and Captain Planet: What Lies Between ‘Climate Against Humanity’ and the ‘Natural Environment?’* 19 FORDHAM ENV’T L. 281, 281–82 (2009); see also Sailesh Mehta & Prisca Merz, *Ecocide – A New Crime Against Peace?* 17 ENV’T L. REV. 3, 5 (2015); see also Mark A. Drumbl, *Waging War Against the World; The Need to Move from War Crimes to Environmental Crimes*, 22 FORDHAM INT’L. L.J. 146, 152 (1998).
 35. *Afternoon Panel—Accountability and Liability: Legal Tools Available to the International Community*, 17 GEO. INT’L ENV’T L. REV. 616, 625 (2005).

III. "IN WAR AND PEACE": PROPOSING POTENTIALLY PROSECUTABLE ALLEGED ECOCIDE CASES

Considering that Article 8(2)(b)(4) of the Rome Statute is not enough to uniquely distinguish environmental damage (and even lesser mass environmental destruction), is it urgent to introduce a crime of ecocide to differentiate this type of criminal conduct and protect the environment from this type of damage? This Section will explore two recent ongoing incidents that could, and only could, constitute the crime of ecocide under the definition proposed by the Stop Ecocide Foundation – one committed during wartime, and one during peacetime: (1) the atmosphere pollution consequences from the Russian invasion of Ukraine; and (2) the Japanese government's decision to release treated radioactive water from Fukushima into the Pacific Ocean.

A. "IN WAR": The Atmosphere Pollution Consequences of Russia's Decision to Incite the Russo-Ukrainian War

The day after Russia invaded Ukraine,³⁶ the Prosecutor of the ICC, Karim Khan, stated that he had been "closely following recent developments in and around Ukraine with increasing concern."³⁷ Khan initiated an investigation and on February 22, 2023 submitted an arrest warrant³⁸ to the Pre-Trial Chamber II against Vladimir Vladimirovich Putin, President of the Russian Federation, and Maria Alekseyevna Lvova-Belova, Commissioner for Children's Rights in the Office of the President of the Russian Federation. The warrant regarded the alleged war crime of the unlawful deportation of population (children) and the unlawful transfer of population (children) from occupied areas of Ukraine to the Russian Federation.³⁹

36. See Gregory S. Gordon & Giovanni Chiarini, *The Russian Invasion of Ukraine: Navigating Aggression's Fragmented Justice Landscape*, CAMBRIDGE INT'L L.J. (Apr. 5, 2022), <https://cilj.co.uk/2022/04/05/the-russian-invasion-of-ukraine-navigating-aggressions-fragmented-justice-landscape/> [https://perma.cc/9RRK-7HYB] (writing a few days after the Russian invasion).

37. *Statement of ICC Prosecutor, Karim A.A. Khan QC, on the Situation in Ukraine: "I Have Been Closely Following Recent Developments in and Around Ukraine with Increasing Concern,"* ICC OFF. OF THE PROSECUTOR (Feb. 25, 2022), <https://www.icc-cpi.int/news/statement-icc-prosecutor-karim-aa-khan-qc-situation-ukraine-i-have-been-closely-following> [https://perma.cc/3WEN-X55J].

38. *Situation in Ukraine: ICC Judges Issue Arrest Warrants Against Vladimir Vladimirovich Putin and Maria Alekseyevna Lvova-Belova*, INT'L CRIM. CT. [ICC] (Mar. 17, 2023), <https://www.icc-cpi.int/news/situation-ukraine-icc-judges-issue-arrest-warrants-against-vladimir-vladimirovich-putin-and> [https://perma.cc/Q76V-W4SY].

39. *Id.*

Without analyzing all the procedural issues connected to the ICC investigation,⁴⁰ this Section will consider the possibility to prosecute the atmosphere pollution consequences of the Russian invasion of Ukraine under the crime of ecocide.

Indeed, it has been observed that the Russo-Ukrainian war “triggered a tsunami that dramatically impacted the world economy, geopolitics, and food security,”⁴¹ and “due to the extreme humanitarian situation, the effects on the environment have been overlooked.”⁴² However, “it is undeniable that a conflict of this scale will have enormously detrimental effects.”⁴³ According to several scientists, every war is, in general, “responsible for a high emission of greenhouse gases due to the inversion of military equipment heavily dependent upon oil.”⁴⁴ The impacts of warfare on the environment have been documented in numerous works.⁴⁵

Additionally, the United Nations Development Programme (UNDP) observed that “the environment will suffer,”⁴⁶ and, as other scholars have underlined, “this conflict may add pressure to other vital challenges that lay ahead, such as climate change, biodiversity loss, land degradation neutrality and ecosystems restoration, the sustainable development goals (SDG) or at the regional level European Union Green Deal.”⁴⁷ In other words, the Russian invasion of Ukraine and the subsequent war “will cause environmental damage that will be felt for

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40. See Cuno Jakob Tarfusser & Giovanni Chiarini, *Without a Specific Declaration of Jurisdiction and Ratification: Procedural Weaknesses of the International Criminal Court's Investigation into the Russo-Ukrainian War*, 56 TEX. TECH L. REV. 171, 172 (2023).
41. Paulo Pereira et al., *Russian-Ukrainian War Impacts the Total Environment*, 837 SCI. TOTAL ENV'T 1, 1 (2022) <https://doi.org/10.1016/j.scitotenv.2022.155865> [<https://perma.cc/E22F-AE6M>].
42. *Id.*
43. *Id.* at 2.
44. *Id.* at 3.
45. See, e.g., *id.* at 2; see also Michael Lawrence, et al., *The Effects of Modern War and Military Activities on Biodiversity and the Environment*, 23 ENV'T R. 443, 443 (2015); see e.g., Negasi Solomon et al., *Environmental Impacts and Causes of Conflict in the Horn of Africa: A Review*, 177 EARTH-SCI. R. 284, 284–87 (2018); Paulo Pereira et al., *Soil and Water Threats in a Changing Environment*, 186 ENV'T RSCH., July 2020, at 8; Thiri Shwesin Aung, *Satellite Analysis of the Environmental Impacts of Armed-Conflict in Rakhine, Myanmar*, 781 SCI. TOTAL ENV'T, Aug. 10, 2021, at 1, 10, 13.
46. U.N. Development Programme [UNDP], *The Development Impact of the War in Ukraine*, at 2 (2022).
47. Paulo Pereira et al., *Russian-Ukrainian War Impacts the Total Environment*, *supra* note 41, at 2.

generations to come.”⁴⁸ Specifically, the “emission of toxic gases in huge amounts”⁴⁹ has been reported, in an environment (i.e., Ukraine) on which the baseline air quality was already, before the war, “among the worst in Europe.”⁵⁰

A study on the air pollution evolution during the first months of the conflict performed using satellite data,⁵¹ showed that that “NO₂ (nitrogen oxide) and PM_{2.5} (fine particulate matter) correlated most with war activities. CO (carbon monoxide) and O₃ (ozone) levels increased, while SO₂ (sulfur dioxide) concentrations reduced four-fold as war intensified.”⁵² The study’s findings show that “drastic increases in pollution (especially PM_{2.5}) from bombing and structural fires, raise additional health concerns, which might have serious implications for the exposed local and regional populations,”⁵³ and that “some of the resulting pollution impacts are short-lived, while others persist for a long time.”⁵⁴ Modern warfare equipment – including hand grenades, cluster bombs, and bombs of various sizes – are a source of PM_{2.5} and add to the undesired particles in the air, which “are very light and have

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48. Deepak Rawtani et al., *Environmental Damages Due to War in Ukraine: A Perspective*, 850 SCI. DIRECT, Dec. 1, 2022, at 2; see also ERIN SIKORSKY ET AL., COUNCIL ON STRATEGIC RISKS, CLIMATE, ECOLOGICAL SECURITY AND THE UKRAINE CRISIS: FOUR ISSUES TO CONSIDER 2 (2022).
49. Rawtani et al., *supra* note 48, at 2.
50. *Id.*; see also Davor Pehchevski, *Ukraine’s Dangerous Air Pollution Problem in Desperate Need of Solutions*, CEE (Oct. 19, 2020), <https://bankwatch.org/blog/ukraine-s-dangerous-air-pollution-problem-in-desperate-need-of-solutions> [<https://perma.cc/T4YG-NV23>]; Andriy Zayika, *New Solutions, Not Smog, on the Horizon for Ukraine’s Air Quality*, U.N. DEV. PROGRAMME [UNDP] (April 30, 2020), <https://www.undp.org/ukraine/blog/new-solutions-not-smog-horizon-ukraines-air-quality> [<https://perma.cc/QBF3-NRQJ>].
51. Rasa Zalakeviciute et al., *War Impact on Air Quality in Ukraine*, 14 SUSTAINABILITY, October 25, 2022, at 4, (observing with reference to the methodology, “[t]he concentration columns (μmol m^{−2}) of gases and particulate matter used in this research project are products of the TROPOMI instrument on board the Sentinel-precursor (S5P). This satellite carries instruments for the measurement of various pollutants such as NO₂, CO, SO₂, and O₃. In addition, concentration images (μg m^{−3}) of PM_{2.5} forecast, obtained from the European Centre for Medium-Range Weather Forecasts (ECMWF), were used. For our analysis, the Google Engine (GGE) platform was used.”).
52. *Id.* at 1.
53. *Id.*
54. *Id.* at 15 (“The toxic emissions, originating from military actions and destruction, will go on contaminating not only the atmosphere, *but also water and soil, through wet and dry deposition.*”) (emphasis added).

