

#### **OPEN ACCESS**

EDITED BY Yen-Chiang Chang, Dalian Maritime University, China

REVIEWED BY
Irma Rachmawati Maruf,
Universitas Pasundan, Indonesia
Abel Josafat Manullang,
Laboratorium Indonesia 2045, Indonesia

\*CORRESPONDENCE
Yichao Wei

✓ sangxiasisu@163.com

RECEIVED 27 June 2025 ACCEPTED 25 August 2025 PUBLISHED 09 September 2025

#### CITATION

Wang J, Wei Y and Su X (2025) Forcible measures for maritime law enforcement by the coast guard. *Front. Mar. Sci.* 12:1654808. doi: 10.3389/fmars.2025.1654808

#### COPYRIGHT

© 2025 Wang, Wei and Su. This is an openaccess article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

# Forcible measures for maritime law enforcement by the coast guard

Jinhu Wang<sup>1</sup>, Yichao Wei<sup>2\*</sup> and Xin Su<sup>3</sup>

<sup>1</sup>School of Law, Gansu University of Political Science and Law, Lanzhou, China, <sup>2</sup>School of Law, China University of Political Science and Law, Beijing, China, <sup>3</sup>Military Law Research Center, China University of Political Science and Law, Beijing, China

The particularity of the maritime law enforcement environment and the complexity of the content of forcible measures determine the importance of the standardized application of forcible measures for maritime law enforcement by the coast guard. Maritime forcible measures mainly include administrative forcible measures, criminal forcible measures, and the use of force. The timely and reasonable application of forcible measures by the coast guard in specific maritime law enforcement can achieve the purposes of protecting maritime security, safequarding maritime rights and order, and guaranteeing procedures and human rights. It is of great significance in effectively strengthening the effectiveness of maritime law enforcement. Forcible measures must be based on the requirements of restraint of law enforcement powers, temporary measures, and a last resort in law enforcement. When imposing forcible measures, it is essential to clearly define the purposes and boundaries for the coast guard to employ such measures, adhere to the principles of due process, proportionality, freedom of navigation, and reasonable prudence, and enhance the development of law enforcement capabilities and continuously improve the effectiveness and professionalism of law enforcement practices.

KEYWORDS

coast guard, law enforcement, forcible measures, requirements, principles

#### 1 Introduction

Most of the world consists of seas, and all human beings depend on them for water supply, food, and air. The sea is interconnected and impermeable to any political or legal divisions. Maritime crimes occurring in one part of the sea are a source of concern for the international community. No single State is able to tackle the causes and consequences of these crimes on its own. The problems of the ocean are interrelated and must be considered as a whole (Becker-Weinberg, 2023), this needs to be achieved through effective maritime law enforcement. Maritime law enforcement must be undertaken by the competent authorities of a State (Soons, 2004). Coast guards have recently emerged as significant actors in maritime law enforcement due to the enactment of the *United Nations Convention* 

on the Law of the Sea (UNCLOS) and increase in maritime-based and sea-borne security challenges (Laksmana, 2022). From February 22nd to 23rd, 2024, despite repeated warnings and dissuasions from the Chinese side, the vessel 3002 of the Fisheries and Aquatic Resources Bureau of a certain country insisted on intruding into the adjacent waters of China's Huangyan Island. After multiple verbal warnings proved ineffective, the Chinese coast guard vessels took necessary measures, such as close monitoring and navigation route control, in accordance with the law to forcibly drive the vessel away, effectively preventing the further escalation of the illegal situation. In this case, the Chinese coast guard promptly implemented maritime law enforcement measures. By taking necessary actions to expel the involved vessel, it successfully avoided unnecessary escalation of conflicts during maritime rights protection and law enforcement, maintained control over the enforcement process, and facilitated the peaceful resolution of foreign-related maritime incidents, thereby achieving a more favorable law enforcement outcome. The role of the coast guard has become increasingly important in safeguarding the peace, good order, and security of coastal States from maritime security threats such as illegal fishing, marine pollution, the smuggling of goods and persons, the illicit trafficking of drugs, piracy, and armed robbery against ships (Kojima, 2018). Navies also have law enforcement functions; coast guards and navies both operate in the same geographical waters (He, 2009). Assistance in law enforcement is generally considered to be a key supplementary service of the military, especially at sea (Kwast, 2008). The main disadvantage of using navies in a law enforcement role is that their primary intention is not law enforcement but national defense (Shearer, 1998). The law enforcement capacity of the US Navy is limited by domestic legislation and its relationship with the coast guard. Other navies might be better positioned to perform a constabulary role, but most still maintain a separation between law enforcement functions, which are handled by the police and coast guard, and the navy (Percy, 2016). The US Coast Guards the only agency capable of enforcing fisheries regulations in offshore areas beyond the reach of the US National Marine Fisheries Service and state enforcement personnel (King et al., 2009).

Not all coast guards have enforcement powers. For example, the Royal New Zealand Coastguard, which is the primary civilian marine search and rescue organization for New Zealand, is a non-governmental civilian charitable organization with no enforcement powers. The Australian Volunteer Coast Guard is a marine search and rescue organization comprised entirely of volunteers. Of the agencies with maritime enforcement powers in Australia, only the Royal Australian Navy and the Australian Customs and Border Protection Service have vessels that could be considered as sea-going (Tsamenyi, 2012). The coast guard and navy are not the only entities with maritime law enforcement powers. The maritime law enforcement forces of Vietnam consist of two main agencies, namely the Vietnam Coast Guard and the Fisheries Resources Surveillance Force, as well as four other functional bodies including the Border Guard, Customs,

Environmental Police and the Vietnam Maritime Administrations (Anh and Ha, 2018). China had five authorities with maritime law enforcement powers prior to the reorganization of the State Oceanic Administration in 2013.

The strict distinction between the coast guard, the navy, and other law enforcement agencies in maritime law enforcement is legally and practically complex, and this paper focuses on analyzing the forcible measures of law enforcement by the coast guard, rather than attempting to differentiate between different enforcement agencies. Law enforcement on the world's waterways is a challenging endeavor for all coast guard fleets (Bichler, 2010). Forcible measures are common practice in maritime law enforcement and are not limited to administrative and criminal actions. It is necessary to allow for the minimum use of force for the purposes of law enforcement, considering that the compulsory measures taken by the coastal State to curb violations may encounter armed resistance (Chang, 2021).

While the legal position can already be complex when the acts are committed on land, it can quickly become arcane when the acts are committed at sea (Vrancken, 2019). Forcible measures can be imposed on national vessels and personnel, as well as on foreign States, and resorting to such measures against foreign vessels can lead to serious tensions between States and even carry the risk of escalation into armed hostilities (Kwast, 2008). Therefore, a study of forcible measures in coast guard law enforcement is extremely necessary. Unlike land-based police forces, coast guards may encounter both common challenges shared across law enforcement agencies during the application of coercive measures and unique issues arising from the distinct nature of maritime law enforcement. This paper first introduces the types of forcible measures, including administrative forcible measures, criminal forcible measures and the use of force. The use of force is the most severe type of forcible measure and also receives the most international attention, so this paper places greater emphasis on it. The purposes of forcible measures are the protection of maritime security, the maintenance of maritime rights and order, and the guarantee of procedures and human rights. The requirements for forcible measures include the restraint in law enforcement powers, temporary measures, and being used as a last resort. Forcible measures must adhere to the principles of legality, freedom of navigation, necessity, and proportionality.

