

# The protection of the natural environment under international humanitarian law: The ICRC's 2020 Guidelines

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## Abstract

*In 2020, the International Committee of the Red Cross's work on the protection of the natural environment under international humanitarian law (IHL) produced the Committee's Guidelines on the Protection of the Natural Environment in Armed Conflict (ICRC Guidelines), an update of their 1994 predecessor. The ICRC Guidelines consist of thirty-two rules and recommendations under IHL, each accompanied by a commentary explaining their legal basis and providing guidance for interpretation. This article presents an overview of the context surrounding the*

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*Guidelines, certain key legal content, and practical implications for the conduct of parties to armed conflict as they fight.*

**Keywords:** international humanitarian law, natural environment, environmental protection, armed conflict, war, climate change.



## Introduction

In 2020, the International Committee of the Red Cross's (ICRC) work on the protection of the natural environment under international humanitarian law (IHL) produced the Committee's *Guidelines on the Protection of the Natural Environment in Armed Conflict* (ICRC Guidelines),<sup>1</sup> an update to their 1994 predecessor. The ICRC Guidelines consist of thirty-two rules and recommendations under IHL, each accompanied by a commentary explaining their legal basis and providing guidance for interpretation. This article presents an overview of the context surrounding the Guidelines, certain key content, and implications for the practice of parties to armed conflict. Rather than presenting each Guideline in turn – an exercise that would be tantamount to writing a new set of commentaries – the article focuses on ten salient issues of context, law and practice characterizing the application of the Guidelines in contemporary armed conflicts.

The ecological, scientific and legal context in which parties to armed conflict conduct military operations are the subject of the first four issues addressed, namely: the environmental crisis threatening humanity's survival, advancements in scientific and technological capacity to assess environmental damage, the provenance of the Guidelines, and their relationship with the International Law Commission's (ILC) Principles on the topic. The next four issues are headlining legal questions shaping the behaviour of parties to armed conflict towards the environment as they fight: how the natural environment is factored into the general conduct of hostility rules; interpreting the widespread, long-term and severe threshold of unlawful environmental damage; prospects for protected environmental zones during conflict; and when international criminal law accountability might apply to conflict-related environmental damage. The final set of issues relate to the implementation of the ICRC Guidelines in practice: their relevance for non-State armed groups, and key recommendations and good practice to guide future action.

1 ICRC, *Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary*, Geneva, September 2020 (ICRC Guidelines). The Guidelines are available in Arabic, English, Chinese, French, Spanish, Portuguese, Russian and Ukrainian. All paragraph citations in the main text of this article refer to the ICRC Guidelines.

## Issues of context

### Issue 1: Fighting without a Planet B: War in the climate and environment crisis

The main impetus for the development of the ICRC Guidelines was the environment and climate crisis posing an existential threat to humankind.<sup>2</sup> Hostilities are embedded in contexts marred by these interlocking crises: biodiversity worldwide has plummeted at an unprecedented rate in human history over the past fifty years,<sup>3</sup> with conflict an indirect driver of the loss.<sup>4</sup> This is dangerous because biodiversity and ecosystems are crucial to sustaining human life and supporting human adaptation to climate change: in 2022, the Sixth Assessment Report of Working Group II of the Intergovernmental Panel on Climate Change found, with high confidence, that human and ecosystem vulnerability are interdependent, and, with very high confidence, that safeguarding biodiversity and ecosystems is fundamental to climate-resilient development.<sup>5</sup> Thus, as ecosystems are damaged – including by hostilities – climate adaptation becomes more difficult, causing further distress to conflict-affected communities that are already the most exposed.<sup>6</sup>

The ICRC Guidelines seek to equip warring parties with guidance to begin grappling with this reality of environmental breakdown. Undoubtedly, there is much environmental damage caused by the dynamics of armed conflict that IHL does not address, but within their scope, the Guidelines present a framework for action under the body of law most familiar to modern militaries (whose environmental impacts are far from negligible). As the environment becomes less capable of absorbing the shocks of combat damage, greater respect for the IHL obligations reflected in the Guidelines can reduce the harm that conflict-affected communities are exposed to.<sup>7</sup>

2 *Ibid.*, p. 4. See paras 1–3 regarding environmental impacts of armed conflict.

3 The *Global Assessment Report on Biodiversity and Ecosystem Services* prepared by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) paints a grim picture of accelerated deterioration worldwide: natural ecosystems have declined by almost 50% on average relative to their earliest estimates, and around 25% of species are close to extinction. IPBES, *The Global Assessment Report on Biodiversity and Ecosystem Services: Summary for Policymakers*, IPBES Secretariat, Bonn, 2019, p. 25.

4 *Ibid.*, p. 25. It is also frequently cited that between 1950 and 2000, 80% of all major armed conflicts took place directly in biodiversity hotspots: Thor Hanson *et al.*, “Warfare in Biodiversity Hotspots”, *Conservation Biology*, Vol. 23, No. 3, 2009. See also the article by Elaine Hsiao *et al.* in this issue of the *Review*: Elaine (Lan Yin) Hsiao, Adrian Garside, Doug Weir and Andrew J. Plumtre, “Protected Zones in Context: Exploring the Complexity of Armed Conflicts and Their Impacts on the Protection of Biodiversity”, *International Review of the Red Cross*, Vol. 105, No. 924, 2023.

5 Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Summary for Policymakers, Cambridge University Press, Cambridge, 2022, pp. 12, 32.

6 See, further, ICRC, *When Rain Turns to Dust: Understanding and Responding to the Combined Impact of Armed Conflicts and the Environment and Climate Crisis on People’s Lives*, Geneva, 2020, p. 17.

7 See the ICRC’s related call to parties to armed conflict in Peter Maurer, “Protecting the Environment in Armed Conflict: An ICRC View,” *Environmental Policy and Law*, 23 February 2021, available at: <https://>

## Issue 2: Understanding environmental damage in an era of scientific and technological advancement

In the three decades since the first iteration of the ICRC Guidelines was released, environmental science has advanced in leaps and bounds. The Guidelines urge parties to armed conflict to take account of this advancement; today the global community has a more sophisticated understanding of the interrelationships in ecological and human health, and of the direct and indirect environmental impacts of armed conflicts.<sup>8</sup> For example, United Nations Environment Programme (UNEP) post-conflict environmental assessments and civil society now more systematically document how the environment is damaged in war (whether or not there are black-smoke-filled skies from blazing oil preoccupying public attention).<sup>9</sup> Part of this improvement in understandings of environmental impacts has been driven by technological advancement: for example, Zwijnenburg and Ballinger have examined how internet access, smartphone technology and remote sensing data from satellite systems have revolutionized the documentation of links between war and environmental damage over the last decade.<sup>10</sup> In view of these advancements, the time-worn descriptor of the environment as a “silent victim” of armed conflict can hopefully be consigned to previous decades.

States, too, are increasingly leveraging scientific data and new technologies to assess the environmental impacts of their military operations. In a 2023 State expert meeting on “International Humanitarian Law: Protecting the Environment In Armed Conflicts”, convened by the ICRC and Switzerland, States gave examples of the use of geospatial analysis as well as dedicated databases or data sheets to track military activities, products or services that impact the environment in order to inform the planning and conduct of their operations.<sup>11</sup> It is practices such as these that the ICRC Guidelines seek to amplify and encourage.

[environmentalpolicyandlaw.com/news-blog/protecting-natural-environment-armed-conflicts-icrc-view](https://environmentalpolicyandlaw.com/news-blog/protecting-natural-environment-armed-conflicts-icrc-view) (all internet references were accessed in September 2023).

- 8 See, for example, the commentary on taking contemporary and empirical knowledge into account in the planning and conduct of military operations in paras 54, 58, 65, 118 and 334.
- 9 UNEP has carried out such assessments in contexts including Iraq, Albania, Afghanistan and the Democratic Republic of the Congo: see ICRC Guidelines, above note 1, Bibliography, p. 126. See also Amnesty International *et al.*, *Witnessing the Environmental Impacts of War: Environmental Case Studies from Conflict Zones around the World*, November 2020. Non-governmental organizations such as the Conflict and Environment Observatory (CEOBS) and PAX also document the environmental footprint of military operations, conflict-related deforestation, and other environmental impacts linked to conflict in contexts including Syria, Ukraine and Yemen: see CEOBS, “Military and the Environment”, available at: <https://ceobs.org/topics/military-and-the-environment/>; PAX, “Publications”, available at: <https://paxforpeace.nl/publications/>.
- 10 See the article by Wim Zwijnenburg and Ollie Ballinger in this issue of the *Review*: Wim Zwijnenburg and Ollie Ballinger, “Leveraging Emerging Technologies to Enable Environmental Monitoring and Accountability in Conflict Zones”, *International Review of the Red Cross*, Vol. 105, No. 924, 2023.
- 11 ICRC and Switzerland, *State Expert Meeting on International Humanitarian Law: Protecting the Environment in Armed Conflicts: Chair’s Summary*, 2023 (Chair’s Summary), p. 10, available at: [www.icrc.org/en/document/chairs-summary-report-state-expert-meeting-ihl-protecting-natural-environment-armed](http://www.icrc.org/en/document/chairs-summary-report-state-expert-meeting-ihl-protecting-natural-environment-armed). The Chair’s Summary is also available in Arabic, Chinese, French, Spanish and Russian.

### Issue 3: The ICRC Guidelines: Background and methodology

Set within this context of global environmental crisis and contemporary scientific and technological advancement, in 2020 the ICRC released its updated *Guidelines on the Protection of the Natural Environment in Armed Conflict*. The Guidelines set out thirty-two rules and recommendations under IHL – a “one-stop shop” of relevant IHL addressing the natural environment. They are the updated iteration of their 1994 predecessor, which were initially requested by the United Nations (UN) General Assembly in the wake of the dramatic environmental damage that occurred during the 1990–91 Gulf War.<sup>12</sup> The 2020 Guidelines reflect the developments in international law that have taken place since 1994, and a concise commentary accompanies each rule or recommendation to aid understanding and to clarify its source and applicability. The Guidelines are, in a nutshell, intended to be a tool to facilitate the adoption of concrete implementation measures to strengthen the protection of the natural environment in armed conflict. Like their 1994 predecessor, they focus on how IHL protects the natural environment; the interaction between IHL and other bodies of international law is not the focus but is briefly addressed in preliminary considerations (paras 25–41).