the ability to settle on any surface or travel with any air they have been mixed with and form a perpetual part of the air mass.”⁵⁵

Further, atmosphere consequences of the 2022 Russo-Ukrainian war are revealed by other satellite spectroscopy studies, where it has been determined that “significant decreases in NO₂ concentrations of 10.7–27.3% occurred in most Ukrainian cities at the beginning of the war, in contrast to dramatic increases in NO₂ concentrations in Russian cities outside the northern border.”⁵⁶

The atmosphere consequences of the Russian invasion of Ukraine could therefore fall into the definition of ecocide as proposed by the Stop Ecocide Foundation, at least meeting both the “reasonable basis to believe” and “reasonable basis to proceed” burdens of proof⁵⁷ set by the Rome Statute. The following reasons prove why:

Air pollution is a result of a clearly unlawful act, namely the crime of aggression that led to the war.⁵⁸

As highlighted in the above-mentioned studies, damage to the environment can be classified as “severe,” since it involves extreme adverse changes to the air—one of the enumerated “element[s] of the environment.”⁵⁹ For instance, “significant decreases in NO₂ concentrations of 10.7–27.3% occurred in most Ukrainian cities at the beginning of the war, in contrast to dramatic increases in NO₂ concentrations in Russian cities outside the northern border;”⁶⁰ fine

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55. Xue Meng et al., *Abrupt Exacerbation in Air Quality over Europe After the Outbreak of Russia-Ukraine War*, 178 ENV'T INT'L, July 26, 2023, at 7.
56. Chengxin Zhang et al., *Satellite Spectroscopy Reveals the Atmospheric Consequences of the 2022 Russia-Ukraine War*, SCI. TOTAL ENV'T, Apr. 15, 2023, at 1, 6 (concluding “[t]he Russian invasion of Ukraine is posing severe humanity disasters over Eastern Europe. Satellites provide comprehensive insight into changes in NO_x emissions from human activities due to social upheaval. Changes in trace gas concentrations over cities and transportation hubs showed a strong correlation with the course of the war. Using machine learning-based techniques, it is possible to further quantify the impact of armed conflict on atmospheric NO₂ pollution for Ukrainian and Russian neighboring cities.”).
57. STOP ECOCIDE FOUNDATION, *supra* note 24; Rome Statute, *supra* note 14 (regarding the standard of proof, they are all predetermined by statutory law, and there are four in the ICC legal framework, namely: (i) a “reasonable basis to proceed” for the preliminary examination and the “reasonable basis to believe” for the investigative phase (arts. 15 and 53); (ii) a “reasonable ground to believe” (art. 58) for the warrant of arrest; (iii) the “substantial grounds to believe” (art 61) for the confirmation of the charges; and (iv) the “beyond reasonable doubt” (art. 66) for the judgment phase.).
58. See Zhang et al., *supra* note 56, at 4, 6.
59. *Id.* at 6.
60. *Id.* at 1.

particulate matter (PM_{2.5}) correlated the most with war activities and carbon monoxide (CO)⁶¹ and ozone (O₃) levels increased as well.⁶² Scientists already urged that “[a]s the war continues, the unexpected pollutant levels could have potentially profound implications for the environment and human health.”⁶³

The severe damage includes “grave impacts on human life or natural, cultural or economic resources.” Indeed, according to some studies, apart from bringing causes of pollution, this military conflict “has changed the pattern of anthropogenic activities (i.e., human circulation and industry),”⁶⁴ and the “environment damage may lead to strictly impact[s] [that are] socioeconomic.”⁶⁵ Last but not least, as of February 21, 2024, the United Nations Educational, Scientific and Cultural Organization (UNESCO), has verified damage to 343 sites since February 24, 2022 – 127 religious sites, 31 museums, 151 buildings of historical or artistic interest, 19 monuments, 14 libraries, and 1 archive.⁶⁶ “Cultural heritage in Ukraine is presently endangered,”⁶⁷ and, as war drags on, there are growing fears about a “cultural catastrophe.”⁶⁸ Therefore, the “grave impacts on human life or natural, cultural[,] or economic resources” could also be demonstrated.⁶⁹

61. Zalakeviciute et al., *supra* note 51, at 9–10.

62. *Id.* at 8.

63. Meng et al., *supra* note 55, at 8.

64. *Expert Panel Ecocide Definition*, ECOCIDE LAW ALL. (Sept. 30, 2021), [https://www.ecocidelawalliance.org/expert-panel-ecocide-definition/\[https://perma.cc/VMZ9-ED7C\]](https://www.ecocidelawalliance.org/expert-panel-ecocide-definition/[https://perma.cc/VMZ9-ED7C]); Mohammad Mehrabi et al., *Forecasting Air Quality in Kiev during 2022 Military Conflict Using Sentinel 5P and Optimized Machine Learning*, 61 IEEE TRANS’S ON GEOSCI. & REMOTE SENSING, 2023, at 1.

65. Rawtani et al., *supra* note 48, at 1.

66. *Damaged Cultural Sites in Ukraine Verified by UNESCO*, UNESCO, <https://www.unesco.org/en/articles/damaged-cultural-sites-ukraine-verified-unesco> [https://perma.cc/C6C7-9MG7] (Jan. 11, 2024).

67. Marc R. H. Koscijew, *Endangered Cultural Heritage in the Russia–Ukraine War: Comparing and Critiquing Interventions by International Cultural Heritage Organizations*, 29 INT’L J. HERITAGE STUD. 1158, 1158 (2023).

68. Harriet Sherwood, ‘Cultural Catastrophe’: Ukrainians Fear for Art and Monuments Amid Onslaught, THE GUARDIAN (Mar. 1, 2022, 4:48 EST), <https://theguardian.com/world/2022/mar/01/cultural-catastrophe-ukrainians-fear-for-art-and-monuments-amid-onslaught> [https://perma.cc/K97A-3RKN]; see also Pereira et al., *supra* note 41, at 5 (“These dramatic episodes occurred in cities with a long history, such as Kiev, Kharkiv, Chernihiv or Mariupol.”).

69. *Expert Panel Ecocide Definition*, *supra* note 65.

Then, the damage must be either “widespread” or “long-term.”⁷⁰ Although the “severe impact of the war on air quality might persist for a long time,”⁷¹ the long-term requirements are more difficult to demonstrate at this stage, as they are defined as “damage which is irreversible or which cannot be redressed through natural recovery within a reasonable period.” Thus, since the disjunctive form is used in the formulation (“either widespread or long-term”), this Article will only focus on the “widespread” definition. In this conflict, the damage to the atmosphere extends beyond a limited geographic area because it involves several European cities and Russian territories, and consequently many human beings. It has been scientifically observed that the exacerbation in air quality does not only involve Ukraine, but also, for example, Germany, Poland, the Czech Republic, and Romania.⁷²

The “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 be proved from the decision to launch the aggression and to sustain the conflict. The scientific community clearly accepts that “air quality is adversely affected by warfare and combat-related activities,”⁷³ and that “the environmental impacts of wars are almost invariably adverse.”⁷⁴

70. *Id.*

71. Meng et al., *supra* note 55, at 4–5.

72. *Id.* at 5–6 (“In Iasi, a city close to the southern warzone, the PCOVID-19 for deweathered NO₂ was $-1.56\% \pm 5.46\%$ and the Pwar for deweathered NO₂ was $+12.40\% \pm 8.86\%$. In Tarno’w and Krako’w, two cities in the western region near the warzone, the Pwar for deweathered NO₂ was $+8.35\% \pm 5.72\%$ and $+5.32\% \pm 8.59\%$. In Olomouc (less than 1000 km; ~ 900 km) and Potsdam (more than 1000 km; ~ 1200 km), cities slightly farther from the western warzone, the Pwar for deweathered NO₂ was $+2.79\% \pm 7.36\%$ and $+6.57\% \pm 5.54\%$, respectively. For deweathered PM_{2.5}, the Pwar was $+7.50\% \pm 4.32\%$ in Krako’w and $+14.28\% \pm 4.67\%$ in Warsaw. The increase in PM_{2.5} levels due to the war was more pronounced than that of NO₂ in some cities (Tables S8 and S9), but in most cities, O₃ was suppressed (Table S10). For example, the Pwar for O₃ in Warsaw was $-18.54\% \pm 4.84\%$, and in Tarno’w it was $-18.96\% \pm 12.64\%$. Overall, the war led to an average increase of 9.78% in PM_{2.5}, an average increase of 10.07% in NO₂, and an average decrease of 7.93% in O₃ in areas less than 1000 km from the center of Ukraine.”).

