

INTERNATIONAL LAW OF THE SEA ENFORCEMENT ON ILLEGAL SEA DEFENCES: A CASE STUDY OF TANGERANG AND BEKASI WATERS

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Received : 16 January 2025
Revised : 30 January 2025
Accepted : 15 February 2025

Published : 18 March 2025
DOI : <https://doi.org/10.54443/ijerlas.v5i2.2435>
Link Publish : <https://radjapublika.com/index.php/IJERLAS>

Abstract

This research aims to address the growing problem of illegal sea fencing in Tangerang and Bekasi waters, which has significant negative impacts on marine ecosystems, biodiversity and the livelihoods of local fishing communities. This research explores the effectiveness of international legal frameworks, specifically the United Nations Convention on the Law of the Sea (UNCLOS), in regulating and enforcing maritime activities related to illegal sea fencing in Indonesia. The study will evaluate the role of national law enforcement agencies in addressing illegal practices such as unauthorised fishing, sand mining and smuggling, focusing on jurisdictional challenges and enforcement mechanisms. The benefits of this research are enhancing marine conservation efforts, improving law enforcement practices, supporting coastal communities by protecting their livelihoods, promoting international cooperation in maritime law enforcement, and increasing public awareness of legal compliance to ensure more sustainable use of marine resources. This article emphasises the need for stronger enforcement mechanisms, clearer regulations and better coordination among stakeholders. A more integrated approach, involving local communities alongside the government, is essential to effectively tackle illegal marine fencing and protect the environment and livelihoods of local people. The study also revealed that current legislation does not fully address the complexity of the issue, such as the wider environmental impacts of sea fences and the economic impact on the region.

Keywords : *marine, fences, law, illegal*

Introduction

As a country where most of its territory is ocean, Indonesia is recognised as an archipelagic state based on the 1982 United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS recognises the territorial waters of the archipelago, allowing Indonesia to exclusively manage marine resources. Indonesia's marine area totals approximately 6.4 million km², comprising the territorial sea, auxiliary zone, exclusive economic zone (EEZ) and continental shelf. As such, UNCLOS provides the primary international legal framework governing the use and delimitation of the sea and was agreed in Presidential Decree No. 38 of 2002 concerning the establishment and enforcement of Indonesia's maritime boundaries in accordance with UNCLOS. Indonesia is a signatory to the convention which defines several maritime zones regulated in Law No. 6/1996 on Indonesian Waters. In addition, Indonesia uses the principles of UNCLOS as a legal framework to regulate maritime affairs in Indonesia in Law No. 32/2014 on Maritime Affairs.

Indonesia's waters are currently in upheaval. Indonesia faces serious problems in the marine sector that affect the sustainability of marine resources and people's welfare, such as illegal fishing, marine pollution, ecosystem damage, and maritime security (bakamlalombokutara.org, 2025; Muhammad, 2023; bakamlaampenan.com, 2025). A recent report highlighted a maritime security issue, namely the increasing installation of illegal sea fences in coastal areas, especially in Tangerang and Bekasi waters (Muhid & Arjanto, 2025; Cnnindonesia.com, 2025). Sea fences typically refer to structures designed to manage coastal environments, particularly in the context of sand and sediment control. However, the use of sea fences can also be detrimental if done illegally. Illegal sea fences refer to the practice of mining or taking marine resources without permission or in violation of applicable laws. This is the case in the waters of Tangerang and Bekasi, where activities such as illegal fishing, smuggling and marine sand mining are carried out by individuals or groups without complying with existing regulations.

Currently, coastal communities in Tangerang and Bekasi are experiencing the impact of illegal sea fences. These losses cause damage to marine ecosystems and the balance of marine biodiversity (Soesilo, 2002). This practice can threaten the livelihoods of local fishers, who are often unable to compete with illegal practices that do not comply with regulations (Yunita et al., 2024; Amalia et al., 2024). Overall, illegal marine fencing is not only

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detrimental to the environment but also has far-reaching consequences for communities that depend on marine resources. Stricter law enforcement and public awareness of these negative impacts are urgently needed to protect local ecosystems and livelihoods.

Based on previous research, enforcement actions must comply with international and national legal instruments. International legal frameworks need to adapt to the ever-increasing marine resource issues, with particular attention to enforcement mechanisms (Mendenhall, 2023). The application of international conventions in addressing illegal marine fencing and the role of law enforcement agencies in monitoring and prosecuting offenders (Schatz, 2016). Baird (2019) critically examined jurisdictional challenges and enforcement mechanisms in the maritime zone. Boyle (2017) focuses on how international law regulates and enforces maritime rights, particularly under UNCLOS. Chircop (2015) offers a practical perspective on enforcing maritime claims, highlighting coastal state rights and international cooperation. Donnelly (2018) evaluates the role of international organisations such as the UN and IMO in enforcing the provisions of UNCLOS. Gao (2016) analysed China's perspective on maritime law enforcement in the disputed South China Sea. He (2020) explored the challenges of law enforcement in the South China Sea, particularly regarding territorial disputes. Hathaway (2014) investigates common mechanisms for enforcing international law, particularly dispute settlement and compliance. O'Connell (2013) provides a historical view of maritime security enforcement, including piracy and naval blockades. Simma & Alston (2017) discuss enforcement of marine resource protection laws, such as fisheries management. Finally, Tanaka (2019) looks at the enforcement of maritime boundary agreements and the legal challenges in resolving boundary disputes. Together, these studies reflect the multifaceted nature of ocean law enforcement across different legal, political and environmental contexts.

