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The Regulation of Naval Mines in Maritime Warfare

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Master's thesis in JUR-3910 Law of the Sea

September 2022

Acknowledgements

I would like to start this thesis by thanking my supervisor, Associate Professor Sondre Torp Helmersen, for his invaluable feedback and knowledge needed to finish the work.

I would also like to express my gratitude to Professor Magne Frostad, who helped me choose my topic, and offered to be my sparring partner.

A huge thank you also goes to the unwavering love and support I have received from my family, as well as all the good lunch and ice-cream breaks with my friends, making it worthwhile going to the office every day.

Lastly, I must mention my lovely girlfriend, Nike, and how she has helped me through this project. If it were not for her, her help and support, this thesis would never have reached this level.

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1 Introduction

1.1 Topic

War and violence have been a part of human history for millennia, with evidence of warfare dating as far back as 14,000 years ago.[1] Through the years the tools used in warfare have changed, from primitive weapons such as clubs and rocks, to highly sophisticated and intelligent weapons including missiles and autonomous weapons systems, which in some instances have replaced the need for human soldiers.[2]

The localities of war have also expanded, from small territories of land to vast battlefields where the belligerents, i.e., the countries fighting, wage war by land, sea, and air. This thesis will address an aspect of naval warfare that has played an important role since its invention: the use of naval mines in armed conflict.

A naval mine drifting away from where it was moored or deployed can easily cause a significant impediment of States' navigational rights and can in the worst case pose a serious threat to sailors' and civilians' lives. The same may be said about mines that remain active after the cessation of an armed conflict.

For this reason, the topic of this dissertation is the regulation of naval mines, focusing on *inter alia* the duties a belligerent State has if the deployed mines drift away or if the armed conflict ends, as well as potential shortcomings of that regulation.

[1] Lawrence H Keeley, *War before Civilization* (Oxford University Press 1996) 37.

[2] Amitai Etzioni and Oren Etzioni, 'Pros and Cons of Autonomous Weapons Systems' (2017) 97 Military Review 72, 72.

1.2 Research question

The principal research question of this dissertation is: "How does international law regulate naval moored mines that are deployed in an armed conflict between two belligerent States, and what potential shortcomings exist?"

The thesis will therefore have two components – a descriptive and an analytical one. The reason for this choice is set out below in point 1.5.

1.3 Context

The contextual background for the topic is the Russo-Ukrainian conflict which saw a large-scale Russian invasion on the 24th of February 2022,[3] causing several million people to flee their homes.[4] Ukrainian ports' entrances and exits are blocked both by mines and Russian ships,[5] which has turned the conflict into an amplifier for the food crisis that is present as of June 2022, as several countries are dependent on Russia and Ukraine for their crops.[6]

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[3] The Editors of Encyclopaedia (ed), 'Ukraine', *Encyclopedia Britannica* (2022) pt The election of Volodymyr Zelensky and continued Russian aggression <https://www.britannica.com/place/Ukraine> accessed 13 June 2022; Signe Karin Hotvedt and others, 'Putin gav klarsignal til militæroperasjon i Donbas, invasjonen skal vere i gang' *NRK* (23 February 2022) <https://www.nrk.no/urix/putin-skal-ha-godkjent-militaeroperasjon-i-donbas-1.15865858> accessed 13 June 2022; The United Nations, 'The UN and the War in Ukraine: Key Information' (*United Nations Western Europe*, 8 March 2022) <https://unric.org/en/the-un-and-the-war-in-ukraine-key-information/> accessed 13 June 2022.

[4] The Operational Data Portal (UNHCR), 'Ukrainian Refugee Situation' (*Operational Data Portal*) <https://data.unhcr.org/en/situations/ukraine> accessed 13 June 2022.

[5] Nik Martin, 'Ukraine War: Russia Blocks Ships Carrying Grain Exports' *Deutsche Welle* (17 March 2022) <https://www.dw.com/en/ukraine-war-russia-blocks-ships-carrying-grain-exports/a-61165985> accessed 13 June 2022; Jonathan Saul, 'Analysis: The Sea Mines Floating between Ukraine's Grain Stocks and the World' *Reuters* (10 June 2022) <https://www.reuters.com/markets/commodities/sea-mines-floating-between-ukraines-grain-stocks-world-2022-06-10/> accessed 13 June 2022.

[6] UN News, 'Ukraine War Squeezes Food Supplies, Drives up Prices, Threatens Vulnerable Nations' (*UN News*, 13 May 2022) pt 'Wheat dependency' <https://news.un.org/en/story/2022/05/1118172> accessed 13 June 2022.

In addition to the naval mines blocking the ports, several drifting mines have been spotted in the Black Sea, with both States blaming the other for deploying them.[7] The Shipping Centre of the North Atlantic Treaty Organisation (NATO) issued a statement warning about the detection of drifting mines, recommending several safety measures for merchant vessels sailing in the Black Sea.[8] Drifting mines from the ongoing conflict have also led to *inter alia* Turkey briefly closing the Bosporus Strait for traffic, as a security measure for the continuation of commercial shipping in the area.[9]

In addition to this specific conflict, the regulation of naval mines is relevant in any armed conflict with a naval aspect. Mines were actively used in both World War I[10] and World War II, where the belligerents in the latter laid more than 550 000 submarine mines.[11] During the Iran-Iraq War, a US Navy vessel struck a mine and was damaged, which resulted in an American military operation aimed at two Iranian oil platforms as well as Iranian military vessels and aircraft.[12]

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[7] Constantine Atlamazoglou, 'Some of the Most Dangerous Weapons Used in Russia's War on Ukraine Are Starting to Float Away' *Business Insider* (2 May 2022) pt 'Lethal visitors' <https://www.businessinsider.com/dangerous-naval-mines-used-in-russia-ukraine-war-floating-away-2022-4> accessed 13 June 2022; Jared Malsin, 'Turkey Says Mine Detected Along Its Black Sea Coast' *The Wall Street Journal* (6 April 2022) <https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-04-06/card/turkey-detects-mine-along-its-black-sea-coast-0QpZAAaaYjk1VbO9uWDP> accessed 13 June 2022.

[8] Such as avoiding floating objects and using look-outs, see NATO Shipping Centre, 'Risk of Collateral Damage in the North Western, Western, and Southwest Black Sea' (*shipping.nato.int*, 1 June 2022) <https://shipping.nato.int/nsc/operations/news/-2022/risk-of-collateral-damage-in-the-north-western-black-sea-2.aspx> accessed 13 June 2022.

[9] Yoruk Isik and Azra Ceylan, 'Turkey Defuses Mine after Russia Warns of Strays from Ukraine Ports' *Reuters* (26 March 2022) <https://www.reuters.com/world/middle-east/turkey-finds-mine-like-object-floating-off-black-sea-2022-03-26/> accessed 14 April 2022.

[10] Naval History and heritage Command, 'WWI: Laying the Nort Sea Mines' (*National Museum of the U.S. Navy*) <https://www.history.navy.mil/content/history/museums/nmusn/explore/photography/wwi/wwi-north-sea-mine-barrage/mines/laying-mines.html> accessed 17 August 2022.

[11] The Editors of Encyclopaedia, 'Mine', *Encyclopedia Britannica* (2018) pt 'Submarine mine' <https://www.britannica.com/technology/mine-weapon#ref4896> accessed 14 June 2022.

[12] *Oil Platforms (Islamic Republic of Iran v United States of America), Judgment* [2003] Reports 2003 161 (ICJ) [67–68].

It is therefore clear that naval mines can have a major impact on civilians and military, both in armed conflict and outside, and that they are weapons that most likely will continue to be used in future conflicts, thus making this a timely topic for this thesis.

Although Russia's invasion of Ukraine forms a good contextual framework for the thesis, there will be no further discussion of the situation itself, nor any legalities surrounding it. The inclusion of the conflict is merely to show the timeliness and relevancy of the topic, both now and for armed conflicts to come.

1.4 Scope of the dissertation

Four topics related to the subject of this thesis will not be addressed in the dissertation.

First, the focus of the thesis will be the regulation of deployed moored mines during international armed conflicts;[13] any legal questions relating to mines deployed in a non-international armed conflict[14] or during peacetime will thus not be included. As the research question relates to the duties of the belligerent States, any question regarding States that are neutral in the conflict will not be discussed.

Second, other types of naval mines than moored mines will not be discussed. Although both the title and the preamble of the 1907 Hague Convention VIII[15] refer to unanchored automatic contact mines, these are generally considered a thing of the past,[16] as the technology available at the time of the drafting of the Convention has evolved drastically.[17] This dissertation seeks

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[13] Conflicts in which one or more states resort to the use of armed force against one or more other states, as defined by the ICRC, 'What Is International Humanitarian Law?' 4 <https://www.icrc.org/en/download/file/240610/what_is_ihl.pdf> accessed 24 July 2022.

[14] A non-international armed conflict is, opposed to an international armed conflict, restricted to the territory of a single State, ibid.

[15] Hague Convention VIII Relative to the Laying of Automatic Submarine Contact Mines 1907 hereinafter referred to as 'Hague Convention', 'Hague VIII', or simply 'the Convention'.

[16] Steven Haines, '1907 Hague Convention VIII Relative to the Laying of Automatic Submarine Contact Mines' (2014) 90 International Law Studies 412, 423.

[17] Dale G. Stephens and Mark D. Fitzpatrick, 'Legal Aspects of Contemporary Naval Mine Warfare' (1999) 21 Loyola of Los Angeles International and Comparative Law Journal 553, 560.

only to discuss moored mines, as these are the ones that are most likely to have an impact on for example, shipping and other civilian maritime activities.[18]

Third, the thesis will not address the use of torpedoes. Naval mines will be the focus of the thesis, and although the Hague VIII comprises the use of torpedoes in e.g., article 1 paragraph 3, this will not be covered by this study. Although the term "torpedo" had been used for naval mines for approximately a century when the treaty was agreed upon, the conference agreed that the new term should be "mine".[19] Today, the term "torpedo" is understood as a self-propelled missile that explodes upon contact with the hulls of surface vessels or submarines.[20] The two terms are now understood as two different weapons, and as such, torpedoes will not be discussed. The simple answer to what a naval mine is can be found in a dictionary, where it is defined as "a type of bomb put […] in the sea that explodes when […] ships […] go over it".[21] A more detailed explanation of the technicalities of this weapon will be provided in point 3.1.