73. *Expert Panel Ecocide Definition*, *supra* note 64; Rawtani et al., *supra* note 48, at 2.

74. Asit K. Biswas, *Scientific Assessment of the Long-Term Environmental Consequences of War*, in *THE ENVIRONMENTAL CONSEQUENCES OF WAR: LEGAL, ECONOMIC, AND SCIENTIFIC PERSPECTIVES* 303, 303 (Jay E. Austin & Carl E. Brush eds., 2001).

*B. "IN PEACE": The Japanese Government's Decision to Release
Treated Nuclear Water from Fukushima-Daiichi into the Pacific*

On August 22, 2023, Japanese authorities announced the release of treated radioactive water from the wrecked Fukushima-Daiichi nuclear site into the Pacific Ocean (hereinafter, "Fukushima").⁷⁵ Indeed, 1,329,660 cubic meters of contaminated water⁷⁶ have "accumulated at the plant since it was struck by a tsunami in March of 2011."⁷⁷ The Japanese government approved the decision to release the contaminated water into the ocean in 2021⁷⁸ because it was "crucial to decommissioning the plant operated by Tokyo Electric Power Company (Tepco)."⁷⁹ On August 24, 2023, Japan undertook its first discharge of treated water from the Fukushima nuclear power plant.⁸⁰

Since 2021, the idea of releasing treated radioactive water has created numerous concerns. U.N. experts expressed deep regret in the decision to discharge Fukushima water, saying that "the discharge could impact millions of lives and livelihoods in the Pacific region."⁸¹ The U.N. experts emphasized that the water processing technology known as ALPS (Advanced Liquid Processing System) "had failed to completely remove radioactive concentrations in most of the contaminated water stored in tanks at the Fukushima-Daiichi plant."⁸²

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75. Sakura Murakami & Tom Bateman, *Japan to Release Fukushima Water into Ocean from Aug. 24*, REUTERS (Aug. 23, 2023, 4:13 AM), <https://www.reuters.com/world/asia-pacific/japan-release-fukushima-water-into-ocean-starting-aug-24-2023-08-22/> [<https://perma.cc/PK9X-2CA2>].
76. *Amount of ALPS Treated Water, etc. and Sr Removed Water Stored in Tanks*, TEPCO, <https://www.tepco.co.jp/en/decommission/progress/watertreatment/alpsstate/index-e.html> [<https://perma.cc/2SKF-X7BZ>] (Feb. 15, 2024).
77. Justin McCurry, *Fukushima: Japan Will Have to Dump Radioactive Water into Pacific, Minister Says*, THE GUARDIAN (Sept. 10, 2019, 3:02 PM), <https://theguardian.com/environment/2019/sep/10/fukushima-japan-will-have-to-dump-radioactive-water-into-pacific-minister-says> [<https://perma.cc/S2PV-PBS5>].
78. Justin McCurry, *Fukushima: Japan Announces It Will Dump Contaminated Water into Sea*, THE GUARDIAN, <https://theguardian.com/environment/2021/apr/13/fukushima-japan-to-start-dumping-contaminated-water-pacific-ocean> [<https://perma.cc/NJL4-NVJD>] (Apr. 13, 2021, 2:28 PM).
79. Murakami & Bateman, *supra* note 75.
80. Geoff Brumfiel & Kat Lonsdorf, *5 Things to Know About Japan's Fukushima Water Release in the Pacific*, NPR (Aug. 24, 2023, 5:00 AM), <https://www.npr.org/2023/08/24/1195419846/fukushima-radioactive-water-japan> [<https://perma.cc/9HW9-R2T8>].
81. Press Release, Special Procedure, Japan: UN Experts Say Deeply Disappointed by Decision to Discharge Fukushima Water (Apr. 15, 2021).
82. *Id.*

Although “Japan has noted that the levels of tritium were very low and do not pose a threat to human health,”⁸³ scientists warned that “the tritium in the water organically binds to other molecules, moving up the food chain affecting plants and fish and humans.”⁸⁴

The decision has been also criticized by nongovernmental organizations (NGOs), such as Greenpeace International and Greenpeace Japan,⁸⁵ because “the decision disregards scientific evidence, violates the human rights of communities in Japan and the Pacific region, and is non-compliant with international maritime law.”⁸⁶ “[M]ore importantly it ignores its people’s concerns, including fishermen[‘s].”⁸⁷ Greenpeace has highlighted the failure of the ALPS processing technology, saying that “approximately 70% of this water will have to be processed again.”⁸⁸

The opposition to the discharge includes the National Association of Marine Laboratories (NAML),⁸⁹ which consists of more than 100 leading marine science member laboratories in the United States. NAML issued a “Scientific Opposition” to Japan’s planned release of treated water.⁹⁰ Following their observations, there is a “lack of adequate and accurate scientific data supporting Japan’s assertion of

83. *Id.*

84. *Id.*

85. Greenpeace International, *The Japanese Government’s Decision to Discharge Fukushima Contaminated Water Ignores Human Rights and International Maritime Law*, GREENPEACE (Apr. 13, 2012), <https://greenpeace.org/international/press-release/47207/the-japanese-governments-decision-to-discharge-fukushima-contaminated-water-ignores-human-rights-and-international-maritime-law/> [https://perma.cc/S5BX-7EKD]; see generally Simon Avenell, *From Fearsome Pollution to Fukushima: Environmental Activism and the Nuclear Blind Spot in Contemporary Japan*, 17 ENV’T HIST. 244 (Apr. 2012) (expanding on the environmental activism in Japan).

86. *Japan Announces Date for Fukushima Radioactive Water Release*, GREENPEACE (Aug. 23, 2023), <https://greenpeace.org/international/press-release/61364/japan-announces-date-for-fukushima-radioactive-water-release/> [https://perma.cc/P8HP-9HMJ].

87. *Id.*

88. *Id.*

89. See generally *History of the National Association of Marine Laboratories*, NAML, <https://naml.org/about/history.php> [https://perma.cc/Q4RC-XBWS].

90. See generally NAML, SCIENTIFIC OPPOSITION TO JAPAN’S PLANNED RELEASE OF OVER 1.3 MILLION TONS OF RADIOACTIVELY CONTAMINATED WATER FROM THE FUKUSHIMA-DAIICHI NUCLEAR POWER PLANT DISASTER INTO THE PACIFIC OCEAN (2022).

safety”⁹¹ and instead an “abundance of data demonstrating serious concerns about releasing radioactively contaminated water.”⁹²

Contrariwise, the International Atomic Energy Agency (IAEA – also named, the “U.N. nuclear watchdog”⁹³) declared that “Japan’s plans to release treated water stored at the Fukushima-Daiichi nuclear power station into the sea are consistent with IAEA Safety Standards.”⁹⁴ It concluded that “the discharges of the treated water would have a negligible radiological impact to people and the environment.”⁹⁵ It issued a 130-page comprehensive report of the safety review of Japan’s decision,⁹⁶ and also provided data and interlaboratory comparisons.⁹⁷

Global reactions have taken various political stances, from the West to the East, with special dismay from China. The United States was supportive, explaining that “Japan has been open and transparent as it

91. *Id.* at 1.

92. *Id.* (highlighting that “[t]he underlying rationale of dilution ignores the reality of biological processes of organic binding, bioaccumulation, and bioconcentration, as well as accumulation in local seafloor sediments. Many of the radionuclides contained in the accumulated waste cooling water have half-lives ranging from decades to centuries, and their deleterious effects range from DNA damage and cellular stress to elevated cancer risks in people who eat affected marine organisms, such as clams, oysters, crabs, lobster, shrimp, and fish. Additionally, the effectiveness of the Advanced Liquid Processing System in almost completely removing the over 60 different radionuclides present in the affected wastewater—some of which have an affinity to target specific tissues, glands, organs, and metabolic pathways in living organisms, including people—remains a serious concern due to the absence of critical data.”).

