

Animals in the International Law of Armed Conflict

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Animals in Protected Zones

Matthew Gillett

1 INTRODUCTION

Although human values are of axiomatic importance to international humanitarian law (IHL),¹ this field of law can also protect non-humans.² Examining the capacity of IHL to shield animals from the ravages of war is critical. As anthropocentric harm to the environment escalates in this globalized age, we stand on the precipice of a mass loss of animal species.³ This would be the first Anthropogenic extinction.⁴ At the same time, wars continue to flare up around the world. Armed conflicts heavily impact animals,⁵ despite the fact that they do not choose to participate in hostilities but only ‘struggle for survival’ therein.⁶

Within the framework of IHL, protected zones present a unique and under-explored means of sheltering animals. As spatial concepts, they afford protection to humans and non-humans alike, as long as situated within their physical parameters.⁷

¹ See Karsten Nowrot, ‘Animals at War: The Status of “Animal Soldiers” under International Humanitarian Law’, *Historical Social Research* 140 (2015), 128–50, at 135 (‘the scope of application of the *ius in bello* – as strongly indicated by its more recent labelling as international “humanitarian” law – has always been and continues to be exclusively human-oriented’). See further Sandesh Sivakumaran, ‘International Humanitarian Law’, in Daniel Moeckli et al. (eds.), *International Human Rights Law* (3rd ed.) (Oxford: Oxford University Press 2017), 507; Anne Peters, *Animals in International Law* (Leiden: Brill/Nijhoff 2021), 334.

² Marco Roscini, ‘Animals and the Law of Armed Conflict’, *Israeli Yearbook of Human Rights* 47 (2017), 35–67, at 58–66.

³ Gerardo Ceballos, Paul R. Ehrlich and Rodolfo Dirzo, ‘Biological Annihilation Via the Ongoing Sixth Mass Extinction Signalled by Vertebrate Population Losses and Declines’, *Proceedings of the National Academy of Sciences of the United States of America* 114 (2017), 1. This mass extinction is also referred to as the Holocene or Anthropocene extinction, due to its link with human activity.

⁴ Anthony D. Barnosky et al., ‘Has the Earth’s Sixth Mass Extinction Already Arrived?’ (2011) *Nature* 471.

⁵ Roscini, ‘Animals and the Law of Armed Conflict’ (n. 2), 35–6; ICRC, ‘Natural Environment: Neglected Victim of Armed Conflict’ (5 June 2019), available at <https://bit.ly/3qZirbN>, accessed 22 February 2022.

⁶ ‘They had no choice’, as noted on the Inscription on the Animals in War memorial outside Hyde Park, London (2004) cited in Peters, *Animals in International Law* (n. 1), 333–4.

⁷ See Section 3.7.2 below, referring to Niccolò Pons, ‘Animals’, in Dražan Djukić and Niccolò Pons (eds.), *The Companion to International Humanitarian Law: International Humanitarian Law Series, Volume 55* (Leiden: Brill 2018), 171–2.

This geographic quality de-links such zones from the ‘personal’ status of animals or the anthropomorphism of their suffering. In this way, protected zones open up a pathway to animal protection that is not contingent on equating them with human beings.⁸

Contrastingly, other IHL protections touted for animal protection are based on personal status (as civilian or combatant) or unnecessary⁹ harm (in terms of prohibited means and methods of war). The applicability of these constructs will pivot on whether ecocentric interpretations can be applied to the underlying ‘cardinal’ IHL principles of distinction and unnecessary suffering.¹⁰ Given that distinction and unnecessary suffering have historically been conceived of as anthropocentric, their direct applicability to animals remains contested and largely contingent on further developments in IHL.¹¹

The International Law Commission’s (ILC) recent Draft Principles on the Protection of the Environment in Relation to Armed Conflicts highlight the normative adaptability of protected zones to ecocentric purposes.¹² Principle 4 (previously I-(x), 5), on ‘Designation of protected zones’, and Principle 17 (previously II-5, 13), on ‘Protected zones’ explicitly seek to protect ‘areas of major “environmental importance”’.¹³ By enshrining these area-based constructs into the Draft Principles, the ILC has signaled that they constitute a significant means to potentially prevent or mitigate environmental harm.¹⁴

Nonetheless, despite the ecological promise of protected zones, the ILC Commentary does not address their applicability to animals.¹⁵ Similarly, scholarly works on the protection of animals in war, which remain few in number,¹⁶ lack any analysis of protected zones in this respect.¹⁷ Accordingly, this study is both apposite

⁸ Such a designated area ‘may lose its protection if a party to an armed conflict has military objectives within the area, or uses the area to carry out any military activities during an armed conflict’, but the area’s status will still be determined on a spatial rather than personal basis; ILC, Draft Principles on the Protection of the Environment in Relation to Armed Conflict (2019) (‘ILC Draft Principles’), reproduced in UN General Assembly, Report of the ILC, Seventy-First Session (29 April–7 June and 8 July–9 August 2019), *A/74/10*, Annex I, at 260.

⁹ The ICJ has defined ‘unnecessary’ as ‘a harm greater than that unavoidable to achieve legitimate military objectives’; ICJ: *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion [1996] ICJ Reports 226, para. 78.

¹⁰ ICJ: *Nuclear Weapons* (n. 9), para. 78; Sivakumaran, ‘International Humanitarian Law’ (n. 1), 504.

¹¹ Roscini, ‘Animals and the Law of Armed Conflict’ (n. 2), 45 (‘Even admitting, for argument’s sake, that certain animals could have combatant status, it would be difficult to qualify the animals not enlisted in the armed forces as civilians.’); 51–6 (‘It can be *argued*, then, that the principle of unnecessary suffering now applies not only to humans, but also to animals’) (emphasis added).

¹² ILC Draft Principles (n. 8), 212–13.

¹³ ILC Draft Principles (n. 8), 223 (noting that the term ‘cultural’ is used alongside ‘environmental’ in Draft Principle 4 to ‘indicate the existence of a close linkage to the environment.’).

¹⁴ ILC Draft Principles (n. 8), 213.

¹⁵ Whereas the ILC Commentary to the Draft Principles refers to the notions of environmental protection and biodiversity in generalized terms, they do not specifically analyse how protected zones would address harm to animals (see 221, 224 in particular).

¹⁶ Roscini, ‘Animals and the Law of Armed Conflict’ (n. 2) 36.

¹⁷ See, for example, Natalino Ronzitti, ‘Protected Areas’, in Andrew Clapham, Paola Gaeta and Marco Sassòli (eds.), *The 1949 Geneva Conventions: A Commentary* (Oxford: Oxford University

and timely. It fills a gap in the literature regarding protected zones and animals, which is ever more pressing given the threat facing non-humans during times of war.

While the study of protected zones and animals set out below is novel and original,¹⁸ it must remain anchored to the axiomatic precepts of the law of armed conflict. Normatively, this requires assessing protected zones in light of the anthropocentric ontology and orientation of IHL.¹⁹ Of course, preserving the environment serves human ends. As observed by the International Court of Justice (ICJ) ‘[t]he environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn’.²⁰ But that human-centred utility risks subordinating ecocentric concerns at the conceptual and normative level. Equally, it raises practical concerns, such as the deleterious impact on animals of being brought into close proximity with human populations. Accordingly, the normative coherence and operational implications of using protected zones for animals are addressed herein. This analysis is necessary, as the graveyard of international law reform is littered with superficially attractive initiatives that failed to take account of conceptual coherence with applicable legal frameworks,²¹ the historical and contemporary realities of state proclivities,²² and unintended consequences on the ground.²³

Press 2015), 369–87 (making no reference to animals). Roscini, (n. 2), looks to some provisions of IHL that could be applied to animals in his article entitled ‘Animals and the Law of Armed Conflict’ (which he claims is the ‘first ever in-depth study of how the law of armed conflict applies to animals and fills a serious gap in the literature’), but makes no mention of protected zones. Nowrot in ‘Animals at War’ (n. 1) reviews IHL personal protections regarding animals, by equating them with human combatants or civilians, but does not refer to protected zones. Yoram Dinstein, in *The Conduct of Hostilities under the Law of International Armed Conflict* (3rd ed., Cambridge: Cambridge University Press 2016), at 106, only touches on animals when discussing ‘military objectives’. The ICRC’s *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* (ICRC 2020), (‘ICRC Environmental Guidelines’), 82–3 refers to protected zones as means to shield the environment but make no explicit mention of animals in this respect. Similarly, Cordula Droegge and Marie-Louise Tougas in ‘The Protection of the Natural Environment in Armed Conflict: Existing Rules and Need for Further Legal Protection’, *Nordic Journal of International Law* 82(1) (2013), 21–52 make no reference to animals in relation to protected zones.

¹⁸ See references in footnote 17, reflecting that there are no other major scholarly work examining the applicability of protected zones to animals.

¹⁹ Nowrot, ‘Animals at War’ (n. 1), 135.

²⁰ ICJ: *Nuclear Weapons* (n. 9), para. 29.

²¹ Andreas Zimmermann, ‘Crimes Within the Jurisdiction of the Court’, in Otto Triffterer and Kai Ambos (eds.), *The Rome Statute of the International Criminal Court: A Commentary* (3rd ed., C. H. Beck, Hart, Nomos, 2016), 113 (listing the conceptual and practical incongruities of including transnational crimes such as terrorism or drug-trafficking in the Rome Statute of the International Criminal Court) and 125 (‘the crimes of terrorism and drug-trafficking were not even seriously considered during the Kampala review process [of the ICC]’).

²² Philippe Sands, *Principles of International Environmental Law* (4th ed., Cambridge: Cambridge University Press, 2018), 72 (‘In July 1993, the ICJ established a seven-member Chamber for Environmental Matters, but this was disbanded [due to a complete lack of use] in 2006.’).

²³ See Nina H. B. Jørgensen, ‘Children Associated with Terrorist Groups in the Context of the Legal Framework for Child Soldiers’, *Questions of International Law* 60 (2019), 19, observing that the

To fill this lacuna, the following analysis explores the potential utility of protected zones for animal populations. Because of the dearth of systematic discussions of protected zones, it first provides a detailed taxonomy of the various types of protected zones and their legal bases. It then surveys examples of protected zones established during armed conflicts, both international and non-international, since the birth of modern IHL. Based on these legal and factual foundations, it engages in doctrinal, normative, and operational analyses of the potential use of protected zones in relation to animals threatened by armed conflict, including the risks engendered by bringing internally displaced persons into zones traditionally habitat to animal species.

The assessment looks at the intra-IHL coherence of using protected zones for animals, and also addresses the impact of international environmental law, cultural heritage law, and international criminal law. In doing so, it seeks to de-fragmentalise the applicability of international law in this respect. The study draws on a variety of interdisciplinary sources, including evolutionary biology,²⁴ ecology, history and conservation management,²⁵ and the political theory of animal rights.²⁶ A rich tapestry is woven by these materials, providing a platform to assess the novel issue of protected zones and animals in armed conflict.