# 2 Prerequisites for research on forcible measures: categorization

Maritime law enforcement refers to activities such as boarding, inspection, arrest, and detention performed by entities with domestic law authorization to safeguard national maritime rights, national security, or the common interests of mankind (Chang, 2021). This includes actions such as: signaling and stopping suspect vessels, boarding suspect vessels, searching suspect vessels and the people and cargo aboard, detaining or arresting individuals on

suspect vessels and/or the suspect vessels themselves, seizing items on suspect vessels, directing or guiding suspect vessels and the people and cargo within them to a coastal State port or a similar location for investigation, conducting such investigations, and subsequently pursuing prosecution or other forms of administrative action or sanctions (UNODC, 2019a).

There is an extensive State practice comprised of legislation authorizing law enforcement agencies to board, inspect, detain, divert to port, and arrest vessels at sea. These powers are an extension of police powers on land. They may be exercised within areas of maritime jurisdiction and on the high seas as the right of hot pursuit (Anderson, 2013). The use of force and firearms, arrest and detention, search and seizure are recognized as fundamental law enforcement powers (ICRC, 2015). In practice, after committing illegal acts, perpetrators often attempt to destroy evidence or divert the coast guard's attention, thereby obstructing the investigation and concealment of the truth. In such situations, the timely implementation of compulsory measures by the coast guard-proportionate to the severity of the offense-can significantly facilitate the swift clarification of case details and the collection of relevant evidence. Forcible measures refer to legally prescribed actions through which the coast guard, in strict compliance with national laws and regulations, temporarily restricts the personal or property rights of individuals, legal entities, and other organizations in order to preserve evidence, manage risks, and prevent further unlawful conduct. Therefore, in the course of maritime rights protection and law enforcement, given the complexity of the maritime enforcement environment and the high standards required of coast guard operations, the coast guard must not only clearly understand and adhere to the specific law enforcement standards set forth in current legislation, but also apply coercive measures in a standardized, reasonable, and cautious manner across all sea areas under its jurisdiction. Furthermore, it is essential to strictly regulate the use of force, emphasize the importance of protecting the human rights of individuals involved in incidents, and remain vigilant against any unnecessary infringement of private rights by public authority. The forcible measures of the coast guard range from mild to severe and include administrative forcible measures, criminal forcible measures and the use of force.

#### 2.1 Administrative forcible measures

Administrative forcible measures of the coast guard are the specific implementation of administrative enforcement measures in the field of coast guard law enforcement. These measures refer to the temporary restrictions imposed on ships, aircraft, and personnel in accordance with relevant domestic and international laws. Their purpose is to safeguard sea sovereignty and the order of the maritime area, control the expansion of hazards at sea, and prevent or stop unlawful acts on the sea during the coast guard's external rights protection and internal law enforcement. Administrative forcible measures mainly include boarding, seizure, and hot pursuit.

#### 2.1.1 Boarding

Article 110 of Uncompromised for the right of boarding of warships. The conditions for the exercise of boarding are mainly in the following five aspects: first, the subjects. Boarding shall be conducted by warships of all countries and authorized ships on government service. Second, the objects. The objects of boarding are national ships and foreign commercial ships, excluding foreign warships and government ships. Third, the grounds. According to the treaties signed between countries, the reasons for boarding are stipulated. The object of boarding may be stateless or of unknown nationality, or there may be suspicion of statelessness or unknown nationality. The ship may be engaged in piracy, slave trade, and other criminal acts, as well as unauthorized broadcasting and other internationally prohibited acts. Fourth, the procedure. The procedure is based on the regulations and notifications of national maritime law enforcement authorities. Fifth, the results. After boarding and inspection, if there is no evidence of illegal or criminal offenses, the coast guard shall immediately release the ship. If there are grounds for punishment, the coast guard shall apply legal sanctions and then release the ship. If there is suspicion of committing an offense, the crew and personnel may be taken to a designated location for further investigation and processing.

#### 2.1.2 Seizure

Seizure is distinct from arrest as a criminal coercive measure, although they share similarities. In maritime law enforcement, the coast guard may employ the forcible measure of seizure in order to extract and preserve evidence, establish the facts of the case, and apprehend the perpetrator during the investigation and inspection of a specific case. States have established provisions for seizure. For example, the US Coast Guard is authorized to make seizures on the high seas and within waters under US jurisdiction for the prevention, detection, and suppression of violations of US laws. <sup>1</sup>China's *Fisheries Law* also includes provisions related to seizure. <sup>2</sup>When a vessel commits an infraction of a foreign territory's laws, either for the protection of its fisheries, revenues, or coasts, it may be immediately pursued into open seas beyond the territorial limits and apprehended<sup>3</sup>.

#### 2.1.3 Hot pursuit

UNCLOS stipulates in Article 111, Paragraph 5 that "the right of hot pursuit may be exercised only by warships or military aircraft, or other ships or aircraft clearly marked and identifiable as being on government service and authorized to that effect". Hot pursuit, as an administrative forcible measure in conjunction with orders to stop and board, is also commonly used in international law enforcement practices at sea. The subject and object of the exercise of hot pursuit and boarding are the same. The foreign ship must be located in the sea area under the jurisdiction of a State, and the exercise of hot pursuit should be continuous and can be continued outside the

<sup>1</sup> Title 14 of the *US code*, Sec.522.

<sup>2</sup> Article 48 of the China Fisheries Law.

<sup>3</sup> The Ship "North" v. The King, 1906 CanLII 80 (SCC), 37 SCR 385, <a href="https://canlii.ca/t/ggx6w>accessed">https://canlii.ca/t/ggx6w>accessed</a> February 13 2024.

territorial sea or the contiguous zone as long as there is no interruption. When the pursued foreign ship is arrested by the coast guard or enters the territorial sea of its own or a third State, hot pursuit must be terminated immediately. The hot pursuit regime itself finds its justification in the effective realization of the enforcement measures taken by coastal States in the territorial sea and by coastal States in the exclusive economic zone (EEZ) or continental shelf, under certain conditions, on the other hand. The use of weapons as that accompanying law enforcement measures taken at sea is allowed by international law. This is not because it falls outside the scope of Article 2, Paragraph 4of the *UN Charter*, but because such use of weapons is realized in conjunction with law enforcement that is defined by the relevant international law rules (Kanehara, 2020). An unjustified exercise of hot pursuit undermines the rule of law and invites protest and retaliation (Allen, 1989).

#### 2.2 Criminal forcible measures

Criminal acts at sea are probably as old as the utilization of the sea by humanity (Soons, 2004). For too long, the rapid increase in crimes and incidents on the high seas has been ignored (Lloyd, 2014). Present forms of maritime crimes (in a broad sense) can be divided into two categories. One category involves activities directly linked to the sea and occurring there. These include piracy, illegal fishing, willful pollution, violations of regulations for the protection of the marine environment, safety of ships and installations, and traffic regulations. The other category involves activities that are part of a larger complex of criminal operations. Examples include the smuggling goods and persons, terrorist attacks, the illegal transport and dumping of waste, and the intentional sinking of ships for insurance money (Soons, 2004). Enforcement measures may be adopted by a State against a foreign ship if they are necessary to impede the act of committing an offense or the continuation of an illegal action (Noto, 2022). Therefore, when the coast guard applies criminal coercive measures in practice, it should assess the severity of the criminal facts and the level of personal danger in order to impose punishment that is proportionate and to select the coercive measure that minimizes negative consequences. In cases where multiple coercive measures yield comparable effectiveness, priority should be given to the measure that most effectively safeguards citizens' rights, thereby preventing potential conflicts between state authority and individual rights resulting from the improper application of such measures. Criminal law establishes the definitions and penalties for maritime offenses, particularly smuggling offenses at sea, such as those outlined in the US Code<sup>4</sup> and the China Customs Law.<sup>5</sup> Common maritime criminal enforcement measures are detention and arrest.