93. *Japan: IAEA Monitoring Treated Water Release from Fukushima Nuclear Plant*, U.N. (Aug. 24, 2023), <https://news.un.org/en/story/2023/08/1140037> [<https://perma.cc/ZW38-WYGC>]; *see also* Justin McCurry, *UN Report on Japan’s Fukushima Water Plans Fails to Placate Opponents*, THE GUARDIAN (Jul. 07, 2023, 8:44 EDT), <https://www.theguardian.com/environment/2023/jul/07/un-report-on-japans-fukushima-water-plans-fails-to-placate-opponents> [<https://perma.cc/6FFA-H8HQ>].

94. International Atomic Energy Agency [IAEA], *IAEA Finds Japan’s Plans to Release Treated Water into the Sea at Fukushima Consistent with International Safety Standards* (Jul. 4, 2023), <https://www.iaea.org/news-center/pressreleases/iaea-finds-japans-plans-to-release-treated-water-into-the-sea-at-fukushima-consistent-with-international-safety-standards> [<https://perma.cc/PP49-49Q3>].

95. *Id.*

96. *See generally* International Atomic Energy Agency [IAEA], *IAEA REVIEW OF SAFETY RELATED ASPECTS OF HANDLING ALPS-TREATED WATER AT TEPCO’S FUKUSHIMA DAIICHI NUCLEAR POWER STATION: FIRST INTERLABORATORY COMPARISON ON THE DETERMINATION OF RADIONUCLIDES IN ALPS TREATED WATER* (2023).

97. *See generally id.*

has sought to responsibly manage the Fukushima Daiichi site and the eventual release of treated water.”⁹⁸ It repeated the IAEA’s conclusion that “Japan’s process is safe and consistent with internationally accepted nuclear safety standards.”⁹⁹ Similarly, the United Kingdom officially stated, “[t]he UK is fully supportive of the Government of Japan in taking such action.”¹⁰⁰ Next, the EU decided to follow a *quasi*-neutral position, essentially relying on the institutional IAEA findings, and stating that “we commend the Japanese authorities for providing regular updates on the Fukushima status in a timely and transparent manner.”¹⁰¹ Although South Korean President Moon Jae, in first announced the possibility of bringing Japan’s 2021 Fukushima decision at the International Tribunal for the Law of the Sea¹⁰² (‘ITLOS’), his successor, Yoon Suk Yeol reconsidered it¹⁰³ and substantially signed off

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98. Press Release, Matthew Miller, *Japan’s Release of Treated Water*, U.S. DEP’T OF STATE (Aug. 25, 2023), <https://www.state.gov/japans-release-of-treated-water/> [<https://perma.cc/7GWN-2RLR>].
99. *Id.*
100. Press Release, *Japan’s Discharge of Treated Fukushima-Daiichi Water: UK Statement*, UK FOREIGN, COMMONWEALTH & DEV. OFF. (Aug. 31, 2023), <https://gov.uk/government/news/uk-statement-on-discharge-of-treated-fukushima-daiichi-water-by-japan> [<https://perma.cc/5V2V-4N3T>].
101. *Japan: Statement on the Release of Treated Water from the Fukushima Power Plant*, EU NEWS (Sept. 01, 2023), https://www.eeas.europa.eu/delegations/japan/japan-statement-release-treated-water-fukushima-power-plant_en [<https://perma.cc/W3V6-9VY9>].
102. Hyonhee Shin, *S.Korea Aims to Fight Japan’s Fukushima Decision at World Tribunal*, REUTERS (Apr. 14, 2021, 1:42 AM), <https://reuters.com/world/asia-pacific/skoreas-moon-seeks-international-litigation-over-japans-fukushima-water-decision-2021-04-14/> [<https://perma.cc/SG9M-X4GT>].
103. Steven Borowiec, *South Korea Signs off on Japan’s Fukushima Water Release Plan*, NIKKEI (Jul. 7, 2023, 12:12 PM), <https://asia.nikkei.com/Politics/International-relations/South-Korea-signs-off-on-Japan-s-Fukushima-water-release-plan> [<https://perma.cc/8F8M-KPAZ>]; see also Timonthy W. Martin & Dasl Yoon, *South Korean Leader, a Biden Friend, Faces Challenge over Japan’s Radioactive Water*, WALL STREET J. (Aug. 24, 2023, 7:20 AM), <https://www.wsj.com/world/asia/south-korean-leader-a-biden-friend-faces-challenge-over-japans-radioactive-water-ef02481c> [<https://perma.cc/PAJ7-SGNL>].

on the water release plan,¹⁰⁴ despite Korean protests calling for government reactions.¹⁰⁵ But, China's position was radically different.

The Chinese government aggressively condemned disposal of the Fukushima nuclear-contaminated water as a major, nonprivate issue about nuclear safety for Japan, that exceeds its borders. According to the Chinese statement:

. . . The Fukushima nuclear accident which took place 12 years ago was a major catastrophe that already caused the leakage of large amounts of radioactive substances into the ocean. There could be a man-made secondary disaster to the local people and the whole world if Japan chooses to dump the water into the ocean just to serve Japan's selfish interests. The Japanese government failed to prove the legitimacy and legality of the ocean discharge decision, the long-term reliability of the purification facility, and the authenticity and accuracy of the nuclear-contaminated water data. It failed to prove that the ocean discharge is safe and harmless to the marine environment and people's health, and that the monitoring plan is sound and effective. Japan also failed to have thorough consultations with other stakeholders. The ocean belongs to all humanity. . . . [Japan] is infringing upon people's rights to health, development and a healthy environment, which violates Japan's moral responsibilities and obligations under international law. . . .¹⁰⁶

Some Chinese newspapers observed that the Japanese government should be held accountable for the crime of ecocide.¹⁰⁷ NGO End Ecocide on Earth Initiative observed that Fukushima could represent a

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104. *Id.*; see also *South Korea Sees No Scientific Problem with Fukushima Water Release Plan*, REUTERS (Aug. 22, 2023, 12:19 PM), <https://www.reuters.com/world/asia-pacific/south-korea-sees-no-scientific-problem-with-fukushima-water-release-plan-2023-08-22/> [https://perma.cc/HEF9-NW3D].
105. Do Gyun Kim & Jimin Jung, *South Korean Protesters Call for Government Action on Fukushima Water*, REUTERS (Aug. 26, 2023, 9:46 AM), <https://reuters.com/world/asia-pacific/south-korean-protesters-call-government-action-fukushima-water-2023-08-26/> [https://perma.cc/2J6K-WS6E].
106. *Foreign Ministry Spokesperson's Statement on the Japanese Government's Start of Releasing Fukushima Nuclear-Contaminated Water into the Ocean*, MINISTRY OF FOREIGN AFFS. OF THE PEOPLE'S REPUBLIC OF CHINA (Aug. 24, 2023, 12:27 PM), https://www.fmprc.gov.cn/eng/xwfw_665399/s2510_665401/2535_665405/202308/t20230824_11131325.html [https://perma.cc/2Y63-A2ZD] (emphasis added).
107. *Japanese Govt Should be Charged with Ecocide for Dumping Nuclear-Contaminated Wastewater into Ocean: Think Tank*, GLOBAL TIMES (Sept. 2, 2023, 12:50 AM), <https://www.globaltimes.cn/page/202309/1297431.shtml> [https://perma.cc/5TYL-7NJL].

“[d]anger of worldwide ecocide.”¹⁰⁸ Some scholars also noted that “neighboring countries may respond to Japan’s disposal plan by submitting a dispute to a tribunal to prescribe provisional measures or invoking the cooperative duties under UNCLOS.”¹⁰⁹ Other scholars emphasized that “enforcing UNCLOS against polluters is difficult.”¹¹⁰

Could the decision to release contaminated water into the Pacific Ocean fall into the proposed definition of ecocide? As noted earlier, the main authority on the field, the IAEA, positively assessed Japan’s decision, ensuring no risk since the water has been treated and stripped of almost all radioactivity, aside from tritium.¹¹¹ However, in light of the above-mentioned concerns and since “the scientific community remains divided on the decision,”¹¹² nothing would prohibit the ICC