2 SCOPE OF APPLICATION OF THE LAWS ON PROTECTED ZONES

Protected zones are locations and geographic spaces that are accorded area-based protected status under IHL.²⁷ To retain this status, these areas must be free from military objectives and not defended militarily. On a terminological note, whereas ‘locality’ is taken to mean a specific place of limited area, generally containing buildings, ‘zone’ is used in the context of protected areas to describe a larger area of land than a locality and may include multiple localities.²⁸

divergence between the threshold age of *fifteen* regarding child soldiers under the Rome Statute and the threshold age of *eighteen* for the participation of children in hostilities provided inter alia in the Optional Protocol to the Convention on the Rights of the Child (2000), creates a ‘grey area’. The grey area exacerbates the risk of opportunists using children aged fifteen to eighteen in hostilities, knowing that this will not constitute a crime on their part and nor will the children be prosecutable before the ICC, as they fall below the eighteen-year jurisdictional age limit set out in Article 26 of the Rome Statute. Note also that the use of United Nations ‘safe zones’ in Bosnia in the 1990s had the unintended effect of corralling Bosnian Muslims into the Srebrenica and Zepa enclaves, which then fell under Bosnian Serb control and were the scenes of large-scale and genocidal executions in July 1995, as discussed in Section 2.

²⁴ See, for example, Joshua H. Daskin and Robert M. Pringle, ‘Warfare and Wildlife Declines in Africa’s Protected Areas’, *Nature* 553 (2018), below, Section 3.7.2.

²⁵ See, for example, Kwi-Gon Kim, *The Demilitarized Zone (DMZ) of Korea: Protection, Conservation and Restoration of a Unique Ecosystem* (Heidelberg: Springer 2013), below, Section 3.6.1.

²⁶ See, for example, Nowrot, ‘Animals at War’ (n. 1), 130, referring to the political theory of animal rights.

²⁷ Vito Todeschini, ‘Specially Protected Zones’, in Djukić and Pons, *Companion to International Humanitarian Law* (n. 7), 655.

²⁸ ICRC Commentary GC I (2016), paras. 1913 and 1916–26; ICRC Customary Law Database, Rule 35.

Protected zones are explicitly provided for in the law applicable to international armed conflicts, in Article 23 of Geneva Convention (GC) I, Articles 14 and 15 of GC IV, and Articles 59 and 60 of Additional Protocol (AP) I. However, similar arrangements may also be made in non-international armed conflicts, despite the silence of the relevant instruments in this respect.²⁹ Consistent with the tenor of IHL, there is no explicit mention of animals in the provisions undergirding protected zones.³⁰

Protected zones under IHL differ from protected areas established by the UN Security Council.³¹ Whereas 'IHL protected zones' are typically subject to agreement by the parties to the conflict,³² UN Security Council protected areas are established unilaterally by a supra-national entity. United Nations' areas may be demilitarised, and/or no-fly zones, and may be subject to UN peacekeeping protection. They are not subject to any limitations on size (unlike protected zones under IHL) and will not lapse simply due to the violation of the conditions of the protected area by one or more parties to the conflict.³³ Examples include the UN Security Council protected areas established in Srebrenica and Zepa during the conflict in the former Yugoslavia in the 1990s, which were eventually overrun by Bosnian Serb forces, leading to the murder of thousands of Bosnian Muslim men and boys and the expulsion of the females sheltering therein.³⁴

Other analogous types of arrangements include 'open relief centres'. The UN High Commissioner for Refugees (UNHCR) established such a centre during the armed conflict in Sri Lanka, with the consent of the government of Sri Lanka and, reportedly, the Liberation of Tigers of Tamil Eelam (LTTE).³⁵ Similar arrangements are set up as 'zone or space for peace'. The 'Ginapaladtaka Declaration' in the Philippines provided that certain villages were to be respected as peace zones and not used for fighting, even while fighters continued living in those locations.³⁶

The purpose of protected zones is to exclude these areas from the theatre of hostilities. In turn, this 'provid[es] shelter and care to the wounded and sick,

²⁹ Sandesh Sivakumaran, *The Law of Non-international Armed Conflict* (Oxford: Oxford University Press 2012), 383–5; Ronzitti, 'Protected Areas' (n. 17), 370.

³⁰ See, for example, Art. 23 of GC I; Art. 14 and 15 of GC IV; Art. 59 and 60 of AP I. See also Pons, 'Animals' (n. 7), 170. Article 54 of AP I prohibits inter alia the destruction and removal of 'livestock', but only as part of the 'protection of objects indispensable to the survival of the civilian population'; Nowrot, 'Animals' (n. 1), 136.

³¹ Sivakumaran, *The Law of Non-international Armed Conflict* (n. 29), 385.

³² See below Section 3.1.

³³ Ronzitti, 'Protected Areas' (n. 17), 370.

³⁴ UN Security Council Resolution 819 of 16 April 1993, S/RES/819; UN Security Council Resolution 824 of 6 May 1993, S/RES/824; Sivakumaran, *The Law of Non-international Armed Conflict* (n. 29), 385.

³⁵ Sivakumaran, *The Law of Non-international Armed Conflict* (n. 32), 386; Memorandum of Understanding among the Government of the Socialist Republic of Sri Lanka and the Office of the UN High Commissioner for Refugees (UNHCR) relating to the Repatriation of Sri Lankan Refugees and Displaced Persons, 1 February 1993.

³⁶ Sivakumaran, *The Law of Non-international Armed Conflict* (n. 29), 386.

pregnant women, and/or to civilians generally'.³⁷ In this sense, the underlying goal of protected zones is to shelter or protect more effectively persons who do not or no longer take direct part in hostilities.³⁸

Protected zones establish area-based protections for the spaces *per se*, rather than specifically protecting the people sheltered within them. However, people sheltering therein continue to be protected by the other generally applicable provisions of IHL (such as GC I for the wounded and sick and GC IV for civilians).³⁹

There is a fundamental tension between the ontological precept of protected zones, which is the protection of human beings, and the goal of protecting animals. Bringing humans and animals together will typically act to the detriment of the latter.⁴⁰ Anthropogenic factors are by far the greatest threat to animal well-being and survival.⁴¹ During armed conflict food is scarce and non-livestock animals may be exploited to make up the shortfall.⁴² Even when humans do not intend to harm animals, their attacks on other human populations could collaterally decimate animal populations. Thus, the optimal protection for animals is distance from not only the fighting, but also from any sizeable human populations.

While protected zones were conceived with anthropocentric interests in mind, significant developments have occurred recently which may broaden this scope of protected interests. The ILC Draft Principles include Principle 4 (I-(x), 5), on 'Designation of protected zones', whereby 'States should designate, by agreement or otherwise, areas of major environmental and cultural importance as protected zones', and Principle 17 (II-5, 13) on 'Protected zones', whereby '[a]n area of major environmental and cultural importance designated by agreement as a protected zone shall be protected against any attack, as long as it does not contain a military objective'.⁴³ Whilst it has been said that the ILC Draft Principles are based on anthropocentric considerations,⁴⁴ they are broad enough to protect animals *per se*, as part of the environment.⁴⁵ The opening up of IHL to encompass and legitimize eco-zones, or biodiversity zones, would enable this field of law to serve the interests of humans and non-humans alike.⁴⁶

³⁷ Ronzitti, 'Protected Areas' (n. 17), 370.

³⁸ See UN General Assembly Resolution 2675 of 9 December 1970, A/RES/2675, providing that '[p]laces or areas designated for the sole protection of civilians, such as hospital zones or similar refuges, should not be the object of military operations'. This principle reflects customary international law; Sivakumaran, *The Law of Non-international Armed Conflict* (n. 29), 383.

³⁹ Sivakumaran, *The Law of Non-International Armed Conflict* (n. 5), 385.

⁴⁰ See, for example, ICRC, 'Natural Environment' (n. 5).

⁴¹ Sean L. Maxwell et al., 'Biodiversity: The Ravages of Guns, Nets and Bulldozers', *Nature* (2016), available at <https://go.nature.com/3uevEQj>, accessed 22 February 2022.

⁴² See Longobardo, Chapter 13, 'Occupied Territory', in this volume.

⁴³ ILC Draft Principles (n. 8).

⁴⁴ See Krieger and Martínez Soria, Chapter 4, 'Rationale and Challenges', in this volume.

⁴⁵ ILC Draft Principles (n. 8), 211.

⁴⁶ See also ICRC Environmental Guidelines (n. 17), 83–4, calling for the designation of areas of environmental importance but not addressing the separation of animals and humans.

3 CONTENTS AND LIMITS OF THE LAWS ON PROTECTED ZONES

As set out above, protected zones are various locations and areas that are accorded protected status, subject to meeting the requirements of the relevant provision or rule of IHL. Due to the gap in the scholarship regarding the implications of protected zones for animals, it is important to systematically provide a taxonomy of the relevant IHL provisions and principles, in order to provide a robust legal foundation from which to assess this novel yet significant potentiality.

3.1 *The Legal Parameters of Protected Zones*

Among the myriad IHL area-based constructions, Article 23 of GC I provides for hospital zones and localities. Together with safety zones and neutralised zones regulated in Articles 14 and 15 of GC IV, this forms a wider system of protected zones. The system is further developed in API, which provides special protection to non-defended localities and thirteen demilitarised zones.

Several features are common to all protected zones. First, their special protections under IHL are contingent on the formal requirements prescribed by treaty law being met. Second, they must typically be recognised by adverse parties to the conflict.⁴⁷ Third, they must not be employed for military activities, including the movement of troops and materiel, and must not be militarily defended.⁴⁸ Fourth, they must be clearly marked and their boundaries must be sufficiently demarcated. If any of these core conditions are violated, the opposing party may, after a reasonable time has lapsed without rectification, declare the agreement terminated.⁴⁹

3.2 *Hospital Zones and Localities and Safety Zones*

Hospital and safety zones are referred to in several IHL provisions concerning international armed conflicts. Under Article 23(1) of GC I, parties may, optionally,⁵⁰ organise ‘hospital zones and localities so . . . as to protect the wounded and sick from the effects of war, as well as the personnel entrusted with the organization and administration of these zones and localities and with the care of the persons therein assembled’.⁵¹ They may establish these zones ‘in their own territory and, if the need arises, in occupied areas’.⁵² The parties concerned ‘may conclude agreements on mutual recognition of the hospital zones and localities they have created’. A draft agreement of this nature is annexed to GC I (Draft Agreement

⁴⁷ See, for example, Art. 23(1) of GC I. But see the ambiguity in relation to non-defended localities; Ronzitti, ‘Protected Areas’ (n. 17), 371, 386.