#### 2.2.1 Detention

When conducting maritime criminal law enforcement, the coast guard often encounters unexpected situations. The timely implementation of detention measures can effectively control suspects, prevent them from further criminal activities, and safeguard the progress of criminal law enforcement by preventing the destruction of evidence. The adoption of detention measures should align with the purpose of criminal detention, ensuring the presence of the suspect in the case and preventing evasion or obstruction of criminal proceedings. Detention must be shown to be necessary, and when conditions change, appropriate alternative measures should be considered, with the goal of minimizing harm to the suspect. The harm caused to the rights and interests of the suspect by detention should be proportionate and balanced, taking into account the societal benefits gained through the use of detention. Even if the application of criminal detention measures aligns with the objectives of safeguarding citizens' rights and ensuring the smooth progression of criminal proceedings, such measures should not be employed if their associated costs and benefits are disproportionately imbalanced — particularly when the infringement on individual rights significantly outweighs the public interest they are intended to serve. In such cases, alternative noncustodial measures should be prioritized.

#### 2.2.2 Arrest

In maritime law enforcement, arrest, as the most severe form of criminal coercive measure, serves the dual purpose of combating crime and protecting human rights. It is categorized into two types: personnel arrest and vessel arrest. Personnel arrest refers to the temporary deprivation of personal freedom of criminal suspects within a certain period, carried out by maritime law enforcement agencies during criminal investigations, in accordance with the law, to ensure the progress of the investigation and to implement review of mandatory measures. Vessel arrest, on the other hand, involves the inhibition of a ship's freedom of navigation by the State through the use of forcible actions, such as detention. This typically includes the detention of the crew and the confiscation of goods carried on board the ship. When a ship is suspected of committing a criminal offense or violating fisheries laws in the territorial sea or EEZ of a coastal State, that State may arrest the ship. The International Convention on Arrest of Ships provides the most detailed provisions on vessel arrest in international law<sup>6</sup>.

Furthermore, clearly marked and identifiable law enforcement vessels and aircraft have the authority to arrest pirate vessels or aircraft on the high seas. These arrests are conducted in accordance with *UNCLOS* and the laws of the coastal State. Arrest is a forcible measure employed in criminal law enforcement, which involves a significant interference with the interests of either individuals or ships. Therefore, it should only be carried out when there is sufficient evidence that the subject of law enforcement has committed a criminal offense. In cases where there is reasonable suspicion that a ship may have engaged in unlawful activities, the coast guard can proceed with an arrest only if they meet the requirements of jurisdiction and authorization.

<sup>4</sup> Title 18 of the US Code, Chapter 27.

<sup>5</sup> Article 82 of the China Customs Law.

<sup>6</sup> UN/IMO, the International Conventions on Arrest of Ships, Doc. A/CONF.188/6, 1999.

#### 2.3 Use of force

In order to safeguard their marine resources, protect the maritime security environment, and combat crimes at sea, it has become a routine law enforcement behavior of States for maritime law enforcement officers to take strong measures to implement forceful measures to combat offenses. Experience has shown that interceptions and boardings by the navy and coast guard units occasionally require the use of force to overcome noncompliance or in self-defense (Allen, 2005). The use of police force in maritime law enforcement is to be distinguished from the use of force in international relations. However, the difficulty is that the latter category, when applied at sea, may involve similar measures as those that occur in case of the former (Kwast, 2008). The use of force in maritime law enforcement is an exercise of the law enforcement powers of the coastal State within areas under its jurisdiction. It serves as an essential measure for coastal States to safeguard their maritime rights and interests.

At what level of violation can a coastal State use force? It is generally accepted that the enforcement measures taken in maritime law enforcement should be proportionate to the laws violated by the ship. In other words, the more serious and egregious the offense committed by a foreign ship against the laws of the coastal State, the more stringent the enforcement measures will be. For fisheries or environmental offenses, fines may be imposed as human freedom, life, and health should take precedence over property values. However, in the case of severe criminal offenses such as piracy, drug trafficking, and terrorist activities at sea, or in situations involving violent resistance to the law, even if the offense is not considered serious, necessary measures may be taken depending on the circumstances. These measures can include the appropriate level of force or even the use of lethal force. The customary law principles for the use of force in maritime enforcement actions can be summarized as follows: the use of force in maritime enforcement must be avoided as much as possible; if such use of force cannot be avoided, its use must be necessary and reasonable under the circumstances; the use of force can only be done after taking a number of "appropriate actions" (such as give internationally-recognized signals and warnings to stop); considerations of humanity apply in maritime enforcement actions (Espenilla, 2017).

Given that law enforcement takes place in the maritime environment, environmental factors play a crucial role in shaping the nature of law enforcement compared to land-based operations. The marine environment is more intricate and hazardous than its terrestrial counterpart, and the primary objective of employing force in maritime law enforcement is to ensure the successful completion of law enforcement tasks while maintaining a safe environment for both vessels and personnel. The use of force takes into account various factors, including weather conditions, currents, reefs, and the geographical position of the seas on both sides. Because the use of force is regarded as a last resort, other forcible measures without resorting to the use of force, such as interdiction, search and arrest, and hot pursuit, should be employed first in maritime law enforcement actions (Zou, 2011). The

consequences of employing force are highly evident and can readily capture the attention of the international community.

## 3 Purpose: what forcible measures can achieve?

The purpose of enforcement is to compel constraint of behavior in such a way as to promote conformity with prescribed rules. Enforcement really consists of two elements: control and sanction. Control refers to the processes of invoking compulsion in order to achieve the sought-after compliance and includes, inter alia, policing activities such as surveillance, interdiction, boarding and inspection either at sea or in port, and possibly detention pending further investigation. Sanction refers to the formal application of the law through judicial or other processes and includes actions taken to prosecute and punish non-compliance (Rayfuse, 2005). When the coast guard carries out maritime law enforcement, the most significant tension between State power and human rights arises in the implementation of forcible measures. The relationship between these two elements directly reflects the extent of the rule of law within a State. The standardized and reasonable application of forcible measures by the coast guard is a matter of great concern to the international community. Once the objectives of the forcible measures have been achieved or the conditions for their application no longer exist, the coast guard agency should promptly lift such measures.

#### 3.1 Protection of maritime security

Maritime safety has always been a matter of paramount concern in shipping and seafaring (Rong, 2017) and is increasingly becoming a critical factor in global peace and stability (Jin and Feng, 2023). Maritime security has been an emerging concept for a number of years (Gustafsson, 2019). More often it is defined as a set of pressing security issues, which may include topics such as illegal fisheries, security and safety in ports and on board vessels, piracy, boat refugees, terrorism at sea and weapons of mass destruction at sea (Schildknecht et al., 2018, p. 3), and they are increasingly important dimensions of ocean governance and the associated maritime security and law enforcement agenda (Bueger and Edmunds, 2020). Maritime safety consists of four components: ship safety, navigational safety, cargo safety, and personal and occupational safety (Rong, 2017). Maritime security is an extension of a nation's overall security interests, and it is safeguarded by maritime law enforcement agencies through the enforcement of maritime law in accordance with legal provisions. Maritime safety and maritime security are complementary concepts. Maritime safety is primarily concerned with the prevention of accidents, such as collisions and environmental pollution, whereas maritime security is focused on mitigating intentional threats, including piracy and terrorist attacks. Collectively, they play a critical role in safeguarding human lives, property, the marine environment, and national interests in

maritime domains. Within the realm of maritime law enforcement, the use of force is one of the most prevalent and significant powers exercised by the State. It possesses broad scope, substantial influence, and significant authority, enabling direct and extensive deprivation and restriction of individual and property rights. Maritime law enforcement is the exercise of the law enforcement power of the coastal State in the waters under its jurisdiction, based on the right of self-defense, the coastal State may implement measures to maintain the security of the territorial sea in the contiguous zone (Liu and Hu, 2024). Safeguarding maritime rights and interests is a crucial undertaking for any State. In this regard, the utilization of forcible measures plays a significant role in ensuring maritime security.