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108. *Fukushima—Danger of Worldwide Ecocide*, END ECOCIDE ON EARTH, <https://endecocide.org/en/2014/04/28/fukushima-danger-worldwide-ecocide/> [https://perma.cc/7NBB-FF9S].
109. Eugene Cheigh, *A Regional Cooperative Regime Should be Established to Respond to the Radioactive Water Disposal Plan from Fukushima*, 50 DENV. INT’L L. & POL’Y 67, 86 (2021).
110. Victoria Cruz-De Jesus, *Preserving the Sea in a Radioactive World: How Japan’s Plan to Release Treated Nuclear Wastewater into Pacific Ocean Violates UNCLOS*, 37 AM. U. INT’L L. REV. 1005, 1018–119, (mentioning the case of *The South China Sea Arbitration*) (“In the South China Sea Arbitration, the Permanent Court of Arbitration (the Tribunal) held that the People’s Republic of China (PRC) had violated UNCLOS Article 192 when it reclaimed land in the South China Sea, and subsequently constructed artificial islands and structures at seven coral reefs. The PRC refused to participate in the proceedings claiming that the Tribunal lacked jurisdiction to consider the Philippines’ claim. Regardless, the Tribunal determined that the PRC’s actions interfered with the Philippines’ exclusive economic zone (EEZ) and continental shelf; therefore, the Philippines had an actionable claim against the PRC. Additionally, because the Philippines provided satellite imagery, which showed that up to sixty percent of shallow reef habitat had been destroyed, the Tribunal had evidence that the PRC’s actions harmed the coral reef ecosystem in violation of UNCLOS Article 192. Thus, the Tribunal declared that the PRC shall: (1) respect the Philippines’ rights and freedoms under UNCLOS; (2) comply with its duties under UNCLOS; and (3) exercise its rights and freedoms in the disputed area with due regard to the rights and freedoms of the Philippines.”); *see also* The MOX Plant Case (Ir. v. U.K.), Case No. 10, Order of Dec. 2, 2002, 2001 ITLOS Rep. 95. (prescribing that the parties work together in exchanging information, monitoring, and preventing pollution).
111. IAEA, *IAEA Finds Japan’s Plans to Release Treated Water into the Sea at Fukushima Consistent with International Safety Standards*, *supra* note 94.
112. Sarah Hachman & Tilman Ruff, *Opening the Flood Gates at Fukushima. Discharging Radioactive Water from the Damaged Fukushima Daiichi Nuclear Power Plant is Avoidable, Risky and Potentially Illegal*, THE U. OF MELBOURNE (Aug. 28, 2023), <https://pursuit.unimelb.edu.au/articles/opening-the-flood-gates-at-fukushima> [https://perma.cc/5AM5-2R3G].

Prosecutor, if the crime of ecocide would have been introduced, from opening a preliminary examination to assess the material available and evaluate whether the burden of proof of the “reasonable basis to believe” and “reasonable basis to proceed” would be met, for the reasons explained below.

Japan's decision could be considered, in theory, unlawful.¹¹³ Article 25(1) of the 1958 Geneva Convention on the High Seas,¹¹⁴ adopted as a part of the United Nations Conventions on the Law of the Sea Treaties (“UNCLOS”), provides, “[e]very State shall take measures to prevent pollution of the seas from the dumping of radioactive waste.”¹¹⁵ Article 194(1) of UNCLOS III,¹¹⁶ its “successor,”¹¹⁷ states that “[s]tates shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source.”¹¹⁸ Article 194(3)(a) provides that “[t]he measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimize to the fullest possible extent: (a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based

113. See Meng Lia & Xuedong Wang, *Legal Responses to Japan's Fukushima Nuclear Wastewater Discharge into the Sea—from the Perspective of China's Right-Safeguarding Strategies*, 9 HELIYON, Apr. 25, 2023, at 3 (explaining the suspected illegality of the Japan's decision); but see Darian Ghorbi, *There's Something in the Water: The Inadequacy of International Anti-Dumping Laws as Applied to the Fukushima Daiichi Radioactive Water Discharge*, 27 AM. U. L. REV. 473, 505 (2012) (“The existing international environmental framework failed to appropriately control the most significant nuclear incident in nearly three decades. The London Convention and London Protocol do not apply to the dumping that occurred at the Fukushima Daiichi power plant following the earthquake and tsunami in March 2011 because the dumping was from land and even if they had applied, the dumping would have been permitted under the Emergency Exception to the treaties. The ocean dumping in this case does not violate UNCLOS because of the flexible nature of its treaty language. Filling the gaps in the existing international environmental framework with new agreements for land-based ocean dumping and nuclear facilities are the first steps needed to ensure that another nuclear incident like Fukushima does not occur in the future.”).

114. Convention on the High Seas. art. 25, Sept. 30, 1962, 450 U.N.T.S. 11.

115. *Id.*

116. U.N. Convention on the Law of the Sea art. 194, Nov. 16, 1994, 1833 U.N.T.S. 3 [hereinafter UNCLOS].

117. See Krati Gupta & Raj Shekhar, *Fukushima Radioactive Water Discharge Case: A Vehement Violation of International Laws?*, JURIST (May 4, 2020, 11:30 PM), <https://www.jurist.org/commentary/2021/05/gupta-shekhar-fukushima-international-law/> [https://perma.cc/M7U4-4YEF].

118. UNCLOS, *supra* note 116, art. 194(1).

sources, from or through the atmosphere or by dumping”¹¹⁹ Scholars highlighted that tritiated wastewater may constitute “pollution” under UNCLOS, as “this water must pose a deleterious effect that manifests¹²⁰ in either: (1) harm to living resources and marine life; (2) hazards to human health; or (3) hindrances to marine activities.”¹²¹ Article 207 of UNCLOS also provides that states shall adopt laws and regulations or take other measures to “prevent, reduce, and control pollution of the marine environment from land-based sources.”¹²² Moreover, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972¹²³ (the “London Convention”) and its subsequent¹²⁴ 1996 Protocol (the “Protocol”) include clear limits for the dumping of radioactive material¹²⁵ because “the objective of the London Convention and Protocol is to promote the effective control of all sources of marine pollution”¹²⁶ Japan is a party to the London Convention and Protocol,

119. *Id.* art. 194(3)(a).

120. Cruz-De Jesus, *supra* note 110, at 1022.

121. *Id.*

122. UNCLOS, *supra* note 116, art. 207(1–2).

123. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, *opened for signature* Dec. 29, 1972, 26 U.S.T. 2403, 1046 U.N.T.S. 120 [hereinafter London Convention].

124. 1996 Protocol to Convention on Prevention of Marine Pollution by Dumping of Wastes art. 4, ¶ 1, annex I, ¶ 3, Nov. 7, 1996, 36 I.L.M. 1 (1997); *see also* *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, INT’L MARITIME ORG. <https://www.imo.org/en/OurWork/Environment/Pages/London-Convention-Protocol.aspx> [<https://perma.cc/FR4C-8V7M>] (“In 1996, the “London Protocol” was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol all dumping is prohibited, except for possibly acceptable wastes on the so-called “reverse list”. The Protocol entered into force on 24 March 2006 and there are currently 53 Parties to the Protocol.”).

125. *See* Yen-Chiang Chang & Yue Zhao, *The Fukushima Nuclear Power Station incident and marine pollution*, 64 MARINE POLLUTION BULL. 897, 899 (2012); London Convention, *supra* note 123, annex I; 1996 Protocol to Convention on Prevention of Marine Pollution by Dumping of Wastes, *supra* note 124, annex I.

126. 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, *supra* note 124 (“The purpose of the Protocol is similar to that of the Convention, but the Protocol is more restrictive: application of a “precautionary approach” is included as a general obligation; a “reverse list” approach is adopted, which implies that all dumping is prohibited unless explicitly permitted; incineration of wastes at sea is prohibited; export of wastes for the purpose of dumping or incineration at sea is prohibited.”).

and UNCLOS.¹²⁷ Further, both Principle 21 of the 1972 Stockholm Declaration of the U.N. Human Environment¹²⁸ (the “Stockholm Declaration”) and Principle 2 of the 1992 Rio Declaration on Environment and Development¹²⁹ (the “Rio Declaration”) indicate that “States have . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment beyond the limits of national jurisdiction.”¹³⁰ In the *Pulp Mills on the River Uruguay* case between Argentina and Uruguay, the International Court of Justice (ICJ) pointed out that the no-harm rule originates from the due diligence standard. Thus, a state is “obliged to use all the means at its disposal in order to avoid activities which take place in its territory or in any area under its jurisdiction causing significant damage to the environment of another State.”¹³¹ Additionally, some scholars pointed out that “[g]iven the persistence of such ocean contamination, the planned radioactive water disposal poses a threat to present and future humans and the marine environment, and violates the principle