⁴⁸ See, for example, ICRC Commentary GC I (2016), paras 1914–15.

⁴⁹ Ronzitti, ‘Protected Areas’ (n. 17), 373.

⁵⁰ See ICRC Commentary GC I (2016), para. 1889.

⁵¹ Art. 23(1) of GC I.

⁵² *Ibid.*

annexed to GC I).⁵³ Attacks against hospital zones are prohibited, as reflected in Article 11 of the Draft Agreement annexed to GC I, which states: '[i]n no circumstances may hospital zones be the object of attack. They shall be protected and respected at all times by the Parties to the conflict.'⁵⁴

Hospital zones and localities under Article 23 of GC I may be established in peacetime and during armed conflict.⁵⁵ The protecting powers and the International Committee of the Red Cross (ICRC) are encouraged to support the institution and recognition of these hospital zones and localities by lending their good offices to the parties in this respect.⁵⁶ Premised on agreement, protected zones require recognition by the adverse party(ies).⁵⁷ Pending such agreement, persons *hors de combat* and otherwise subject to protections under IHL will continue to be protected by the generally applicable rules of IHL.⁵⁸

Article 14 of GC IV, which concerns the protection of civilians, largely repeats the wording of Article 23(1) of GC I. However, Article 14 uses the term 'hospital and safety zones and localities', thereby extending beyond Article 23(1)'s scope to the additional category of safety zones,⁵⁹ which encompasses more sizeable areas than hospitals and their surroundings.⁶⁰

The ICRC Commentary provides for the establishment of 'hospital zones and localities *outside areas where fighting is taking place*'.⁶¹ This is in order to shelter vulnerable persons from long-range artillery attacks, missiles and aerial bombardments.⁶² Similarly, the Draft Agreement annexed to GC I⁶³ states that such zones 'shall be far removed and free from all military objectives, or large industrial or administrative establishments'.⁶⁴ According to the ICRC, '[r]emoteness from military objectives [is] – the essential condition – the very essence of the whole scheme – is that there should be no military objective either within the zones or in their vicinity'.⁶⁵

⁵³ Draft Agreement Relating to Hospital Zones and Localities, Annex 1 to GC I (Draft Agreement annexed to GC I).

⁵⁴ See ICRC Commentary GC I (2016), para. 1906.

⁵⁵ Art. 23(1) of GC I; Art. 14 of GC IV.

⁵⁶ Art. 23 (1) GC I.

⁵⁷ ICRC Commentary GC I (2016), para. 1928; Ronzitti, 'Protected Areas' (n. 17), 371.

⁵⁸ ICRC Commentary GC I (2016), para. 1900.

⁵⁹ Ronzitti, 'Protected Areas' (n. 17), 373.

⁶⁰ In terms of the scope of GC IV, Article 13 indicates that part II (which contains the provisions on protected zones) covers 'the whole of the populations of the countries in conflict, without any adverse distinction based, in particular, on race, nationality, religion or political opinion, and are intended to alleviate the sufferings caused by war'. Article 4 states that persons falling under the protection of GC I, GC II, GC III shall not qualify as protected persons under GC IV. However, GC IV forms a residual safety net whereby anybody in enemy hands who is not covered by one of the other GCs is granted protection; Pictet Commentary on GC VI, 52.

⁶¹ ICRC Commentary GC I (2016), para. 1884 (emphasis added).

⁶² *Ibid.*, para. 1904.

⁶³ Ronzitti, 'Protected Areas' (n. 17), 370.

⁶⁴ Draft Agreement annexed to GC I.

⁶⁵ Pictet Commentary on GC I, Annex I, Art. 4; Art. 4 of Draft Agreement Relating to Hospital and Safety Zones, Annex 1 to GC IV (Draft Agreement annexed to GC IV).

While no specific conventional provision provides for hospital and safety zones in non-international armed conflicts,⁶⁶ common Article 3(3) of the GCs, which applies to international and non-international conflicts, states that the '[t]he Parties to the conflict should further endeavour to bring into force, by means of special agreements, all or part of the other provisions of the present Convention.'⁶⁷ The ICRC has stated that prohibition on directing attacks against protected zones forms part of customary IHL.⁶⁸ In line with these sources, the ILC's Draft Principles suggest that non-state actors should be able to conclude agreements to designate areas of ecological importance as demilitarised zones.⁶⁹

Examples of hospital zones in non-international armed conflicts include the ICRC's establishment, in November 1990, of rules to protect the Jaffna Teaching Hospital, which had been damaged by fighting between the Sri Lankan security forces and the LTTE. The parties agreed to the rules and established a hospital zone. The rules required the clear marking of the hospital and surrounds with red crosses, the prohibition of armed personnel and military vehicles from the compound or surrounding area, and the prohibition of firing on the area.⁷⁰

Although invocations of Article 23(1) of GC I are rare, parties 'have made use of the general concept of protected zones provided for in the Conventions both in international and non-international conflicts'.⁷¹ Examples include the 'agreement declaring the hospital of Osijek and its surroundings a protected zone',⁷² and the analogous example of Argentina and the UK during the 1982 Falklands/Malvinas conflict, which designated an area to allow hospital ships to hold position and to exchange wounded, both of which are discussed below in Section 3.6.3.

The ICRC considers that 'the purpose of the hospital zones and localities provided for in Article 23 is to "protect" certain categories of *persons*'.⁷³ Conventional understandings of IHL consider the term persons to refer to human beings, and not animals.⁷⁴ However, incidental protection for animals may arise. For example, the local civilian population who normally live within the protected zone and any domestic animals or livestock owned by them will normally be protected by agreements under Article 23(1).⁷⁵

An essential requirement is that the zone or locality must contain no military objectives and must not be defended militarily.⁷⁶ However, '[t]he adverse Party is not prohibited from taking over the zone or locality but remains bound to respect all its

⁶⁶ Ronzitti, 'Protected Areas' (n. 17), 370.

⁶⁷ See also ICRC Commentary GC I (2016), para. 1885.

⁶⁸ ICRC Customary Law Database, Rule 35.

⁶⁹ ILC Draft Principles (n. 8), 222.

⁷⁰ Ibid. See also Sivakumaran, *The Law of Non-international Armed Conflict* (n. 32), 383.

⁷¹ ICRC Commentary GC I (2016), para. 1886.

⁷² Ibid., para. 1886.

⁷³ Ibid., para. 1903 (emphasis added).

⁷⁴ See Lostal, Chapter 19, 'Reparation and Rehabilitation', in this volume.

⁷⁵ ICRC Commentary GC I (2016), paras 1924–6.

⁷⁶ ICRC Commentary GC I (2016), paras 1914–15.

obligations towards the protected zone or locality and the persons and objects sheltered therein'.⁷⁷

Temporally, establishing a protected zone during peacetime would send a hostile message to potential adversaries. However, the ICRC has noted the prophylactic benefit of designating hospitals and protected zones in advance of hostilities.⁷⁸ Given that 'aspects of setting up and managing a hospital zone or locality risk being neglected during the early days of an armed conflict',⁷⁹ and that indirectly protected entities such as animals are the most at risk of being ignored, this *ex ante* aspect of protected zones is particularly important to mitigate harm to animals. Moreover, establishing ecological protected zones for animals may be seen as less provocative by potential adversaries than human-centred protective zones, particularly if grounded in precepts of international environmental law.

The model Draft Agreements annexed to GC I and GC IV provide an indication of the intended use and parameters of such protected zones.⁸⁰ Regarding geographic scope, the Draft Agreements provide that hospital zones and localities shall 'comprise only a small part of the territory governed by the Power which has established them'.⁸¹ According to the Pictet Commentary, '[i]t would obviously be inadmissible for a State to establish a hospital zone covering half the country' because '[t]he very idea of zones of refuge implies a relatively limited area, and in any case the adverse Party would be unlikely to accord recognition to very large zones which might seriously impede military operations'.⁸² Conversely, protected zones established by the UN Security Council have no such restriction. During the conflict in Rwanda in 1994, the UN Security Council established secure areas and humanitarian zones that covered much of the country's territory,⁸³ leading to significant negative impacts for the animal populations therein.⁸⁴

In theory, the larger the protected zone the greater the protection for animals. However, warring parties are unlikely to agree that vast swathes of territory could be designated as hospital, safety, neutralised or demilitarised, or other types of protected zones, particularly as they would have to ensure there were no military objectives throughout these areas. Moreover, areas of relatively limited size will usually be sufficient to shelter large numbers of civilians or combatants *hors de combat*, as demonstrated by the examples of hospitals and their surrounds. However, prior to

⁷⁷ Ibid.

⁷⁸ ICRC Commentary GC I (2016), para. 1896. See also Ronzitti, 'Protected Areas' (n. 17), 371. According to Ronzitti, '[t]he creation of a zone in peacetime is quite unrealistic, since it foresees a possible conflict with a neighbouring state that a country will usually not wish to emphasize'. See also ICRC Environmental Guidelines (n. 17), 14.

⁷⁹ ICRC Commentary GC I (2016), para. 1896.

⁸⁰ Pictet Commentary on GC IV, 129.

⁸¹ Art. 4 of Draft Agreement annexed to GC I; Art. 4 of Draft Agreement annexed to GC IV.

⁸² Pictet Commentary on GC IV, 129; Art. 4 of Draft Agreement annexed to GC IV.

⁸³ Ibid., 384.

⁸⁴ See Section 3.7.6 below.

armed conflict erupting states may be more receptive to designating larger areas for ecological protection, as urged by the ILC's Draft Principle 4.

An efficient use of protected zones to benefit animals would focus on existing delimited animal habitats (presuming that humans would not be introduced in large numbers to these areas). Such zones would be unlikely to constitute any more than a small proportion of a state's territory. For example, Tanzania, with its high proportion of natural reserves (approximately 114,000 km²), still only designates well below 50 per cent of its land area (approximately 945,000 km²) to this end.⁸⁵ Despite the lack of any specific quantitative threshold, the references to limited size reinforces their focus on protecting members of the human species, and supports the arguments for developing new forms of animal protection zones in armed conflict, particularly in advance of hostilities flaring up.

3.3 Neutralised Zones

Under Article 15 of GC IV,

[a]ny Party to the conflict may, either direct[ly] or through a neutral state or some humanitarian organization, propose to the adverse Party to establish, in the regions where fighting is taking place, neutralised zones intended to shelter from the effects of war the following persons, without distinction: (a) Wounded and sick combatants or non-combatants; (b) civilian persons who take no part in hostilities, and who, while they reside in the zones, perform no work of a military character.