In times of peace, the coast guard serves as the primary entity responsible for daily duties and actively upholds national maritime security. Examples of coast guard organizations include the US Coast Guard, the Japan Coast Guard, and the China Coast Guard. Additionally, the navy also plays a pivotal role in safeguarding maritime security. Aligned with the national maritime security strategy, the navy defends against maritime invasions, protects territorial waters' sovereignty, and maintains national maritime security. Notable navy forces include those of Russia, India, and Indonesia. In times of war, the coast guard and navy collaborate to ensure the protection of maritime security.

## 3.2 Maintenance of maritime rights and order

Safeguarding the maritime rights of States is one of the fundamental tasks of maritime law enforcement. Maritime rights are a natural extension of the concept of State sovereignty and refer to the rights granted to sovereign States under international law. Defending maritime rights entails protecting the sovereign rights and interests of States against encroachment by other States. Since the implementation of *UNCLOS*, States have increasingly emphasized the rights associated with the territorial sea, the contiguous zone, the EEZ, and the continental shelf. Consequently, the preservation of maritime rights has become a vital function of maritime law enforcement teams worldwide.

In its ever-evolving capacity to respond to difficulties that arise, international law provides the framework and process for the effective enforcement of the rule of law in the maritime domain. At the same time, the international legal intricacies that surround the resort to forcible action against foreign vessels at sea challenge the public order of the oceans on a fundamentally different level (Kwast, 2008). UNCLOS provides that under the general consensus, parties agreed to establish "a legal order for the seas and oceans...". <sup>7</sup>As economic, technological, and cultural advancements continue, various types of maritime activities are becoming more frequent. Consequently, maintaining order in these maritime activities has become the primary responsibility of coast guard agencies engaged in maritime law enforcement. On one hand, with the thriving marine

economy and marine industries, coast guards are required to strengthen law enforcement efforts to ensure the orderly production and operation of sea-related sectors. For example, the Japan Coast Guard established the Guard and Rescue Department to oversee fisheries management, while maritime fisheries law enforcement is a significant area of focus for the US Coast Guard. On the other hand, various forms of maritime crimes and offenses directly threaten or disrupt the order of maritime activities. It is imperative to enhance maritime law enforcement by coast guard agencies in accordance with the law to manage and uphold public order in internal waters, territorial seas, contiguous zones, EEZ, and continental shelves. This includes cracking down on smuggling and other criminal activities that pose serious threats to maritime security, as well as punishing violations of public order and security in maritime areas

## 3.3 Guarantee of procedures and human rights

In practice, after committing an offense, the perpetrator often attempts to destroy evidence and hinder the coast guard's investigation. In such cases, the coast guard takes timely and necessary measures, based on the seriousness of the offense, to restrict the personal freedom of the perpetrator. This allows for a prompt determination of the facts and collection of evidence related to the offense. It's important to note that these measures are primarily intended to ensure the smooth progress of coast guard law enforcement activities and prevent offenders and suspects from evading administrative or criminal investigations, as well as engaging in acts such as tampering with or falsifying evidence, continuing to commit crimes, or obstructing law enforcement. These measures are not intended to serve as penalties or punishment. Therefore, they should be considered as procedural safeguards aimed at removing obstacles and ensuring effective law enforcement.

The use of force by maritime law enforcement is a violent measure and a forcible measure involving the life safety of law enforcement targets, as well as the basic content of international human rights law and international humanitarian law (Qu, 2019). Those applicable to maritime law enforcement will primarily be found in international jurisdictional principles, the norms governing the exercise of law enforcement powers in the maritime domain, and human rights and criminal law standards as applicable at sea, including safeguards for the use of reasonable police force as a last resort (Kwast, 2008). The arrest, detention, transfer and prosecution of criminal suspects at sea interferes with their right to liberty (UNODC, 2019b), practice takes these factors into account. In the Arctic Sunrise Arbitration, the Tribunal noted that it would consider international human rights law, the authorities of the Russian Federation lacked a legal basis to board, investigate, inspect, and seize the vessel, and to arrest and detain those on board. The application of forcible measures by the

<sup>7</sup> The preamble of *UNCLOS*, para. 5.

<sup>8</sup> The Arctic Sunrise Arbitration(Netherlands v. Russia), Award on the Merits, Permanent Court of Arbitration (PCA) Case No. 2014-02, 14 August 2015.

coast guard plays an important function in safeguarding human rights. Forcible measures must fully respect and protect human rights and must not forcibly dispose of personal liberty except in cases of genuine necessity. Violations of human rights guarantees in the application of forcible measures must be sanctioned. Even though the States maintain ample discretion on the maritime enforcement measures to be taken, they must always be in conformity with international law and standards, especially those regarding the human rights protection (Noto, 2022).

## 4 Requirements for forcible measures

#### 4.1 Restraint of law enforcement powers

The implementation of forcible measures should consider the ability of the existing system, including the law, to provide effective checks on them. Wherever power exists, there should be mechanisms for controlling it. Supervision and control of power serve as the theoretical foundation for regulating the use of forcible measures. If there are sufficient oversight and constraints on the granted power, it will effectively limit its expansion. On the other hand, the absence of effective constraints on established powers can lead to the uncontrolled application of forcible measures, resulting in infringements on fundamental rights. The application and purpose of forcible measures dictate that they should only operate in public spaces and must not interfere with the fundamental private rights of individuals.

Forcible measures are actions that impose limitations rather than empower individuals. In terms of the direct interests of the person involved, forcible measures are unfavorable and restrict the exercise of their rights. For example, after property is seized, the detainee will no longer be able to use the seized property, which is detrimental to their interests. However, from the perspective of safeguarding the progress of law enforcement activities, the adoption of such forcible measures is reasonable. It is important to clarify that the use of forcible measures in law enforcement is temporary and preventive in nature, and it does not represent a permanent disposition of personal freedom or property rights. Once the threat has subsided, the facts of the offense have been established, or the time limit prescribed by law for applying forcible measures has expired, they should be immediately lifted, modified, or withdrawn.

#### 4.2 Temporary measures

The coast guard, in accordance with domestic law, is authorized to employ preventive or controlling forcible measures in response to law violations or infringements of maritime rights and interests. The application of forcible measures has adverse consequences for the offenders, as they restrict rather than fully deprive their rights. Whether it involves restrictions on personal freedom or the seizure of property, the imposition of forcible measures by the coast guard restricts the rights to personal freedom or property. Simultaneously,

these temporary measures adopted by the coast guard during the law enforcement process aim to maintain and safeguard law enforcement order and activities, rather than serving as the ultimate goal of law enforcement itself. The adoption of forcible measures does not and cannot achieve the closure of law enforcement; instead, it serves as a means to facilitate subsequent processing results. For instance, the seizure of property is not an end in itself, but a temporary and preventive measure implemented to prevent the transfer of property, ensuring the implementation of subsequent processing results.

#### 4.3 A last resort

The use of weapons in the course of conducting law enforcement activities is the last resort to illegal actions subject to the principle of "considerations of humanity" (Lee, 2018). Furthermore, force is meant to be used as the last resort and it is vital to ensure that life is not endangered in so far as practicable (Banagoda, 2020). International laws recognize that a properly identified enforcing vessel or aircraft is justified, as a last resort, in using force during hot pursuit against a pursued vessel subject to arrest if the vessel fails to stop (Allen, 1989). The application of forcible measures needs to take into account the infringement of personal freedom and can only be applied as a last resort when it is clear that irreversible consequences would occur if they were not applied. In order to ensure the safety and security of the persons subject to the attack, the use of force in enforcement actions must be a last resort rather than a first option (Tuerk, 2015). In the M/V Saiga (No. 2) case, the Tribunal stated that "it is only after the appropriate actions fail that the pursuing vessel may, as a last resort, use force". Not only should the use of force be treated as a last resort in law enforcement, but all forcible measures should also be employed as a last resort. This ensures the effective functioning of law enforcement activities and proceedings, even if these measures are not initially applied as a last resort.