Finally, potential legal issues pertaining to mine countermeasures i.e., methods of reducing and eliminating the danger of mines deployed by the enemy,[22] will not be covered. As it is the belligerent States' duties that are in focus, this lies beyond the scope of this thesis.

The reason for the extensive delimiting of this thesis' scope, both in this chapter and later, is to ensure its relevance, and arrange the content in a manner that fits the framework for a master's thesis.

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[18] Jan D. Walter and Elmas Topcu, 'Experts Warn Black Sea Mines Pose Serious Maritime Threat' *Deutsche Welle* (2 April 2022) pt 'Russian-Ukrainian blame game' <https://p.dw.com/p/49Lvj> accessed 10 August 2022.

[19] Howard S Levie, '1907 Hague Convention VIII Relative to the Laying of Automatic Submarine Contact Mines' in Natalino Ronzitti (ed), *The Law of naval warfare: a collection of agreements and documents with commentaries* (Martinus Nijhoff Publishers 1988) 140 <https://books.google.no/books?id=efrj_WFbpO4C&printsec=frontcover&hl=no#v=onepage&q&f=false> accessed 14 April 2022.

[20] The Editors of Encyclopaedia, 'Torpedo', *Encyclopedia Britannica* (2019) <https://www.britannica.com/technology/torpedo> accessed 16 June 2022.

[21] 'Mine: A Type of Bomb Put below the Earth or in the Sea That Explodes When Vehicles, Ships, or People Go over It': <https://dictionary.cambridge.org/dictionary/english/mine> accessed 27 May 2022.

[22] Howard S Levie, *Mine Warfare at Sea* (Martinus Nijhoff Publishers 1992) 118.

1.5 Methodology and structure

To answer the research question posed above in the best possible manner, the dissertation and its arguments will be based on the various rules, principles and interpretative guidelines that concern naval mines. Using international conventions and customs, general principles, and subsidiary means, e.g., scholarly publications, the dissertation will seek to systematise and evaluate the sources.

The first part of the thesis, consisting of chapters 3 and 4, will describe and discuss the current legal framework for the use of naval mines and the responsibilities of the belligerent State. Using key conventions as well as subsidiary sources, this part will constitute *de lege lata*. In this part, the focus is on mines drifting away from their moorings and the duties a belligerent State, i.e., the State which deployed the mines, has after the cessation of the armed conflict.

The second part, in chapter 5, will consist of a discussion of any deficiencies found in the first section. In this part possible resolutions to such shortcomings will be put forward, which will make up the *de lege ferenda* portion of the dissertation. The assessments will among other factors be based on how the legal regime of naval mines works, in relation to the aims formulated prior to the agreement of the provisions, such as the preamble of the Hague VIII.

2 Sources

As the topic of this dissertation is part of international law, the discussions and answering of the questions raised will be based on interpreting international treaties, in a manner consistent with the rules set out in the VCLT[23] section 3. The main treaty in question is the Hague VIII, which has a total of 28 parties to the Convention and 17 State Signatories.[24] Legal theory has deliberated whether or not the entirety of this convention is considered customary international law, thus constituting rights and duties for third States, cf. VCLT Article 38.[25] The Statute of the International Court of Justice[26] Article 38 paragraph 1 litra b states that international customs may be applied as a legal source with the Court, given that they are "evidence of a general practice accepted as law". Based on an ordinary meaning of the provision, one can conclude that there are two elements needed to constitute international customs: a general practice by States, and that these states perceive that this practice constitutes law. The International Court of Justice (ICJ) has developed this two-element theory in its judgements and has stated that

> *the acts concerned [must] amount to a settled practice, but they must also be such, or be carried out in such a way, as to be evidence of a belief that this practice is rendered obligatory by the existence of a rule of law requiring it. The need for such a belief, i.e., the existence of a subjective element, is implicit in the very notion of the opinio juris*

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[23] Vienna Convention on the Law of Treaties 1969 (UNTS 1155), hereinafter referred to as 'the VCLT'.

[24] ICRC, 'Hague Convention (VIII) on Submarine Mines, 1907' (*Treaties, State Parties and Commentaries*) <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/INTRO/215> accessed 21 June 2022.

[25] Louise Arimatsu, 'International Law Applicable to Naval Mines' (Chatham House - The Royal Institute of International Affairs 2014) 5–6 <https://www.chathamhouse.org/sites/default/files/field/field_document/20140226NavalMines.pdf> accessed 14 April 2022; Dieter Fleck (ed), *The Handbook of International Humanitarian Law* (Fourth edition, Oxford University Press 2021) 560; David Letts, 'Beyond Hague VIII: Other Legal Limits on Naval Mine Warfare' (2014) 90 International Law Studies 447, 449; David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' [2019] International Review of the Red Cross 543, 558; Andrew Clapham and Paola Gaeta (eds), 'Maritime Warfare', *The Oxford handbook of International Law in Armed Conflict* (First edition, Oxford University Press 2014) 162.

[26] Statute of the International Court of Justice 1945.

sive necessitatis. The States concerned must therefore feel that they are conforming to what amounts to a legal obligation.[27]

For the discussion of whether Hague VIII can be considered customary international law, one must therefore assess whether States have practiced the rules, as a result of believing the Convention to stipulate legal obligations. The previously mentioned legal theory is based on both case law and State practice, and all sources agree that the operational provisions that are relevant for this thesis, i.e., Articles 1, 3 and 5, are considered customary international law.[28] In the following, it is therefore assumed that this is the case. On the other hand, there is no clear conclusion to the question of whether the whole convention constitutes customary international law. Given the scope of this thesis, however, this will not be discussed.

Whereas the Hague Convention is important for this thesis when discussing States' rights and duties after having deployed naval mines in an international armed conflict, it does not regulate States' actions on sea. The 1982 United Nations Convention on the Law of the Sea[29] (UNCLOS) is the central regulatory framework for ocean governance,[30] setting out the international obligations of States concerning *inter alia* the uses of the seas and oceans, utilisation of its resources and protection and preservation of the marine environment.[31] This convention has been described as the constitution of the oceans,[32] with the provisions reaffirming well settled areas of the law, developing others and in some instances creating entirely new law[33]. One of the innovations of the UNCLOS is the regime of maritime zones,

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[27] *North Sea Continental Shelf (Federal Republic of Germany v Denmark ; Federal Republic of Germany v Netherlands), Judgment* (1969) Reports 1969 3 (ICJ) [77].

[28] E.g., William H Boothby, 'Maritime and Outer Space Weapons', *Weapons and the law of armed conflict* (Second edition, Oxford University Press 2016) 289.

[29] United Nations Convention on the Law of the Sea 1982 (UNTS 1833, 1834, 1835) hereinafter referred to as the 'UNCLOS'.

[30] Donald R Rothwell and Tim Stephens, *The International Law of the Sea* (2nd edn, Hart Publishing 2016) 23 and 506–507.

[31] UNCLOS para 4 of the preamble.

[32] Intergovernmental Oceanographic Commission, 'Law of the Sea'; Robin R. Churchill, 'Law of the Sea', *Encyclopedia Britannica* (2022) <https://www.britannica.com/topic/Law-of-the-Sea> accessed 24 July 2022; Tommy T.B. Koh, 'A Constitution for the Oceans' (1982) <https://www.un.org/depts/los/convention_agreements/texts/koh_english.pdf> accessed 24 July 2022.

[33] Rothwell and Stephens (n 30) 14–16.

spanning from the territorial waters[34] to the high seas[35], where it is understood that the coastal State's jurisdiction decreases in the maritime zones located further from the coast.[36] For the purpose of this dissertation, the main point of interest is the relationship between the law of the sea, as regulated by the UNCLOS, and international humanitarian law, which is the basis for the regulation on naval mines.

International humanitarian law can be described as the law of armed conflict that regulates what the parties to an armed conflict may or may not do in the course of the hostilities.[37] It is meant to strike a balance between preserving humanitarian values in an armed conflict, while at the same time taking into considerations military necessity.[38] The law of armed conflict does not regulate the legality of the conflict, but is designed to protect the persons who are not or are no longer participating in the hostilities by limiting the right of the parties to the armed conflict to use armed force.[39]

When discussing the relationship between the two legal areas, it is crucial to look at the interaction between them, particularly whether or not the one affects the other. Article 311 paragraph 2 of the UNCLOS states that the convention

> *shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations.*

A normal understanding of this conflict clause is that the UNCLOS allows States to be part of other agreements, so long as the conditions derived from the UNCLOS are met. The rights and obligations that derive from other international treaties are only allowed if, and as long as they are compatible with the UNCLOS, and do not contravene with the rights and obligations of the

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[34] 31.08.2022 19:14:00

[35] UNCLOS pt VII.

[36] The other maritime zones are the contiguous zone, regulated by the UNCLOS pt II Section 4, and the exclusive economic zone, regulated by the UNCLOS pt V.

[37] Fleck (n 25) 50.

[38] ibid.

[39] ibid; ICRC (n 13) 1.

others States parties to the UNCLOS.[40] Considering that international humanitarian law and the law of the sea do not regulate the same area, it may be argued that there is in principle no conflict between the two sets of rules.

There is a requirement in the UNCLOS that the "States Parties shall refrain from any threat or use of force against the territorial integrity or political independence of any State" or in any other way inconsistent with the United Nations Charter,[41] as provided by Article 301. *Prima facie* it may seem like this provision imposes a positive duty on the States parties not to initiate any military activity. However, when considering that there are several articles in the UNCLOS that refer to military activity,[42] this cannot be correct. Although Article 301 is included to make sure that the sea is used for peaceful purposes,[43] it does not absolutely or even partially prohibit military activities in any of the maritime zones.[44] As long as the military activities are consistent with the principles of the UN Charter, they are not prohibited by the UNCLOS.[45] Given that the law of the sea does not prohibit nor regulate military activities, one can conclude that the law of armed conflict is compatible with the UNCLOS. Military acts carried out in the different maritime zones during an international armed conflict are thus regulated by international humanitarian law.