The Guidelines are published under the sole authority of the ICRC, representing the ICRC’s legal interpretation of existing IHL rules. They should not be interpreted as limiting or prejudicing existing obligations under international law or as creating or developing new ones (para. 12). The ICRC’s mandate pursuant to the Statutes of the International Red Cross and Red Crescent Movement, approved by States party to the 1949 Geneva Conventions, includes working “for the understanding and dissemination of knowledge of IHL” and “for the faithful application of IHL”.<sup>13</sup> The update of the Guidelines was undertaken in line with this mandate.

The starting point for the development of the 2020 Guidelines was the text of the 1994 version. The ICRC reviewed subsequent developments in treaty and customary IHL, drawing in particular on the clarifications provided by the ICRC’s 2005 Customary Law Study,<sup>14</sup> and updated the 1994 Guidelines to reflect these. The 2020 Guidelines rely on the Customary Law Study as it represents the ICRC’s reading of the status of customary law; the accompanying commentary refers to diverging views on the Study and, where relevant, the customary status of certain of

12 UNGA Res. 47/37, 9 February 1993, para. 4.

13 Statutes of the International Red Cross and Red Crescent Movement, 1986 (amended 1995 and 2006), Art. 5(2), available at: [www.icrc.org/en/doc/assets/files/other/statutes-en-a5.pdf](http://www.icrc.org/en/doc/assets/files/other/statutes-en-a5.pdf).

14 Jean-Marie Henckaerts and Louise Doswald-Beck (eds), *Customary International Humanitarian Law*, Vol. 1: *Rules*, and Vol. 2: *Practice*, Cambridge University Press, Cambridge, 2005, reprinted 2009 (ICRC Customary Law Study). References in the present article to page numbers in the ICRC Customary Law Study are to the 2009 reprint. PDFs of this publication are available at: [www.icrc.org/en/doc/assets/files/other/customary-international-humanitarian-law-i-icrc-eng.pdf](http://www.icrc.org/en/doc/assets/files/other/customary-international-humanitarian-law-i-icrc-eng.pdf) (Vol. 1) and [www.icrc.org/en/doc/assets/files/other/customary-international-humanitarian-law-ii-icrc-eng.pdf](http://www.icrc.org/en/doc/assets/files/other/customary-international-humanitarian-law-ii-icrc-eng.pdf) (Vol. 2, Parts 1 and 2). For ease of reference, links in individual footnotes to specific rules are also provided to the corresponding rule in the ICRC’s online Customary IHL Database, available at: <https://ihl-databases.icrc.org/en/customary-ihl>.

its rules. More specifically regarding interpretation methodology for specific treaty provisions, the ICRC applies the methodology for treaty interpretation set out in the 1969 Vienna Convention on the Law of Treaties, in particular Articles 31–33. Care was taken to ensure that the commentary of the Guidelines reflected State practice, including to ensure that the guidance is practicable. State consultations did not take place; however, to ensure that the Guidelines reflect diverging positions and cross-regional views, they were peer-reviewed by external practitioners and academics, including former or current government and military practitioners, who provided input and constructive critique in their personal capacity. The list of peer reviewers is provided as an Annex to the Guidelines.

Since the Guidelines' publication in September 2020, the ICRC has engaged in scores of public events and bilateral engagements to promote awareness of and compliance with IHL rules protecting the natural environment in conflict. The rest of this article attempts to capture the most frequently recurring issues that the ICRC has encountered throughout these engagements with State and other actors called on to interpret and apply IHL.

#### Issue 4: Momentum in international law

In tandem with the update of the ICRC Guidelines, the international legal community of States has generated a groundswell of momentum over the last decade to ensure that the environment is adequately protected in war. Resolutions and discussions in the UN General Assembly, the UN Environment Assembly and the UN Security Council have dedicated more attention to the topic, as have the UN Secretary-General's annual reports on the protection of civilians.<sup>15</sup> Most historically among these developments, the ILC's Principles on Protection of the Environment in Relation to Armed Conflicts (PERAC Principles) were the object of a UN General Assembly resolution adopted on 7 December 2022.<sup>16</sup> The PERAC Principles and the ICRC Guidelines share provenance: both were proposed to the ILC and the ICRC respectively by UNEP, in a report of the Nairobi Conference organized together with the ICRC and the Environmental Law Institute.<sup>17</sup> The completion of the PERAC Principles in 2022 thus represents over a decade of efforts to clarify and develop international law on this topic, and ushers in a new era of focus for international lawyers seized of this issue – from norm-setting to operationalization.<sup>18</sup>

15 An overview is given in the ICRC Guidelines, above note 1, paras 7–8; see also UNGA Res. ES-11/2, "Humanitarian Consequences of the Aggression against Ukraine", 28 March 2022, preambular paras 16, 18; Harvard Law School Program on International Law and Armed Conflict, "Catalogue of Practice of the U.N. Security Council Concerning the Environment, 1945–2021", available at: <https://pilac.law.harvard.edu/unsc-practice-concerning-the-environment>.

16 UNGA Res. 77/104, "Protection of the Environment in Relation to Armed Conflicts", 7 December 2022, Annex (PERAC Principles).

17 UNEP, *Protecting the Environment during Armed Conflict: An Inventory and Analysis of International Law*, Nairobi, 2009, pp. 52–53, Recommendations 2, 3.

18 See the interview with Marja Lehto in this issue of the *Review*: "Interview with Marja Lehto, Former International Law Commission Special Rapporteur on the Protection of the Environment in Relation to Armed Conflicts", *International Review of the Red Cross*, Vol. 105, No. 924, 2023.

The ICRC welcomes the finalization of the PERAC Principles and considers them to be complementary to the ICRC's efforts to strengthen the implementation of IHL rules protecting the natural environment.<sup>19</sup> The PERAC Principles complement the ICRC Guidelines in part because they have a broader temporal and material scope, drawing from branches of international law beyond IHL including international environmental law and international human rights law. Moreover, like the ICRC Guidelines, they also reflect that the IHL principles and rules on distinction, proportionality and precautions apply to the natural environment, and promote a recommendation to grant additional place-based protection to areas of particular environmental importance and fragility.<sup>20</sup> Ultimately, both the PERAC Principles and the ICRC Guidelines reinforce each other's core objective of urging States and parties to armed conflict to protect the environment for present and future generations.

## Issues of law

Framed by this context of crises and momentum, the following section delves into four legal issues addressed by the ICRC Guidelines that are particularly salient to wartime environmental protection in 2023. It does not cover the IHL on this topic comprehensively (for example, it omits entirely certain rules in the Guidelines related to IHL's specific environmental protections, and weapons law); a fuller account can be found in the Guidelines themselves.

### Issue 5: The protection of the natural environment by the general rules on the conduct of hostilities

The ICRC Guidelines begin with the understanding that the “natural environment” constitutes the natural world together with the system of inextricable interrelations between living organisms and their inanimate environment, in the widest sense possible.<sup>21</sup> By default, it is civilian in character.<sup>22</sup> This reflects the fact that IHL classifies everything that can be the subject of an attack in a binary manner: civilian objects are all objects which are not military objectives. There is no “grey zone” in which a part of the natural environment is neither a military objective nor a civilian object. Recognition of the civilian character of the natural environment is reflected in State practice,<sup>23</sup> as well as in PERAC Principles 13(3) and 14.

19 Statement by the International Committee of the Red Cross at the UN General Assembly, 77th Session, Sixth Committee, in ILC, *Report of the International Law Commission on the Work of Its Seventy-Third Session*, UN Doc. A/77/10, 26 October 2022, available at: [www.un.org/en/ga/sixth/77/pdfs/statements/ilc/25mtg\\_icrc\\_1.pdf](http://www.un.org/en/ga/sixth/77/pdfs/statements/ilc/25mtg_icrc_1.pdf).

20 PERAC Principles, above note 16, Principles 4, 13(3), 14; ICRC Guidelines, above note 1, Rules 5–9, Recommendation 17.

21 For fuller detail, see ICRC Guidelines, above note 1, paras 15–17.

22 *Ibid.*, para. 18.

23 See ICRC Customary Law Study, above note 14, Vol. 1, Rule 43 and commentary, p. 143 (see [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1\\_rul\\_rule43](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule43), and the state practice thereto).



By virtue of its civilian character, the natural environment is protected by the general IHL rules governing the conduct of hostilities, and the interpretive guidance on these rules lies at the heart of the Guidelines' objective of better restraining the worst excesses of war wrought on the environment. Most quotidian and influential for contemporary conflicts are the protections provided to all parts of the natural environment as civilian objects by the IHL principles of distinction, proportionality and precaution. Without veering into wholesale repetition of the Guidelines' commentary, this section highlights some of the key interpretative guidance contained therein.

The principle of distinction – reflected in Rule 5 of the Guidelines – sets out that no part of the natural environment may be attacked unless it is a military objective. This does not mean it is always prohibited to direct an attack on any part of the natural environment; a distinct part thereof – for example, a specific cave – can nevertheless fulfil the definition of military objective according to the normal rules (para. 100). The distinct part of the natural environment in question must fulfill both prongs of the definition of a military objective, just as any object must do: it must, by its nature, location, purpose or use, make an effective contribution to military action, and its total or partial destruction, capture or neutralization, in the circumstances ruling at the time, must offer a definite military advantage. Questions are frequently raised as to how the definition might be fulfilled: regarding the first prong of the definition, the Guidelines give examples including a hill that may contribute effectively to the military action of enemy forces by location if it provides them with a vantage point over an adversary's camp, or the use of foliage in a specific forest area may contribute effectively to military action by providing concealment for a troop manoeuvre (para. 101). Regarding the second prong, the Guidelines caution that, for example, where a national park occupies a cherished place in a State's history and identity, attacking such a park may undermine national morale and political resilience – but this outcome is not a military advantage, so the national park cannot fulfil the definition of a military objective by this metric (para. 103). To give another example, a number of States consider that an area of land can fulfil the definition of military objective, and this position is widely accepted, including by the ICRC; for instance, IHL does not prohibit the use of mine-clearing line charges to make way for friendly forces through a field mined by the adversary, nor interdiction fire directed, for example, at a river crossing by which the adversary intends to move troops to mount an attack (para. 104). The Guidelines caution, however, that the general concept of an “area” must not be interpreted overly broadly such that, for example, a large expanse of forest is deemed to be a military objective simply because combatants are located in a small portion of it; only that portion of the forest which has been identified as directly contributing to military action will be liable to become a military objective, provided that the second prong of the definition is also fulfilled (para. 101).

