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Sea Mines: An old threat resurfacing in the 21st century

Introduction

Sea mines have been used in naval warfare for more than a century and although the technological advances of weapon platforms have been significant, the nature and usage of sea mines and their effect on naval and commercial shipping remain essentially unaltered. Generally, the use of sea mines is lawful provided it is used for "[legitimate military purposes](#)". The recent spate of news reports about mines in the Black Sea and off Yemen has once again prompted questions on the lawful use of sea mines in armed conflicts, specifically regarding their impact on shipping routes and costs to owners.

Sea Mines and the Ukrainian Conflict

On 03 March 2022, owners of the Panamanian-flagged vessel Helt reported an explosion occurring "on or near" their vessel anchored off the Port of Odessa. Although ultimately [caused by a missile](#), this incident and other marine casualties precipitated the [NATO Shipping Centre to issue a navigation warning](#) to commercial shipping to avoid areas in the northern Black Sea due to the conduct of military operations and possible "mine danger-areas".

On 18 March 2022, the Russian coastal station Novorossiysk issued a navigation warning stating 420 mines laid by the Ukrainian naval forces in the approaches to four Ukrainian ports had come adrift in storm conditions resulting in [the presence of drifting mines in the Black Sea](#), averring that the laying of these mines was "a contravention of The Hague Convention of 1907 about underwater self-acting contact mines". Should the Russian claim be accurate, [Rule 81](#) of the San Remo Manual determines that Ukraine had a duty to retain control over these mines should they become detached from their moorings or are lost in any way. If indeed Ukrainian mines, and they lost control over them, Ukraine had a duty to issue a notification of their danger to shipping. The Ukrainian Maritime Administration dismissed the claim as disinformation, denying any knowledge of drifting mines while dismissing Russian warnings as a cover to justify the closure of areas in the Black Sea under the guise of danger warnings.

Allegations manifested in the first reported sighting of a sea mine on 26 March 2022 in the Istanbul Strait north anchorage. Subsequent investigation led to the [closure of the Bosphorus Strait for almost four hours](#) during clearance operations and the restriction of night-time fishing. On 28 March, the Turkish Navy disposed of a second sea mine near Bulgarian territorial waters resulting in the disruption of local fishing operations during the clearance operation and the later prohibition of Turkish fishing in the Black Sea. On 29 March the [sea mine](#) near the Romanian Port of Midia with images thereof conforming to one of the sea mine designs mentioned in the initial Russian navigational warning. On 06 April 2022, a fourth mine was found in Turkish waters and [disposed of by the Turkish Navy](#).

Assessment and Observations

While sea mines are primarily a hazard to all marine navigation, their purpose is to damage or destroy naval vessels, allowing for the disruption of sea lanes, ultimately leading to sea area denial. Since the threat of mines negates sea safety in the area, the mere allegation of their presence impacts negatively on shipping. This is evident in the consequences currently playing out in the Black Sea. In mitigation of the heightened risk to shipping posed by military action, ship owners are now required to [report their vessels' routing within defined Black Sea areas to their underwriters](#); with designated areas within Ukrainian and Russian waters in the Black Sea and Sea of Azov now requiring additional Hull War Breach Cover. Even if the threat of 420 is disputed, four mines have been found, lending some credibility to the threat. As such their presence in the Black Sea has now become the subject of information operations or lawfare fuelling the wider conflict. For some, the Russian explanation of their origin can be construed as a further attempt to prejudice Ukraine. In response, although not denying placing minefields off its coastline, Ukraine's response labels Russia's warnings as disinformation intent on establishing a blockade of the Black Sea ports named in the original warning.