These zones are based on the same idea as the hospital and safety zones covered by Article 14 and are explicitly anthropocentrically oriented.⁸⁶

The major distinction between these and the former categories is that neutralized zones are 'established in the actual regions where fighting is taking place and are intended to give shelter to both civilian and military wounded and sick, as well as all civilian persons who take no part in hostilities'.⁸⁷ Moreover, neutralised zones would usually be 'set up on a temporary basis to meet the tactical situation at a particular moment, whereas hospital and safety zones tend to be more permanent in character'.⁸⁸

There is no specific conventional provision explicitly providing for the organisation of neutralised zones in non-international armed conflicts. However, their establishment aligns with common Article 3(3) of the GCs and customary IHL, particularly the prohibition on directing attacks against zones established to shelter the wounded and sick and the prohibition of attacks directed against civilians.

⁸⁵ See, for example, The United Republic of Tanzania: National Environment Statistics Report (2017), xxiv, available at <https://bit.ly/3qZhl6f>, accessed 22 February 2022.

⁸⁶ Pictet Commentary on GC IV, 129.

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*

Historically, neutralised zones in non-international armed conflicts include in a district in Madrid during the Spanish Civil War (prompted by the ICRC);⁸⁹ three zones in Jerusalem during the conflict in Palestine in 1948 (directed and administered by the ICRC); and a neutralised zone in Shanghai in 1937, during the Sino-Japanese war, named the Jacquinot Zone in honour of the man who organized it.⁹⁰

Irrespective of the nature of the conflict, the agreement of the parties to the conflict is required for a neutralised zone to be operationalised. During the conflict between the Sri Lankan Security Forces and the LTTE the Sri Lankan forces unilaterally declared a 35-km² 'safe zone' for civilians. However, in the absence of a formal agreement with the LTTE, the presence of the LTTE in the zone and the shelling of the zone by government forces did not amount to violations of the IHL provisions concerning protected zones (even if they may have constituted attacks on civilians).⁹¹

3.4 Demilitarised Zones

Many of the considerations concerning the preceding protected zones apply to demilitarised zones. Under Article 60 of AP I, parties may agree to establish demilitarised zones, subject to the following:

- (a) all combatants, as well as mobile weapons and mobile military equipment, must have been evacuated;
- (b) no hostile use shall be made of fixed military installations or establishments;
- (c) no acts of hostility shall be committed by the authorities or by the population; and
- (d) any activity linked to the military effort must have ceased.⁹²

In principle, these demilitarised zones 'are primarily concerned with protecting the population residing there and do not constitute places of refuge'.⁹³

Though there are historic examples of areas that have been demilitarised, they would not constitute demilitarised zones under Article 60.⁹⁴ Outside the specific ambit of IHL, some peace treaties have required the defeated party to maintain the demilitarisation of areas. These include areas around the Rhine under Articles 42 to 44 of the Treaty of Versailles of 1919 and islands such as Pantelleria and the Dodecanese Islands demilitarised under the 1947 Peace Treaty between the Allied Powers and Italy, and ceded by Italy to Greece. There have been demilitarised areas

⁸⁹ See Ronzitti, 'Protected Areas' (n. 17), 376.

⁹⁰ Pictet Commentary on GC IV, 129.

⁹¹ Human Rights Watch, 'War on the Displaced, Sri Lankan Army and LTTE Abuses against Civilians in the Vanni' (February 2009), paras. 12–16. See also ICRC Online Platform, *How Does the Law Protect in War?*, available at <https://bit.ly/3AuZK31>, accessed 22 February 2022.

⁹² Art. 60(3) of AP I. See also Sivakumaran, *The Law of Non-international Armed Conflict* (n. 32), 384; Principle 4 of the ILC Draft Principles (n. 8).

⁹³ AP I Commentary, para. 2312.

⁹⁴ *Ibid.*, para. 2302.

established following armistices, which are often referred to as 'buffer zones', such as the demilitarised zones in Korea and in the Middle East between Israel and its neighbours.⁹⁵

Regarding animals, Article 60 of AP I is not specific but 'allows that an agreement on a demilitarized zone be tailored to each specific situation'.⁹⁶ The protection of areas of significant species diversity could be enhanced, even when situated close to hostilities, if belligerents were to agree to formally classifying them as 'demilitarized zones'. In this respect, a draft Convention on the Prohibition of Hostile Activities in Protected Areas has been developed in order to grant territorial protection to areas of great environmental importance.⁹⁷ In a similar vein, the World Heritage Convention recognises states' duties to identify and safeguard certain places that constitute part of the common heritage of humankind, including the habitat of threatened species of animals 'of outstanding universal value from the point of view of science or conservation'.⁹⁸

Given the broad ratification of the World Heritage Convention, and the customary international law status of its obligation to safeguard sites of outstanding universal value, an argument can be made that states are obliged to establish demilitarised zones, or an equivalent arrangement, for such habitats of threatened species.⁹⁹ This novel argument is bolstered by Article 8 of the Convention on Biological Diversity,¹⁰⁰ which requires that '[e]ach Contracting Party shall, as far as possible and as appropriate: (a) [e]stablish a system of protected areas or areas where special measures need to be taken to conserve biological diversity'.

However, detractors from this argument may assert that these instruments from other areas of international law cannot affect the express criteria under IHL, and that the establishment of demilitarised and other protected zones must remain completely voluntary unless IHL itself is altered. The argument demonstrates the stultifying impact of IHL's insistence on consent in relation to protected zones. At the same time, it highlights the normative potentialities of developing IHL in light of the principles and provisions of international environmental law and cultural heritage law.¹⁰¹

3.5 *Open Towns, Non-defended Localities*

The considerations concerning other protected zones largely govern open towns and non-defended localities. Under Article 59 of AP I,

⁹⁵ *Ibid.*, para. 2301.

⁹⁶ Art. 60(3) of AP I; ICRC Customary Law Database, Rule 36.

⁹⁷ Jérôme de Hemptinne, 'The Protection of Animals During Warfare', *American Journal for International Law Unbound* 111 (2017), 272–6, at 276 citing UNEP, *Protecting the Environment during Armed Conflict: An Inventory and Analysis of International Law* (Nairobi: UNEP 2009).

⁹⁸ Arts. 2–4 of the World Heritage Convention.

⁹⁹ See UNEP, *Protecting the Environment* (n. 115), 38.

¹⁰⁰ Convention on Biological Diversity of 5 June 1992, 1760 UNTS 79.

¹⁰¹ See ILC Draft Principles (n. 8), 222–3, which also seek to draw together these areas of international law.

[t]he appropriate authorities of a Party to the conflict may declare as a non-defended locality any inhabited place near or in a zone where armed forces are in contact which is open for occupation by an adverse Party. Such a locality shall fulfil the following conditions: (a) All combatants, as well as mobile weapons and mobile military equipment must have been evacuated; (b) no hostile use shall be made of fixed military installations or establishments; (c) no acts of hostility shall be committed by the authorities or by the population; and (d) no activities in support of military operations shall be undertaken.

No special agreement is required between the parties to establish non-defended localities: they 'may be established by a unilateral declaration or by agreement'.¹⁰² As with attacks on demilitarised zones, attacks on non-defended localities would entail potential consequences under international criminal law, as such a violation is considered a grave breach under Article 85(3)(d) of AP I.

3.6 Examples of Protected Zones and Their Impact on Animals

The following exegesis sets out examples of protected zones established during armed conflict. This is not a comprehensive survey of all such protected zones, but rather seeks to point out potentialities for the impact of such zones on the well-being of animals.

3.6.1 Democratic People's Republic of Korea and the Republic of Korea

A notable example demonstrating the potential benefits of protected zones for wildlife is provided by the demilitarised zone between the Democratic People's Republic of Korea and the Republic of Korea (Korean DMZ).¹⁰³ Established in 1953 under an armistice and comprising a strip of land 250 kilometres long and 4 kilometres wide,¹⁰⁴ both sides were prohibited from conducting any hostile act within, from, or against the demilitarised zone. Each side was allowed up to 1,000 military personnel inside the zone at any point in time.¹⁰⁵ Accordingly, very little human activity has occurred in the demilitarised zone since its creation.

In this pristine environment, fauna and flora have flourished.¹⁰⁶ For example, red-crowned cranes and white-naped cranes are now among its 'most famous and visible denizens'.¹⁰⁷ Moreover, 'nearly 100 species of fish, perhaps 45 types of amphibians

¹⁰² AP I Commentary, para. 3487. But see Ronzitti, 'Protected Areas' (n. 17), 376, noting that '[i]t is not specified whether mere acquiescence by the enemy is enough, or whether a formal acknowledgement is required'.

¹⁰³ Pons, 'Animals' (n. 7), 1712.

¹⁰⁴ Kim, *The Demilitarized Zone (DMZ) of Korea* (n. 25), 172.

¹⁰⁵ ICRC Customary Law Database, Rule 36 (see practice mentioned).

¹⁰⁶ Kim, *The Demilitarized Zone (DMZ) of Korea* (n. 25), 172.

¹⁰⁷ Lisa Brady, 'Korea's Green Ribbon of Hope: History, Ecology, and Activism in the DMZ', 3 *Solutions* 1 (2012), 94–8, at 95.

and reptiles and over 1,000 different insect species are also supposed to exist in the protected zone'.¹⁰⁸ Bordering the demilitarised zone, there is also a civilian control zone, which is primarily used for agriculture by way of fields and rice paddies.¹⁰⁹ The aims of this demilitarised zone were not directed towards the well-being of animals. Nonetheless, its positive impact on wild species evidences the potential use of demilitarised zones and other similar protective regimes to assist animals.

The South Korean government has advocated for the entire demilitarised zone to be named a biosphere reserve through UNESCO. In 2012, the South Korean government requested this designation, but was not successful, due, in part, to the lack of rules regulating development by landowners in the surrounding areas.¹¹⁰ The South Korean Ministry of Environment has reportedly claimed that over 5,000 species of plants and animals have been identified in the area, including more than 100 that are protected, such as the Siberian musk deer, white-naped crane, red-crowned crane, Asiatic black bear, cinereous vulture, and long-tailed goral (a species of wild goat).¹¹¹

3.6.2 Croatia

In December 1991, an agreement declaring the hospital of Osijek and its surroundings 'a protected zone according to the principles of Article 23 of the First Geneva Convention and of Articles 14 and 15 of the Fourth Geneva Convention' was concluded under the auspices of the ICRC.¹¹² Pursuant to the agreement, the protected zone was not to be made the object of attack under any circumstances.¹¹³ The protected zone was to be clearly delimited and marked by means of large red crosses, visible at night.¹¹⁴ Access was to be limited to civilians, soldiers who were *hors de combat*, medical personnel, and ICRC delegates, as well as persons who normally lived within the protected zone and were not taking any part in hostilities.¹¹⁵

¹⁰⁸ Ibid.