One of the key subsidiary sources that will be used is the San Remo Manual[46] - a document which purpose is "to provide a contemporary restatement of international law applicable to armed conflicts at sea".[47] The Manual was created after a series of meetings between international lawyers and naval experts,[48] and although it is not legally binding, there are

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[40] Nele Matz-Lück, 'Article 311 - Relation to Other Conventions and International Agreements', *United Nations Convention on the Law of the Sea: A Commentary* (1st edn, 2017) 2015 paragraph 12.

[41] Charter of the United Nations 1946 (1 UNTS XVI), hereinafter referred to as 'the UN Charter' or 'the Charter'.

[42] e.g., UNCLOS Part II Section 3 Subsection C and Article 95.

[43] Rothwell and Stephens (n 30) 286.

[44] Killian O'Brien, 'Article 301 - Peaceful Uses of the Seas', *United Nations Convention on the Law of the Sea: A Commentary* (1st edn, 2017) 1944 paragraph 2.

[45] ibid.

[46] Louise Doswald-Beck and International Institute of Humanitarian Law, *San Remo Manual on International Law Applicable to Armed Conflicts at Sea* (Cambridge University Press 1995).

[47] ibid 5.

[48] ibid ix.

several States that have adopted its rules in the manuals and instructions for their naval armed forces, e.g., Germany, the United Kingdom and the United States of America.[49] In this thesis, both the San Remo Manual itself and its commentary version will be used to illuminate the aspects of the regulations on naval mines that are considered to be customary international law.

Other subsidiary means,[50] such as legal articles and teachings of highly qualified and recognised scholars and publicists will also play a part when determining the rules provided by the conventions.[51]

[49] Wolff Heintschel von Heinegg, 'The Current State of The Law of Naval Warfare: A Fresh Look at the San Remo Manual' (2006) 82 International Law Studies 269, 269.

[50] Which the ICJ shall apply when determining the rules of law, cf. ICJ art 38 paragraph 1 subparagraph d.

[51] *Inter alia* David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' (n 25); Steven Haines (n 16); Boothby (n 28).

3 History and characteristics of naval mines

This chapter is meant to put the topic of the dissertation into perspective, and to give the reader an insight and understanding of how naval mines work and why they are so effective, as well as a short historical context of the use of this weapon.

3.1 What is a naval mine?

A definition of a naval mine like the one provided in point 1.4 is a good starting point to getting an insight on what constitutes a mine.[52] However, it is important to highlight that there are many different varieties of this type of bomb, especially when it comes to the design and how they function.

Modern naval mines can be constructed in a surprisingly simple manner with few components,[53] such as the contact mine, where the device is filled with explosives that activates if a vessel touches it. At the same time there are also complex devices that are filled with sensors and intelligence, that are activated by a highly discriminating variety of acoustic, seismic pressure or magnetic signatures.[54] Given that ships have different signatures when it comes to e.g., acoustics, weight and magnetic signals,[55] the more advanced mines can make informed decisions on when to activate.[56] In addition to mines that are activated by contact or signatures given off from vessels, there are also remote-controlled mines that detonate when activated by an operator.[57]

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[52] A "type of bomb put […] in the sea that explodes when […] ships […] go over it".

[53] Trevor English, 'How Do Naval Mines Work?' (*Interesting Engineering*, 5 October 2019) pt 'Anatomy of a mine' <https://interestingengineering.com/how-do-naval-mines-work> accessed 27 May 2022.

[54] David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' (n 25) 546.

[55] A ship's signature is measured by the change it causes in the ambient underwater environment, see 'Measuring Ship Signatures to Reduce Mine Threats' (*Defence Technology Agency*) <https://www.dta.mil.nz/what-we-do/case-studies/measuring-ship-signatures-to-reduce-mine-threats/>.

[56] 'The History and Engineering of Naval Mines' (5 October 2019) pt 'Anatomy of a Mine' <https://interestingengineering.com/how-do-naval-mines-work> accessed 26 May 2022.

[57] David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' (n 25) 545.

Naval mines can be sorted into three categories: bottom mines, moored mines, and drifting mines. Bottom mines, typically used in shallow waters, sink after deployment and rest on the seafloor.[58] Drifting mines float on the surface of the water and are usually programmed to explode on contact with a vessel.[59] Moored mines float a set distance from the surface due to an anchoring device that rests on the seafloor,[60] and, as mentioned in point 1.4, are the only type of mines that will be discussed further. Although the moored mines regulated in the Hague VIII were typically contact mines, a modern moored mine may also be fitted with the same technology that allows it to detonate due to signature change or remote control.[61]

Despite these different categories of naval mines, their primary purpose is the same, namely damaging or sinking vessels. Deployment of mines can also be used to disrupt sea lanes and shipping that will permit the belligerent State control of the sea or areas of it.[62] It has been stated that it is not always necessary to deploy mines for a State to present a credible threat, as the mere capacity to threaten with mine deployment is sufficient to raise doubts regarding maritime safety.[63]

3.2 The history of naval mines

Sources differ when it comes to the earliest historical use of mines. Some sources claim that their origins date to the Ming dynasty in the 16th century where they were used to target pirates off the Chinese coast,[64] while others claim that they were first used at a later point in history.[65] Sources appear to agree that mines, or at least an early version of them, were used in the American Civil War, making them an effective weapon against ships and an instrument of naval

[58] 'The History and Engineering of Naval Mines' (n 56) pt 'Bottom mines'.

[59] ibid 'Drifting mines'.

[60] ibid 'Moored mines'.

[61] Louise Arimatsu (n 25) 3.

[62] David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' (n 25) 546.

[63] ibid 547.

[64] Louise Arimatsu (n 25) 2.

[65] 'The History and Engineering of Naval Mines' (n 56) pt 'History of Naval Mines'.

warfare for more than 150 years.[66] Despite the great destructive potential of naval mines, there were for a long time no international legal restrictions on the use of this type of weapon.

The Russo-Japanese War (1904-1905) had a substantial maritime dimension,[67] where the Russian fleet was deployed from the Baltic and sailed to the Far East as a reaction to the sinking of a Russian flagship, the *Petropavlovsk*, after it struck a Japanese contact mine.[68] Naval mines were used extensively by both belligerents during this war, and in addition to affecting the parties of the conflict, the minefields also disrupted the merchant shipping of neutral States and their free navigation.[69]

After the cessation of the conflict, the coasts of Japan, China and Russia were polluted by mines that had broken adrift or had been laid and not swept,[70] making the waters treacherous for both foreign and local vessels. This increased danger became a focus of serious concern and attention, and because of the naval mines' impact on *inter alia* the commercial trading interests, the States neutral to the conflict wanted to implement regulations for the use of naval mines.[71] On the one hand the dominant naval powers at that time, such as the United Kingdom wanted regulations to hinder the development of new naval powers and retain their dominance.[72] Contrarily the emerging naval powers, such as Germany, recognised the tactical and strategical usefulness of naval mines.[73]

The 1907 Hague Convention VIII was drafted against this backdrop, and therefore reflects this compromise founded on the opposing views and interests of the participating States.

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[66] National Research Council (U.S.) and National Research Council (U.S.) (eds), *Oceanography and Mine Warfare* (National Academy Press 2000) 12; David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' (n 25) 547; Louise Arimatsu (n 25) 2; Steven Haines (n 16) 416.

[67] The Editors of Encyclopaedia, 'Russo-Japanese War', *Encyclopedia Britannica* (2022) <https://www.britannica.com/event/Russo-Japanese-War> accessed 6 June 2022.

[68] Steven Haines (n 16) 418–419.

[69] ibid 419.

[70] Dale G. Stephens and Mark D. Fitzpatrick (n 17) 557.

[71] Steven Haines (n 16) 419–420.

[72] Dale G. Stephens and Mark D. Fitzpatrick (n 17) 558.

[73] ibid.

3.3 The Hague Convention and its provisions

The Hague Convention is quite brief, only consisting of a preamble, a total of thirteen articles relating to the "Laying of Automatic Submarine Contact Mines", and a list of the signatures from the plenipotentiaries of the State parties. According to the second paragraph of the preamble, the compromises made in the Convention were meant to "mitigate the severity of war and to ensure […] peaceful navigation" despite future wars. Since the powers at the time could not agree on a ban of naval mines altogether, the State parties formulated the rules of the Convention in a manner to restrict and regulate the employment of submarine automatic contact mines. The term "submarine automatic contact mines" were used in both the title of the Convention as well as the preamble, although the operative articles omit the word "submarine" in the provisions.[74] If the moorings of a moored mine breaks, the mine will float to the surface due to its buoyancy and will no longer be "submarine". As this was one of the issues the Convention wanted to solve, the solution was to remove the term from the operative articles.[75] In the following, this thesis will use the same terms as the Hague VIII, thus omitting the term "submarine".

Out of the thirteen provisions in the Convention, only the five first articles govern the employment of automatic contact mines.[76] The last eight provisions either focus on the conversion of existing mines, or on the ratification process and other procedural matters. As these matters are not relevant to the thesis, they will not be further addressed.

According to Article 1 paragraph 1 of the Convention, it is forbidden to "lay unanchored automatic contact mines except when they […] become harmless one hour at most after the person who laid them ceases to control them". The formulation of the paragraph is very clear and provides a ban on the laying of unanchored contact mines. Levie stated that this provision, with the second paragraph, unquestionably is one of the most important in the Convention, as it is the only one that restricts the use of naval mines.[77] This provision will, however, not be

[74] See paragraphs 2 and 3 of the preamble.

[75] Steven Haines (n 16) 421.

[76] Dale G. Stephens and Mark D. Fitzpatrick (n 17) 559.

[77] Levie (n 22) 31.

addressed any further as it regulates unanchored mines, as opposed to moored mines which is the point of discussion.

Paragraph 2 of the same article provides a ban on the laying of "anchored automatic contact mines which do not become harmless as soon as they have broken loose from their moorings". Given that this is one of the focal points of this dissertation, a more in-depth discussion of Article 1 paragraph 2 will be provided in point 4.2.