The Hague Convention VIII of 1907 allows for the use of sea mines as long as it is used for legitimate military purposes, which according to the [San Remo Manual on International Law Applicable to Armed Conflicts at Sea](#) include denial of sea areas. While the mine danger can significantly disrupt shipping in the Black Sea, to date only four mines were found and destroyed, and shipping through the Bosphorus Straits was disrupted for less than four hours. It has impacted negatively on fishing in the Black Sea and ship owners with vessels transiting high-risk areas in the Black Sea face higher insurance premiums. However, with Ukrainian ports closed since 28 February, [seafarers being removed](#) from vessels alongside Ukrainian ports for safety; the establishment of [blue corridors](#) for shipping not finalised or agreed on, and [Russian safe corridors](#) not being used; the disruption of shipping has essentially been due to the wider Ukrainian-Russian conflict rather than the perceived risk associated with sea mines. There is no denying the risk posed by sea mines, but it can be seen as an additional risk factor rather than the cause of Black Sea and Ukrainian marine traffic disruption.

Sea Mines and the Yemeni Civil War

The use of sea mines is not limited to international armed conflicts (IAC) and has been used in non-international armed conflicts (NIAC) such as the Yemeni Civil War. The use of sea mines by rebel Houthi forces in the southern Red Sea and the Gulf of Aden bordering Africa initially made headlines in 2017 after several were found near the port of Mokha. Intermittent incidents transpired between 2017 and 2021, mainly affecting fishing vessels, leading to the Saudi-led Coalition reporting the finding and destroying of a shallow-water moored mine in the southern Red Sea in June 2021. Shallow-water sea mine concentrations were also being [spotted and reported by passing merchant vessels near the Bab al-Mandab Straits](#). In the most recent incidents reported, a vessel struck a sea mine in the southern Red Sea

in December 2021 and in April 2022 multiple sea-mines were [cleared by Coalition forces](#) off Hajah Province.

Unlike the clarity of the long-standing rules pertaining to the use of sea-mines in terms of International Law applicable to IAC, the same cannot be said for its use in NIAC, particularly where parties to the conflict include non-state actors. The provisions set out in the [San Remo Manual](#) only apply to IAC but nevertheless encourages its implementation in NIAC. McLaughlin¹ argues convincingly that the rules relating to mine warfare law apply fully to organised armed groups that have achieved belligerent status. This means that a non-state actor as party to the conflict can lawfully engage in naval mine warfare for legitimate military purposes. Such mines must however become neutralised should the party lose effective control of the mine. Mine locations must also be recorded, and stakeholders notified. Letts (2016) avers this would ensure the safety of shipping and facilitate the clearing of mines once the hostilities have ended while it remains unlawful to deploy mines that hampers the passage between neutral and international waters.

The Houthis seem to generally abide by the rules of International Law in that they ostensibly do not resort to the indiscriminate use of sea mines which may cause any significant loss to or disruption of international marine traffic off the Yemeni coast. Instead, their intention appears to have been to interrupt Saudi-led Coalition forces' freedom of movement near and using key Yemeni ports. Some evidence however suggests the use of sea mines was curtailed through the interdiction of materials being sent from Iran to sustain a mine warfare campaign, capturing, or killing Houthi of mine warfare specialists during mining operations, by Coalition mine clearance operations; and by Houthi forces adopting more controllable means to target Coalition warships, support vessels, and Saudi commercial vessels.

Summary

The interstate war between Russia and Ukraine raised the use of old and modern weapons systems at sea. The sudden presence of sea mines in the Black Sea accentuates the costs and disruption this could cause without damaging any naval vessels party to the war in Ukraine. The use of sea mines by a non-state actor off Yemen displays how these weapons in the hands of a rebel movement have their effect in an armed conflict somewhat forgotten by the international community. What remained in step with both conflicts are matters of International Law contained in the San Remo Manual that offer ways to hold aggressors accountable – whether operating a state or a non-state actor.

Recommended Reading

1. Letts, D. (2016) "Naval mines: Legal considerations in armed conflict and peacetime" *International Review of the Red Cross* 98(2) 543-565 on 558.
2. ICRC Naval Mines: Legal considerations in armed conflict and peacetime: https://international-review.icrc.org/sites/default/files/irc98_9.pdf

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¹ McLaughlin, R. (2014) "The Law Applicable to Naval Mine Warfare in a Non-International Armed Conflict" 90 *Int'l L. Stud.* 475 - 490.