# 5 How to implement forcible measures: four principles

These principles have been followed over the years in law enforcement operations at sea. The normal practice used to stop a ship at sea is first to give an auditory or visual signal to stop, using internationally recognized signals. Where this does not succeed, a variety of actions may be taken, including the firing of shots across the bows of the ship. It is only after the appropriate actions fail that the pursuing vessel may, as a last resort, use force. Even then, appropriate warning must be issued to the ship and all efforts should be made to ensure that life is not endangered. <sup>10</sup>The issue of forcible measures is often characterized by arbitrary and excessive usage. The main

<sup>9</sup> ITLOS, M/V Saiga(No. 2) (Saint Vincent and the Grenadines v. Guinea), Judgement (1 July 1999), para. 156.

<sup>10</sup> Ibid.

manifestations include the disregard for the provisions of the law and the discretionary use of forcible measures, the neglect of legal procedures resulting in the infringement of legitimate rights and interests, the use of forcible measures beyond the prescribed limits, and the inappropriate application of forcible measures against foreign personnel and vessels, which can potentially lead to international disputes. When forcible measures are abused, they can violate the personal and property rights of individuals and, in severe cases, even deprive them of the right to life. Therefore, the use of forcible measures by the coast guard must adhere to the principles of legality, freedom of navigation, necessity, and proportionality.

#### 5.1 Principle of legality

One of the most important achievement of civilized nations that they adhere to the law and, thus, show their respect for the rule of law even in situations in which this complicates things (Heinegg, 2006). As far as the legality of the use of force is concerned, the distinction between the use of force in international relations and maritime law enforcement necessarily underlies the question of the legality of forcible measures taken against foreign ships. Any decision on the lawfulness of these measures will of course-either expressly or implicitly-entail a prior decision on whether the action under review involves a case of maritime law enforcement or the use of force (Kwast, 2008). In the context of maritime law enforcement, allowing another State to legislate or take enforcement measures does not and should not be seen as a derogation from the sovereignty, sovereign rights, or jurisdictional claims of any party (Chen et al., 2023). To consider the lawfulness of instances of forcible action at sea, the following analytical will apply: identifying the relevant aspects of the case; classifying the action in question; and determining the applicable legal standards. However, the main difficulty is that these steps—especially the first two—are far more easily put into words than into practice. Maritime law enforcement involves legal prescriptions at two levels. The first involves the applicable domestic laws and regulations that will indicate when and with what degree of force, if necessary, law enforcement power is to be exercised. Second, while municipal law may authorize such resort to force, international law further defines the conditions under which force may be resorted to and the limits on the degree of force that apply (Kwast, 2008).

In terms of international law, a significant portion of maritime law enforcement pertains to the enforcement of laws on foreign vessels, making it subject to regulation and governance by international law. Those applicable to maritime law enforcement will primarily be found in international jurisdictional principles, the norms governing the exercise of law enforcement powers in the maritime domain, and human rights and criminal law standards as applicable at sea, including safeguards for the use of reasonable police force as a last resort (Kwast, 2008). UNCLOS provides for the application of forcible measures. <sup>11</sup> The United Nations Fish Stocks Agreement defines the basic procedures for boarding and inspecting

fishing vessels at sea. <sup>12</sup> The Basic Principles on the Use of Force and Firearms by Law Enforcement Officials set out in detail the principles governing the use of force. <sup>13</sup>There is also the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention)<sup>14</sup>.

In terms of domestic law, the *UK Marine and Coastal Access Act* provides for the maritime law enforcement activities of the His Majesty's Coastguard. <sup>15</sup>The *US Code* gives the US Coast Guard law enforcement powers to conduct enquiries, boardings, inspections, searches, arrests and seizures. <sup>16</sup>The *Criminal Code of Canada*<sup>17</sup> govern the use of force in effecting an arrest and are regarded as applying also to the enforcement of fisheries laws (Shearer, 1998). The *Regulations of China on the Use of Police Arms and Weapons by Police* specify the specifications for the use of weapons and police. The *Korea Coast Guard Act*<sup>18</sup> and the *Manual on the Use of Weapons*<sup>19</sup> provide procedures for the use of force (Kim, 2019). The Japanese law<sup>20</sup> provides procedures and measures for maritime law enforcement (Kojima, 2018), and the Indonesian law<sup>21</sup> provides the coast guard with the authority to take action against all offenses of unlawful activities in the territorial sea (Dirhamsyah et al., 2022).

#### 5.2 Principle of freedom of navigation

The fact that the seas are free means that they are common resources, and the freedom of the seas ensures that anyone has the right to utilize them. Freedom of navigation is derived from the freedom of the seas, and the will of States underlies this freedom. Freedom of navigation encompasses various elements, including the regimes of innocent passage, transit passage, archipelagic sea lanes passage, as well as the freedom of navigation and overflight on the high seas. Based on the principles of freedom of navigation, States should navigate in harmony, taking measures to avoid danger or

<sup>11</sup> Articles 27, 73, and 105 of UNCLOS.

<sup>12</sup> Article 22 of the United Nations Fish Stocks Agreement.

<sup>13</sup> UN, the Basic Principles on the Use of Force and Firearms by Law Enforcement Officials, Doc. A/CONF.144/28/Rev.1, 7 September 1990.

<sup>14</sup> UN, Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, No. 29004, 10 March 1988.

<sup>15</sup> Part 8 of the UK Enforcement Marine and Coastal Access Act.

<sup>16</sup> Title 14of the US Code, Chapter 5.

<sup>17</sup> Sections 25(1) of the Criminal Code of Canada

<sup>18</sup> Article 17 of the Korea Coast Guard Act.

<sup>19</sup> The Korea Manual on Use of Weapons revealed two aims of the Korea Coast Guard: crack down on foreign illegal fishing, and prioritize the safety of its officers and foreign vessel's crews in the course of law enforcement. The Manual specifies the procedure for the use of weapons by adding details.

<sup>20</sup> The main laws on maritime law enforcement procedures and measures in Japan are the *Coast Guard Act*, the *Self-Defense Forces Act*, the *Police Duties Execution Act*, the *Act on Navigation of Foreign Ships through the Territorial Sea and Internal Waters*, the *Fisheries Act*, and *Act on the Exercise of the Sovereign Right for Fishery in the Exclusive Economic Zone*.

<sup>21</sup> Such as the National Police Act Criminal Act, the Waters Act, the Shipping Act, the Oil and Gas Act, the Mineral and Coal Mining Act, the Cultural Preserve Act, the Fisheries Act, the Environmental Management Act and the Immigration Act.

threats to navigation. It is important to ensure that the environment, resources, and the lives and properties involved in navigation activities are minimally affected, and to establish and adjust navigation rules to maintain an orderly, harmonious, and manageable state of international navigation.

Freedom of navigation on the high seas encompasses the right for both military and non-military vessels, regardless of whether they belong to coastal or landlocked States, to navigate freely. Alongside fishing, it is one of the fundamental rights associated with the freedom of the high seas. While aircraft have become the primary means of transporting people across the seas, ships remain the most essential method for transporting goods, with the majority of international trade by weight being carried out via maritime routes. In addition to the obligation to consider the interests of other States when exercising the freedom of navigation, ships navigating on the high seas are bound by international obligations such as pollution control and ship safety. The breach of these obligations generally falls under the jurisdiction of the flag State. Compared to land-based law enforcement, the maritime law enforcement environment presents unique challenges and dangers for coast guards due to the geographical differences they encounter. During specific maritime law enforcement operations, coast guards must make timely judgments based on the principle of freedom of navigation, choose appropriate law enforcement measures, and ensure that maritime law enforcement is not used as a pretext to undermine the fundamental principle of freedom of navigation.