¹⁰⁹ National Public Radio, 'In Korean DMZ, Wildlife Thrives: Some Conservationists Worry Peace Could Disrupt It' (20 April 2019) (NPR on Korean DMZ), available at <https://n1.pt/311XVjIS>, accessed 22 February 2022.

¹¹⁰ Ibid.

¹¹¹ Ibid.

¹¹² ICRC Commentary GC I (2016), para. 1886. The ICRC referred to the Memorandum of Understanding on the Application of IHL between Croatia and the Socialist Federal Republic of Yugoslavia and the Agreement between Croatia and the Socialist Federal Republic of Yugoslavia on a Protected Zone around the Hospital of Osijek of 27 December 1991 (Art. 1, 2(1) and 4(1)) (Agreement), available at www.peaceagreements.org/masterdocument/1880, accessed 22 February 2022. See also Sivakumaran, *The Law of Non-international Armed Conflict* (n. 32), 385.

¹¹³ Agreement (n. 112), para. 11.

¹¹⁴ Ibid., para. 3.

¹¹⁵ Ibid.

Reportedly, hospitals in the region of Eastern Croatia were intentionally shelled despite being clearly marked as hospitals.¹¹⁶ The Vukovar hospital was hit by multiple shells. Osijek was regularly targeted as it was a strategic location in Eastern Slavonia. The Osijek hospital itself had been shelled by Federal forces prior to the concluding of the agreement, for example on 16 September 1991.¹¹⁷ After the agreement was signed, there were some violations and the ICRC issued a communication to the press objecting to these attacks.¹¹⁸

Also during the Balkans war, a 1991 Memorandum of Understanding on the Application of IHL was agreed between Croatia and the Socialist Federal Republic of Yugoslavia (SFRY). Pursuant to this instrument, neutralised zones were established at the Franciscan Monastery and the New Hospital in Dubrovnik, under ICRC supervision.¹¹⁹

While there are documented accounts of the establishment of these protected zones, there is very little information as to their impact on animal populations. Witnesses before the International Criminal Tribunal for the former Yugoslavia (ICTY) referred to large numbers of animals killed in and around Vukovar.¹²⁰ However, they did not elaborate on the details of those killings, as animal deaths were not usually the focus of ICTY proceedings. There are reports that the conflict resulted in significant releases of metal contaminants in the soil in Croatia¹²¹ and a significant loss of livestock.¹²² However, there is a lack of specific information concerning the fate of animal populations in these protected zones.

3.6.3 Falklands/Malvinas War in the South Atlantic

Although IHL concerning conflict at sea does not specifically provide for protected zones, a quasi-neutralised one was established at sea in the South Atlantic (the so-called

¹¹⁶ US Department of State Dispatch Supplement, September 1992, Vol. 3, No 6, 28–9.

¹¹⁷ See Netherlands Institute for War Documentation, 'Srebrenica: A "Safe" Area – Appendix XIII – Chronology of the Bosnian Conflict 1990–1995'. This document refers to the 16 September 1991 shelling of Osijek Hospital.

¹¹⁸ ICRC, Communication to the Press No 92/1, 'Conflict in Yugoslavia: Review of ICRC activities' (2 January 1992); ICRC, Communication to the Press No 92/7, 'Yugoslavia: Dialogue Continues as Plenipotentiaries Meet in Geneva' (27 March 1992); ICRC, Press Release No 1710, 'Yugoslavia: New Attack on Osijek hospital' (24 April 1992), both referenced at <https://bit.ly/36DowDc>, accessed 22 February 2022.

¹¹⁹ ICRC Customary Law Database, Rule 35 (see practice mentioned); ICRC, 'Communication No 92/1' (n. 118).

¹²⁰ See, for example, ICTY, *Prosecutor v. Mile Mrksic et al.*, testimony of Zoran Basic, IT-95-13/1, 8 September 2006, T.11651 (referring to 15,000 animal carcasses in the Vukovar area).

¹²¹ Domagoj Vidosaljevic et al., 'Soil Contamination as a Possible Long-Term Consequence of War in Croatia', *Acta Agriculturae Scandinavica, Section B – Soil & Plant Science* 63(4) (March 2013).

¹²² See, for example, ARCOTRASS – Consortium, *Study on the State of Agriculture in Five Applicant Countries: Croatia* (2006), 21. According to this study, '[b]efore the war in the first half of the 90s the livestock sector was of considerable economic importance in Croatia. The consequences were severe. Herd size and production were significantly reduced for all livestock.'

Red Cross Box), during the 1982 conflict between Argentina and the United Kingdom. An area with a diameter of approximately twenty nautical miles was designated on the high seas to allow hospital ships to hold position and to exchange wounded.¹²³

Little information is available as to its impact of this zone on animals. There are indications that the 1982 conflict led to a significant downturn in the growth of the king penguin population which had colonised the Falklands, as the concentrated fighting fell within the king penguin's foraging zone.¹²⁴ However, there is no established connection between the maritime zone established by the parties and the well-being of this animal population. Effects of the conflict, such as landmines planted by Argentinean forces seeking to slow the British counter-attack, appear to have potentially benefited local animal populations by excluding humans.¹²⁵ In fact, the prospect of oil or gas in the waters around the Falklands/Malvinas may present an even greater threat to animal species, including marine species, than the conflict in 1982 itself.¹²⁶

3.6.4 Uganda

The city of Kampala was designated as a demilitarised and neutralised zone pursuant to the Nairobi Peace Agreement of 1985 between the Government of Uganda and the National Resistance Movement (NRM).¹²⁷ The fighting in Uganda had negatively impacted animal populations. For example, '[b]etween 1983 and 1995, while the Lord's Resistance Army terrorised Uganda, topi and roan, two species of antelope, were wiped out completely in the country's Pian Upe reserve'.¹²⁸ Environmental problems, including loss of biodiversity, continued as the fighting continued over the years. A 2010 report by Uganda's National Environment Management Agency (NEMA) found that the country was experiencing 'soil erosion and declining soil fertility, deforestation, pollution of land, water and air resources, loss of biodiversity and over-harvesting of forests, fisheries and water resources'.¹²⁹ By contrast, in Kampala, there are indications that species such as marabou storks

¹²³ ICRC Commentary GC I (2016), para. 1887. See also International Institute of Humanitarian Law (IIHL), San Remo Manual on International Law Applicable to Armed Conflicts at Sea (San Remo: IIHL 1994), rule 160, providing that '[t]he parties to the conflict may agree, for humanitarian purposes, to create a zone in a defined area of the sea in which only activities consistent with those humanitarian purposes are permitted'.

¹²⁴ Sophie Panel and Antoine Pietri, *God Did Not Save the Kings: Environmental Consequences of the 1982 Falklands War*, Center for Environmental Economics – Montpellier, Working Paper 2020-17, at 3-4, 8.

¹²⁵ Matthew Teller, 'The Falklands Penguins That Would Not Explode', *BBC News* (7 May 2017), available at www.bbc.com/news/magazine-39821956, accessed 22 February 2022.

¹²⁶ Panel and Pietri, *Environmental Consequences of the 1982 Falklands War* (n. 124) 9.

¹²⁷ Sivakumaran, *The Law of Non-international Armed Conflict* (n. 29), 384.

¹²⁸ 'Conflicts other Casualties: How War Affects Wildlife', *The Economist* (11 January 2018).

¹²⁹ Advisory Consortium on Conflict Sensitivity (ACCS), *Northern Uganda Conflict Analysis* (September 2013), 50 citing National Environment Management Agency (NEMA), *State of the Environment Report for Uganda* (2010).

flourished in the 1990s.¹³⁰ However, it is difficult to establish the specific impact of the protected zone covering Kampala on wildlife and domestic animals living there.

3.6.5 Ukraine

Large parts of Eastern Ukraine have been affected by the fighting in recent years. The fighting inevitably impacts humans, infrastructure providing essential services, including health-care facilities, electricity stations, and water treatment and distribution facilities and transport networks. Since 2017, the ICRC has been facilitating negotiations between ‘the Ukrainian authorities, the Organization for Security and Co-operation in Europe, and representatives of non-government-controlled areas in Donetsk and Lugansk’ with a view to create safety zones along the confrontation line. This would allow for the continued operation of an important water filtration system.¹³¹

Although there has been no organised monitoring of animal populations in areas affected by the recent fighting in Ukraine, residents and ecologists have observed a significant regeneration of the wildlife in the region. Wolves have reappeared in significant numbers, and there appear to have been large increases in the numbers of wild boar, rare marbled polecats and endangered steppe marmots.¹³² At the same time, the conflict has reportedly led to the destruction of large areas of land and many ecosystems, including eighteen wildlife reserves, which is of negative impact on the present animal populations.¹³³

3.7 Protection of Animals in Protected Zones

The impetus to establish zones to protect animals and their habitats from the ravages of war is growing. Protected zones feature in multiple provisions of the ILC’s Draft Principles.¹³⁴ Similarly, the ICRC has suggested that protected zones could be established in national parks, natural reserves, and endangered species’ habitats,¹³⁵ and has drafted a model pledge based on the ideal of removing fighting from areas of major ecological importance or fragility.¹³⁶ Demilitarised zones could be set up in uninhabited ecological zones; whereas non-defended localities would be suitable for inhabited places.¹³⁷

¹³⁰ See Derek Pomeroy and Michael Kibuule, ‘Increasingly Urban Marabou Storks Start Breeding Four Months Early in Kampala, Uganda’, *Ostrich* 88(3) (2017), 261–6.

¹³¹ See Emanuela-Chiara Gillard, ‘“Safe Areas”: The International Legal Framework’, *International Review of the Red Cross* 99 (2017), 1075–101, at 1086.

¹³² Lily Hyde, ‘All Wild on Ukraine’s Eastern Front’, *Politico* (17 July 2018).

¹³³ UNEP, ‘Ukraine’s Donbas Bears the Brunt of Toxic Armed Conflict’ (25 July 2018).

¹³⁴ See ILC Draft Principles (n. 8), Principles 4 and 17.

¹³⁵ ICRC Environmental Guidelines (n. 17), 14.

¹³⁶ *Ibid.*, 61.

¹³⁷ *Ibid.*, 82. See also Art. 59(2) of AP I.

The ICRC has suggested that the following specific types of locations could be established as protected zones: ‘groundwater aquifers, key biodiversity areas (which could be national parks or endangered species habitats), ecological connectivity zones, or areas important for coastal protection, carbon sequestration or disaster prevention’.¹³⁸ To foster the coherence of international law and avoid its fragmentation, areas could be designated based on regimes such as the ‘World Heritage List, the National Biodiversity Strategies and Action Plans of Parties to the Convention on Biological Diversity, or listed in IUCN’s conservation databases, such as the Red List of Ecosystems, the World Database of Key Biodiversity Areas and the World Database on Protected Areas’, as well as domestic legislation.¹³⁹

3.7.1 Direct Protection of Animals in Protected Zones

Because protected zones are spatial in nature, they do not provide animals with any direct legal protection. As with humans, protected zones benefit animals indirectly through their area-based prohibitions of attacks.