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127. Int’l Maritime Org. [IMO], *Status of the London Convention and Protocol*, annex 1, p. 2 IMO Doc. LC 32/2, (July 20, 2010) (reporting that Japan ratified the London Convention on Oct. 15, 1980); IMO, STATUS OF IMO TREATIES: COMPREHENSIVE INFORMATION ON THE STATUS OF MULTILATERAL CONVENTIONS AND INSTRUMENTS IN RESPECT OF WHICH THE INTERNATIONAL MARITIME ORGANIZATION OR ITS SECRETARY-GENERAL PERFORMS DEPOSITARY OR OTHER FUNCTIONS 578 (2023) (reporting that Japan ratified the 1996 London Protocol on Oct. 2, 2007); *Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreements*, U.N. DIV. FOR OCEAN AFFAIRS & THE L. OF THE SEA, https://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm [https://perma.cc/TH99-NLAL] (Oct. 24, 2023) (reporting that Japan ratified the U.N. Convention on the Law of the Seas on June 20, 1996).
128. U.N. Conference on the Human Environment, *Stockholm Declaration of the United Nations Conference on the Human Environment*, 5, U.N. Doc. A/CONF.48/14/Rev.1 (June 1972) [hereinafter Stockholm Declaration].
129. U.N. Conference on Environment and Development., *Rio Declaration on Environment and Development*, 1, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), annex I (Aug. 12, 1992) [hereinafter Rio Declaration].
130. *Id.*; Stockholm Declaration, *supra* note 128, at 5.
131. *Pulp Mills on the River Uruguay* (Arg. v. Uru.), Judgment, 2010 I.C.J. Rep. 14, ¶ 101 (Apr. 20); The ICJ further clarified that an obligation of due diligence entails the adoption and enforcement of appropriate rules and measures in accordance with applicable international agreements and relevant guidelines and recommendations of international technical bodies. *Id.* at ¶ 197; see also Eugene Cheigh, *A Regional Cooperative Regime Should Be Established to Respond to the Radioactive Water Disposal Plan from Fukushima*, 50 DENV. J. INT’L L. & POL’Y 67, 76 (2021).

of equity”¹³² referred to in Principles 1 and 2 of the Stockholm Declaration.¹³³

The decision could alternatively be considered a wanton act, as stated by China, which defined the water discharged as “wantonly”¹³⁴ because the disposal was committed with reckless disregard for damage that would be clearly excessive in relation to the social and economic benefits anticipated. The IAEA report, however, which was issued before the actual water release,¹³⁵ seems to exclude this possibility, at least as to *mens rea*.

Obviously, water is included in the proposed norm and falls into the broader definition of “hydrosphere.” But under the ecocide definition, the damage to the environment must be “severe.” Even if the IAEA excluded any damage to the environment, water included, other scientists and experts, including independent U.N. experts, Greenpeace, and the National Association of Marine Laboratories, have seriously warned about this possibility. Moreover, several scholars and academics expressed their concerns and dissent to both the IAEA report and Japan’s decision.¹³⁶ It has been observed that “[o]nce nuclear wastewater is discharged, it will seriously infringe on global ecological and environment[al] safety and the lives and health of people of all

132. Cheigh, *supra* note 131, at 79.

133. See Edith Brown Weiss, *Intergenerational Equity*, MAX PLANCK ENCYC. PUB. INT’L L. ¶¶ 1, 28, <https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e1421?print=pdf> (Apr. 2021) (noting that both Principles consider the interests of present and future generations in a quality environment and natural resources); Stockholm Declaration, *supra* note 128, at 4.

134. *Ministry of Foreign Affairs of China, Foreign Ministry Spokesperson’s Remarks on Japanese Gov’t Decision to Discharge Nuclear Wastewater from Fukushima Nuclear Plant into the Sea*, MINISTRY OF FOREIGN AFFS. OF THE PEOPLE’S REPUBLIC OF CHINA (Apr. 13, 2021), https://www.fmprc.gov.cn/eng/xwfw_665399/s2510_665401/2535_665405/202104/t20210413_9170822.html [<https://perma.cc/Q2U5-LH58>].

135. See IAEA, *IAEA Finds Japan’s Plans to Release Treated Water into the Sea at Fukushima Consistent with International Safety Standards*, *supra* note 94.

136. See generally Wu Zhiyi, *Study on the Legal Issues of Fukushima Nuclear Wastewater Discharge into the Sea*, 214 ADVANCES IN ECON., BUS. & MGMT. RSCH. 91 (2022); Ferenc Dalnoki-Veress, *Concrete Alternative: A Better Solution for Fukushima’s Contaminated Water Than Ocean Dumping*, MIDDLEBURY INST. OF INT’L STUDIES AT MONTEREY (June 16, 2023), <https://nonproliferation.org/concrete-alternative-a-better-solution-for-fukushimas-contaminated-water-than-ocean-dumping/> [<https://perma.cc/7VPW-2GBJ>]; see also Yi Liu et al., *Discharge of Treated Fukushima Nuclear Accident Contaminated Water: Macroscopic and Microscopic Simulations*, 9 NAT’L SCI. REV. 1, 1 (2022).

countries.”¹³⁷ A group of experts of the Pacific Islands Forum,¹³⁸ “an intergovernmental organization made up of 18 Pacific nations, including Australia, Fiji, and Papua New Guinea,”¹³⁹ complained that “Japan plans to discharge vast amounts, 1.3 billion liters of contaminated water through a 1 kilometer pipeline into the Pacific over a period of at least 30 years and likely much longer.”¹⁴⁰ They noted that while “[t]he word ‘discharge’ is used . . . the action would be considered ‘dumping.’”¹⁴¹ The experts also noted that, “[l]arge amounts of radionuclides can affect marine biological chains when inhaled by marine life and adversely influence marine fisheries and human health.”¹⁴²

The severe damage includes “grave impacts on human life or natural, cultural or economic resources.”¹⁴³ This can be demonstrated by the water disposal’s potential impact on natural and economic resources, such as marine wildlife and fishing activities. As explained by scientists, “the tritium in the water organically binds to other molecules, moving up the food chain affecting plants and fish and humans.”¹⁴⁴ The water disposal “may have profound detrimental economic and social effects on fisheries in Japan, and the region as well.”¹⁴⁵ Indeed, the science news aggregator Phys.org announced that “more than 100 fishermen and locals living near Fukushima will file a lawsuit th[e] week [of September 4, 2023,] seeking to stop the release of

137. Zhiyi, *supra* note 136, at 91.

138. *RELEASE: Pacific Appoints Panel of Independent Global Experts on Nuclear Issues*, PACIFIC ISLANDS F. (Mar. 14, 2022), <https://www.forumsec.org/2022/03/14/release-pacific-appoints-panel-of-independent-global-experts-on-nuclear-issues/> [https://perma.cc/BQZ8-6QTC] (listing panel members Dr. Ken Buesseler, Dr. Arjun Makhijani (President of the Institute for Energy and Environmental Research), Dr. Antony Hooker (Associate Professor and Director of the Centre for Radiation Research, Education and Innovation at The University of Adelaide), Dr. Robert H. Richmond (Research Professor and Director at the Kewalo Marine Laboratory at the University of Hawaii at Manoa), and Dr. Ferenc Dalnoki-Veress (Scientist-in-Residence & Adjunct Professor at the James Martin Center for Nonproliferation Studies, Middlebury Institute of International Studies at Monterey)).

139. Bianca Nogrady, *Is Fukushima Wastewater Release Safe? What the Science Says*, 618 NATURE 894, 894 (2023).

140. Dalnoki-Veress, *supra* note 136; *RELEASE: Pacific Appoints Panel of Independent Global Experts on Nuclear Issues*, *supra* note 138 (listing expert panel).

141. *RELEASE: Pacific Appoints Panel of Independent Global Experts on Nuclear Issues*, *supra* note 138.

142. Liu et al., *supra* note 136, at 1.

143. STOP ECOCIDE FOUNDATION, *supra* note 24, § II.

144. *Id.*

145. Dalnoki-Veress, *supra* note 136.

wastewater from the stricken Japanese nuclear plant.”¹⁴⁶ Japan’s decision may then create negative consequences on health and leisure as well as sport, cultural, and social activities on blue spaces, such as seas, oceans, rivers, lakes, and other waterways.¹⁴⁷ Even some jurists highlighted that “once Fukushima nuclear wastewater is discharged into the sea, it will result in a serious hazard and cause social and economic impacts on all aspects.”¹⁴⁸

The damage must be either “widespread” or “long-term.” This damage may be long-term because it could be irreversible or unredressable through natural recovery within a reasonable period.¹⁴⁹ The discharge is planned to proceed for at least thirty years, and likely much longer,¹⁵⁰ and radioactive wastewater will continue to accumulate.¹⁵¹ Independent U.N. experts have mentioned that “the radioactive hazards of tritium have been underestimated and could pose risks to humans and the environment for over 100 years.”¹⁵² But it could also be classified, at least in a preliminary examination stage, as widespread because it extends beyond a limited geographic area since the Pacific Ocean is the largest ocean on Earth, occupying about one-third of its surface and abutting several state boundaries. An entire ecosystem or species may suffer this damage, such as marine wildlife and, hypothetically, countless human beings due to fish consumption.