#### 5.3 The principle of necessity

All forcible measures should be guided by the principle of necessity, which is particularly crucial given that the use of force is the most extreme measure. The principle of necessity has three interrelated elements: the duty to use non-violent measure wherever possible; the duty to use force only for a legitimate law enforcement purpose; and the duty to use only the minimum necessary force that is reasonable in the prevailing circumstances (UNODC, 2023). The use of weapons in conjunction with law enforcement measures is necessary to make the measures effective (Kanehara, 2020). A reasonable degree of force appears permissible where serious violations of the coastal State's rights require an immediate enforcement action in order to prevent further harmful consequences (Francioni, 1985). Curative efforts are often undertaken when the crime is considered a minor offense without a significant loss or effect to the national interest. Only given a warning without having to undergo further legal proceedings (Afriansyah et al., 2022). The Commissioners used the phrase "reasonable and necessary" meant that the US Coast Guard were entitled to use such reasonable force as was necessary to board, search and arrest a suspect vessel and if in the course of this reasonable exercise of force, the sinking of a vessel accidentally results, this would not be unlawful, but deliberate sinking would not be reasonable (Fitzmaurice, 1936).

The SUA Convention provides in Article 8bisthat "when carrying out the authorized actions under this article, the use of

force shall be avoided except when necessary to ensure the safety of its officials and persons on board, or where the officials are obstructed in the execution of the authorized actions. Any use of force pursuant to this article shall not exceed the minimum degree of force which is necessary and reasonable in the circumstances". Under European Convention for the Protection of Human Rights and Fundamental Freedoms, the use of force by law enforcement officers must be "absolutely necessary". 22The China Coast Guard can only take "necessary" measures to pursue foreign vessels. <sup>23</sup>Although Japanese law provides that the Coast Guard vessels are allowed to fire at, and even sink, ships that do not obey orders in Japan's territorial waters, there are some conditions on the use of force to the effect that the Coast Guard officers believe that no other measure exist to stop a vessel from proceeding, whose crew members, passengers, or other persons do not comply with the repeated orders to stop, and resist the Coast Guard officers' efforts to execute their duties (Zou, 2011).

Some States categorically reject the use of force to stop noncompliant vessels for minor offenses or for offenses not involving public safety, such as fisheries violations. Other States apply the principles of necessary in determining whether the use of force is appropriate to overcome a vessel's noncompliance (Allen, 2005). The normal practice used to stop a ship at sea is first to give an auditory or visual signal to stop, using internationally recognized signals. Where this does not succeed, a variety of actions may be taken, including the firing of shots across the bows of the ship. The pursuing military vessel may, as a last resort, use force if the appropriate actions fail. Force must be used only when strictly necessary, and it must be always proportional to lawful objectives. Restraint may be exercised in the use of force to minimize damages and injuries. In the exercise of the enforcement jurisdiction any warship (or any other authorized ship) applies its domestic laws and national rules of engagement, which determine the limits to the degree of force (Noto, 2022).

#### 5.4 Principle of proportionality

The principle of proportionality necessitates that a measure must be appropriate, justified, reasonable, and balanced in relation to the desired outcome. The principle of proportionality holds significant relevance in various areas of international law, including international humanitarian law, international human rights law, and the law of treaties (Gardam, 2004, p. 2). International law, as articulated by the Arbitral Tribunal in the *I'm Alone* Case, permits States to use only the "minimum force" necessary to compel compliance (Churchill and Lowe, 1999, p. 461). In the *M/V Saiga* (No. 2) case, the ITLOS found that the Guinea officers fired at the ship itself with live ammunition from a fast-moving patrol boat without issuing any of the signals and warnings required by international law and practice, and also used excessive

<sup>22</sup> Article 2 of the European Convention for the Protection of Human Rights and Fundamental Freedoms.

<sup>23</sup> Article 18 of the China Coast Guard Law.

force on board the Saiga. <sup>24</sup>An appropriate warning must be issued to the ship and every effort should be made to ensure that lives are not endangered<sup>25</sup>.

Each type of forcible measure necessitates a different principle of proportionality. The principle of proportionality in boardings considers the manner of the operation, the necessary use of force, and measures to safeguard the safety of law enforcement officials. The principle of proportionality in hot pursuit requires that minor offenses should not be pursued because they would be tantamount to restricting the freedom of navigation, but serious offenses are not the only reason for hot pursuit, and a variety of factors, such as international comity and diplomatic settlements, should also be taken into account (Reuland, 1992). The principle of proportionality in arrest and seizure takes into account jurisdiction and authorization, the seriousness of the offense, and the least intrusive. For example, so-called compliance and control are enabled by most Norwegian Coast Guard vessels being armed with a light-to medium-caliber deck gun, as well as inspection personnel with powers of arrest (Choi, 2020). Control refers to the processes of invoking compulsion in order to achieve the soughtafter compliance and includes, interalia, policing activities such as surveillance, interdiction, boarding and inspection either at sea or in port, and possibly detention pending further investigation (Rayfuse, 2005). Different enforcement measures are implemented in various maritime areas. The very fact that enforcement powers are spelled out in Part V of UNCLOS, dealing with the regime of the EEZ, whereas they are merely assumed or implied in relation to the territorial sea, archipelagic waters, and the contiguous zone, indicates that they are regarded as more sensitive matters (Shearer, 1998). Since laws on the substantive subjects of customs, fiscal, immigration and sanitary matters cannot be applied to the contiguous zone, it follows that an offense cannot be committed until the boundary of territorial waters is crossed by inward-bound ships. "Control" therefore must be limited to such measures as inspections and warnings, and cannot include arrest or forcible taking into port (Shearer, 1986).

Although maritime law enforcement force measures and international law force are both mandatory and forceful acts, they are essentially different, mainly in terms of their nature, sources of force, applicable law and legal responsibility (Qu, 2019). If international law allows the exercise of enforcement jurisdiction, it can be presumed that actions in implementation thereof are of a law enforcement nature. Those measures will in principle fall within the category of law enforcement against non-national vessels at sea; involving maritime policing rather than the use of armed force in international relations (Kwast, 2008).

The use of force deemed necessary for maritime law enforcement is acknowledged and authorized in international law treaties as well as in the domestic laws of States, with adherence to the principle of proportionality. The sole reference in *UNCLOS* to the degree of force to be used in enforcement measures appears in

Article 225. The only sensible construction of Article 225 is to read it subject to the customary law principles of necessity and proportion, and not as a blanket prohibition against the use of force in any circumstances (Shearer, 1986). The Code of Conduct for Law Enforcement Officials<sup>26</sup> and the Basic Principles on the Use of Force and Firearms by Law Enforcement Officials<sup>27</sup> also provide for the principle of proportionality in the use of force by law enforcement.

The principle of proportionality has also been clarified in the procedural norms governing the use of force by the coast guards of various countries. For instance, upon detecting signs of violation, the Vietnam Coast Guard is authorized to check and inspect whether violations indeed take place. For violations of law, the Vietnam Coast Guard shall impose administrative measures, including fines or taking records of violations within its jurisdiction and transfer the cases to competent authorities; force the violators to cease the illegal acts; order them to leave the maritime zones of Vietnam; arrest, detain or conduct penal investigation against the violators; and confiscate equipment or measure of violations. In cases of flee or resist, the Vietnam Coast Guard is allowed to take forcible measures or pursuit violators in accordance to domestic or international law. In strictly prescribed cases where the violators threaten the lives and security of coast guards or others, or in serious violations where the violators may escape unless weapons are employed, the Vietnam Coast Guard is explicitly allowed open fire (Anh and Ha, 2018).