Innovative arguments have been made to the effect that animals could fit into the definition of members of the armed forces.¹⁴⁰ However, the framework of IHL makes it clear that the classification of ‘combatant’ was intended to apply to persons rather than animals.¹⁴¹ The division of combatants and civilians is less structured under the law governing non-international armed conflicts, but revolves around the concept of direct participation in hostilities¹⁴² which is also largely anthropocentric. To fit animals under its rubric would require adjusting the oft-repeated maxim ‘farmer by day, soldier by night’ and would clash with the anthropocentric presuppositions underlying IHL.

It has been argued that animals may qualify as civilian objects.¹⁴³ In the context of protected zones, the attribution of civilian object status would provide a double layer of protection. For example, if military activity were undertaken in a protected zone, thereby potentially depriving it of its status, the animals qualifying as civilian objects would still be legally protected from being the direct targets of attacks. However, classifying animals as objects or equipment would be incongruous with animal rights political theory and efforts to have animals recognised as worthy of protection in their own right.¹⁴⁴

¹³⁸ ICRC Environmental Guidelines (n. 17), 82.

¹³⁹ Ibid.

¹⁴⁰ See de Hemptinne, Kebebew, and Niyo, Chapter 10, ‘Combatants and as Prisoners of War?’, Krieger and Martínez Soria, Chapter 4, ‘Property and Objects’, in this volume.

¹⁴¹ See AP I Commentary, para. 1672. According to AP I Commentary to Article 43, ‘[t]he expression “armed forces” means “members of the armed forces”’.

¹⁴² See ICRC, *Interpretive Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law* (Geneva: ICRC 2009).

¹⁴³ See Krieger and Martínez Soria, Chapter 4, ‘Property and Objects’, in this volume.

¹⁴⁴ See, for example, Art. 60 of API. This provision requires that, for demilitarised zones, ‘all combatants, as well as mobile weapons and mobile military equipment, must have been evacuated’.

Addressing the merits of animals qualifying as civilian objects, Roscini argues that “objects” are not limited to inanimate things, but also include living beings that are susceptible of appropriation and ownership.¹⁴⁵ He notes that animals have been characterised as property by inter alia the ICTY¹⁴⁶ and the Eritrea-Ethiopia Claims Commission (EECC).¹⁴⁷ Jérôme de Hemptinne notes that ‘in most legal systems, animals have traditionally been considered as being “moveable objects”’.¹⁴⁸ On this basis, animals could be targeted during armed conflict when used for military purposes and when targeting them would offer a definite military advantage.¹⁴⁹ Conversely, to the extent animals qualify as civilian objects,¹⁵⁰ then any attack directed against them would violate Article 52(2) of AP I, which reflects customary international law and potentially constitute a war crime.¹⁵¹

Animals could also be protected as objects necessary for the survival of the human population. Under Article 54 of AP I, depriving the civilian population of objects indispensable for its survival is prohibited. On this basis, collateral damage to animals that are necessary for the survival of the civilian population would potentially constitute a violation of IHL.¹⁵² However, these protections would be contingent on re-characterising key IHL terms in an ecocentric manner. The alternative approach of applying area-based protected zones obviates the need for such interpretive gymnastics.

3.7.2 Indirect Protection of Animals in Protected Zones

Animals could indirectly benefit from protected zones in two primary ways. First, because the prohibition of attacking protected zones applies in a spatial manner. Animals located in these zones will generally benefit from incidental protection due to the reduced likelihood of harm through collateral damage.¹⁵³ This is not insignificant; collateral damage has been shown to result in multiple animal deaths in modern conflicts such as the Balkans war.¹⁵⁴ Given that the occurrence of conflict

¹⁴⁵ Roscini, ‘Animals and the Law of Armed Conflict’ (n. 2) 13–14.

¹⁴⁶ ICTY, *Prosecutor v. Ante Gotovina, Ivan Čermak and Mladen Markač*, judgment of 15 April 2011, IT-06-90-T, para. 1783. See also Krieger and Martínez Soria, Chapter 4, ‘Property and Objects’, in this volume.

¹⁴⁷ EECC, *Partial Award, Western Front, Aerial Bombardment and Related Claims – Eritrea’s Claims* 1, 3, 5, 9–13, 14, 21, 25 and 26, 19 December 2005, paras. 29–30. See also Krieger and Martínez Soria, Chapter 4, ‘Property and Objects’, in this volume.

¹⁴⁸ de Hemptinne ‘The Protection’ (n. 97), 275.

¹⁴⁹ *Ibid.*

¹⁵⁰ In this respect, see Krieger and Martínez Soria, Chapter 4, ‘Property and Objects’, in this volume.

¹⁵¹ See, for example, Art. 8(2)(b)(ii) of ICC Statute. (‘Intentionally directing attacks against civilian objects, that is, objects which are not military objectives’.)

¹⁵² Art. 54 of AP I. See also de Hemptinne ‘The Protection’ (n. 97), 275; Federica D’Alessandra and Matthew Gillett, ‘The War Crime of Starvation in Non-International Armed Conflict’, *Journal of International Criminal Justice* 17 (2019), 815–847, at 836.

¹⁵³ Pons, ‘Animals’ (n. 7), 171–2.

¹⁵⁴ ICTY, *Prosecutor v. Kupreškić et al.*, judgment of 14 January 2000, IT-95-16-T, para. 762. The ICTY Trial Chamber in the *Kupreškić* case acknowledged the fact that the destruction of livestock may be

inside animal habitats predicts the severity of population declines of animal species in those areas, establishing zones that exclude hostilities is likely to benefit animal populations.¹⁵⁵ Animals will also flourish due to the rehabilitation of the environment in zones that are not subject to military attacks.

However, if animals are crowded together with humans in protected zones, the lack of attacks may be a two-edged sword. Human populations left to engage in industrious and economic activity unmolested by attacks are likely to have an increased impact on the natural environment.¹⁵⁶ Even the mere presence of large numbers of humans in the same areas as wild animals is likely to disrupt their normal feeding and foraging behaviour and negatively impact their well-being. Conversely, if humans are largely excluded from the protected zones, as is the case in the Korean DMZ, animal populations will flourish.

Second, the welfare of all animals, including wild animals, will be a factor to be duly considered when undertaking a proportionality assessment before conducting an attack that may cause collateral damage.¹⁵⁷ This factor would be relevant if attacks were launched against military targets adjacent to protected zones established for animals. Already, potential harm to non-combatant humans (including those in protected zones) is a key component in any proportionality assessment. Incorporating harm to animals in the proportionality equation would mark a significant ecocentric advance. Such assessments would be difficult and vulnerable to claims of subjectivity, as it ‘depends on the value attributed to animals’ and ‘animal considerations must be weighed against human considerations (as opposed to military advantage)’.¹⁵⁸ However, it is ‘increasingly accepted that animals should also acquire value in their own right and, as a consequence, that their interests should no longer be automatically subordinated to those of human ones.’¹⁵⁹ Moreover, the ILC has stated: ‘If the rules relating to proportionality are applied in relation to the protection of the natural environment, it means that attacks against legitimate military objectives must be refrained from if such an attack would have incidental environmental effects that exceed the value of the military objective in question.’¹⁶⁰ Nonetheless, when engaging in proportionality assessments, a common view holds that ‘when human interests conflict with animal interests, human life or suffering should prevail over those of animals’.¹⁶¹ The spatial nature of protected zones obviates the need to weigh human interests against those of animals, at least in

lawful damage incidental to an attack on a military objective, but the tribunal found that the damage was not ‘collateral’, but rather ‘it was the primary purpose of the attack’.

¹⁵⁵ See Daskin and Pringle, ‘Warfare and Wildlife’ (n. 24), 328.

¹⁵⁶ See Longobardo, Chapter 13, ‘Occupied Territory’, in this volume.

¹⁵⁷ Pons, ‘Animals’ (n. 7), 171.

¹⁵⁸ Michael Schmitt, ‘Green War: An Assessment of the Environmental Law of Armed Conflict’, *Yale Law Journal* 22 (1997) 1–110, at 58–61; de Hemptinne ‘The Protection’ (n. 115), 275.

¹⁵⁹ de Hemptinne ‘The Protection’ (n. 97), 275.

¹⁶⁰ Report of the ILC, Seventy-First Session (n. 43), 256.

¹⁶¹ de Hemptinne ‘The Protection’ (n. 97), 275.

the legal proportionality context; all living entities inside such zones will benefit from their protection from attack. In fact, the presence of civilian humans together with animals in such zones will weigh against the proportionality of any attacks against them.

However, two countervailing risks for animals will arise from the use of protected zones. First, the anthropogenic threats of habitat destruction, resource depletion and hunting for bushmeat will escalate when humans are co-located with animals.¹⁶² Second, and more invidiously, protected zones under IHL are subject to the agreement of the parties to hostilities. However, according to the *pacta tertiis* principle of international law, such agreements would not bind third parties.¹⁶³ In the complex, multi-party armed conflicts that currently plague the world, it will be difficult to obtain consent from all parties.¹⁶⁴ But without consent of all parties, any protection existent between a sub-set of the warring factions will be illusory, as the other parties will not be bound to respect the sanctity of the designated area. Counter-intuitively, risks may in fact be heightened due to a false sense of security on the part of those inside purportedly protected zones, as well as the increased potential for large-scale abuses against persons crowded into geographically delineated areas, as was notoriously demonstrated by the events in Srebrenica in July 1995.¹⁶⁵ Such attacks would likely breach other provisions of IHL, irrespective of protected zones, and may amount to criminal conduct. However, history has shown the potential for elevated risks notwithstanding legal protections, and the risk of crowding together in exposed zones, would fall on humans and animals alike.

3.7.3 Protection Through the Application of International Environmental Law

In addition to or notwithstanding any protections under IHL instruments, animals may benefit from the continued application of protecting conventions during armed conflict (to the extent these are not incompatible with IHL). In this respect, obligations under international environmental treaties are not automatically suspended when armed conflict occurs. The ILC Draft Articles on the Effects of Armed Conflicts on Treaties indicate a presumption in favour of the continued applicability of environmental obligations.¹⁶⁶

¹⁶² Panel and Pietri *Environmental Consequences of the 1982 Falklands War* (n. 124) 4–6.

¹⁶³ ILC Draft Principles (n. 8), 222, 260. See also PCIJ: *Factory at Chorzów*, P.C.I.J., Series A, No. 17, p. 45; and article 34 of the Vienna Convention on the Law of Treaties (Vienna, 23 May 1969), United Nations, Treaty Series, vol. 1155, No. 18232, p. 331.