Reflecting on the application of the principle of distinction to the natural environment, the ICRC Guidelines also address a number of common practices whereby militaries direct fire at or release a piece of ordnance on parts of the



natural environment in situations where such parts do not necessarily fulfil the definition of military objective. These include the calibration of artillery guns by firing a shell at empty open ground or a group of trees in order to improve accuracy, and fighter jets jettisoning unused pieces of ordnance in the ocean before returning to aircraft carriers in order to reduce the risk of accidents upon landing. The Guidelines explain that the ICRC does not consider the rule of distinction to outlaw these standard practices: even if such practices would amount to attacks in some circumstances, the Guidelines address these limited examples of widely held and uncontroversial practices in situations where the damage is minimal and is not the object of the operation as an exception to the rule (para. 105).

Rule 7 of the ICRC Guidelines sets out the rule of proportionality in attack: launching an attack against a military objective which may be expected to cause incidental damage to the natural environment which would be excessive in relation to the concrete and direct military advantage anticipated is prohibited. Clarity around how this applies to the environment has long been a preoccupation of the environmental community,<sup>24</sup> and is an issue to which the Guidelines' commentary (paras 114–122) seeks to respond. When assessing proportionality, the basic rule requires that parties to conflict must take into account incidental civilian harm, including to the natural environment, that is reasonably foreseeable based on an assessment of information from all sources available to them at the relevant time (paras 115–117). Of course, there is no precise formula for conducting proportionality assessments, and the assessment is highly fact-dependent, but there are nevertheless certain requirements. This obligation includes taking into account an attack's indirect effects on the natural environment (para. 117), and the scope of the obligation and the related question as to reasonable foreseeability will depend on an assessment of information from all sources available to the party at the relevant time, informed by past practices and empirical data (para. 118). As information regarding the long-term risks attendant to disruption of ecosystems increases, so too does the foreseeability of indirect effects, and incidental harm assessments must take such information into account (para. 118).

The weight given to various types of incidental civilian harm in a proportionality assessment will necessarily vary. For example, damage to the natural environment in the middle of an uninhabited desert will carry much less weight than damage to a natural water reservoir used by villagers for drinking or irrigation (para. 121). In other words, “all parts” of the natural environment are not equal for the purpose of proportionality assessments. An example of disproportionate incidental damage to the natural environment would be the burning of an entire forest to eliminate a single, small enemy camp of minor

24 In 2010, Bothe, Bruch, Diamond and Jensen identified the “lack of clarity about the practical issues of proportionality where environmental damage is collateral damage” as one of three challenges to protecting the environment in war: Michael Bothe, Carl Bruch, Jordan Diamond and David Jensen, “International Law Protecting the Environment during Armed Conflict: Gaps and Opportunities”, *International Review of the Red Cross*, Vol. 92, No. 879, 2010, p. 578.

importance.<sup>25</sup> To the extent that it constituted damage incidental to an attack, many experts considered that the pollution arising from the burning of oil fields and the deliberate spilling of millions of gallons of oil into the sea during the 1990–91 Gulf War was excessive in relation to the military advantage that may have been anticipated (para. 122).

Rule 8 of the ICRC Guidelines sets out obligations of precaution. It provides that in the conduct of military operations, constant care must be taken to spare the civilian population, civilians and civilian objects, including the natural environment, and that all feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects, including the natural environment. The Guidelines outline environmental factors to consider and examples of potential precautions that parties might take. The commentary also observes that there is bound to be some uncertainty as to the full impact of an attack on the environment and that the “precautionary principle” is of particular relevance to such an attack. In this respect, lack of scientific certainty as to the effects on the natural environment of certain military operations does not absolve a party to the conflict from taking precautions to avoid or minimize these effects (para. 124).

The meaning of the phrase “feasible precautions” is limited to those precautions which are practicable or practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations (para. 129). Specifically with regard to incidental damage to the natural environment, the area expected to be affected and the scope of those effects, the fragility or vulnerability of the natural environment in that area, the expected severity of the damage and the expected duration of damage are elements of the humanitarian considerations to be taken into account in assessing the feasibility of a specific precaution (para. 129). Examples of precautions in attack given in the ICRC Guidelines include assessing the environmental impact of the weaponry to be used and using available alternative weaponry that reduces the risk of damage to specific parts of the natural environment concerned (para. 133); assessments of the potential environmental impact of an attack, including the expected consequences of the weapons and ammunition used; mapping when planning attacks in or around areas of major environmental importance or fragility, for example by reference to existing resources such as the World Heritage List or the International Union for Conservation of Nature’s (IUCN) conservation databases (para. 134); and, when there is a choice, selecting the military objective the furthest from particularly vulnerable parts of the natural environment, such as underground aquifers, sensitive natural habitats or endangered species (para. 137).

25 Burning an entire forest may also raise issues under the prohibition of indiscriminate attacks (see notably Article 51(4)(c) of Additional Protocol I (AP I) and ICRC Guidelines Rule 6). Indeed, depending on how it is used, the effects of fire cannot be controlled in time and space: see ICRC Guidelines, above note 1, para. 112 and footnotes therein.

Today, militaries engage in a range of good practices to assess and minimize environmental damage as they conduct their operations in armed conflict. At the 2023 expert meeting of States on IHL and the protection of the environment in armed conflicts, delegations shared examples addressed under Issue 10 below.<sup>26</sup> To name just two examples of relevant military doctrine and instruction, the Joint NATO Doctrine for Environmental Protection during NATO-Led Military Activities contains a range of measures designed to assist militaries in assessing potential environmental damage and taking feasible steps to reduce it,<sup>27</sup> and the Instruction by the US Chairman of the Joint Chiefs of Staff on *No-Strike and the Collateral Damage Estimation Methodology* states that “[t]he [collateral damage estimation methodology] encompasses the joint standards, methods, techniques, and processes for a commander to conduct [collateral damage estimation] and mitigate unintended or incidental damage or injury to civilian or noncombatant persons or property or the environment”.<sup>28</sup> Military practices like these are crucial to putting IHL rules into practice; more are needed across armed forces worldwide.

The ICRC Guidelines also acknowledge a counter view among certain States under which parts of the natural environment that do not qualify as military objectives are not necessarily civilian objects and thus do not necessarily have to be considered in distinction, proportionality and precaution analyses. According to this “anthropocentric” view, a part of the natural environment would only constitute a civilian object when it is used or relied upon by civilians for their health or survival (paras 19–21). By contrast, in the ICRC’s view, IHL protects all parts of the natural environment *per se*, even if damaging them would not necessarily harm human health or survival in a reasonably foreseeable manner for the purposes of IHL assessments (para. 19). This approach recognizes the intrinsic dependence of all humans on the natural environment, as well as the still relatively limited knowledge of the effects of armed conflict on the complex relationship between civilian life and the environment. Moreover, it is scientifically unsound to argue that in the context of the modern environmental crisis, and faced with contemporary knowledge of the interlinkages between planetary and human health, damage to the environment during hostilities will frequently have no foreseeable impact on the health and survival of civilian populations.<sup>29</sup> The ICRC’s views on this point

26 Chair’s Summary, above note 11, pp. 9–12.

27 NATO, *Joint NATO Doctrine for Environmental Protection during NATO-Led Military Activities*, NATO Allied Joint Environmental Protection Publication, NATO STANAG 7141, AJEPP-4, Edition B, Version 1, March 2018 (Joint NATO Doctrine).

28 Chairman of the Joint Chiefs of Staff Instruction, *No-Strike and the Collateral Damage Estimation Methodology*, CJCSI 3160.01, 13 February 2009, Enclosure D, Joint Methodology for CDE, 1(c).

29 Joyeeta Gupta *et al.*, “Communicating the Health of the Planet and Its Links to Human Health”, *The Lancet: Planetary Health*, Vol. 3, No. 5, 2019, pp. 1–2; Joe McCarthy, “‘Planetary Health’: How the Environment and Global Health Are Interconnected”, *Global Citizen*, 7 April 2022, available at: [www.globalcitizen.org/en/content/planetary-health-explainer/](http://www.globalcitizen.org/en/content/planetary-health-explainer/). The UN Secretary-General has observed that the human right to life is meaningless if the ecosystems that sustain humankind do not exist: *Report of the Secretary-General: Harmony with Nature*, UN Doc. A/75/266, 28 July 2020, para. 41.

will be further elaborated in a piece by Vanessa Murphy *et al.* in a forthcoming issue of the *Review*.<sup>30</sup>

## Issue 6: Prohibition of widespread, long-term and severe damage to the natural environment

Beyond the general IHL rules, including those just addressed, are those set out in Part I of the ICRC Guidelines granting specific protection to the natural environment as such.<sup>31</sup> The most emblematic of these are found in the 1976 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention) and in Articles 35(3) and 55 of Additional Protocol I (AP I). These were adopted with the Vietnam War as a backdrop, marking a historic step towards protecting the environment in war. This section spotlights key components of the resulting prohibition on using methods or means of warfare that are intended, or may be expected, to cause widespread, long-term, and severe damage to the natural environment, restated in the Guidelines' Rule 2.<sup>32</sup> The prohibition is also the subject of PERAC Principle 13(2).

Citing the International Court of Justice's Advisory Opinion on the *Legality of the Threat of the Use of Nuclear Weapons*, the ICRC Guidelines underline that this rule is a "powerful constraint"; it provides specific and direct protection to the natural environment, beyond IHL's general protections (para. 49). Referring to Article 35(3) of AP I, ILC Special Rapporteur Marja Lehto noted similarly that this rule "has proved effective in preventing the kind of catastrophic damage it was intended to address" since the 1990–91 Gulf War.<sup>33</sup> It is worth highlighting, however, that the strength of Rule 2's prohibition is its "absolute ceiling of permissible destruction" (para. 49).<sup>34</sup> It prohibits environmental damage above this ceiling, even where a part of the natural environment could otherwise be lawfully targeted or incur damage arising from a lawful application of the principle of proportionality. In other words, all environmental damage meeting the required threshold is prohibited, regardless of considerations of military necessity or proportionality. It is for this reason that a high – cumulative – threshold of "widespread, long-term and severe" damage is required to trigger this rule.