The “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 be challenging to prove in light of the IAEA report.

146. Kyoko Hasegawa & Tomohiro Osaki, *Japan Fishermen, Locals Seek Halt to Fukushima Water Release*, PHYS.ORG (Sept. 4, 2023), <https://phys.org/news/2023-09-japan-fishermen-locals-halt-fukushima.html#> [<https://perma.cc/LS2J-F3NR>]; see also Justin McCurry, ‘They Won’t Buy It’: Fish Traders Anxious After Fukushima Wastewater Release, THE GUARDIAN (Aug. 24, 2023, 9:52 PM), <https://www.theguardian.com/environment/2023/aug/24/they-wont-buy-it-fish-traders-anxious-after-fukushima-wastewater-release> [<https://perma.cc/S2G8-5Q8Q>].

147. See generally Clifton Evers, *Polluted Leisure and Blue Spaces: More-Than-Human Concerns in Fukushima*, 45 J. SPORT & SOC. ISSUES 179 (2021); see also Yoshitake Takebayashi et al., *Risk Perception and Anxiety Regarding Radiation after the 2011 Fukushima Nuclear Power Plant Accident: A Systemic Qualitative Review*, 14 INT’L J. ENV’T RSCH. & PUB. HEALTH 1306 (2017).

148. Meng Li & Xuedong Wang, *Legal Responses to Japan’s Fukushima Nuclear Wastewater Discharge into the Sea—from the Perspective of China’s Right-Safeguarding Strategies*, 9 HELIYON 1, 1 (2023).

149. STOP ECOCIDE FOUNDATION, *supra* note 24, § II.

150. Dalnoki-Veress, *supra* note 136.

151. Hachman & Ruff, *supra* note 112.

152. Japan: UN Experts Say Deeply Disappointed by Decision to Discharge Fukushima Water, *supra* note 81.

Regardless, this should not affect a potential decision to open a preliminary examination of the case.

IV. COULD THE ICC BE THE “VIALE” COURT FOR ECOCIDE PROSECUTION? PROPOSALS TO AMEND THE ROME STATUTE

Subjecting those responsible for ecocide to prosecution by international courts is only one approach to imposing individual accountability for widespread environmental destruction, considering the jurisdictional weaknesses of this tribunal—such as the lack of territorial jurisdiction over several countries not bound by the Rome Statute (such as China, the United States, India, and Russia). However, this Section, placing confidence in the ICC, proposes amendments to the ICC legal framework in order to enforce the possibility of ecocide prosecution and accountability.

A. Defining “Ecocide” as the Fifth International Crime Under the Rome Statute

There are both benefits and disadvantages of integrating a definition of “ecocide” into the Rome Statute as a fifth international crime and thereby placing eligible, prosecutable crimes of ecocide under ICC oversight and jurisdiction. To mitigate the disadvantages, if the crime of ecocide is introduced as the fifth crime into the Rome Statute, several changes should occur.

ICC jurisdiction *ratione personae* should be amended to include corporate entities,¹⁵³ something that could lead to “criminalization without enforcement.”¹⁵⁴

153. Rome Statute, *supra* note 14, art. 25(a) (“The Court shall have jurisdiction over natural persons pursuant to this Statute.”); see Aparimita Pratap & Varsha Maria Koshy, *Corporate Criminal Liability Under the Rome Statute*, BERKELEY J. INT’L L. (Feb. 24, 2019), <https://www.berkeleyjournalofinternationallaw.com/post/corporate-criminal-liability-under-the-rome-statute> [https://perma.cc/S9AJ-JJCZ]; but see Mohammed Saif-Alden Wattad, *Article and Comment: Natural Persons, Legal Entities, and Corporate Criminal Liability Under the Rome Statute*, 20 UCLA J. INT’L & FOR. AFFS. 391, 393–94 (2016).

154. Adam Branch & Liana Minkova, *Ecocide, the Anthropocene, and the International Criminal Court*, 37 ETHICS & INT’L AFFS. 51, 73 (2023) (“[E]ven criminalization without enforcement can express misleading or dangerous messages to the international audience: validating certain forms of development and silencing alternative ideas, incentivizing “greenwashing” of corporate activities, creating a biased image of the *hostis naturae generis*, and perhaps even being invoked to justify violence. Despite these dangers, however, the expressivist position is based upon a compelling moral and political recognition: that the very process of bringing ecocide into international consideration, of declaring that the ongoing and mounting devastation of environments locally and globally is inherently unacceptable, is crucially important in a contemporary political

Additionally, alternative prosecutorial mechanisms should be developed to mitigate the limits of ICC jurisdiction because the ICC is not empowered to carry out trial in absentia—it may not try individuals unless they are present in the courtroom, due to Article 63 of the Rome Statute.¹⁵⁵ Another weakness of the ICC is that its investigations and prosecutions rely on State cooperation.¹⁵⁶ Without cooperation, ICC efforts to ensure individual accountability can be severely delayed or rendered impossible because the ICC does not have its own law enforcement capability.

Nonetheless, introducing the crime of ecocide into the Rome Statute will become a milestone for affirming global environmental protection and legitimizing the exercise of universal jurisdiction by both member and non-member states.

In light of the inherent limits of ICC jurisdiction and power,¹⁵⁷ the doctrine of universal jurisdiction could be invoked to fill this increasingly troubling gap regarding ecocide and mass environmental war crimes. Universal jurisdiction is a principle of international law that permits all nations to assert criminal jurisdiction over individuals alleged to have committed especially heinous violations of international law.¹⁵⁸ Such violations are considered so grave as to offend every member of the community of nations, thereby justifying any member to assert its jurisdiction to impose accountability. It has been observed that “because such violations render the perpetrator *hostis humani generis* – an enemy of all mankind – every nation shares an equal interest in and right to use its domestic criminal courts to impose accountability.”¹⁵⁹ This is particularly important for both ecocide and mass environmental war crimes, characterized by widespread damage that extends beyond a limited geographic area, crosses state boundaries, or adversely impacts an entire ecosystem, species, or a large number of human beings.¹⁶⁰ Universal jurisdiction, though, depends on domestic

moment marked by political leaders publicly rationalizing large-scale environmental sacrifice and even extermination.”).

155. Rome Statute, *supra* note 14, art. 63.

156. *Id.* art. 86.

157. See Victor Tsilonis, *Spelling out a Law for Nature*, EUROZINE (July 31, 2023), <https://eurozine.com/spelling-out-a-law-for-nature/> [https://perma.cc/4DWC-YQLU].

158. Douglass Cassel, *Universal Criminal Jurisdiction*, 31 HUM. RTS. 22, 22 (2004).

159. Geoffrey S. Corn, *Congress Needs to Amend the War Crimes Act of 1996*, LAWFARE (Mar. 2, 2022, 2:14 PM), <https://www.lawfaremedia.org/article/congress-needs-amend-war-crimes-act-1996> [https://perma.cc/M2VQ-2PFV].

160. See Aurelie Lopez, *Criminal Liability for Environmental Damage Occurring in Times of Non-International Armed Conflict: Rights and Remedies*, 18 FORDAM ENV'T L. REV. 231, 232 (2006); Matthew Gillet,

jurisdictions,¹⁶¹ which are notably more vulnerable to influence by governments and geopolitical matters.¹⁶²

So far, the easiest way to criminalize ecocide at the international criminal law level is to insert ecocide as a fifth crime of the Rome Statute,¹⁶³ using the formula proposed by the Stop Ecocide Foundation. Even if both the ICC legal framework and the Foundation's proposed substantive law formula are not perfect (as is of course any legal norm), they are perfectible. On this point, at least two amendments¹⁶⁴ are suggested: 1) ensuring environmental law-related knowledge at the Court. 2) proposing the introduction of a Special Prosecutor for Ecocide and Crimes Against the Environment.

B. Ensuring Environmental Law-Related Knowledge

All legal expertise related to the classical element of the environment could be useful for a proper examination of ecocide cases. An ecocide prosecution – and even more an ecocide trial – will surely benefit from a permanent presence of judges, prosecutors, trial lawyers, and legal officers with expertise in environmental law, international law of the sea, maritime law, animal law, and all other fields of law that are related to these.

Article 36(3)(b)¹⁶⁵ of the Rome Statute should be amended to fill this gap of environmental competency. This norm, dedicated to the qualifications, nominations, and elections of judges, provides:

Every candidate for election to the Court shall:

Eco-Struggles: Using International Criminal Law to Protect the Environment During and After Non-International Armed Conflict, in ENVIRONMENTAL PROTECTION AND TRANSITIONS FROM CONFLICT TO PEACE: CLARIFYING NORMS, PRINCIPLES, AND PRACTICES 220, 220 (Carsten Stahn et al. eds., 2017).