#### 6 Conclusion

In an era marked by escalating maritime tensions and the expansion of coast guard operations, the legal constraints governing the use of force at sea, along with principles of proportionality and accountability, are not only legal imperatives but also strategic necessities for ensuring global maritime stability. As the primary arena for the existence and development of the international community, the seas encompass numerous crucial domains, including transportation, energy, climate, and ecology. With the increasing strategic importance of the seas, most States have bolstered the establishment and utilization of maritime law enforcement forces, striving to protect their maritime rights and interests and gain strategic advantages in the maritime domain. UNCLOS establishes regulations to govern and manage the comprehensive utilization of the seas and their resources, thereby establishing a relatively comprehensive, fair, and feasible global maritime order. The rights associated with the seas are legal rights granted to States by international law and the law of the sea. Maritime law enforcement serves as a fundamental measure to safeguard these rights, and the assurance of forcible measures is integral to maritime law enforcement.

<sup>24</sup> ITLOS, M/V Saiga(No. 2) (Saint Vincent and the Grenadines v. Guinea), Judgement (1 July 1999), paras. 157, 158.

<sup>25</sup> Ibid, para.156.

<sup>26</sup> Article 3 of the Code of Conduct for Law Enforcement Officials.

<sup>27</sup> Articles 5, 9, 10, 11,13, 14, 15, and 16 of the Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.

Maritime law enforcement must be grounded in a clear legal basis and uphold due process. The coast guard serves as the primary law enforcement force at sea, employing various maritime forcible measures including administrative measures, criminal measures, and the use of force. The timely and reasonable application of these measures by the coast guard in specific maritime law enforcement situations can effectively achieve the objectives of safeguarding maritime security, protecting maritime rights and order, and ensuring proper procedures and human rights. This is of significant importance in enhancing the effectiveness of maritime law enforcement. Maritime law enforcement revolves around national security and interests and should be based on the authority of national sovereignty, sovereign rights, and jurisdiction. It should align with internationally and domestically harmonized legal norms, involve qualified entities, strictly adhere to due process, and carefully consider the requirements of law enforcement powers, temporary measures, and as a last resort. Maritime law enforcement must be grounded in a clear legal basis and uphold due process throughout its operations. While international legal foundations and domestic legislation may have different emphases and provisions across various fields, they commonly address maritime law enforcement procedures. Maritime law enforcement powers differ from land-based police powers as they are concerned with maintaining order and security at sea. These powers must comply not only with domestic legislation but also with relevant international law provisions. The use of forcible measures at sea must adhere to the principles of legality, freedom of navigation, necessity, and proportionality. This study contributes to the understanding of how forcible measures can be aligned with international legal norms in coast guard operations, particularly in contested waters or multi-jurisdictional scenarios. It should also be noted that with the increasing frequency of international maritime trade, the maritime security environment has grown increasingly complex, marked by the interweaving of various forces and the frequent occurrence of unforeseen incidents at sea. Existing legal frameworks often fall short of comprehensively addressing all relevant aspects. In this context, when maritime law enforcement agencies carry out operations to safeguard rights and enforce the law, it is essential to adopt a case-by-case approach, analyzing specific situations and problems individually. Accordingly, granting maritime law enforcement personnel the necessary discretionary authority is of critical importance. Nevertheless, appropriate measures must also be implemented to ensure that such discretion is exercised within reasonable limits, thereby preventing the potential abuse of enforcement power that could encroach upon the scope of citizens' rights.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material. Further inquiries can be directed to the corresponding author.

#### **Author contributions**

JW: Writing – review & editing, Writing – original draft. YW: Writing – original draft, Writing – review & editing, Methodology, Validation. XS: Writing – review & editing, Conceptualization, Writing – original draft, Methodology.

## **Funding**

The author(s) declare that no financial support was received for the research and/or publication of this article.

#### Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

#### Generative Al statement

The author(s) declare that no Generative AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

#### Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

#### References

Afriansyah, A., Darmawan, A. R., and Pramudianto, A. (2022). Enforcing law in undelimited maritime areas: Indonesian border experience. *Int. J. Mar. Coast. Law* 37, 2. doi: 10.1163/15718085-bja10092

Allen, C. H. (1989). Doctrine of hot pursuit: A functional interpretation adaptable to emerging maritime law enforcement technologies and practices. *Ocean. Dev. Int. Law* 20, 4. doi: 10.1080/00908328909545899

Allen, C. H. (2005). "Limits on the use of force in maritime operations in support of WMD counter-proliferation initiatives," in *Yearbook on Human Rights 35*. Eds. Y. Dinstein and F. Domb Israel (Brill, Leiden), 115–180. doi: 10.1163/9789047415442\_007

Anderson, D. H. (2013). "Some aspects of the use of force in maritime law enforcement," in *International Courts and the Development of International Law*.

Eds. N. Boschiero, T. Scovazzi, C. Pitea and C. Ragn (T.M.C. Asser Press, The Hague), 233–243. doi: 10.1007/978-90-6704-894-1 18

Anh, N. T. L., and Ha, M. N. (2018). Vietnam maritime law enforcement. *Korean. J. Int. Comp. Law*, 172–198. Available online at: https://brill.com/view/journals/kjic/6/2/article-p172\_4.xml (Accessed May 10, 2025).

Banagoda, C. K. (2020). Developments in the use of force in maritime law enforcement operations. Def. Secur. J., 57–67. Available online at: http://192.248.104.3/bitstream/handle/123456789/3794/2020-67-77.pdf?sequence=1 (Accessed May 11, 2025).

Becker-Weinberg, V. (2023). "Recognition of Maritime Environmental Crimes within International Law: A New Global Paradigm for the Protection and Preservation of the Marine Environment", in *The Environmental Rule of Law for Oceans: Designing Legal Solutions*. eds. F. M. Platjouw and A. Pozdnakova (Cambridge: Cambridge University Press), pp. 207–222.

Bichler, G. (2010). "Maritime crime," in *International Crime and Justice*. Ed. M. Natarajan (Cambridge University Press), 185–192. doi: 10.1017/CBO9780511762116.003

Bueger, C., and Edmunds, T. (2020). Blue crime: Conceptualizing transnational organized crime at sea. *Mar. Policy* 119, 104067. doi: 10.1016/j.marpol.2020.104067

Chang, Y. C. (2021). The use of force during law enforcement in disputed maritime areas. *Mar. Policy* 124, 104382. doi: 10.1016/j.marpol.2020.104382

Chen, X., Xu, Q., and Li, L. (2023). Illegal, unreported, and unregulated fishing governance in disputed maritime areas: Reflections on the international legal obligations of States. Fishes 8, 14. doi: 10.3390/fishes8010036

Choi, T. (2020). Sea control by other means: Norwegian Coast Guard operations under international maritime law. *Ocean. Dev. Int. Law* 51, 1. doi: 10.1080/00908320.2019.1636501

Churchill, R. R., and Lowe, A. V. (1999). *The law of the sea* (Huntington: Juris Publishing, Manchester: Manchester University Press).

Dirhamsyah, D., Umam, S., and Arifin, Z. (2022). Maritime law enforcement: Indonesia's experience against illegal fishing. *Ocean. Coast. Manage.* 229, 106304. doi: 10.1016/j.ocecoaman.2022.106304

Espenilla, J. J. F. (2017). Expanding the right of hot pursuit: Challenges for cooperative maritime law enforcement between the Philippines and Indonesia. *KMI. Int. J. Marit. Aff. Fish.* 9, 1. doi: 10.54007/ijmaf.2017.9.1.1

Fitzmaurice, G. G. (1936). The case of the I'm alone. *Brit. Yearb. Int. Law* 17, 82–111. Available online at: https://heinonline.org/HOL/LandingPage?handle=hein.journals/byrint17&div=10&id=&page (Accessed May 10, 2025).