30 Vanessa Murphy, Laurent Gisel, Helen Obregón Gieseken, Abby Zeith and Lindsey Cameron, "The Civilian Character of the Natural Environment: A Response to Keinan and Rosenthal", *International Review of the Red Cross*, forthcoming.

31 For further detail, see ICRC Guidelines, above note 1, pp. 29–47.

32 ICRC Customary Law Study, above note 14, Vol. 1, first sentence of Rule 45, p. 151 (see [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1\\_rul\\_rule45](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule45) and related practice). For more on the customary status of this rule, persistent objectors and diverging views see ICRC Guidelines, above note 1, paras 47–48.

33 Marja Lehto, *Third Report on Protection of the Environment in Relation to Armed Conflicts*, UN Doc. A/CN.4/750, 16 March 2022 (reissued for technical reasons on 26 April 2022), p. 58, in a discussion on the customary nature of Articles 35(3) and 55 of AP I.

34 ICRC Guidelines, above note 1, para. 49, citing US Army, *Operational Law Handbook*, 2015, p. 333; see also para. 116. See also M. Lehto, above note 33, p. 54.

The absolute threshold's "widespread, long-term and severe" parameters have long preoccupied attention. Although used in AP I, the terms are not defined therein, nor in its negotiating history or commentaries. Uncertainty around their meaning and the need for further clarity have captured legal discussions on enhancing environmental protection in war.<sup>35</sup> Taking stock of existing interpretive sources, the ICRC Guidelines' commentary on Rule 2 sets out several elements to inform a contemporary understanding of "widespread", "long-term" and "severe", a few of which are highlighted here.

The Guidelines begin with the terms' drafting history. During the AP I negotiations, a number of States understood that the interpretation of the Protocol's terms was different from the similar – but non-cumulative – terms used in the ENMOD Convention ("widespread, long-lasting or severe", paras 52–53).<sup>36</sup> However, little clarity was provided on how the terms in the ENMOD Convention and AP I differ, except for the views of some delegations on "long-term", and no official position was adopted. Since then, awareness of the need to limit environmental damage has continued to grow, together with international environmental law's evolution (para. 54). We also know more about the connectedness of different parts of the natural environment, how damage is caused, and climate risks and shocks.<sup>37</sup> What is certain is that in assessing the degree to which damage is widespread, long-term and severe, such current knowledge must be taken into account by those employing methods or means of warfare.<sup>38</sup> This could conceivably lead to a finding that a previous use of a method or means of warfare had consequences that – while not expected at the time – could meet the required threshold of harm if used today (para. 55). Beyond these touchstones, other elements, including UNEP's recommendation to use the ENMOD Convention precedents as a starting point, should inform a contemporary understanding of "widespread, long-term and severe".<sup>39</sup>

35 See, for example, UNEP, above note 17, p. 52; ICRC, *Strengthening Legal Protection for Victims of Armed Conflicts*, Report Submitted to the 31st International Conference of the Red Cross and Red Crescent, Geneva, October 2011, p. 15; Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold*, Martinus Nijhoff, Leiden, 2004; M. Bothe *et al.*, above note 24, p. 576.

36 The drafters of the 1976 ENMOD Convention adopted "Understandings" of the terms used in the Convention, noting that the interpretation given is for the purposes of that treaty and without prejudice to other international agreements: UN General Assembly, *Report of the Conference of the Committee on Disarmament*, Vol. 1, General Assembly Official Records, 31st Session, Supp. 27, UN Doc. A/31/27, 1976, p. 91.

37 Scholars are beginning to examine the links between climate change and IHL: see Karen Hulme, "Climate Change and International Humanitarian Law", in Rosemary Rayfuse and Shirley V. Scott (eds), *International Law in the Era of Climate Change*, Edward Elgar, Cheltenham and Northampton, MA, 2012. See also the article by Catherine-Lune Grayson *et al.* in this issue of the *Review*: Catherine-Lune Grayson, Amir Khouzam, Nishanie Jayamaha and Stephanie Julmy, "The Climate and Environment Charter for Humanitarian Organizations: Strengthening the Humanitarian Response to the Climate and Environment Crises", *International Review of the Red Cross*, Vol. 105, No. 924, 2023. See, further, the article by Stavros-Evdokimos Pantazopoulos in a forthcoming edition of the *Review*: Stavros-Evdokimos Pantazopoulos, "Protecting the Environment in Armed Conflict: The Legal and Policy Framework of the Future", *International Review of the Red Cross*, forthcoming.

38 Similarly, see ILC, *Report of the International Law Commission on the Work of Its Seventy-Third Session*, UN. Doc. A/77/10, 2022, Chap. V, "Protection of the Environment in Relation to Armed Conflicts" (ILC Commentaries on the Draft PERAC Principles), commentary on Draft Principle 13(2), para. 9.

39 UNEP, above note 17, p. 52. See also ICRC Guidelines, above note 1, paras 56, 60–61, 64, 67, 72.

Turning to the ICRC's views on each term, the Committee considers that "widespread" should be understood as referring to damage extending to "several hundred square kilometres", relying *inter alia* on the ENMOD Convention's understanding and subsequent practice to this effect (para. 60).<sup>40</sup> As the only existing legal definition of similar terms, using this base avoids the arbitrary attribution of a threshold that has never been fixed; the only understanding of "widespread" in AP I's *travaux préparatoires* is that it contemplates the "scope or area affected" (para. 56). The ICRC understands the "area affected" as that where damage is intended or may be expected to occur (para. 57). This includes damage caused directly in the geographical area where the method or means of warfare is used, but also – and equally relevant – indirect effects that spread or materialize beyond that area, provided they are intended or may be expected (para. 57). For example, the burning of oil wells during the 1990–91 Gulf War, which caused significant emissions of sulphur dioxides, nitrous oxide and carbon dioxide and the deposit of soot on more than half of Kuwait (roughly 8,000 square kilometres), has been cited as probably having satisfied the widespread test. Cumulatively, environmental damage to numerous smaller areas may also qualify as "widespread". Finally, contemporary knowledge of the effects of environmental damage, including its trans-regional nature, can serve to further inform interpretation of this term (para. 58).

The term "long-term" would cover damage somewhere between the range of that not considered to be short-term or temporary, such as artillery bombardment, and that with impacts in the range of years (possibly a scale of ten to thirty years) (para. 63). As outlined in the ICRC Guidelines (paras 61–63), the AP I *travaux préparatoires* provide indications as to the meaning of "long-term"; the Biotope Group referred to "a significant period of time, perhaps for ten years or more",<sup>41</sup> while some representatives referred to twenty or thirty years "as being a minimum".<sup>42</sup> At the opposite end of the spectrum, the negotiating history also shows that short-term environmental damage was not intended to be covered. Ultimately, however, no official position was adopted on the meaning of "long-term", and the Guidelines provide other touchstones that should be considered to inform its meaning so that this rule can be concretely applied (para. 64). In contrast to the ENMOD Convention precedent (i.e., "a period of months, or approximately a season"), the Guidelines state that the threshold would likely only be met when the effects of damage are felt or may be expected to be felt over a period of years and would have to be greater than only "a season", given that AP I provisions sought to cover damage or disruption to ecosystems on a large scale. Importantly, in addition to the direct effects of a given method or means of warfare, the duration of the indirect (or reverberating)

40 UN General Assembly, above note 36, p. 91.

41 *Report of the Chairman of the Group "Biotope"*, CDDH/III/GT/35, 11 March 1975, para. 5, reprinted in Howard S. Levie, *Protection of War Victims: Protocol I to the 1949 Geneva Conventions*, Vol. 3, Oceana, New York, 1980, para. 6.

42 *Official Records of the Diplomatic Conference of Geneva of 1974–1977*, Vol. 15, CDDH/215/Rev. I, Federal Political Department, Bern, 1978, para. 27.

effects should also be considered (paras 65–66). For instance, we know today that serious environmental contaminants and hazardous substances can remain in the natural environment for lengthy periods of time and cause – and continue to cause – harm to species, including humans. Taking these factors into account, damage not initially considered to fall under the “long-term” test could satisfy it today based on contemporary knowledge, even against a duration of thirty years.

Finally, turning to “severe”, this term should be understood to cover 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 (para. 72). In this respect, AP I’s negotiating history provides some insight, indicating an aim to prevent damage of a nature to significantly disrupt an ecosystem (para. 68). With reference specifically to the term in Article 55(1) of AP I, a factor to consider in assessing the severity of damage was if it “would be likely to prejudice, over a long term, the continued survival of the population or would risk causing it major health problems” (para. 69).<sup>43</sup> Increased contemporary knowledge of both the direct and indirect effects of a given method or means of warfare on the natural environment will be key, including those that may take a long time to manifest, such as teratogenic, mutagenic and carcinogenic effects (para. 70). Regarding precedent, effects resulting from the burning of the oil wells during the 1990–91 Gulf War have been cited as having met the “severe” test. The interdependency of elements of the natural environment, as well as of the natural environment and the population, must also be considered (para. 71). Finally, UNEP recommends that the ENMOD Convention understanding of “severe” (i.e., “serious or significant disruption or harm to human life, natural and economic resources or other assets”) should serve as the minimum basis for the development of a clearer definition (para. 72). Based on this understanding, effects “involving serious or significant disruption or harm to human life” or to “natural resources” would be covered. At least to the extent that effects on “economic resources or other assets” also result in disruption or damage to the ecosystem or harm to the health or survival of the population, these should also be considered.

## Issue 7: Accountability for war crimes that concern the natural environment

IHL rules set out in the ICRC Guidelines and obligations under international criminal law are the international legal basis for wartime environmental damage criminal accountability. Despite limited examples of individual accountability for war crimes concerning the natural environment to date,<sup>44</sup> there are existing

43 *Ibid.* Although impact on the health or survival of the population is the focus of Article 55(1), this is not to say that environmental damage must have this foreseeable effect in order to qualify as severe (though such effects on the population may of course be involved at this threshold). Article 35(3) differs from Article 55 in this respect. For more detail, see ICRC Guidelines, above note 1, paras 69, 73–75.