¹⁶⁴ The parties may include non-state actors according to the ILC; ILC Draft Principles (n. 8), 222.

¹⁶⁵ See discussion of the crimes committed against those gathered in the Srebrenica and Zepa enclaves, above Section 2.

¹⁶⁶ ILC, *Effects of Armed Conflicts on Treaties: Titles and texts of the draft articles on the effects of armed conflicts on treaties adopted by the drafting Committee on second reading, 11 May 2011, A/CN.4/L.777, Annex – Indicative list of treaties referred to in Article 7.*

However, the extent and operational impact of international environmental law during armed conflict remains prospective and uncertain. Although there are some multilateral treaties protecting endangered species, the welfare of animals has not yet been adequately regulated at the international level,¹⁶⁷ resulting in very few enforceable and binding international treaties concerning the welfare of animals. Nonetheless, instruments such as the Convention on International Trade in Endangered Species (CITES), seek to protect vulnerable animals. Along with other international instruments, including the World Heritage Convention and the Convention on Biological Diversity, these may provide the conceptual basis for an obligation to establish environmentally focused protected zones in the context of armed conflict.

Basing protected zones on these sources has the advantage of conceptual coherence and reduces doctrinal fragmentation between domains of international law. However, states have been reluctant to implement environmental law provisions during armed conflicts, and have conditioned IHL provisions seeking to protect the environment on exacting requirements, as reflected, for example, in Article 35(3) of Additional Protocol I and the corresponding war crime in Article 8(2)(b)(iv) (which is even more exacting).¹⁶⁸ The likelihood of states developing their practice, and in turn the law, and forming an environmental obligation to establish protected zones remains an aspirational goal rather than an established part of the doctrine.

3.7.4 Specially Affected Animal Groups

Throughout history, all manner of animals have been used in armed conflicts, including horses, elephants, dogs, bats, camels, seals, pigeons, dolphins, donkeys, belugas, oxen or cormorants.¹⁶⁹ However, it is not only these animals that are directly used for military purposes, but also several other types of animals that will typically suffer as a result of armed hostilities. The following section surveys the major types of animal populations which will potentially be present in war zones and which may benefit from the establishment of protected zones.

3.7.5 Domestic and Farm Animals

Local populations living in areas falling within the theatre of armed conflict will likely have domestic animals and stock.¹⁷⁰ These animals are susceptible

¹⁶⁷ de Hemptinne 'The Protection' (n. 97), 272, citing Anne Peters, 'Global Animal Law: What It Is and Why We Need It', 5 *Transnational Environmental Law* (2016), 9–23.

¹⁶⁸ See Matthew Gillett, 'Chapter 10. Eco-Struggles: Using International Criminal Law to Protect the Environment During and After Non-International Armed Conflict' in Carsten Stahn et al. (eds.), *Environmental Protection and Transitions from Conflict to Peace: Clarifying Norms, Principles and Practices* (Oxford: Oxford University Press, 2017).

¹⁶⁹ Nowrot, 'Animals at War' (n. 1), 130.

¹⁷⁰ See, for example, ARCOTRASS – Consortium, *Study on the State of Agriculture* (n. 122), 21.

to harm during hostilities. Lord Paddy Ashdown recounted during his testimony in the *Milošević* case how '[i]n his journey through western Kosovo, [he] saw villages and towns razed to the ground, uninhabited, all the properties roofless, having been set on fire, evidence of gunfire, with shell holes and putrefying dead cows strewn in the fields'.¹⁷¹ Other witnesses in ICTY proceedings frequently detailed the killing of livestock and pets by armed forces and paramilitary groups.¹⁷²

Soldiers engaged in armed conflict often obtain dogs, cats and other animals to serve as pets and military mascots to raise morale and comfort soldiers.¹⁷³ These domestic animals and stock may suffer as indirect victims of forced displacement of civilian populations. As human populations flee, these animals are typically abandoned and left to wander the fields or streets without proper food or water being left for them. Given that war is at times accompanied by famine,¹⁷⁴ domestic animals face the risk of consumption by remaining humans looking for food. In this respect, an Imam in Syria issued a fatwa in 2013 allowing the starving local population to eat cats, dogs and donkeys,¹⁷⁵ which is usually impermissible under Islamic dietary laws. If protected zones were established, the populations would be less likely to flee and therefore less likely to abandon their animals.

In terms of legal protection, domestic animals and stock located in protected zones will typically be considered civilian objects, as the property of the civilian inhabitants to whom they belong.¹⁷⁶ However, if those civilians take part in hostilities they would lose their civilian protection.¹⁷⁷ In turn, their pets would no longer be civilian property, at least during their owner's active participation. Nonetheless, the indirect shelter provided by the protected zone would continue to apply as long as the owner's military activities were not significant enough to vitiate the area-based protection.

¹⁷¹ ICTY, *Prosecutor v. Slobodan Milosevic*, summary of testimony of Paddy Ashdown of 14 and 15 March 2002, IT-02-54.

¹⁷² See for example, ICTY, *Prosecutor v. Vlastimir Djordjevic*, judgment of 23 February 2011, IT-05-87/1-T, paras. 331, 1102; ICTY, *Prosecutor v. Goran Hadzic*, testimony of Adnan Abd El Razek, IT-04-75-T, 1 July 2013, T.6465-6466.

¹⁷³ Roscini, 'Animals and the Law of Armed Conflict' (n. 2), 1. These pets may also serve as operational dogs as discussed below.

¹⁷⁴ See D'Alessandra and Gillett, 'The War Crime of Starvation' (n. 152), 815–47, at 816.

¹⁷⁵ Saad Abedine, Hala Gorani, and Laura Smith-Spark, 'Syria: Reported Fatwa Allows the Hungry to Eat Cats and Dogs', CNN (18 October 2013), available at <https://cnn.it/3qXb4BN>, accessed 22 February 2022.

¹⁷⁶ See Krieger and Martínez Soria, Chapter 4, 'Rationale and Challenges', in this volume. Heike Krieger and José Martínez Soria noted that most legal orders equate animals with tangible objects of which private property or public ownership is possible, and that therefore animals are covered by the rules on military or civilian objects, prohibitions on pillages and plunder and other property-related rules.

¹⁷⁷ See Article 15 of GC IV.

3.7.6 Wild Animals

Wild animals may arguably be considered property of the state, or, if they live on private property, of the owner of the private property. If so, they may benefit from direct protection as civilian objects, in addition to the indirect protection arising from living in a zone protected from attacks. However, classing wild animals as property is contentious. For example, David Favre argues that wildlife is not property per se, even if governments can control access to it.¹⁷⁸ If not considered property, then wild animals would receive incidental protection based on their presence in an area that happened to be legally protected from attack. However, wild species may range over vast areas that will not necessarily coincide with the limits of protected zones. On leaving those confines, they will be legally bereft of any particular protections under IHL other than their potential characterization as civilians and the prohibitions against disproportionate harm to the environment.¹⁷⁹

The direct and indirect impact of warfare on wild animals can be devastating. The ICRC has noted that ‘from 1946 to 2010, conflict was the single most important predictor of declines in certain wildlife populations’.¹⁸⁰ These declines often reached existential levels. For example, ‘[d]uring the 15-year civil war in Mozambique, the Gorongosa National Park lost more than 90% of its animals’.¹⁸¹

Whilst they offer unique protection due to their area-based nature, protected zones themselves may exacerbate animal suffering in unintended ways. For instance, in 1994 Rwandan refugees ended up occupying areas previously largely unused by humans, depriving wild animals of their natural habitat essential to their thriving and survival. Many Rwandan refugees were relocated to the vicinity of the Virunga National Park in the Democratic Republic of Congo (DRC)¹⁸² despite the fact that UNESCO conveyed to the UNHCR that utmost care had to ‘be taken to avoid establishment of refugee camps in or near national parks’.¹⁸³ As a result ‘every day an estimated 30,000 adults and children forage in the park with their machetes, emerging with loads averaging 40 pounds’.¹⁸⁴ Because of the threat to animals and their habitats posed by fighting and by the humans displaced by fighting, Virunga National Park was inscribed on the list of World Heritage in

¹⁷⁸ David Favre, ‘Living Property: A New Status for Animals within the Legal System’, 93 *Marquette Law Review* 1021 (2009–2010), 1021–70, at 1044.

¹⁷⁹ See, for example, Article 35(3) of AP I.

¹⁸⁰ ICRC, ‘Natural Environment’ (n. 5), p. 1.

¹⁸¹ *Ibid.*, 4.

¹⁸² The Virunga National Park was declared a world heritage site in 1979 because of its outstanding universal value due in part to its exceptional biodiversity (‘the top African National Park for biological diversity’). See UNESCO, Virunga National Park Description (no date), available at <https://whc.unesco.org/en/list/63/>, accessed 22 February 2022.

¹⁸³ UNESCO, World Heritage Committee report of its 18th session of 12–17 December 1994, WHC-94/CONF.003/16, 21.

¹⁸⁴ Raymond Bonner, ‘Flood of Rwanda Refugees is Destroying Ecological Treasure’, *New York Times* (15 November 1994).

danger in 1994.¹⁸⁵ It has remained listed ever since, with repeated conflicts in the DRC extending hostilities to this renowned natural site.¹⁸⁶

In the case of the Gorongosa National Park in Mozambique, animals were harmed not only by clashes between the right-wing RENAMO, or Resistência Nacional Moçambicana, rebel forces which took refuge there, and government forces, but also poaching by professional hunters and encroachment into the park by the 100,000 or so people living on its edges who mostly survived on subsistence farming.¹⁸⁷ The results were devastating; ‘the African buffalo went down from 14,000 to 100 individuals, and the hippo population from 3,500 to 100 . . . the elephant population declined from 2,000 to 200’.¹⁸⁸ Though the Gorongosa National Park did not fulfil the criteria for a protected zone per se, its fate demonstrates the ecocentric risks of bringing large numbers of humans into animal habitats.

4 LEGAL CONSEQUENCES OF VIOLATIONS OF PROTECTED ZONES

The Geneva Conventions do not list attacks against protected zones as grave breaches.¹⁸⁹ However, attacking protected zones, such as hospital zones and localities, could amount to several international crimes, including the war crime of ‘[i]ntentionally directing attacks against . . . places where the sick and wounded are collected’;¹⁹⁰ the war crime of ‘[a]ttacking or bombarding, by whatever means, towns, villages, dwellings or buildings which are undefended and which are not military objectives’;¹⁹¹ and attacks on the civilian population or objects or on buildings using the distinctive emblems of the GCs.¹⁹² Additional Protocol I supports this criminalisation, as it includes ‘making non-defended localities and demilitarized zones the object of attack’ as grave breaches, ‘when committed wilfully, in violation of the relevant provisions of this Protocol, and causing death or serious injury to body or health’.¹⁹³

In the context of non-international armed conflicts, the ICRC’s Customary International Humanitarian Law Study indicated that ‘[d]irecting an attack against a demilitarised zone agreed upon between the parties to the conflict is prohibited’

¹⁸⁵ See World Heritage Committee, Decision CONF 003 IX (1–19), Monitoring of the State of Conservation of the World Heritage Cultural and Natural Properties, 18th session of the World Heritage Committee (CONF 003), 1994.