The second Article of the Hague VIII forbids the laying of mines with the sole object of intercepting commercial shipping. Based on the formulation "sole object", the interpretation of the provision must be based on the subjective reasoning of the belligerent party deploying the mines. This thesis will not discuss the content of this provision any further, as it does not refer to already deployed moored mines. Its formulation, however, will be discussed in point 5.3, as legal scholars have found it to be less than satisfactory.[78]

Article 3 of the Convention requires the belligerent State to take "every possible precaution […] for the security of peaceful shipping" when there have been employed mines, as well as informing ship owners about the risks in mined areas. This will be further addressed in point 4.1 of the dissertation.

According to Article 4, neutral powers also have obligations when laying contact mines, including informing ship owners about the location of such devices. This will not be further discussed, since it is the rules of the belligerents in a conflict that is the focus.

The final provision that governs the laying of mines is Article 5, also further explored in point 4.3, stipulates what the parties must do when the armed conflict is over, i.e., removing the mines laid by it, or at least notifying the other parties of their position.

In the following, the discussion will relate to Articles 1, 3 and 5. As stated in point 2 these provisions are now considered customary international law. The manner of how the Convention regulates deployed naval mines in these provisions will therefore be relevant for all States.

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[78] Levie (n 19) 143; Levie (n 22) 33; Dale G. Stephens and Mark D. Fitzpatrick (n 17) 562–563; Steven Haines (n 16) 426.

There is some contention amongst scholars as to whether or not the Hague VIII is applicable to other types of mines, although no State has contended "that the range of application of the Convention was limited to automatic contact mines and did not extend to the subsequently developed mines of other types".[79] Regardless of what the range of application is, the main focus of this study will be on moored automatic contact mines.

For the purposes of this thesis, particularly with regard to point 4.2 and 4.4, it is assumed that modern moored mines may be actuated by other means in addition to contact, such as remote control. This would make the rules of the Convention applicable to more than just automatic contact mines, though this is not problematic so long as the mine in question also detonates on contact.

[79] Levie (n 19) 142.

4 Regulation of deployed naval mines

As presented in the discussion on the relationship between the law of the sea and the law of armed conflict in point 2, there is a requirement in the UNCLOS Article 301 that reserves the seas for peaceful purposes. Although this does not stipulate a prohibition on naval warfare, it is expressed that one of the many aspirations of the UNCLOS was to "contribute to the strengthening of peace".[80] In this thesis, the focus is on the situation when peace is no longer a reality, and there is an international armed conflict. The point of discussion in this chapter will appertain to the impact of international law on a belligerent State's duties after the deployment of mines, with the rules deriving from the Hague Convention being the focal point.

Point 4.1 to 4.3 will be based on the duties formulated in the Hague VIII, with support from other relevant sources of international law, such as the UNCLOS and customary international law. Under point 4.4, the regulation relating to moored nuclear mines is discussed.

4.1 Duty to take precautions when mines are deployed

Article 3 paragraph 1 of the Hague VIII establishes a general obligation for the belligerents to take "every possible precaution […] for the security of peaceful shipping" when employing mines. As the meaning of the term "every possible precaution" is unclear, the interpretation of this needs to be discussed. The term must be viewed in conjunction with the purpose of the provision, which is to secure "peaceful shipping".

The principle of freedom of navigation, which is a crucial part of the right to shipping, originates from trade and commerce across the oceans, and has, since its crystallisation in the 17th and 18th centuries,[81] evolved in light of the discussion of the freedom of the seas,[82] including Grotius' discussion of *Mare Liberum*[83]. Freedom of navigation is now codified in Article 87 of the

[80] UNCLOS paragraph 7 of the preamble.

[81] Ruth Lapidoth, 'Freedom of Navigation - Its Legal History and Its Normative Basis' (1975) 6 Journal of Maritime Law and Commerce 259, 259.

[82] Rothwell and Stephens (n 30) 220.

[83] Hugo Grotius, *Mare Liberum Sive de Jure Quod Batavis Competit Ad Indicana Commercia Dissertatio* (Elsevier 1609).

UNCLOS, which provides in paragraph 1 litra a) that, "all States" enjoy the freedom of navigation, which is part of the freedom of the high seas[84]. What is meant by the act of "navigation" is not precisely defined in the UNCLOS, but it is clear that it is supposed to be understood as an act of physical movement through the water, whether on the surface or beneath.[85]

The right to freely navigate was modified in the parts of the UNCLOS which regulate the territorial sea, straits used for international navigation[86] and the exclusive economic zone, with the latter being the most similar to the navigational rights on the high seas. As the freedom of navigation is not the topic of this dissertation, this will not be further discussed. One example that highlights the importance of the principle may be found in Article 24 paragraph 2 regarding the coastal State's duties when it comes to innocent passage.[87] According to this provision, the "coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within the territorial sea". If a belligerent has deployed mines in its waters, in areas that under peaceful circumstances are used as shipping routes, the State would therefore have to provide this publicity by warning commercial shipping of the risks navigation in those waters entail.

Based on the ordinary meaning of the provision pursuant to the Hague VIII Article 3 paragraph 1, the obligation to take precaution for the security of peaceful shipping is an obligation for the State deploying mines to make sure that peaceful shipping may continue regardless of the armed conflict. The States should take all measures necessary to ensure that neutral vessels that are not engaged in belligerent activities are able to enjoy the "freedom of sea routes",[88] which is a clear inspiration for the Convention, particularly when read in conjunction with the first paragraph of the preamble. An example of a measure that would fulfil the obligation the mine-

[84] The 'high seas' are defined as 'all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State', see UNCLOS art 86.

[85] Rothwell and Stephens (n 30) 240.

[86] Regulated in the UNCLOS pt III.

[87] Innocent passage is the navigational regime in the territorial sea, regulated in ibid 17 cf. Articles 18 and 19.

[88] Dale G. Stephens and Mark D. Fitzpatrick (n 17) 563.

laying State has, is to make sure that the deployed mines are outside the most common trading routes or provide safe alternative routes for neutral shipping.[89]

Reference can also be made to Article 1 paragraph 2 of the Convention, which forbids the laying of "anchored automatic contact mines" if they do not "become harmless as soon as they have broken loose from their moorings". The provision itself will be discussed further in point 4.2, but it may already be highlighted that the belligerent State deploying the mines can take precaution for the security of peaceful shipping, by making an effort to ensure that the moorings are properly secured. This also applies after the deployment of the mine and mooring.

The second paragraph of Article 3 of the Convention provides two obligations for the State that deployed the mines. First, it requires the belligerents to "do their utmost to render [the] mines harmless within a limited time [as soon as the military exigencies permit]". Second, if the mines are no longer under surveillance, the State shall "notify the danger zones [to ship owners via diplomatic channels]" after the cessation of the hostilities.

This provision also leads to some uncertainty about the interpretation, as the terms "do their utmost" and "within a limited time" are ambiguous. As several legal scholars have pointed out,[90] the understanding of these is not agreed upon, which leads to the provision being flexible, providing an opportunity for the belligerents to avoid, or at least delay, compliance. With regard to the timeframe in which the actions need to be taken, a "limited time" cannot be deliberately facetious - a more realistic understanding of the term could range from a few weeks and limited upward to a few months.[91] This was the case at the time of the drafting of the Convention, although experience from the twentieth century proved it difficult, if not impossible, to set time limits as these are subject to the military situation.[92] It is unclear how to interpret the term "limited time" as there is, as of yet, no international jurisprudence which clarifies it.

The duty to take precaution when deploying mines and the duty to notify of the dangers when they are deployed, are also addressed in paragraphs 83 to 85 of the San Remo Manual. Paragraph 83 modifies the provision in the Hague VIII by specifying that notification shall be

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[89] Clapham and Gaeta (n 25) 163.

[90] Steven Haines (n 16) 427; Dale G. Stephens and Mark D. Fitzpatrick (n 17) 563; Levie (n 19) 144.

[91] Steven Haines (n 16) 428.

[92] ibid.

given when mines are laid, except when they "can only detonate against vessels which are military objectives".

As the Hague Convention was made to regulate only automatic submarine contact mines, the participants drafting the San Remo Manual wanted to extend the notification requirement to cover more types of mines.[93] Given the technology of modern naval mines had evolved since 1907 to become highly discriminatory, see point 3.1, the participants recognised that not all mines formed a danger to navigation at all times, which is the reason for the specified exception.[94] Notification through the channels established for international shipping, i.e., notice to mariners,[95] or communication to the International Maritime Organisation, would fulfil the obligation.[96]

A natural consequence of the obligation to notify, Is the belligerents' duty to record the locations where mines are deployed, as provided for in paragraph 84 of the San Remo Manual. In relation to already deployed mines, it may be deduced that this obligation requires the mine-laying State to keep the mines under surveillance, or at least make sure that the mapped location remains correct. This corresponds with the duty to remove the mines at the close of the conflict, see point 4.3, and may help a State to retrieve their mines if they break loose from their moorings and become harmless.[97]

It Is sufficient for the State to keep such records confidential, as long as the mines do not endanger shipping exempt from attack under other international humanitarian law, or other peaceful shipping.[98] Heintschel von Heinegg has suggested that the majority of States does not possess equipment that is advanced enough to transmit the location of the mines without the enemy profiting from their signals, especially referring to mines that are deployed by aircraft.[99]

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[93] Doswald-Beck and International Institute of Humanitarian Law (n 46) 172 paragraph 83.1.

[94] ibid.

[95] These documents typically provide information on changes or defects in aids to navigation, discovery of new dangers and on shortcomings in national charts, see for example National Geospatial-Intelligence Agency, 'Notice to Mariners' <https://msi.nga.mil/NTM> accessed 26 July 2022; The Norwegian Mapping Authority, 'Notices to Mariners (Efs)' <https://www.kartverket.no/en/at-sea/efs> accessed 26 July 2022.

[96] Doswald-Beck and International Institute of Humanitarian Law (n 46) 172 paragraph 83.2.

[97] As determined by the Hague VIII Article 1 paragraph 2, see also point 4.2.

[98] Doswald-Beck and International Institute of Humanitarian Law (n 46) 172 paragraph 84.2.

[99] Wolff Heintschel von Heinegg (n 49) 276.

This may be true when discussing the exact positioning of the deployed mines, but as the Hague VIII Article 1 paragraph 1 forbids the laying of unanchored automatic contact mines, it must be sufficient to record the location of the minefields, which non-military ships should refrain from entering.