44 See *ibid.*, para. 318, which also cites examples of successful prosecutions.



avenues that international and domestic courts can – and should – consider more systematically. To shed light on these possibilities, this section focuses on obligations relating to the repression of war crimes that concern the natural environment.<sup>45</sup> It also briefly addresses how ongoing efforts related to the crime of “ecocide” could overlap with IHL regarding serious environmental damage in armed conflict.

Rule 28 of the ICRC Guidelines restates general IHL obligations on criminal accountability for war crimes, including those in the 1949 Geneva Conventions and AP I grave breaches provisions, in the 1998 Rome Statute of the International Criminal Court (ICC) as applicable, and in customary international law (para. 312) that are relevant for the protection of the natural environment.<sup>46</sup> In its commentary on Draft PERAC Principle 3, the ILC likewise reaffirms States’ obligation to investigate war crimes that concern the environment, such as “the pillaging of natural resources, and the extensive destruction and appropriation of property that is not justified by military necessity and is carried out wantonly and unlawfully”.<sup>47</sup>

Among these war crimes, the most prominent – of considerable historical significance as the first to establish individual liability to cause harm to the natural environment as such, without requiring harm to be caused to humans – is Article 8 (2)(b)(iv) of the Rome Statute (para. 313).<sup>48</sup> However, other war crimes not specific to the natural environment can also provide protection to certain parts of it and open the door for criminal accountability (para. 314).<sup>49</sup> This is the approach suggested by the ICC Office of the Prosecutor’s recommendation that “crimes that are committed by means of, or that result in, inter alia, the destruction of the environment, the illegal exploitation of natural resources or the illegal dispossession of land” be considered in case selection and prioritization.<sup>50</sup> The ICRC Guidelines’ commentary provides an illustrative list of relevant Rome

45 For other rules related to respect, implementation and dissemination of IHL rules protecting the natural environment, see *ibid.*, Part IV.

46 For details, see *ibid.*, paras 312–318.

47 ILC Commentaries on the Draft PERAC Principles, above note 38, commentary on Draft Principle 3(1), para. 10.

48 Note, however, that there are views that this Rome Statute provision should be amended, including because environmental issues remain secondary to interests of military importance. See, for example, Jessica C. Lawrence and Kevin Jon Heller, “The Limits of Article 8(2)(b)(iv) of the Rome Statute, the First Ecocentric Environmental War Crime”, *Georgetown International Environmental Law Review*, Vol. 20, No. 1, 2007; Steven Freeland, *Addressing the Intentional Destruction of the Environment during Warfare under the Rome Statute of the International Criminal Court*, Intersentia, Cambridge, 2015, p. 206. For an overview of some of these views, see Matthew Gillett, *Prosecuting Environmental Harm before the International Criminal Court*, Cambridge University Press, Cambridge, 2022, Chap. 6, section 6.3.2.

49 See also ILC Commentaries on the Draft PERAC Principles, above note 38, commentary on Draft Principle 13(2), para. 10. For views on how other Rome Statute war crimes (as well as crimes against humanity and genocide) can be used to address environmental wartime damage, see S. Freeland, above note 48, pp. 213–214; Mark A. Drumbl, *Accountability for Property Crimes and Environmental War Crimes: Prosecution, Litigation, and Development*, International Center for Transitional Justice, New York, November 2009, p. 8; M. Gillett, above note 48, Chap. 2, section 2.3.3.3.

50 ICC Office of the Prosecutor, *Policy Paper on Case Selection and Prioritisation*, 15 September 2016, pp. 13–14, paras 40–41.

Statute war crimes that could be further considered by the ICC, as well as by national courts in their own contexts (paras 314–316).

Looking beyond existing crimes, since the 1970s there have also been initiatives to recognize ecocide as an international crime.<sup>51</sup> More generally, scholars have called for amendments to the Rome Statute or suggested other ways to strengthen criminal accountability for environmental damage.<sup>52</sup> Efforts to criminalize ecocide have accelerated in recent years, with proposals made at the ICC Assembly of States Parties to include it as a fifth category of crimes in the Rome Statute<sup>53</sup> and the adoption of a draft legal definition of ecocide by an international expert panel.<sup>54</sup>

Without opining on criminal responsibility for peacetime environmental harm, the ICRC notes that the expert panel's proposed crime of ecocide would apply both in peacetime and in war. Thus, certain elements of the ecocide definition could overlap with – and have an opportunity to cross-fertilize – existing IHL obligations and war crimes. This is also (and already) the case for domestic provisions on ecocide.<sup>55</sup> In particular, the crime of ecocide

51 See, for instance, Richard A. Falk, “*Environmental Warfare and Ecocide: Facts, Appraisal and Proposals*”, *Revue Belge de Droit International*, Vol. 9, No. 1, 1973. For a brief overview of some historical landmarks, see M. Gillett, above note 48, Chap. 6, section 6.3.2.3.

52 See M. Gillett, above note 48, Chap. 6, section 6.3.3 on the establishment of an International Court for the Environment; S. Freeland, above note 48, pp. 222, 226, 245 on amending the Rome Statute with Article 8ter, recognizing a standalone crime against the environment.

53 Written Statement of the Republic of Maldives, 18th Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, 3 December 2019, p. 2, available at: [https://asp.icc-cpi.int/sites/asp/files/asp\\_docs/ASP18/GD.MDV.3.12.pdf](https://asp.icc-cpi.int/sites/asp/files/asp_docs/ASP18/GD.MDV.3.12.pdf); Statement of the Republic of Vanuatu, 18th Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, 3 December 2019, pp. 3–4, available at: [https://asp.icc-cpi.int/sites/asp/files/asp\\_docs/ASP18/GD.VAN.2.12.pdf](https://asp.icc-cpi.int/sites/asp/files/asp_docs/ASP18/GD.VAN.2.12.pdf). Belgium voiced the same call in 2020: see Statement of the Kingdom of Belgium, 19th Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, 14–16 December 2020, p. 4, available at: [https://asp.icc-cpi.int/sites/asp/files/asp\\_docs/ASP19/GD.BEL.14.12.pdf](https://asp.icc-cpi.int/sites/asp/files/asp_docs/ASP19/GD.BEL.14.12.pdf). During the 20th and 21st sessions of the ICC Assembly of State Parties, New Zealand and Samoa encouraged future discussions on ecocide, Belgium supported the criminalization of ecocide, and Finland suggested “making better use of the Rome Statute as it stands”: see Statement of the Kingdom of Belgium, 20th Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, 6 December 2021, p. 2, available at: [https://asp.icc-cpi.int/sites/asp/files/asp\\_docs/ASP20/ASP20.GD.BEL.07.12.pdf](https://asp.icc-cpi.int/sites/asp/files/asp_docs/ASP20/ASP20.GD.BEL.07.12.pdf); Statement of the Independent State of Samoa, 20th Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, 6–11 December 2021, p. 2, available at: [https://asp.icc-cpi.int/sites/asp/files/asp\\_docs/ASP20/ASP20.GD.SAM.06.12.pdf](https://asp.icc-cpi.int/sites/asp/files/asp_docs/ASP20/ASP20.GD.SAM.06.12.pdf); Statement of New Zealand, 21st Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, December 2022, p. 2, available at: [https://asp.icc-cpi.int/sites/asp/files/2022-12/ASP21.GD\\_NZL\\_05.12.pdf](https://asp.icc-cpi.int/sites/asp/files/2022-12/ASP21.GD_NZL_05.12.pdf); Statement of the Republic of Finland, 20th Session of the Assembly of State Parties to the Rome Statute of the International Criminal Court, 6 December 2021, p. 3, available at: [https://asp.icc-cpi.int/sites/asp/files/asp\\_docs/ASP20/ASP20.GD.FIN.06.12.pdf](https://asp.icc-cpi.int/sites/asp/files/asp_docs/ASP20/ASP20.GD.FIN.06.12.pdf).

54 Stop Ecocide International, *Independent Expert Panel for the Legal Definition of Ecocide: Commentary and Core Text*, June 2021, available at: <https://tinyurl.com/4yrt7jkt>. The draft definition has been the object of considerable discussion: see, for example, Kevin J. Heller, “Skeptical Thoughts on the Proposed Crime of ‘Ecocide’ (That Isn’t)”, *Opinio Juris*, 23 June 2021, available at: <https://opiniojuris.org/2021/06/23/skeptical-thoughts-on-the-proposed-crime-of-ecocide-that-isnt/>; Kai Ambos, “Protecting the Environment through International Criminal Law?”, *EJIL: Talk!*, 29 June 2021, available at: [www.ejiltalk.org/protecting-the-environment-through-international-criminal-law/](http://www.ejiltalk.org/protecting-the-environment-through-international-criminal-law/).

55 For examples of national laws criminalizing ecocide, see references in ICRC Guidelines, above note 1, fn. 208.

could provide elements to clarify and interpret IHL's "widespread, long-term and severe" threshold if similar terms are adopted as part of the ecocide definition, particularly given the comparable aim of the AP I provisions to cover large-scale damage or disruption to ecosystems.<sup>56</sup> Practice related to ecocide already aids interpretation of the type of "destruction" covered by IHL's prohibition on using the destruction of the natural environment as a weapon, understood to mean serious environmental damage like that observed in the 1990–91 Gulf war, or, indeed "ecocide" (paras 77–79). In turn, acts of ecocide could conceivably be informed by reference to violations of existing IHL rules, including the principles of distinction and proportionality (para. 77). Considering the above, beyond the potential to address wartime environmental damage through existing war crimes, domestic efforts related to accountability for ecocide could also contribute to greater accountability for IHL violations in the future.

## Issue 8: Protected environmental zones in armed conflict

We now turn from prospects for accountability to hopes for prevention of environmental damage in wartime. A future frontier for improved environmental protection in conflict is the pre-emptive establishment of protected zones to spare areas of particular environmental importance or fragility from hostilities. Because such zones often contain unique ecosystems and endangered species, in some cases damage to them could be irreversible – once they're gone, they're gone forever – or take decades to repair.<sup>57</sup> Damage is caused not only by hostilities but also by the dynamics of conflict economies and the erosion of governance systems. Species are killed and injured by landmines, flora is cleared to make way for military operations, poaching spikes as park guards flee violence, and conservation is disrupted.<sup>58</sup> Because of their unique value, hopes for preventative measures have recently centred around protected zones. Certainly, their establishment would be limited territorially, but the rationale is to prioritize the most valuable environments – some protection is better than no protection.

<sup>56</sup> See discussion on the "widespread, long-term and severe" threshold under Issue 6 above.