Francioni, F. (1985). Peacetime use of force, military activities, and the new law of the sea. Cornell. Int. Law J. 18, 203–226. Available online at: https://heinonline.org/HOL/LandingPage?handle=hein.journals/cintl18&div=14&id=&page (Accessed May 10, 2025).

Gardam, J. (2004). Necessity, proportionality and the use of force by states (Cambridge: Cambridge University Press).

Gustafsson, Å. (2019). Maritime security and the role of coast guards: The case of Finland and the Åland Islands' demilitarization. Balt. J. Law Pol. 12, 1–34. doi: 10.2478/bjlp-2019-0001

He, R. (2009). Coast guards and maritime piracy: Sailing past the impediments to cooperation in Asia. *Pac. Rev.* 22, 5. doi: 10.1080/09512740903329756

Heinegg, W. H. (2006). Current legal issues in maritime operations: Maritime interception operations in the global war on terrorism, exclusion zones, hospital ships and maritime neutrality. *Int. Law Stud.* 80, 207–233. Available online at: https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1275&context=ils (Accessed May 11, 2025).

ICRC (2015). International Rules and Standards for Policing. Available online at: https://www.icrc.org/en/doc/assets/files/other/icrc-002-0809.pdf (Accessed January 8, 2024).

Jin, Y., and Feng, Y. (2023). Asia-Pacific maritime security cooperation: Challenges and opportunities. *Mar. Policy* 160, 105942. doi: 10.1016/j.marpol.2023.105942

Kanehara, A. (2020). The use of force in maritime security and the use of arms in law enforcement under the current wide understanding of maritime security. *Jpn. Rev.* 3, 2. Available online at: https://www.jiia-jic.jp/en/Japanreview/pdf/JapanReview\_Vol3\_No2\_05\_Kanehara.pdf (Accessed May 11, 2025).

Kim, H. J. (2019). South Korea's use of force against Chinese illegal fishing in the course of law enforcement in the Yellow Sea. *Mar. Policy* 99, 148–156. doi: 10.1016/j.marpol.2018.10.007

King, D. M., Porter, R. D., and Price, E. W. (2009). Reassessing the value of US Coast Guard at-sea fishery enforcement. *Ocean. Dev. Int. Law* 40, 4. doi: 10.1080/00908320903285414

Kojima, C. (2018). Maritime law enforcement in Japan. Korean. J. Int. Comp. Law 6, 2. doi: 10.1163/22134484-12340109

Kwast, P. J. (2008). Maritime law enforcement and the use of force: Reflections on the categorisation of forcible action at sea in the light of the Guyana/Suriname award. *J. Confl. Secur. Law* 13, 1. doi: 10.1093/jcsl/krn021

Laksmana, E. A. (2022). Remodeling Indonesia's maritime law enforcement architecture. *Contemp. Southeast. Asia.* 44, 1. doi: 10.1355/cs44-1e

Lee, K. B. (2018). The Korea Coast Guard's use of force against Chinese fishing vessels: A note. Ocean. Dev. Int. Law 49, 3. doi: 10.1080/00908320.2018.1443416

Liu, R., and Hu, Z. (2024). Controversies and amendment proposals on the China Coast Guard Law. *Mar. Policy* 163, 106115. doi: 10.1016/j.marpol.2024.106115

Lloyd, M. (2014). The investigation of incidents and crime at sea. Available online at: http://huelladigital.univisionnoticias.com/cruceros-vacaciones-en-aguas-de-nadie/wpcontent/uploads/2016/06/THE\_INVESTIGATION\_OF\_ACCIDENTS\_AND\_CRIME\_AT\_SE1-final.pdf (Accessed February 4, 2024).

Noto, M. C. (2022). "Limits to the maritime enforcement measures according to the law of the sea and human rights law," in *Law of the Sea*. Eds. N. Matz-Lück, Ø. Jensen and E. Johansen (Routledge, London), 225–242. doi: 10.4324/9781003091196-10

Percy, S. (2016). Maritime crime and naval response. Survival 58, 3. doi: 10.1080/00396338.2016.1186986

Qu, Y. (2019). Study on the use of force measures in maritime law enforcement by China Coast Guard. US-China. Law Rev. 16, 5. doi: 10.17265/1548-6605/2019.05.002

Rayfuse, R. (2005). Regulation and enforcement in the law of the sea: Emerging assertions of a right to non-flag state enforcement in the high seas fisheries and disarmament contexts. *Aust. YBIL.* 24, 1. Available online at: https://heinonline.org/HOL/LandingPage?handle=hein.journals/ayil24&div=15&id=&page (Accessed May 11, 2025).

Reuland, R. C. (1992). The customary right of hot pursuit onto the high seas: Annotations to Article 111 of the Law of the Sea Convention. *Va. J. Int. Law* 33, 557–589. Available online at: https://heinonline.org/HOL/LandingPage?handle=hein.journals/vajint33&div=32&id=&page (Accessed May 13, 2025).

Rong, P. (2017). Liability in criminal and private law regarding maritime safety. *J. Marit. Law Commer.* 48, 1. Available online at: https://heinonline.org/HOL/LandingPage?handle=hein.journals/jmlc48&div=6&id=&page (Accessed May 13, 2025).

Schildknecht, J., Dickey, R., Fink, M., and Ferris, L. (2018). Operational Law in International Straits and Current Maritime Security Challenges (Cham: Springer).

Shearer, I. A. (1986). Problems of jurisdiction and law enforcement against delinquent vessels. *Int. Comp. Law Q.* 35, 2. doi: 10.1093/iclqaj/35.2.320

Shearer, I. (1998). The development of international law with respect to the law enforcement roles of navies and coast guards in peacetime. *Int. Law Stud.* 71, 429–453. Available online at: https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1605&context=ils (Accessed May 13, 2025).

Soons, A. H. A. (2004). Law enforcement in the ocean. WMU. J. Mariti. Aff. 3, 3–16. doi: 10.1007/BF03195046

Tsamenyi, M. (2012). Constabulary arrangements for enforcement of Australia's maritime jurisdiction. *Aust. J. Marit. Ocean. Aff.* 4, 1. doi: 10.1080/18366503.2012.10815696

Tuerk, H. (2015). "Combating piracy: New approaches to an ancient issue," in *Law of the Sea, From Grotius to the International Tribunal for the Law of the Sea.* Ed. L. del Castillo (Brill, Leiden), 469–492. doi: 10.1163/9789004283787\_028

UNODC (2019a). Maritime crime: A manual for criminal justice practitioners. Available online at: https://www.unodc.org/documents/Maritime\_crime/1902087\_Maritime\_Crime\_Manual\_Second\_Edition\_ebook.pdf (Accessed March 12, 2024).

UNODC (2019b). Topic three—The general principles of use of force in law enforcement. Available online at: https://www.unodc.org/e4j/zh/crime-prevention-criminal-justice/module-4/key-issues/3-the-general-principles-of-use-of-force-in-law-enforcement.html (Accessed January 18, 2024).

UNODC (2023). Topic three—The general principles of use of force in law enforcement. Available online at: https://www.unodc.org/e4j/zh/crime-prevention-criminal-justice/module-4/key-issues/3-the-general-principles-of-use-of-force-in-law-enforcement.html (Accessed July 18, 2023).

Vrancken, P. (2019). State jurisdiction to investigate and try fisheries crime at sea. *Mar. Policy* 105, 7. doi: 10.1016/j.marpol.2018.12.026

Zou, K. (2011). Maritime enforcement of United Nations Security Council Resolutions: Use of force and coercive measures. *Int. J. Mar. Coast. Law* 26, 2. doi: 10.1163/157180811X560502