161. *Universal Jurisdiction*, INT'L JUST. RES. CTR., <https://ijrcenter.org/cases-before-national-courts/domestic-exercise-of-universal-jurisdiction/> [https://perma.cc/RW4F-WMEN].

162. See Int'l Ctr. Transnat'l Just., *Advancing Global Accountability: The Role of Universal Jurisdiction in Prosecuting International Crimes*, 23–25 (Dec. 2020).

163. Tsilonis, *supra* note 157 (discussing the criminalization of ecocide at the international criminal law level).

164. See generally Giovanni Chiarini, *Ecocide: From the Vietnam War to International Criminal Jurisdiction? Procedural Issues In-Between Environmental Science, Climate Change, and Law*, 21 CORK ONLINE L. REV. 1, 22–27 (2022) (discussing procedural amendments); see also Giovanni Chiarini, *Ecocide and International Criminal Court Procedural Issues: Additional Amendments to the 'Stop Ecocide Foundation' Proposal 14–15* (UCC Legal Rsch. Series, Working Paper No. 15, 2021).

165. Rome Statute, *supra* note 14, art. 36(3)(b).

(i) Have established competence in criminal law and procedure, and the necessary relevant experience, whether as judge, prosecutor, advocate or in other similar capacity, in criminal proceedings; or

(ii) Have established competence in relevant areas of international law such as international humanitarian law and the law of human rights, and extensive experience in a professional legal capacity which is of relevance to the judicial work of the Court[.]

The proposed amendment, which would result in the addition of a paragraph (iii) to the above-mentioned norm, could be formulated as follows:

(iii) Have established competence in environmental law, international law of the sea, animal law, and other relevant environmental law-related areas, such as climate change law, and extensive experience in a professional legal capacity which is of relevance to the judicial work of the Court;

Introducing this Proposed Amendment would require additional amendments for the harmonization of the new discipline. One of those amendments would include changing the legal framework provided by Article 36(5).¹⁶⁶ This norm states:

5. For the purposes of the election, there shall be two lists of candidates:

List A containing the names of candidates with the qualifications specified in paragraph 3(b)(i); and List B containing the names of candidates with the qualifications specified in paragraph 3(b)(ii).

A candidate with sufficient qualifications for both lists may choose on which list to appear. At the first election to the Court, at least nine judges shall be elected from list A and at least five judges from list B. Subsequent elections shall be so organized as to maintain the equivalent proportion on the Court of judges qualified on the two lists.

This Article recommends introducing List C to cohere Article 36(5) with the Proposed Amendment and reads as follows:

... and List C containing the names of candidates with the qualifications specified in paragraph 3(b)(iii).

Moreover, as the former ICC Judge and Vice President Cuno Jakob Tarfusser highlights that the ICC somehow lacks competence in

166. *Id.* art. 36(5).

criminal procedure and practical experience,¹⁶⁷ an additional amendment should be introduced into Article 36(5) to increase the number of judges with expertise in criminal law and procedure – replacing the sentence “Subsequent elections shall be so organized as to maintain the equivalent proportion on the Court of judges qualified on the two lists” with the following:

Subsequent elections shall be so organized as to maintain 2/3 of the judges qualified on list A and 1/3 of the judges qualified on lists B and C, with judges qualified on lists B and C in equivalent proportions.

C. Creating a Special Prosecutor for Ecocide

Similarly, this Article proposes amendments to introduce a Special Prosecutor for Ecocide and Crimes Against the Environment, keeping the Chief Prosecutor and the two Deputy Prosecutors, as set by the current legal framework. The amendment would be made (alongside several changes to the Regulations of the Prosecutor, the Regulations of the Registry, the Regulations of the Court, the Rules of Procedure and Evidence, and the OTP Policy Paper)¹⁶⁸ with the addition of an Article 42 bis into the Rome Statute, as follows:

Article 42 bis. Office of the Special Prosecutor for Ecocide and Crimes Against the Environment.

1. The Office of the Special Prosecutor for Ecocide and Crimes Against the Environment shall act independently as a separate organ of the Court and as a separate organ of the OTP. It shall be responsible for receiving referrals and any substantiated information on the crime of ecocide and crimes against the

167. Cuno Jakob Tarfusser & Giovanni Chiarini, *Can We Return to the Law, Please? Rethinking the Judicial Interpretation of Procedural Rules in the ICC—A Conversation with Judge Tarfusser After the Gbagbo-Blé Goude Appeal Judgment*, OPINIO JURIS (Apr. 13, 2021), <http://opiniojuris.org/2021/04/13/can-we-return-to-the-law-please-rethinking-the-judicial-interpretation-of-procedural-rules-in-the-icc-a-conversation-with-judge-tarfusser-after-the-gbagbo-ble-goude-appeal-judgment/> [https://perma.cc/Z5KJ-GXV5] (“For sure, it is a fact that the majority of the judges elected to serve the Court (as well as the overwhelming majority of legal officers) have never put foot into a court of law before coming to the ICC. Thus, they are not familiar with the criminal law and even less with the criminal procedure.”).

168. This Article, however, does not further discuss or examine these suggested changes. See Int’l Crim. Ct. [ICC], *Regulations of the Office of the Prosecutor*, ICC Doc. ICC-BD/05-01-09 (Apr. 23, 2009); Int’l Crim. Ct. [ICC], *Regulations of the Registry*, ICC Doc. ICC-BD/03-03-13 (Mar. 6, 2006); Int’l Crim. Ct. [ICC], *Regulations of the Court*, ICC Doc. ICC-BD/01-05-16 (May 26, 2004); Int’l Crim. Ct. [ICC], *Rules of Procedure and Evidence*, ICC Doc. ICC-PIDS-LT-02-002/13_Eng (2005); Int’l Crim. Ct. [ICC], *Policy Paper on Case Selection and Prioritisation* (Sept. 15, 2016).

environment within the jurisdiction of the Court, for examining them, and for conducting investigations and prosecutions before the Court.

2. The Office of the Special Prosecutor has exclusive competence on the crime of ecocide and crimes against the environment, and acts independently of the OTP while investigating and prosecuting those crimes. The Office of the Special Prosecutor is composed by the Special Prosecutor and assisted by one or more Deputy Prosecutors, who may carry out any of the acts required by the Special Prosecutor under this Statute. The Special Prosecutor and the Special Deputy Prosecutor shall possess different nationalities. They shall both serve on a full-time basis.

3. The Special Prosecutor and the Special Deputy Prosecutor shall be persons of high moral character, be highly competent in and have extensive practical experience in the prosecution or trial of criminal cases, and have excellent knowledge of ecocide and crimes against the environment. They shall have an excellent knowledge of and be fluent in at least one of the working languages of the Court.

4. The rules set out in paragraphs 4, 5, 6, 7, and 8 of Article 42 of the Rome Statute regarding the OTP applies to the Office of the Special Prosecutor and Special Deputy Prosecutor.

5. The Special Prosecutor shall appoint advisers with legal expertise on specific issues, including, but not limited to, climate change law, environmental law, international law of the sea, and animal law.

The Special Prosecutor would serve as tangible potential for conducting thorough investigations into ecocide. This would involve skillfully orchestrating a team of advisors possessing diverse legal proficiencies across a range of disciplines, including climate change law, environmental law, international law of the sea, and animal law. Such strategic coordination underscores the intricate nature of ecocide cases and underscores the necessity for a multidisciplinary approach to navigate the complex legal terrain governing environmental offenses.

V. CONCLUSION

Despite the limitations of the ICC, introducing “ecocide” as a fifth international crime under the Rome Statute can 1) provide a nascent but necessary legal attempt to hold those accountable for causing environmental harm under international law and 2) further legitimize universal jurisdiction.

Two modern templates to follow, in war and peace, exist: air pollution created from the Russian invasion of Ukraine and the

suspected water pollution hatched from Japan's decision to dispose treated radioactive water into the Pacific Ocean. Under the definition of ecocide proposed by the Stop Ecocide Foundation, both would justify at least an opening of a preliminary examination, to shed light to these situations on which environmental harm is discussed by the scientific community but not yet by the international criminal law community, so enforcing the dialogue between the International Criminal Court and environmental sciences experts.

The amendments indicated above, surely perfectible and negotiable, may constitute a flashpoint for the future establishment of a Special Chamber for the Crime of Ecocide and Crimes Against the Environment within the ICC. This proposal vindicates, step-by-step, the prosecution of ecocide as a main pillar of international criminal justice, with also great hope for the establishment of a special and independent tribunal for the environment, and with all the U.N. member states as parties.