<sup>57</sup> IUCN, *Conflict and Conservation*, Nature in a Globalised World Report No. 1, Gland, 2021, pp. 11–17; International Law and Policy Institute, *Protection of the Natural Environment in Armed Conflict: An Empirical Study*, Report No. 12/2014, 2014, p. 6; UNEP, *The Mesopotamian Marshlands: Demise of an Ecosystem: Early Warning and Assessment Technical Report*, Nairobi, 2001, p. 34; UNEP, *UNEP in Iraq: Post-Conflict Assessment, Clean-Up and Reconstruction*, Nairobi, 2007, pp. 17–18.

<sup>58</sup> For examples of these impacts, see Scott Schlossberg, Michael J. Chase and Curtice R. Griffin, "Poaching and Human Encroachment Reverse Recovery of African Savannah Elephants in South-East Angola Despite 14 Years of Peace", *PLoS ONE*, Vol. 13, No. 3, 2017, p. 10, reporting that mines laid in Angolan national parks killed African elephants long after the Angolan conflict had ended; Sudan Government, Ministry of Environment and Tourism, *The Sudan's National Biodiversity Strategy and Action Plan*, May 2020, p. 40, available at: [www.cbd.int/doc/world/sd/sd-nbsap-01-p1-en.pdf](http://www.cbd.int/doc/world/sd/sd-nbsap-01-p1-en.pdf), reporting that a large proportion of diversity losses in plants and animals are caused directly or indirectly by war, and that heavy military machinery has significant physical effects on vegetation cover; Rene L. Beyers *et al.*, "Resource Wars and Conflict Ivory: The Impact of Civil Conflict on Elephants in the Democratic Republic of Congo – the Case of the Okapi Reserve", *PLoS ONE*, Vol. 6, No. 11, 2011; UNEP, *The Democratic Republic of the Congo: Post-Conflict Environmental Assessment: Synthesis for Policy Makers*, Nairobi, 2011, p. 28.

The ICRC Guidelines recommend that areas of particular environmental importance or fragility be identified and designated as demilitarized zones.<sup>59</sup> Based on multiple IHL rules (paras 203–213), Recommendation 17 provides that parties to a conflict should endeavour to conclude agreements providing additional protection to the natural environment, and under this rubric proposes establishing a demilitarized zone – in peacetime or during conflict – to exclude fighters and military objects from a prioritized area.<sup>60</sup> This would prevent parts of those zones from becoming military objectives, and also reduce the risk of them suffering incidental damage as a result of attacks against military objectives being located within them. The rationale behind express, deliberate designation is to offer military commanders the clarity needed to guide operational planning, such that they avoid conducting military operations within the zones or take them into account when applying the IHL principles of proportionality and precaution.<sup>61</sup> The Guidelines also note that refraining from locating troops or military material in important or fragile areas is one way precautions could be taken to protect the natural environment against the effects of attacks.<sup>62</sup>

There is re-emerging support for this form of voluntary agreement. With the same objective of enhancing area-based protection, Principle 4 of the PERAC Principles provides that “[s]tates should designate, by agreement or otherwise, areas of environmental importance as protected zones in the event of an armed conflict, including where those areas are of cultural importance”. Principle 18 protects such areas from attack in addition to any additional agreed protections.<sup>63</sup> The UN Secretary-General made a similar call in 2022,<sup>64</sup> and the practicality of such protection is subject to continued refinement in legal and environmental scholarship.<sup>65</sup>

59 ICRC Guidelines, above note 1, Recommendation 17, p. 82.

60 *Ibid.*, Recommendation 17, para. 208. Notably this does not exclude other conservation-related protections afforded to protected environmental areas under other bodies of law, which may apply concurrently.

61 The benefits of this clarity for the military planning process are also observed in the ILC Commentaries on the Draft PERAC Principles, above note 38, commentary on Draft Principle 18, para. 5. See also ICRC Guidelines, above note 1, commentary on Rule 8, pp. 59, para. 129, and p. 60, para. 134; ILC Commentaries on the Draft PERAC Principles, above note 38, commentary on Draft Principle 13, para. 7.

62 ICRC Guidelines, above note 1, paras 144–145; ICRC Customary Law Study, above note 14, Vol. 1, Rule 22 and commentary, p. 68 (see [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1\\_rul\\_rule22](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule22) and related practice); AP I, Art. 58(c).

63 PERAC Principles, above note 16, Principle 18.

64 In 2022, the UN Secretary-General called for “designating areas of particular environmental importance or fragility as demilitarized zones” in his annual report on the protection of civilians in armed conflict: *Protection of Civilians in Armed Conflict: Report of the Secretary-General*, UN Doc. S/2022/381, 10 May 2022, p. 19.

65 See the articles by Britta Sjöstedt and Karen Hulme and by Elaine Hsiao *et al.* in this issue of the Review: Britta Sjöstedt and Karen Hulme, “Re-evaluating International Humanitarian Law in a Triple Planetary Crisis: New Challenges, New Tools”, *International Review of the Red Cross*, Vol. 105, No. 924, 2023; E. Hsiao *et al.*, above note 4. See also e.g. M. Bothe *et al.*, above note 24, p. 577; Michael Bothe, “Protection of the Environment in Relation to Armed Conflicts”, in Dieter Fleck (ed.), *The Handbook of International Humanitarian Law*, Oxford University Press, Oxford, 2021, p. 344; Alice Louise Bunker, “Protection of the Environment during Armed Conflict: One Gulf, Two Wars”, *Review of European, Comparative and International Environmental Law*, Vol. 13, No. 2, 2004, p. 205; Karen

This recommendation is far from new, but its feasibility is improving. Since the 1970s, several proposals have sought to create a system of area-based protection for zones of particular environmental importance or fragility in armed conflict. A draft article to protect publicly recognized nature reserves was proposed during the negotiation of the 1977 Additional Protocols, but was not included in the final text.<sup>66</sup> The idea surfaced again in the expert meetings that led to the ICRC's 1994 Guidelines,<sup>67</sup> and the 1994 *San Remo Manual on International Law Applicable to Armed Conflicts at Sea* encourages parties to the conflict to agree that no hostile actions will be conducted in marine areas containing rare or fragile ecosystems or depleted, threatened or endangered species.<sup>68</sup> In 1996, the International Council of Environmental Law (ICEL) and IUCN Commission on Environmental Law developed a Draft Convention on the Prohibition of Hostile Military Activities in Internationally Protected Areas,<sup>69</sup> and in 2009 UNEP called for “[a] new legal instrument granting place-based protection for critical natural resources and areas of ecological importance during international and non-international armed conflicts”.<sup>70</sup>

The implementation of this recommendation by warring parties has so far stumbled due to three hurdles: selection criteria for relevant areas, objectivity of designation (to avoid strategic misuse of these areas to impede adversary military action), and the question of how to secure mutual agreement that selected areas be respected.<sup>71</sup> The first two hurdles could be overcome via recourse to the areas objectively determined under multilateral environmental agreements (MEAs); the ICRC Guidelines give an example of natural heritage sites designated under the World Heritage Convention, among other options.<sup>72</sup> The PERAC Principles

Hulme, “Armed Conflict and Biodiversity”, in Michael Bowman, Peter Davies and Edward Goodwin (eds), *Research Handbook on Biodiversity and the Law*, Edward Elgar, Cheltenham and Northampton, MA, 2016, p. 259; Britta Sjöstedt, *The Role of Multilateral Environmental Agreements: A Reconciliatory Approach to Environmental Protection in Armed Conflict*, Hart, Oxford and New York, 2020, p. 178.

66 Draft Article 48ter provided that “[p]ublicly recognized nature reserves with adequate markings and boundaries declared as such to the adversary shall be protected and respected except when such reserves are used specifically for military purposes”: Yves Sandoz, Christophe Swinarski and Bruno Zimmermann (eds), *Commentary on the Additional Protocols*, ICRC, Geneva, 1987, paras 2138–2139 (emphasis added).

67 See ICRC, *Meeting of Experts on the Protection of the Environment in Time of Armed Conflict*, Geneva, 27–29 April 1992: *Report on the Work of the Meeting*, Geneva, 1992, pp. 57–61 and Annex 3; ICRC, *Meeting of Experts on the Protection of the Environment in Time of Armed Conflict*, Geneva, 25–27 January 1993: *Report on the Work of the Meeting*, Geneva, 1993, pp. 50–54 and Annex 5.

68 Louise Doswald-Beck (ed.), *San Remo Manual on International Law Applicable to Armed Conflicts at Sea*, Cambridge University Press, Cambridge, 1995, Art. 11, and commentary thereto, p. 82.

69 IUCN and ICEL, *Draft Convention on the Prohibition of Hostile Military Activities in Internationally Protected Areas*, 1996, annexed to Wolfgang E. Burhenne, “The Prohibition of Hostile Military Activities in Protected Areas”, *Environmental Policy and Law*, Vol. 27, No. 4, 1997, pp. 375–376.

70 UNEP, above note 17, p. 54.

71 Observations on barriers are also made in K. Hulme, above note 65, p. 259; see also *Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts*, Geneva (1974–1977), Vol. 14, CDDH/III/SR.38, Federal Political Department, Bern, 1978, pp. 406–407, statements by the representatives of the Netherlands, Switzerland, the USSR and France.

72 ICRC Guidelines, above note 1, Recommendation 17, para. 208.

encourage the same recourse to MEAs.<sup>73</sup> This is attractive because the listing or designation of environmental areas under MEAs is typically reviewed or decided by an objective expert body, thereby insulating the process from manipulation by a party to armed conflict and building in some degree of ecological value (criteria varying according to the given MEA). This might help with the first two hurdles, but with respect to the third hurdle – securing mutual agreement between warring parties to designate and respect these zones – the Guidelines note that establishment in peacetime is one manner in which this could be achieved, and reiterate that some form of multilateral effort is likely the best way to do so systematically.<sup>74</sup> Demilitarizing such zones in time of peace would better enable States to plan and take preparatory measures to abide by the protected character of the zones once an armed conflict breaks out. Technical aspects that risk being neglected, practically unfeasible or politically unpalatable at the onset of an armed conflict have greater likelihood of being established as part of a preventive, rather than reactive, approach.