The last paragraph in the San Remo Manual in respect to precautions that must be taken by the belligerent States, is paragraph 85. According to this provision, the belligerent State should provide free exit of neutral States' shipping vessels when deploying mines in its own internal waters, territorial sea, or archipelagic waters or those of another belligerent.

Participants of the drafting of the document wanted to effectively protect neutral shipping,[100] and a provision such as paragraph 85 of the San Remo Manual is consistent with Article 3 paragraph 1 of the Hague Convention, in that it is a measure for maintaing the security of shipping. An example is the United States' notification to the ships in the harbour of Hai Phong, Vietnam in 1972 during the Vietnam War.[101] The United States laid naval mines in both internal waters and territorial waters and gave notice to all shipping that the mines would activate three days later.[102] There were 36 ships in the harbour at the time of the notice, and none of them were lost.[103]

The ICJ has commented on the issue of precaution in the *Corfu channel* case[104] and the *Nicaragua* case[105]. In the *Corfu Channel* case, the Court had to *inter alia* consider whether Albania was responsible for the damage and loss of life the United Kingdom had suffered after

[100] Doswald-Beck and International Institute of Humanitarian Law (n 46) 172 paragraph 85.1.

[101] Marcelo Ribeiro da Silva, 'Inside America's Daring Plan to Mine Haiphong Harbor' (*Navy Times*, 14 January 2020) <https://www.navytimes.com/news/your-navy/2020/01/14/inside-americas-daring-plan-to-mine-haiphong-harbor/> accessed 17 August 2022.

[102] A. G. Y. Thorpe, 'Mine Warfare at Sea - Some Legal Aspects of the Future' (1987) 18 Ocean Development & International Law 255, 270.

[103] ibid.

[104] *Corfu Channel Case, Judgment of April 9th, 1949* ICJ Reports 1949 4.

[105] *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States of America), Merits, Judgement* Reports 1986 14 (ICJ).

two British warships struck naval mines in October 1946, when they were sailing through the northern part of the Corfu Strait, in Albanian territorial waters.[106]

There had been British mine sweeping operations in the strait in 1944 and in 1945, both with negative results, leading to the British Admiralty considering it a safe route for navigation.[107] After the two explosions, a new mine sweeping operation was carried out, which resulted in a minefield of 22 moored mines being identified and cut.[108] The Court found that the two mines that had damaged the British ships three weeks prior were part of that minefield.[109]

On the topic of Albania's knowledge of the minefield, the Court accentuated the government's attitude before and after the explosions, with the conclusion that the government did know about its existence, which eventually led to the conclusion that Albania was indeed responsible under international law.[110]

The parts of the judgement relevant for this dissertation is the following discussion by the Court, relating to the Albanian government's duties, where it is pointed out that the obligation

> *"incumbent upon the Albanian authorities consisted in notifying, for the benefit of shipping in general, the existence of a minefield in Albanian territorial waters and in warning the approaching British warships of the imminent danger to which the minefield exposed them".*[111]

Although the legal basis for the ruling was "general and well-recognized principles", such as the principle of the freedom of maritime communication and every State's obligation to not knowingly allow its territory to be used for acts contrary to the rights of other States, the Court recalled that the Hague VIII obliges States to do this in time of war.[112]

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[106] *Corfu Channel* (n 104) 12.

[107] ibid 13–14.

[108] ibid 13.

[109] ibid 15.

[110] Aristoteles Constantinides, 'The Corfu Channel Case in Perspective - The Factual and Political Background', *The ICJ and the Evolution of International Law: The Enduring Impact of the Corfu Channel Case* 52–53; David Letts, 'Naval Mines: Legal Considerations in Armed Conflict and Peacetime' (n 25) 552.

[111] *Corfu Channel* (n 104) 22.

[112] ibid.

In the *Nicaragua* case, it was claimed by Nicaragua that the United States of America supported the Nicaraguan counterrevolutionary group, the *Contras*, as well as that the United States of America had carried out military and paramilitary operations in Nicaragua, *inter alia* by deploying mines in its harbours.[113]

Nicaragua further claimed that a total of 12 vessels or fishing boats were destroyed or damaged by the mines, that 14 people were injured and two were killed, during a two-month period in which the mines were effectively closing off its ports.[114] Unlike in the *Corfu Channel case*, it had not been made clear to the Court whether the mines had been laid in Nicaragua's internal or territorial waters.[115]

Although the *Contras* had announced that they had mined the Nicaraguan ports, no attention was paid to this fact.[116] The United States of America on the other hand, never issued any warning or notification of the existence and location of mines to other States, even though President Reagan had approved a CIA plan for the mining of Nicaraguan ports.[117]

After discussing the other questions raised in the case, the Court returned to that of the naval mines, and stated that the Hague VIII provides rules for times of war and repeated the obligation to take precaution and notify of the danger zones.[118] It went on to clarify that

> *if a State lays mines in any waters whatever in which the vessels of another State have rights of access or passage, and fails to give any warning or notification whatsoever, in disregard of the security of peaceful shipping, it commits a breach of the principles of humanitarian law underlying the specific provisions of [the Hague Convention].*[119]

The result of the case was *inter alia* that the United States "by laying mines in the internal or territorial waters" of Nicaragua, had acted "in breach of its obligations under customary

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[113] *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), Merits, Judgement* (n 105) para 21.

[114] ibid 76.

[115] ibid.

[116] ibid 77.

[117] ibid 77–78 and 80.

[118] ibid 215.

[119] ibid.

international law […] not to interrupt peaceful maritime commerce".[120] In addition to this, the Court found that the United States, had also breached its obligations "by failing to make known the existence and location of the mines laid by it".[121]

By applying and stating that the obligations that follow from the Hague Convention Article 3 are considered well-recognised principles, the opinion of the ICJ buttresses the position taken in point 2 that it is part of customary international law.

4.2 Deployed mines drifting away from their moorings

According to Article 1 paragraph 2 of the Hague Convention, it is forbidden to "lay anchored automatic contact mines which do not become harmless as soon as they have broken loose from their moorings".

Based on the ordinary meaning of the formulation, the provision seems clear at first; if an automatic contact mine breaks away from its mooring, it should not be able to do harm if anything comes in contact with it. Because the drafters of the Convention wanted to prevent a repetition of the aftermath of the Russo-Japanese War, see point 3.2, it is understandable why the mines should become harmless, but the provision does not indicate how the mines are supposed to become harmless.

A straightforward option would be for the mine to disarm if the mooring breaks, while another option is for it to self-destruct. Legal theory has also discussed the interpretation of the term "harmless", and came up with a third alternative, namely that it would sink to the seabed.[122] While a mine sinking to the seabed after breaking loose from its mooring removes the threat to shipping and general sailing at the surface level, it will not cause it to be completely harmless, as it might e.g., be drawn into the bottom trawl of a fishing vessel.[123]

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[120] ibid 292 subparagaph (6).

[121] ibid subparagraph (8).

[122] Steven Haines (n 16) 424.

[123] ibid.

There are also weaknesses associated with disarming a previously moored mine due to how they are constructed, or at least how they were constructed at the time of drafting the Convention. Moored mines were

> *normally kept dangerous due to the tension in the mooring rope, and if they break adrift the tension is relaxed and a strong spring takes charge, so opening a switch in the circuit between the firing battery and the detonator. If a mine breaks adrift with a length of mooring trailing from it, that mooring may get caught up on rocks, pier structures, and so forth; the mine in effect becomes moored once more and so liable to detonate [if a ship strikes it].*[124]

Although it has been claimed that the danger drifting mines[125] pose to shipping is sometimes overestimated,[126] the solution of sinking them to the seabed or disarming the mines will not suffice, so long as the danger is relying upon the tension of the mooring.

During the drafting, there was a dispute between some of the delegates concerning the technical possibility of a mechanism that would be able to disarm a floating mine to be in conformity with the provision of the Hague VIII.[127] Given the technological development since the entry into force of the Convention in 1907, this may be argued to no longer constitute a legitimate problem, as most mines can now detonate when triggered by magnetic, pressure, acoustic or seismic waves, or a combination of these, see point 3.2.[128] A disarming mechanism that renders the munition in the mine harmless is thus technologically possible, and would certainly achieve the objective set out in the provision.[129]

By having such highly discriminatory sensors, the belligerent State may, and should, programme its mines to only detonate close to warships or other legitimate targets. When this is the case, the moored mine can be considered harmless to any ship it is not intended to harm.

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[124] J.S. Cowie, *Mines, Minelayers and Minelaying* (Oxford University Press 1949) 188.

[125] In this context understood as mines that have broken loose from their moorings.

[126] Fleck (n 25) 562; J.S. Cowie (n 124) 188.

[127] Levie (n 22) 29.

[128] Trevor English (n 53) pt 'Actuation'.

[129] Boothby (n 28) 283.

Despite this, it would not be legal for any belligerent to leave the mines active when not moored, even if they can be considered safe to peaceful shipping.

In view of the preceding research, the conclusion derived from the Hague VIII is that a moored mine that breaks away from its moorings must become harmless, either by self-destructing or disarming.

The problem of mines breaking away from their moorings was also a subject of discussion when creating the San Remo Manual. In paragraph 81, it is stipulated that belligerents "shall not lay mines unless effective neutralization occurs when they have become detached or control over them is otherwise lost".

Although the wording is very similar to the one that follows from the provision in the Hague VIII, the participants chose to phrase the Manual differently. Originally, the paragraph set out a requirement that an effective neutralising mechanism should be fitted to each mine, to guarantee that it would become harmless if it detached or the control was lost.[130] However, the participants concluded that the requirements of the paragraph would be fulfilled if the mine became inactive, which led to the formulation "effective neutralisation".[131]

Although the word "detached" was used to include mines lying on the seabed or in the subsoil that are not necessarily moored,[132] the paragraph naturally applies when mines that are attached to a mooring break loose.

During the drafting of the document, the experts discussed whether controlled mines, i.e., remotely detonated mines, should be treated different than other mines as they theoretically can be made harmless from a distance.[133] However, the suggested distinction was not upheld, as the experts were not sure if such "technological means of control could effectively guarantee that mines would not form a danger" to non-belligerent shipping.[134]

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[130] Doswald-Beck and International Institute of Humanitarian Law (n 46) 170 paragraph 81.1.