¹⁸⁶ UNEP, *The Democratic Republic of the Congo: Post-Conflict Environmental Assessment: Synthesis for Policy Makers* (Nairobi: UNEP 2011), 26.

¹⁸⁷ David Quammen, ‘National Geographic: How one of Africa’s Great Parks is Rebounding from War’, *National Geographic* (May 2019).

¹⁸⁸ ICRC, ‘Natural Environment’ (n. 5), 4.

¹⁸⁹ Art. 50 of GC I; Art. 147 of GC IV. See also Ronzitti, ‘Protected Areas’ (n. 17), 385.

¹⁹⁰ ICRC Commentary GC I (2016), para. 1908 (citing Art. 8(2)(b)(ix) and (e)(iv) of ICC Statute).

¹⁹¹ Ibid. (citing Art. 8(2)(b)(v) of ICC Statute). See also Art. 3(c) of ICTY Statute.

¹⁹² Ibid. (citing Art. 8(2)(b)(i), (e)(i), (b)(ii), and (b)(xxiv) and (e)(ii) of ICC Statute).

¹⁹³ Art. 85(3)(d) of AP I.

and is a norm of customary international law, which would thereby be applicable in non-international armed conflicts and may form a basis for criminal prosecution.¹⁹⁴

Aside from, and in addition to, criminal responsibility, violations of the IHL provisions and corresponding agreements concerning protected zones could provide a basis to seek reparations for the violation of IHL from the perpetrating state. Reparations may be sought, for example, pursuant to Article 3 of the 1907 Hague Convention IV and pursuant to Article 91 of AP I.¹⁹⁵ However, claims by individuals against states for acts harming the environment or animals will often be frustrated by considerations of sovereign immunity in foreign courts.¹⁹⁶

5 CONCLUDING OBSERVATIONS AND RECOMMENDATIONS

As area-based constructs, protected zones bear a unique potential to shelter animals from hostilities. The ICJ has recognised the spatial dimension of the environment, noting that it ‘is not an abstraction but represents the living space’ of human beings, including future generations.¹⁹⁷ By attaching to an area, rather than any specific person therein, protected zones can obviate the need for contentious legal approaches, such as equating animals with human civilians. Yet the historical record indicates that even these area-based protections are no panacea for the threat posed to animals during armed conflict. Whereas the Korean DMZ demonstrates the ecological promise of protected zones,¹⁹⁸ other examples, such as in Rwanda, highlight the risk of causing severe ecological harm by drawing human populations to wildlife habitats.¹⁹⁹ This highlights a fundamental operational tension – the intended beneficiaries of protected zones (human beings) are the single greatest threat to animal survival.²⁰⁰ Establishing protected zones in order to protect both humans and animals may be self-defeating, at least insofar as wild animals are concerned.²⁰¹ At the normative level, the use of protected zones to shelter non-humans is incongruous, as it clashes with the anthropogenic origins and orientation of IHL, which prioritise human interests over those of the environment.

Nonetheless, examples such as the Korean DMZ, indicate that the normative and operational tensions can be reconciled under specific conditions. They suggest that animals will prosper to a greater degree from separately established ecological zones,

¹⁹⁴ ICRC Customary Law Database, Rule 36; Sivakumaran, *The Law of Non-international Armed Conflict* (n. 29), 384–5.

¹⁹⁵ Ronzitti, ‘Protected Areas’ (n. 17), 386.

¹⁹⁶ Ibid.

¹⁹⁷ ICJ: *Nuclear Weapons* (n. 9), para. 29.

¹⁹⁸ Kim, *The Demilitarized Zone (DMZ) of Korea* (n. 25), 172; Panel and Pietri *Environmental Consequences of the 1982 Falklands War* (n. 124) 4.

¹⁹⁹ See above, Section 3.7.6.

²⁰⁰ Sean L. Maxwell et al., ‘Biodiversity: The Ravages of Guns, Nets and Bulldozers’, *Nature* 536 (2016), 143–5.

²⁰¹ In relation to domestic animals at least, anthropocentric protected zones may be beneficial during times of war.

rather than through their co-mingling with human populations. Moreover, the analysis shows that establishing protected ecological zones prior to the outbreak of hostilities has legal basis under IHL that corresponds to the precepts of international environmental law and will enhance the impact of such zones during war.²⁰²

Operational measures that would increase the protections of these zones include identifying, in advance, the likely location of such zones and, to the extent humans and animals are to be co-located, ensuring they have the infrastructure to adequately protect the sheltered persons. Preparatory measures may also be taken to accommodate the needs of pets and other animals located in the protected zone. Any particularly vulnerable animal species or groups should be taken into consideration – for instance by delineating nature-only areas within the protected zone or by ensuring the presence of sufficient food and handlers for zoo animals. Agreements to respect protected zones should be obtained from all parties to the conflict, as gathering large numbers of animals in small areas could increase their exposure to harmful acts, in the same way that human populations sheltered in so-called safe zones have been rendered vulnerable to attack, as occurred in Srebrenica and Zepa in 1995.²⁰³

If the natural habitat of wild animals falls within a designated protected zone, measures should ensure that the sheltered persons, who will often increase significantly in number, do not encroach excessively onto those animals' habitats. This could be done through signage, information campaigns and monitoring. However, the natural habitats of wild animals will often fall outside any anthropocentric protected zone.²⁰⁴ These animals should be permitted to remain in their natural habitats in all but the most extenuating circumstances. Again, given the advisability of allowing wild animals to remain *in situ*, it would be preferable to create designated ecocentric protected zones to shelter vulnerable animal populations during armed conflict, as opposed to using anthropocentric protected zones for this purpose.²⁰⁵ The creation of a network of such zones could be achieved in a systematic manner through reliance on other pre-existing multilateral conventions and treaties such as the Convention on Biological Diversity and the World Heritage Convention.²⁰⁶

Based on the foregoing, one promising approach would be to establish animal protected zones for particularly valuable protected areas or threatened environmental hotspots, particularly those of outstanding universal value or areas of 'major

²⁰² ICRC Environmental Guidelines (n. 17), 82–3.

²⁰³ Ronzitti, 'Protected Areas' (n. 17), 386.

²⁰⁴ Animals with extremely large natural habitats and migratory species will present additional complications in this respect.

²⁰⁵ But see Krieger and Martínez Soria, Chapter 4, 'Rationale and Challenges'. The authors argued that the anthropocentric versus ecocentric debate has lost relevance because 'any informed anthropocentric approach will be aware of and protect the interdependencies and complexities of ecological systems' and therefore protect those interests.

²⁰⁶ ICRC Environmental Guidelines (n. 17), 82.

environmental importance'.²⁰⁷ The International Union for the Conservation of Nature has advocated for the adoption of a Draft Convention on the Prohibition of Hostile Military Activities in Protected Areas, according to which the UN Security Council would designate protected areas to be marked 'non-target' or demilitarised areas during conflicts, and a listing process would establish criteria to demarcate an 'international protected area'. However, to date, the Draft Convention has not been supported by the UN Security Council and has not been adopted.²⁰⁸

In a similar vein, the United Nations Environment Programme (UNEP) recommends the creation and adoption of a new legal regime 'for place-based protection of critical natural resources and areas of ecological importance during armed conflicts', incorporating precautionary measures prior to the commencement of active hostilities. As explained by UNEP, 'this could include protection for watersheds, groundwater aquifers, agricultural and grazing lands, parks, national forests, and the habitat of endangered species'.²⁰⁹

A broader approach would see 'a registry of protected areas . . . [based on] UN List of National Parks and Equivalent Reserves, the Ramsar Wetlands of International Importance, the UNESCO Biosphere Reserves, and the Council of Europe's Biogenic Reserves . . . adopted immediately'. For other areas not in these lists, studies would be required to determine their vulnerability to military activities.²¹⁰ This approach would bring together different registries drawn up under different standards by different institutions, thus contributing to the systemic harmonisation of international law and practice regarding the protection of the environment. In this respect, it has been noted that the ILC's Draft Principles could have drawn stronger links to 'environmental treaties such as the World Heritage Convention, the Ramsar Convention on International Wetlands and the Biological Diversity Convention'.²¹¹

Ultimately, the establishment of animal protection zones will become more pressing over the coming years for countries at war or facing the prospect of war. Whereas humans suffer during armed conflict, many animal species are disappearing from the face of the earth at a historically alarming rate. Assessing novel questions, such as the use of spatial concepts like protected zones to shelter animals, is critical in the search for legal protections that can mitigate the harmful impact of war on nature.

²⁰⁷ See ILC Draft Principles (n. 8), Draft Principle 4. Several states expressed 'general support' for the inclusion of a draft principle on the designation of areas of major environmental and/or cultural importance as protected zones – including Denmark, Finland, Germany, Greece, Iceland, Iran, Italy, Morocco, Norway, Sweden, Peru and Portugal – whereas a small number of other states – including the Russian Federation and Turkey – expressed caution in this respect. See also ICRC Environmental Guidelines (n. 17), 83 (and references therein).

²⁰⁸ UNEP, *Protecting the Environment* (n. 97), 20.

²⁰⁹ *Ibid.*

²¹⁰ Schmitt, 'Green War' (n. 158), 25.

²¹¹ Anne Dienelt and Britta Sjøstedt, 'Is the ILC's Work Enhancing Protection for the Environment in Relation to Warfare? A Reply to Stavros-Evdokimos Pantazopoulos and Karen Hulme', *Questions of International Law* (8 July 2017).

Such doctrinal assessments must remain cognisant of, and congruent with, the guiding principles of IHL, as emphasised in the preceding systematic analysis of the applicable provisions and principles of this domain. On this basis, they provide an opportunity to seek the normative harmonisation of international law, particularly between IHL and international environmental law, cultural heritage law and international criminal law, and thereby to reduce its fragmentation and consequent loss of coherence, respect and ultimately effectiveness.

The foregoing analysis demonstrates that protected zones have the potential to constitute a significant legal tool, capable of providing relief to animals from the harms of war. If crafted appropriately, with sufficient safeguards for humans and non-humans alike, they entail a unique form of protection for animals in war, which accords with the principles underlying IHL, as well as the related areas of international law aimed at the protection of nature and all its entities.

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