Finally, the feasibility of establishing such zones will require political will, and this is likely to remain a significant impediment – but there is some good practice from which to draw inspiration.<sup>75</sup> For example, national law on nature conservation in the Democratic Republic of the Congo provides that “[a]ny protected area enjoys, in times of peace as well as in times of armed conflict, the necessary status of neutrality and special protection against any act likely to violate its integrity and compromise the basic principles of conservation”.<sup>76</sup> The Congolese government’s conservation department has communicated with non-State armed groups regarding the maintenance of conservation efforts and the protection of national parks, with support from conservation organizations and UNESCO.<sup>77</sup> Some military manuals and guidance also feature encouragement to identify relevant zones: New Zealand’s *Manual of Armed Forces Law* provides that commanders are, wherever feasible, to avoid conducting combat operations in areas containing rare or fragile ecosystems,<sup>78</sup> and Denmark’s military manual identifies certain areas of natural heritage under the World Heritage Convention as examples of outstanding universal value that parties to a conflict could protect against the effects of armed conflict via mutual agreement.<sup>79</sup> The *Environmental Guidebook for Military Operations* published by Finland, Sweden and the United

73 ILC Commentaries on the Draft PERAC Principles, above note 38, commentary on Draft Principle 4, para. 5, making reference to the creation of protected areas under the Convention on Biological Diversity, the Montreux Records established by the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention), and the List of World Heritage in Danger under the Convention Concerning the Protection of the World Cultural and Natural Heritage.

74 ICRC Guidelines, above note 1, Recommendation 17, paras 209–210.

75 See also Issue 10 below.

76 Democratic Republic of the Congo, Law No. 14/003, 11 February 2015, Arts 42, 43.

77 For further details, see James Shambaugh *et al.*, *The Trampled Grass: Mitigating the Impacts of Armed Conflict on the Environment*, Biodiversity Support Program, Washington, DC, 2001, p. 48.

78 New Zealand, *Manual of Armed Forces Law*, Vol. 4: *Law of Armed Conflict*, 2nd ed., DM 69, August 2017, para. 14.11.3.

79 Denmark, *Military Manual on International Law Relevant to Danish Armed Forces in International Operations*, 1st ed., September 2016, pp. 219–220.



States in 2008 suggests collecting information including whether there are protected areas or rare species within or in the vicinity of a military base.<sup>80</sup> The Joint NATO Doctrine for Environmental Protection during NATO-Led Military Activities provides several guidelines to which commanders should, where practicable, adhere,<sup>81</sup> one of which includes identifying characteristics of the environment such as “natural and cultural resources”, the “presence of endangered species and critical habitats” and the “presence of birds or bird migration routes”.<sup>82</sup> Another provides for the identification of potential environmental impacts caused by military activities on wetlands and biological diversity, and the endangerment of natural and cultural resources.<sup>83</sup> In sum, practice and potential exists, but political will remains an open question.

## Issues of practice

### Issue 9: Compliance with IHL protecting the natural environment by non-State armed groups

Unlike their 1994 predecessor, the 2020 ICRC Guidelines expressly aim to serve as a reference for all parties to armed conflict, including non-State armed groups (para. 11). The majority of the IHL obligations contained in the Guidelines bind non-State armed groups: of the thirty-two rules and recommendations, at least twenty-two – and arguably twenty-five – contain provisions binding on such groups in certain conflicts.<sup>84</sup> For example, non-State armed groups are prohibited from attacking a part of the natural environment unless it is a military objective (Rule 5). They are prohibited from launching an attack against a military objective expected to cause incidental damage to the natural environment excessive in relation to the concrete and direct military advantage anticipated (Rule 7), and they must take all feasible precautions to avoid, and in any event minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects, including the natural environment (Rule 8). The destruction of any part of the natural environment by a non-State party to an armed conflict is prohibited, unless required by imperative military necessity (Rule 13), and the pillage of property constituting part of the natural environment is prohibited (Rule 14).

80 Timothy Bosetti *et al.*, *Environmental Guidebook for Military Operations*, FOI-S-2922-SE, Swedish Defence Research Agency, Umeå, 2008, p. 33 and Appendix 10, p. A10-5. The Guidebook was developed by representatives of defence organizations of Finland, Sweden and the United States. Although the Guidebook is designed for use by any sending nation, it consists of recommendations only and does not necessarily reflect official policy or doctrine.

81 Joint NATO Doctrine, above note 27, para. 2.2.2.

82 *Ibid.*, para. 2.2.2.b.

83 *Ibid.*, para. 2.2.2.c.

84 The following apply in whole or in part to non-State armed groups, with certain examples only applying to non-State armed groups party to an armed conflict to which Additional Protocol II applies, as indicated in the Guidelines commentary: Rules 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, Recommendations 17 and 18, Rules 19, 20, 21, 22, 23, 24, 26, 28, 29. Rules 1, 2, and 3(A) arguably also bind non-State armed groups.



Though these IHL obligations do not cover the full gamut of environmental problems in areas under the control of non-State armed groups in contemporary conflicts, they do provide a minimum set of requirements, the potential of which is sometimes overlooked.

The prevention of violations of these rules by non-State armed groups directs practitioners' attention to both formal and informal norms; both play a critical role in influencing the behaviour of non-State armed groups.<sup>85</sup> With respect to formal norms, integrating IHL's protection of the natural environment into the doctrine, training and compliance mechanisms of non-State armed groups can increase restraint, and – perhaps unsurprisingly given the intertwining of civilian fates with environmental protection – some non-State armed groups do feature IHL and other environmental protections in their codes of conduct. Scholarship has identified examples of commitments made in various contexts, including Colombia, Ethiopia, Iraq, Mali, Myanmar and Somalia.<sup>86</sup> Further collection and analysis of non-State armed groups' commitments and practices in this area would be valuable.

More tools for promoting such formal commitments would also help, and two recent ones tailored to non-State armed groups explicitly seek to reduce environmental damage. In 2021, the NGO Geneva Call developed a new Deed of Commitment on the Prevention of Starvation and Addressing Conflict-Related Food Insecurity, the preamble of which recognizes that IHL protects the natural environment.<sup>87</sup> The Deed can be signed by non-State armed groups, thereby offering them an opportunity to pledge respect for IHL on this topic, albeit via a brief reference. In 2023, the ICRC released a new operational handbook for armed groups; its guidance affirms that the natural environment must be protected, advises commanders to collect information about areas of environmental importance when planning operations, and promotes consideration of the likely damage resulting from attacks, including the immediate and longer-term consequences on the natural environment.<sup>88</sup> Rule 21

85 See ICRC, *The Roots of Restraint in War*, Geneva, 2018.

86 See examples in Thibaud de La Bourdonnaye, "Greener Insurgencies? Engaging Non-State Armed Groups for the Protection of the Natural Environment during Non-International Armed Conflicts", *International Review of the Red Cross*, Vol. 102, No. 914, 2021; Jonathan Somer, "Environmental Protection and Non-State Armed Groups: Setting a Place at the Table for the Elephant in the Room", CEOBS, 4 December 2015, available at: <https://ceobs.org/environmental-protection-and-non-state-armed-groups-setting-a-place-at-the-table-for-the-elephant-in-the-room/>; Laura Baron-Mendoza, "FARC-EP's Rebel Environmental Governance: Creating Legal Legacies of War", *Armed Groups and International Law*, 2 June 2023, available at: [www.armedgroups-international.org/2023/06/02/farc-eps-rebel-environmental-governance-creating-legal-legacies-of-war/](http://www.armedgroups-international.org/2023/06/02/farc-eps-rebel-environmental-governance-creating-legal-legacies-of-war/); Jairo Munive and Finn Stepputat, "How Non-State Armed Groups Engage in Environmental Protection", DIIS Policy Brief, Danish Institute for International Studies, 24 January 2023, pp. 2–3, available at: [www.diis.dk/en/research/how-non-state-armed-groups-engage-in-environmental-protection](http://www.diis.dk/en/research/how-non-state-armed-groups-engage-in-environmental-protection).

87 Geneva Call, "Geneva Call's New Deed of Commitment on the Prevention of Starvation and Addressing Conflict-Related Food Insecurity", 25 September 2021, available at: [www.genevacall.org/news/geneva-calls-new-deed-of-commitment-on-the-prevention-of-starvation-and-addressing-conflict-related-food-insecurity/](http://www.genevacall.org/news/geneva-calls-new-deed-of-commitment-on-the-prevention-of-starvation-and-addressing-conflict-related-food-insecurity/).

88 ICRC, *Reducing Civilian Harm in Urban Warfare: A Handbook for Armed Groups*, Geneva, 2023, pp. 13, 15, 16, 23.

of the accompanying “Example Rules for Fighters”, which aim to serve as a model code of conduct for armed groups, stipulates: “Respect all cultural objects, education facilities, places of worship and the natural environment.”<sup>89</sup>

Beyond formal IHL, preventing violations also involves reliance on value-based norms as a source of restraint. An exclusive focus on the ICRC Guidelines is not effective if removed from the values underpinning its norms; linking the law to local norms and values gives it greater traction. Specifically in contexts where Islam is used as part of the value system of weapons bearers, a number of parties to conflict have expertise in and look to the rules of the Islamic law of war as they fight, and can be more conversant in and loyal to these rules than to IHL. Scholars of the Islamic law of war are making headway in examining how its rules apply to environmental damage in armed conflict, and this could make an influential contribution to efforts to prevent damage in years to come, if appropriately leveraged in dialogue with relevant groups.<sup>90</sup>

While plenty of norms do bind non-State armed groups, there are nevertheless certain IHL obligations that either do not apply to them (for example, Rule 31 of the ICRC Guidelines regarding legal advisers, or Rule 32 regarding weapons review) or are only arguably applicable in non-international armed conflicts (e.g. Rules 1–3). In addition, some actions of non-State armed groups that damage the environment lie beyond the scope of IHL; examples might include unsustainable agricultural practices, the illegal trade of wildlife, or non-performance of conservation of protected areas designated under MEAs. In other words, there are certain “gaps” in the international law governing the environmental activities of non-State armed groups.