[131] ibid.

[132] ibid paragraph 81.2.

[133] ibid paragraph 81.2.

[134] ibid 170–171 paragraph 81.2.

As the San Remo Manual was adopted in 1994, close to 30 years ago, it is highly probable that the technological developments since then have enabled technological means capable of effectively guaranteeing the safety of shipping, also from remote-controlled mines.[135] This being said, Fleck has stated that

> *in practice remotely controlled minefields will only be laid if the control system is nearly infallible. Otherwise, the military advantage envisaged (long duration, flexibility) cannot be achieved. The control systems depending on [very low frequency] transmissions from land require a considerable amount of energy and will probably not be absolutely immune from failure. Hence, additionally, the mines must be equipped with a deactivation device.*[136]

This means that even if the moored mine is activated by remote control, it must be equipped with a deactivation or a self-destruction device in case it breaks loose from the mooring.

When paragraph 81 of the San Remo Manual demands effective neutralisation of the mines if the "control over them is […] lost", the experts creating the document referred to the notion of surveillance as expressed in the Hague VIII, as discussed in point 4.1.[137] Their reasoning behind the wording was that an actual presence was no longer necessary in order to fulfil the obligation of surveillance of the mines, based on an assessment where the technological developments since the entry into force of the Hague Convention were weighed up against the need for stricter regulations of mines that form a hazard to navigation.[138]

While drafting the paragraph, and more precisely the use and meaning of the term "control", there was an extensive discussion as to how it should be interpreted.[139] Some of the experts were of the opinion that the term referred to a requirement for a belligerent to physically have control of the mines at all times, while others thought it would suffice if the belligerent State had knowledge of the location and status of the deployed mines.[140] One of the suggested

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[135] Fleck (n 25) 561.

[136] ibid.

[137] Doswald-Beck and International Institute of Humanitarian Law (n 46) 171 paragraph 81.3.

[138] ibid.

[139] ibid paragraph 81.4.

[140] ibid.

solutions to this contention was to require that the deployed mine would become harmless once the risks involved to peaceful shipping could no longer be effectively controlled.[141] The conclusion, decided by a slight majority, was that the understanding of a requirement for the State to have an actual presence had become obsolete, and the text was kept as it now stands.[142]

There was no case law found during the course of this study, where a question of moored mines breaking loose from their moorings was discussed. In the *Corfu Channel* case, the mines in question were moored mines, but the ICJ did not address if these had broken away from their moorings.[143] Similarly, in the *Oil Platforms* case[144] between Iran and the United States, the mine that was struck by the American warship USS *Samuel B. Roberts* was moored.[145] Although this incident acted as a trigger for the American launch of "Operation Praying Mantis",[146] the Court's assessment did not address the question of the legality of the mines laid, but rather the legality of the attack on Iranian oil platforms.[147]

As there is no case law clarifying how mines breaking loose from their moorings should be understood, one must solely rely on interpreting the wording provided by the Hague VIII Article 1 paragraph 2. Based on the above discussion, the rule is that the belligerent State needs to provide a method for rendering the mine harmless if it breaks loose, either by self-destruction or deactivation of a different kind.

4.3 Deployed mines at the close of armed conflict

The last set of rules this dissertation will describe and discuss, relates to the end of the armed conflict, and what duties the States have when it comes to their deployed mines. Article 5 of

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[141] ibid.

[142] ibid.

[143] *Corfu Channel* (n 104) 14.

[144] *Oil Platforms* (n 12).

[145] ibid 71.

[146] Andrew Garwood-Gowers, 'Case Concerning Oil Platforms (Islamic Republic of Iran v United States of America): Did the ICJ Miss the Boat on the Use of Force?' (2004) 5 Melbourne Journal of International Law 241, 247.

[147] *Oil Platforms* (n 12) para 77.

the Hague Convention provides these rules for the automatic contact mines, which stipulates that

> *[a]t the close of the war, the Contracting Powers undertake to do their utmost to remove the mines which they have laid, each Power removing its own mines.*
>
> *As regards anchored automatic contact mines laid by one of the belligerents off the coast of the other, their position must be notified to the other party by the Power which laid them, and each Power must proceed with the least possible delay to remove the mines in its own waters.*

Prima facie, the two paragraphs of the Article seem contradictory to one another, with the first requiring the belligerents to remove the deployed mines which they have laid, while the second requires that the belligerent remove the mines that have been deployed in their own waters.

Before moving on to this question however, it is beneficial to first interpret what is meant by "the close of the war", as this determines when the provision applies. Given the requirement to "proceed with the least possible delay", this is an important aspect to clarify initially in this subchapter.

Based on an ordinary meaning of the term "close of the war", the belligerents should start clearing mines at the point of time when all hostilities have stopped. If one relies on this understanding and requires that a formal peace treaty must be concluded by the parties, this could result in several years without the clearing of the deployed mines, until such an agreement is reached.[148] This cannot be a preferred outcome for either of the parties, nor neutral States that have shipping interests with the belligerents.

An alternative to the above understanding, is that the provision applies as soon as there is a suspension of hostilities, through a ceasefire or an armistice for example. If one interprets an agreement like this to fulfil the term "close of war", it should presumably be a general, rather than a temporary or local solution.[149] However, agreements that provide such a suspension of

[148] Steven Haines (n 16) 429.

[149] ibid.

hostilities, are not to be confused with the termination of hostilities.[150] Despite the armed phase of the conflict being over, the conflict between the belligerents would still be ongoing,[151] and there would be no guarantee that resort to force will not be resumed.[152]

As suggested by Haines, there may not be a specific moment of time in which everyone can agree that a conflict has ended, but that the cessation of conflict eventually will emerge and become clear to all sides.[153] When this happens, the former belligerents are obliged to undertake the mine clearing operations as soon as possible.

These next few paragraphs will discuss the interpretation of the rest of Article 5 of the Convention. Pursuant to paragraph 1, the belligerents must "do their utmost to remove the mines which they have laid", with every State removing its own deployed mines. This formulation is in itself unambiguous, every State that was previously participating in the armed conflict, must remove all the mines which they have deployed during this time.

Regarding the States' duty to "do their utmost" to remove their deployed mines, reference can be made to the above discussion of the identical formulation in Article 3 paragraph 2 on the duty to render the mines harmless.[154] The requirement "to do their utmost" may invite a State to present reasons why they are avoiding or delaying taking actions. This was however never intended by the drafters of the Convention. Instead, the reason this formulation was included was to "take into account "cases of *Force Majeure* which would render impossible a strict application" of the provisions of the article".[155]

When interpreting the second paragraph of the Article and the ambiguity it provides, one needs to read it in conjunction with paragraph 1. Pursuant to paragraph 1, every State must remove the mines they have deployed, while paragraph 2 provides an obligation for the States to

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[150] Yoram Dinstein, 'The Course of War', *War, Aggression and Self-Defence* (3rd edn, Cambridge University Press 2001) 51.

[151] ibid 44.

[152] Steven Haines (n 16) 429.

[153] ibid 430.

[154] See point 4.1.

[155] Levie (n 22) 51.

"remove the mines [that another belligerent has placed] in its own waters". Thus, paragraph 2 is an exception to the provision in paragraph 1.

If the previous parties to an armed conflict were obliged to remove naval mines they had deployed in another State's waters, this would be a breach of the latter part's sovereignty. As a State's sovereignty extends to as much as 12 nautical miles,[156] any mine-clearing operation carried out by another State without the permission of the former could potentially re-ignite the conflict.[157] This is not the case when discussing a former belligerent clearing mines in another State's exclusive economic zone, as the high seas freedoms apply to this maritime zone, as provided for in UNCLOS Article 58 paragraph 2. Fleck has analysed both State practice and legal literature and found that there is unanimous support for this view, and that the right to enforce the freedom of navigation is among the possible justifications.[158] Thus, in the exclusive economic zone of other States as well as on the high seas, the belligerent that deployed the mine is the one obliged to remove it, as follows from the Hague Convention Article 5 paragraph 1.

The belligerents' duty to notify the other States about moored contact mines in their waters has a strong parallel to Article 3 paragraph 1.[159] The belligerents undertake to secure peaceful shipping by notifying "the danger zones as soon as military exigencies permit", and with Article 5 paragraph 2 requiring notification of the position of the mines at the close of the war, there is a clear parallel between them. Both provisions require the belligerent State that deployed the mines to make record of their position, in case of either cessation of their surveillance, or a cessation of the conflict.[160]

Belligerents' duties after the cessation of conflict were also discussed in the drafting of the San Remo Manual, more specifically in paragraphs 90 and 91. The first part of the former is almost identical to that of the Hague Convention Article 5 paragraph 1, as it states that the "parties to the conflict shall do their utmost to remove or render harmless the mines they have laid" when the active hostilities have ceased, with each party removing its own mines.

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[156] UNCLOS art 3 read in conjunction with art. 2.1.

[157] Levie (n 22) 51.

[158] Fleck (n 25) 570.

[159] See point 4.2.

[160] Boothby (n 28) 285.

According to this paragraph, the duties of the belligerent State begin "after the cessation of hostilities". This exact wording was chosen to match other rules governing means and methods of warfare, such as the 1949 Third Geneva Convention[161] and the 1977 Additional Protocol I[162].[163] By formulating it in this manner, the experts made an effort to remove the uncertainty that follows from the Hague Convention, as well as the risk of an unnecessary prolongation of the period in which peaceful shipping might be threatened by requiring e.g., a formal agreement to end the hostilities.[164] Similarly to the rule provided by the Hague Convention Article 5 paragraph 1, the experts found that a ceasefire would not automatically trigger the obligations of the belligerents, as a ceasefire by definition is of a temporary character.[165]

During the drafting of the San Remo Manual, the participants chose to modernise and expand the obligations that follow from Article 5 of the Convention.[166] However, while discussing the extent of the belligerents' duties to remove the mines, the participants' opinions differed, with one group arguing that rendering the mines harmless would suffice, while another contended that they should be removed from their positions.[167] As the text shows, the conclusion was that rendering the deployed mines harmless would be sufficient. How the mines should be rendered harmless is not of importance, so long as the method provides for an efficient deactivation at the earliest possible moment.[168]

The second part of paragraph 90 of the San Remo Manual regards mines that are deployed in the territorial sea of another State. Each part of the conflict must notify the position of such mines and proceed to removing the mines in their own waters or "otherwise render the territorial sea safe for navigation".

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[161] Geneva Convention (III) relative to the Treatment of Prisoners of War 1949 (75 UNTS 135) art 118 on the release and repatriation of prisoners of war.

[162] Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) 1977 (1125 UNTS 3) art 33 on the search for missing persons.

[163] Doswald-Beck and International Institute of Humanitarian Law (n 46) 174 paragraph 90.2.

[164] ibid 174–175 paragraph 90.2.

[165] ibid 175 paragraph 90.2.

[166] ibid 174 paragraph 90.1.

[167] ibid.

[168] ibid 175 paragraph 90.2.

This paragraph has clearly been shaped by the similar provision of the Hague VIII Article 5 paragraph 2. The problem of clearing mines in another State's territorial waters is here resolved by clearly stating the duties to notify and clear mines in the waters of its own. By allowing the former belligerents to take other measures than the removal of mines, such as to render them harmless instead, shows an approach that reflects modern technology that was not present during the drafting of the Hague Convention in 1907.[169]

Paragraph 91 of the Manual states that the parties to a conflict shall try to reach an agreement with the other parties, as well as other States and international organisations, on how to remove minefields or otherwise render them harmless. The subject of this type of agreement would be to provide "information and technical and material assistance, including in appropriate circumstances joint operations".

Similar to those of the Hague Convention, the drafters of the San Remo Manual recognised the "importance of obligations with regard to clearance and/or rendering minefields".[170] Among their reasoning were the WWII naval mines that, at the time of the drafting, routinely emerged in the North Sea, thus endangering States' exercise of legitimate peacetime rights.[171] By encouraging international cooperation when clearing mines, the interests of States with ships frequenting the areas in question were accommodated for.

A natural question that arises is whether belligerents will be able to reach an agreement to cooperate in this manner, immediately after the conflict has ended. Given that the belligerents have just ended their hostilities, they may not be willing to provide the other belligerent with information on e.g., how their mines are constructed.[172] This is why the participants in drafting the San Remo Manual did not formulate paragraph 90 in a compulsory fashion.

There have not been any relevant legal cases concerning the belligerent States' duties after the cessation of conflict. However, based on the customary law provided by the Hague Convention, as well as the suggested rules provided by the San Remo Manual, it is possible to formulate what duties they have. As shown in the above paragraphs, a State is obliged to remove the

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[169] ibid paragraph 90.3.

[170] ibid paragraph 91.2.

[171] ibid.

[172] Fleck (n 25) 569.

mines it has deployed, given that these are positioned outside of another State's territorial waters. If the mines are deployed within the waters of a former belligerent, information about them, such as their position, must be notified to that State.

4.4 Deployed moored nuclear mines

This last subchapter is meant to provide some description of the regulation of nuclear mines. There is little evidence that nuclear mines have been used, although some sources claim that North-Korea is developing such weapons.[173] The purpose of this part of the thesis is not to discuss whether nuclear mines exist, or to what extent nuclear mines are used, but how this potential use is regulated.

Even though it seems highly unlikely that a State developing nuclear mines would have them react to contact as the only method of actuation, it is possible that detonation on contact could work as some sort of auxiliary to more advanced methods such as acoustic pressure. As the prerequisite for the regulation of such nuclear mines to be relevant for the dissertation is that they must be activated upon contact, this is thus assumed in the following.

An advisory opinion was rendered by the ICJ when asked if the threat or use of nuclear weapons is permitted under international law in general.[174] The Court considered whether the use of such weapons was compatible with the international laws applicable in armed conflict on several grounds,[175] but could not find a general nor overall prohibition of the use in treaty nor customary international law.[176]

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[173] Bill Gertz, 'News and Analysis: Underwater Nukes' *The Washington Times* (8 December 2010) <https://www.washingtontimes.com/news/2010/dec/8/inside-the-ring-141164757/> accessed 23 August 2022; Jon Rabiroff, 'U.S. Military Enters New Generation of Sea Mine Warfare' *Stars and Stripes* (9 May 2011) <https://www.stripes.com/news/u-s-military-enters-new-generation-of-sea-mine-warfare-1.143170> accessed 23 August 2022.

[174] *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion* (1996) ICJ Reports 1996 226.

[175] David Letts, 'Beyond Hague VIII: Other Legal Limits on Naval Mine Warfare' (n 25) 454.

[176] *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion* (n 174) para 105 subparagraph B.

The use of nuclear mines, however, is addressed by the 1971 Seabed Treaty[177], which counteracts a fear of the nuclear powers placing nuclear weapons on the seabed and the ocean floor.[178] Its provisions are binding upon its parties,[179] both in peacetime and armed conflict,[180] and are thus relevant for this research.

Pursuant to its Article I paragraph 1 the parties

> *undertake not to emplant or emplace on the seabed and the ocean floor and in the subsoil thereof beyond the outer limit of a sea-bed zone, as defined in article II, any nuclear weapons or any other types of weapons of mass destruction as well as structures, launching installations or any other facilities specifically designed for storing, testing or using such weapons.*

Article II of the Seabed Treaty defines the outer limit of the seabed zone as "the twelve-mile outer limit of the" territorial sea. Based on the ordinary meaning of the terms in the two provisions, a State cannot attach nuclear weapons, nor facilities designed for such weapons, to the ocean floor outside its territorial waters.

As a moored nuclear mine is considered a "nuclear weapon", the question if this set of rules apply, is dependent on whether a moored mine is considered to be "emplanted" or "emplaced". The ordinary meanings of these two terms are, respectively, something that is "fixed or set securely or deeply",[181] or "put into position".[182] As the placement of the nuclear mine in the

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[177] Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof 1971 (UNTS 955 p 115) hereinafter referred to as the 'Seabed Treaty' or the 'Seabed Arms Control Treaty'.

[178] ibid para 2 of the preamble; Howard S. Levie, 'Mine Warfare and International Law' (1972) 25 Naval War College Review 271, 276.

[179] The treaty has 94 States Parties according to 'Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof' (*United Nations Office for Disarmament Affairs*) s 'Status of the treaty' <https://treaties.unoda.org/t/sea_bed> accessed 30 August 2022.

[180] Fleck (n 25) 559; Boothby (n 28) 290.

[181] 'Implant: To Fix or Set Securely or Deeply' <https://www.merriam-webster.com/dictionary/implant> accessed 24 August 2022.

[182] 'Emplace: To Put into Position' <https://www.merriam-webster.com/dictionary/emplace> accessed 24 August 2022.

water column is secured by e.g., a chain or a cable to the ocean floor, one can suggest that the requirement for it to be either emplanted or emplaced is fulfilled, with it being supported by legal scholars.[183]

Thus, moored nuclear mines cannot be legally deployed when anchored to the seabed outside the outer limit of a State's territorial sea. As the potential extent of damage caused by nuclear weapons is far bigger than that of a conventional mine,[184] the belligerent State deploying such mines must take the same precautions as when deploying conventional mines. Every possible precaution must therefore be taken to secure that peaceful shipping may continue,[185] and if a moored nuclear mine breaks loose, it must become harmless.[186]

[183] e.g., Fleck (n 25) 559; Boothby (n 28) 290; A. G. Y. Thorpe (n 102) 263; Richard Kennedy Guelff, 'The 1971 Seabed Treaty Revisited' (1979) 8 Millenium: Journal of International Studies 117, 121; Jozef Goldblat, 'The Seabed Treaty' (1978) 1 Ocean Yearbook 386, 392; Howard S. Levie (n 178) 276.

[184] Levie (n 22) 137.

[185] Parallel to the provision following from the Hague Convention VIII Article 3.

[186] Parallel to the provision following from the ibid Article 1 paragraph 2.

5 Shortcomings of the current regime

The Hague VIII as a whole has been heavily criticised by most of the scholars that have been studying it, characterising it as *inter alia* unsatisfactory and of little use.[187] One of the reasons for this characterisation is the short-sightedness of the draftsmen,[188] inasmuch as the Convention did not include any rules on mines other than automatic contact mines, a possibility that is now feasible in light of technological advancements. However, one may highlight the fact that the Hague VIII still has some relevance today, as contact mines have been deployed in most armed conflicts since 1945.[189]

Another basis for the descriptions can be found in the preamble of the Convention itself, where in the second paragraph it is stated that "the existing position of affairs make it impossible to forbid the employment of automatic submarine contact mines" in general. Despite this, the drafters of the text found it desirable to regulate the deployment of such mines to ensure, among other things, peaceful navigation.

This last chapter is meant to identify and analyse some of the shortcomings with the rules relating to deployed moored mines, as they are formulated and understood today. Initially, a general shortcoming of the enforcement of international law will be discussed before continuing to the principle of distinction. The chapter concludes with comments regarding the formulation of the relevant provisions.

5.1 Lacking enforcement of international law

In this first subchapter, the dissertation seeks to identify a general flaw of international law which ultimately also has bearing on the field of naval mines, namely the lacking ability to

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[187] Fleck (n 25) 556 calling the Convention a 'meagre compromise'; Dale G. Stephens and Mark D. Fitzpatrick (n 17) 554 describing it as a poor compromise, and as an 'emasculated' and 'worthless' treaty; Levie (n 22) 25 stating it 'was unquestionably one of the least successful accomplishments of the Second Hague Peace Conference'; Levie (n 19) 140 repeating its labeling as emasculated, worthless, exceedingly unsatisfactory, of little use etc.

[188] Levie (n 19) 141.

[189] Fleck (n 25) 558.

enforce international rules. While a State can enforce its national laws through criminal and civil courts, the international society does not have the same ability in regard to conventions and treaties, as the use of international courts and tribunals are restricted to cases where both disputant States have consented to their jurisdiction.[190]

More than 90 percent of all international disputes are resolved through direct negotiations between the disputants, as this is the only option that does not require any third party, thus being a desired solution for States wishing to retain control over their own affairs.[191] If these direct negotiations do not lead to a solution, however, there is no other method of resolving the issue without involving third parties, like the ICJ for example.