Three developments could offer a significant response to these gaps if their operationalization is pursued in the years ahead. First, the PERAC Principles do not make a distinction between international armed conflicts and non-international armed conflicts, and thus the Principles that apply during conflict govern the conduct of non-State armed groups, except where distinctions are made in the Principles or in their commentaries.<sup>91</sup> Second, Recommendation 18 of the ICRC Guidelines encourages parties to non-international armed conflicts to apply rules of IHL that enhance protection of the natural environment, without differentiating based on the conflict’s classification as international or non-international. Indeed, as can be said for civilian harm, legal explanations of the classification of a conflict do not alter the damage wrought by the conflict on the natural environment in practice, nor do they lighten the cost of such damage that future generations must bear.<sup>92</sup> Third and finally, scholarship is exploring models

89 *Ibid.*, p. 50.

90 See the article by Ahmed Al-Dawoody and Kelisiana Thynne in a forthcoming issue of the *Review*: Ahmed Al-Dawoody and Kelisiana Thynne, “Dialogue and Diligence: The Protection of the Natural Environment under Islamic Law as a Vector for International Humanitarian Law Implementation”, *International Review of the Red Cross*, forthcoming.

91 PERAC Principles, above note 16; ILC Commentaries on the Draft PERAC Principles, above note 38, commentary on Draft Principle 1, para. 3.

92 ICRC Guidelines, above note 1, paras 214–216.

that could be promoted – as a matter of policy – of environmental responsibilities under international human rights law and international environmental law based on the non-State armed groups’ level of territorial control.<sup>93</sup> The most pressing frontier for progress is thus the operationalization of both the existing law and gap-filling recommendations for the policy and practice of these groups.

## Issue 10: Recommendations and good practices related to IHL’s protection of the natural environment

The negative environmental impacts we continue to see in armed conflicts today attest to the urgency of accelerating efforts to enhance respect for existing IHL rules that set limits on the damage that States and non-State armed groups can lawfully cause to the natural environment in war, through better dissemination, implementation and enforcement.<sup>94</sup> IHL’s most important challenge continues to be lack of compliance with its rules.<sup>95</sup> The aim of the ICRC Guidelines is precisely to encourage and facilitate the adoption of concrete measures to enhance respect for IHL’s protection of the natural environment. They are a reference tool for States, parties to armed conflicts and other actors who may be called on to promote, implement, apply and enforce IHL addressing the natural environment.

To drive implementation forward, in the Guidelines the ICRC makes four key recommendations to States and parties to armed conflict on which it hopes to see change in the coming years (para. 14). First, States and other actors have more work to do to disseminate IHL rules protecting the natural environment, as reflected in the Guidelines, and to integrate these into the doctrine, education, training and disciplinary systems of armed forces and into national policy and legal frameworks. For instance, national IHL committees or similar entities could be tasked with advising and assisting national authorities in this regard.<sup>96</sup> Second,

93 See, for example, T. de La Bourdonnaye, above note 86, pp. 592–604.

94 For IHL rules relating to respect for, implementation and dissemination of IHL rules protecting the natural environment, see ICRC Guidelines, above note 1, Part IV; see also ICRC, *Bringing IHL Home: Guidelines on the National Implementation of International Humanitarian Law*, Geneva, 19 July 2021, p. 12 and the example of the pledge of Finland and the Finnish Red Cross at pp. 16 and 37. Further, see the pledges submitted at the 33rd International Conference of the Red Cross and Red Crescent, Geneva, 2019, jointly by the governments and National Red Cross and Red Crescent Societies (National Societies) of Denmark, Finland, Iceland, Norway and Sweden, and by the government of Burkina Faso, available at: <https://rcrcconference.org/about/pledges/search>; as well as the earlier pledge made by the governments of Denmark, Finland, Norway and Sweden and the respective National Societies of those countries, Pledge P1290, presented at the 31st International Conference of the Red Cross and Red Crescent, Geneva, 28 November–1 December 2011. And see Jani Leino, “Bringing IHL Home: The Protection of the Environment in War”, *Humanitarian Law and Policy Blog*, 12 October 2021, available at: <https://blogs.icrc.org/law-and-policy/2021/10/12/ihl-protection-environment-war/>.

95 ICRC, *International Humanitarian Law and the Challenges of Contemporary Armed Conflicts: Recommitting to Protection in Armed Conflict on the 70th Anniversary of the Geneva Conventions*, Geneva, 2019, pp. 72–77; ICRC, *Twelve Issues for 2022: What States Can Do to Improve Respect for International Humanitarian Law*, Geneva, 2022, pp. 16–20.

96 For instance, Slovenia organized consultations between the Austrian, French, German and Slovenian IHL committees, the Dutch IHL platform and the Portuguese Ministry of Foreign Affairs on IHL issues, focusing on strengthening coordination and promoting respect for IHL, and discussing issues related

States and parties to armed conflict can adopt and implement measures to increase understanding of the effects of war on the natural environment prior to and regularly during military operations, whenever feasible and operationally relevant to minimize the direct and indirect environmental impacts they may have. Third, States and parties to armed conflict can identify areas of particular environmental importance or fragility and designate them as demilitarized zones, barring all military action and the presence of troops and military material from these areas. Finally, they can exchange good practices and examples of measures to comply with IHL obligations protecting the natural environment, through activities such as conferences, military training and exercises, and regional forums.

For each of these recommendations, progress has already been made. There are a wealth of examples of good practices and measures on which to build. A related highlight since the ICRC Guidelines were published was the State expert meeting on IHL protecting the environment in armed conflicts organized by Switzerland and the ICRC in early 2023 for all States party to the Geneva Conventions, the aim of which was progress on implementation. The meeting brought together almost 380 experts, primarily from ministries of defence, the environment and foreign affairs, from over 120 countries. During the meeting, States shared challenges encountered for enhancing the protection of the environment in war and good practices to address them, though they did not always specify when the latter are undertaken as a matter of policy or of law. A few salient examples of (decontextualized) State practice from the meeting are set out below, but a more comprehensive overview can be found in the Chair's Summary of the meeting, prepared by Switzerland and the ICRC.<sup>97</sup>

The State expert meeting discussed three topics, the first of which was dissemination, training and integration of IHL rules regarding the protection of the natural environment at the national level, including proactively in peacetime. In this respect, States shared numerous examples of military doctrine, education and training that expressly incorporate relevant rules.<sup>98</sup> States have also created pools of specialized staff within the armed forces, including legal advisers, who are trained on IHL's environmental protections in order to provide specific advice to military commanders. As another area of good practice, States gave examples of domestic laws and regulations that regulate the assessment of the environmental effects of operations in the production of military equipment, or that criminalize unlawful acts against the environment in armed conflicts. Lastly, some armed forces draw from the expertise of other national authorities to identify environmental vulnerabilities and prevent environmental harm.

The second topic focused on assessing the effects of military operations on the natural environment, and the implications of this for operational planning and

to the protection of the environment in armed conflicts and climate change: ICRC, *Bringing IHL Home through Domestic Law and Policy: Report*, Fifth Universal Meeting of National Committees and Similar Entities on International Humanitarian Law, Geneva, 28 June 2022, p. 15, available at: [www.icrc.org/en/document/bringing-ihl-home-through-domestic-law-and-policy-report](http://www.icrc.org/en/document/bringing-ihl-home-through-domestic-law-and-policy-report).

97 Chair's Summary, above note 11.

98 *Ibid.*, section 1.2, pp. 5–7.

decision-making.<sup>99</sup> States shared practice on anticipating environmental aspects in planning from the beginning and throughout the operational cycle, for example by gathering environmental data on an area of operations prior to deployment and including this data in operational orders. Some States mentioned that they do, or have plans to, consult maps of areas of particular environmental importance or fragility in combat areas, and include environmental damage in post-strike “battle damage assessments” or “after-action reviews” to inform future operations. A State in the Sahel uses data sheets to record the impact of munitions in environmentally fragile zones, with the aim of informing choice of munitions in order to reduce the risk of bush fires. States also shared practice on how they inject environmental expertise into military planning by establishing staff or units that have specific environmental expertise and responsibilities within the armed forces. In the same vein, some armed forces’ planning personnel seek advice from agencies with environmental expertise where feasible, and States suggested that this could be supplemented by remote and open-source data. Finally, some States consider environmental impacts as they review the lawfulness of new weapons, means and methods of warfare.

The final topic of the meeting was the identification and designation of areas of particular environmental importance or fragility as demilitarized zones.<sup>100</sup> States shared practices related to both the identification and prioritization of relevant areas, and how they might be better protected in armed conflict beyond demilitarization measures. They gave examples of how they identify and designate different categories of protected areas under domestic frameworks as well as by reference to multilateral environmental agreements, though implications for the planning or conduct of military operations were not always clear. More specifically, some States shared examples of their military doctrine or guidance that identifies certain areas of particular environmental importance or fragility on their own territory, including maps used by troops in military training or operations. Turning to prospects for future improvements to policy and practice, States explored possibilities for including references to prioritized environmental areas in military training, and enhancing coordination with national environmental agencies. The importance of prioritization of protected areas was emphasized, to ensure that measures to take them into account are feasible and practical for armed forces. To begin with, such areas could be identified via recourse to existing peacetime frameworks that could then be further refined, for instance, based on key biodiversity areas or on the World Heritage Convention natural heritage sites. It was also recalled that the international legal framework on the rights of indigenous peoples would be an important consideration in any new measure to protect environmental areas in armed conflict. Finally, beyond full demilitarization, other alternative or additional measures were raised as possibilities for better protecting such areas,

99 *Ibid.*, section 2.2, pp. 9–12. See also Issue 5 above.

100 *Ibid.*, section 3.2, pp. 14–16. See also Issue 8 above.

including better collaboration between military and conservation actors around such zones, and informing adversaries of these areas.

The ICRC encourages States to continue to share and improve their practice. Environmental protection should be more of a reflex among decision-makers conducting military operations. Although progress can be incremental and slow, States and non-State armed groups can make practical, tailored improvements to lessen their contribution to the environment and climate crisis.

## **Conclusion**

The international community came together after the Vietnam War to enhance the protection of the environment during armed conflict. It did so again after the 1990–91 Gulf War. As global momentum to mitigate the effects of climate change and biodiversity decline swells, States must once again unite against this existential threat to all humankind. As part of these efforts, the ICRC asks States to incorporate the ICRC Guidelines into their military manuals and their national policy and legal frameworks, and stands ready to work with them towards this goal. The time is past when the environment was a silent casualty of war – today the international community understands that human and planetary health and survival are bound together. Wars won at the cost of the planet are pyrrhic; militaries position themselves otherwise at their own – and humankind's – peril.