Due to the principle of sovereignty, all States are immune to other States' jurisdiction, and cannot be forced to adhere to norms set by other States.[192] A few actions a State, or a set of other States collectively, can use in an attempt to coerce or induce another to change or desist behaviour, however, are sanctions, countermeasures and retorsions.[193] These actions can be implemented in different ways, such as e.g., suspension from international organisations,[194] and are taken when the State or group of States find that another has acted illegally or inappropriately.[195]

A problem with States taking such measures is their effectiveness, which is usually measured by the ability to change the unwanted conduct of the targeted State.[196] For the purpose of this thesis, it is sufficient to note that economic sanctions have achieved their objectives in only 34 percent of cases.[197] The chances that such measures will change the unwanted conduct are thus not sufficient to effectively enforce international legislation.

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[190] Valerie Finch and John McGroarty, *International Law Essentials* (1st edn, Edinburgh University Press 2010) 3.

[191] ibid 129.

[192] Samantha Besson, 'Sovereignty', *Max Planck Encyclopedias of International Law* (Max Planck Institute for Comparative Public Law and International Law 2011) para 2.

[193] Natalino Ronzitti (ed), *Coercive Diplomacy, Sanctions and International Law* (Brill Nijhoff 2016) 287.

[194] ibid 10.

[195] ibid 287.

[196] ibid 288.

[197] ibid.

The aftermath of the *Corfu Channel* case is a good example of how a State can avoid enforcement. As described in point 4.1, Albania was found responsible under international law for not notifying about the dangers present in its waters, due to the existence of a minefield. In its judgement relating to the compensation due from Albania to the United Kingdom,[198] the ICJ fixed this amount to £ 843,947.[199]

Albania did not agree with this judgement and did not comply with the ruling for almost half a century.[200] As a countermeasure to Albania not paying the sum, the United Kingdom withheld over 1500 kilograms of Albanian gold that they had stored after World War II, as a member of the Tripartite Commission for the Restitution of Monetary Gold.[201] Among other elements, this was a reason for the two States not having a diplomatic relation until in 1991.[202]

Both Albania and the United Kingdom settled all matters relating to the incident in 1992, when the two countries signed a memorandum of understanding, *inter alia* stating that the United Kingdom was to receive US$ 2 million.[203] Although the result was that Albania paid less than what the Court's order was, adjusted to inflation, the British government agreed to regard the payment as a full and final settlement of the financial claims.[204]

As showed above, there are no effective measures that can be taken to rectify the situation if a belligerent State violates the rules set out in the Hague VIII. As the legal regime surrounding deployed mines is a part of international law, the problem of international law when it comes to lacking enforcement also becomes problematic for naval mines. One of the shortcomings of the current regime on deployed naval mines is thus the difficulty with which States can enforce that rules are abided by.

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[198] *Corfu Channel case, Judgment of December 15th, 1949* ICJ Reports 1949 244.

[199] ibid 10.

[200] Karine Bannelier, Théodore Christakis and Sarah Heathcote (eds), *The ICJ and the Evolution of International Law: The Enduring Impact of the Corfu Channel Case* (Routledge 2012) 353.

[201] ibid 355.

[202] ibid 354.

[203] ibid.

[204] ibid.

5.2 Principle of distinction

The second shortcoming of the current legal regime surrounding deployed mines, is the interplay between moored contact mines and the principle of distinction, as these mines do not discriminate between civilian and military objectives.

Protection of civilians during an armed conflict is an old concept and is embodied in the principle of distinction,[205] which stipulates that the belligerents and their armed forces shall distinguish between civilian and armed forces. For armed conflict at land, the principle is codified in the Additional Protocol I Articles 48 and 51, which are both in Part IV relating to the "Civilian population".[206]

As pointed out in the commentary of the San Remo Manual, there are no treaty provisions that specifically state that the principle of distinction applies to the law of naval warfare.[207] In 1968 however, Resolution 2444 (XXIII) of the United Nations General Assembly recognized the necessity of applying basic humanitarian principles in *all* armed conflicts.[208] Furthermore, it was affirmed in paragraph 1 litra c that "distinction must be made at all times between persons taking part in the hostilities and members of the civilian population" in order to spare the latter as much possible from the conflict. Thus, the general principles of international humanitarian law, such as the principle of distinction, are applicable to naval warfare.[209]

If a State has deployed mines that are not or cannot be directed against a military objective, it is acting contrary to international law.[210] As the purpose of a moored contact mine is to detonate on contact with a ship's hull, it *prima facie* seems as though this type of weapon cannot be compliant with international law, as it does not distinguish between a civilian vessel and a

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[205] Fleck (n 25) 82.

[206] Additional Protocol I art 48 stipulates that 'the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives', while art 51 has the title 'Protection of the civilian population' and further provides rules on how to achieve this.

[207] Doswald-Beck and International Institute of Humanitarian Law (n 46) 114 paragraph 39.1.

[208] United Nations General Assembly, 'Respect for Human Right in Armed Conflicts' (1968) A/RES/2444 (XXII) para 1 of the preamble.

[209] Fleck (n 25) 560; Doswald-Beck and International Institute of Humanitarian Law (n 46) 114 paragraph 39.1.

[210] Fleck (n 25) 560.

military vessel. If this is the case, this would be highly problematic, as automatic contact mines are still used by most of the world's navies.[211]

Although the drafters of the San Remo Manual repeated the principle's importance and included it in its rules,[212] the provisions in the Hague VIII do not consider the need to distinguish between military and civilian objectives. One might suggest that there is a parallel between the principle of distinction and the duty to take precautions to secure peaceful shipping, pursuant to Article 3 of the Convention. Provided the interpretation of the term "peaceful shipping" in point 4.1,[213] a compelling argument can be made by interpreting "peaceful shipping", or more specifically the crews that are part of the shipping, as civilians. The belligerents would then be obliged to take every possible precaution to secure that the civilian crews on board must not be harmed. An understanding like this could justify the failure to include the principle of distinction.

5.3 Broad and unspecified formulated provisions

This last subchapter will describe the shortcoming that relates to the unspecified formulation of several of the provisions of the Hague Convention, and how a State's subjectivity may affect how the Articles are interpreted.

As discussed in point 3.3 there are five operative provisions, where some of these are heavily criticised, e.g., Article 2, which forbids the laying of contact mines for "the sole object of intercepting commercial shipping". The article itself was not discussed in the previous parts, as it refers to the laying of mines. However, it is convenient to highlight the interpretation of it, as it is an example of what results such ambiguity can result in.

During World War II, Germany justified their deployment of naval mines near the British Isles by pointing out that the convoys of merchant vessels were protected by British warships.[214] By

[211] ibid 558.

[212] Louise Doswald-Beck, 'The San Remo Manual on International Law Applicable to Armed Conflicts at Sea' (1995) 89 American Journal of International Law 145, 195.

[213] Where the term was interpreted as «neutral vessels that are not engaged in belligerent activities».

[214] Levie (n 19) 143.

claiming that the mines were directed against both the warships and the merchant vessels, the laying of mines was not done with the "sole" object of intercepting commercial shipping.[215]

A reoccurring problem with such subjectively formulated articles is that there will always be room for disputes, which can never be truly conclusive. When each State can interpret a provision differently, no one State can prove that their interpretation is the correct one.

In addition to the provisions allowing for the States to interpret them as they see fit, there has also been critique of provisions that are formulated too broadly or unspecified. As described in point 4.1, Article 3 of the Hague Convention contains terms that are ambiguous and unclear, which can potentially lead a belligerent to avoid or delay compliance with the Convention. The terms "every possible precaution" in paragraph 1, and "do their utmost" and "as soon as military exigencies permit" in paragraph 2, have been described as inherently flexible, without any precise statement of obligations.[216] As the State itself will have the right to determine which particular precautions are possible, as well as what their utmost consist of, this provision does not necessarily offer much protection.[217]

Article 5 is another, and the last, provision that will be given attention to. As described in point 4.3, it regulates the States' duties at the close of war. Similar to that of Article 3, it obliges the State to "do their utmost", only to remove the mines that have been deployed. If the State that deployed the mines interprets this to its own benefit, there is a possibility that peaceful shipping will suffer the consequence.

What it entails to "do one's utmost" is difficult to give a plain answer to, as this cannot be ruled by objective factors. An international court or tribunal may be able to provide some standards from which such a decision can be made, but there is currently no case law relating to this question. Until this happens the answer remains unclear, and the formulation will continue to be problematic.

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[215] ibid.

[216] Steven Haines (n 16) 427; Levie (n 19) 144.

[217] Boothby (n 28) 284.

6 Conclusion

The use of naval mines has for a long time been important when waging war at sea and will continue to be so for as long as it remains an efficient weapon for belligerent States. Through this dissertation, the legal regime that is relevant for deployed moored automatic contact mines during armed conflict has been researched and discussed.

The regulation of deployed moored mines consists of three provisions, whose common objective is to provide security to peaceful shipping. First, this includes the belligerent States' duty to take measures necessary to ensure the freedom of sea routes for neutral vessels. Second, any mine breaking loose from its moorings, thus posing a threat to shipping, must be rendered harmless by removal or neutralisation. Last, at the cessation of the armed conflict, the former belligerents are obliged to remove all mines deployed in own waters or the high seas, while informing others of remaining explosives outside one's own territorial sea.

Despite the Hague VIII being heavily criticised for its ineffectiveness since its entry into force a hundred years ago, the above research has shown that it remains relevant for many of the mines that are still used to this day, as established by the ICJ. This will continue to be the case for as long as the Convention is the only treaty providing rules on the obligations of a State when deploying naval mines.

It is impossible to predict what the future of war will look like, and what changes the current war in Europe will bring, but whatever the outcome of the current situation, it is clear that the use of naval mines is likely to continue.

The same reasons the drafters of the Hague Convention failed to agree on a set of rules that provided a universal ban on the use of mines, persist today, making it difficult to ensure that the interests of all States are reflected.

In light of technological advancements, and advancements in mine technology specifically, it will be interesting to see how long the Convention remains a relevant part of international law.

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