This research aims to address the growing problem of illegal sea fencing in Tangerang and Bekasi waters, which has significant negative impacts on marine ecosystems, biodiversity and the livelihoods of local fishing communities. This research will explore the effectiveness of international legal frameworks, specifically the United Nations Convention on the Law of the Sea (UNCLOS), in regulating and enforcing maritime activities related to illegal sea fencing in Indonesia. The study will evaluate the role of national law enforcement agencies in addressing illegal practices such as unauthorised fishing, sand mining and smuggling, focusing on jurisdictional challenges and enforcement mechanisms. In addition, the research will also identify gaps in law enforcement and propose solutions to strengthen national and international legal responses. The benefits of this research include enhancing marine conservation efforts, improving law enforcement practices, supporting coastal communities by protecting their livelihoods, promoting international cooperation in maritime law enforcement, and increasing public awareness of legal compliance to ensure more sustainable use of marine resources.

Research Methods

This research follows a normative juridical study pattern, with a focus on examining the application of legal norms in positive law. This research specifically examines law enforcement in the case of illegal sea fences in Tangerang and Bekasi waters. Normative legal research, which is often referred to as doctrinal legal research, views the law as outlined in written laws and regulations (law in books), which is the benchmark for community behaviour, as well as in action (law in action), which reflects how the law functions in practice. These two aspects are interrelated, with the law in books aiming to work as expected in society. This research also uses a literature study approach as a source of research data. The literature study approach is a research method that relies on the study of written sources or literature relevant to the topic being researched. This approach aims to explore, review, and analyse information, theories, or results of previous research related to the problem being studied. In legal research, this approach is often used to understand and review legislation, legal doctrine, expert opinions, and court decisions relevant to the legal issues being analysed.

This research uses a statute approach and a case approach. The statutory approach involves the analysis of laws and regulations directly related to the central theme of the research, while the case approach helps to clarify the scientific analysis required to answer the research problems. The research design is structured as doctrinal research, in which normative legal materials are analysed, starting from the provisions of UNCLOS principles and Law No. 32/2014 on Maritime Affairs.

Results and discussion

Legal Status of The Sea Defences

Marine fences are typically structures designed to protect coastlines from erosion or manage the flow of sand and sediment. However, their legal status becomes problematic when these structures are built without valid permits,

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used for purposes such as illegal fishing, smuggling or extraction of marine resources (e.g. sand mining), or when they obstruct the natural flow of marine ecosystems. The legality of such structures therefore depends on their compliance with national maritime laws, such as Law No. 6/1996 on Indonesian Waters and Law No. 32/2014 on Marine, which set out the conditions under which coastal defences or structures can be built. If a seawall is constructed in violation of environmental regulations or without the necessary permits, it may be considered illegal under domestic and international law.

From an international perspective, illegal seawalls violate the principle of environmental protection under UNCLOS, which emphasises the obligation of states to protect and preserve the marine environment and biodiversity. Article 192 of UNCLOS mandates that states must take measures to prevent, reduce and control pollution of the marine environment, which can extend to unauthorised and destructive constructions such as illegal sea fences.

In addition, the precautionary principle under international environmental law suggests that the potential harmful effects of marine fences should be thoroughly assessed prior to installation, especially in sensitive ecosystems such as coral reefs, mangroves or fish breeding areas.

The cases of illegal sea fences in Tangerang and Bekasi involve violations of various regulations governing the management of coastal areas and marine resources. One of the main violations is against Law No. 27/2007 on the Management of Coastal Areas and Small Islands (jo. Law No. 1/2014), where the sea fence obstructs public access to the beach which should be a public space. In addition, this action violates Law No. 32/2009 on Environmental Protection and Management, especially if the installation of the fence damages marine ecosystems, such as coral reefs or marine biota habitats, without going through an environmental impact assessment (AMDAL) process. Furthermore, it also violates Law No. 26/2007 on Spatial Planning, as the illegal sea fences are not in accordance with the designated spatial layout, especially if the area is a conservation area or public space.

In addition to contravening national regulations, these illegal sea fences also violate Regional Regulations (Perda) governing the use of coastal areas, as they were installed without permission from the local government. Socially, these actions interfere with the rights of coastal communities, especially fishermen, who depend on access to the sea to make a living. Violators may be subject to various sanctions, including criminal sanctions in the form of fines and/or imprisonment, administrative sanctions such as dismantling fences and revoking permits, to the obligation to carry out environmental restoration if there is evidence of ecosystem damage. This case reflects the importance of stricter law enforcement to protect the rights of coastal communities and preserve the coastal environment.

Implications for Public Access, Marine Biodiversity and Economic Sectoral

The construction of illegal sea fences often has significant implications for public access to coastal and marine areas, as well as marine biodiversity. One of the main concerns regarding sea fences, especially those constructed illegally or without adequate regulatory oversight, is the restriction of public access to marine resources, including fishing grounds. Coastal communities and local fishers depend on unrestricted access to the ocean for their livelihoods, and any structures that block this access can severely impact their economic and social well-being. In the case of illegal sea fences in Tangerang and Bekasi waters, the encroachment of such structures in traditionally accessible areas not only restricts public access but also causes social conflict between legal and illegal users of marine resources.

In terms of marine biodiversity, the installation of illegal marine fences is a serious threat to the natural balance of coastal and marine ecosystems. These fences can disrupt the movement of aquatic species, alter sediment transport and damage vital habitats such as coral reefs, seagrass beds and mangroves. Blocking fish migration pathways, in particular, can lead to declines in fish populations, which can impact the entire marine food chain. Furthermore, the potential for habitat degradation increases when seawalls are used for unsustainable practices such as illegal sand mining or unauthorised fishing, which can further jeopardise the health of the marine environment and reduce biodiversity.

International environmental law, as articulated in UNCLOS, stipulates that coastal states should be responsible for the protection of marine biodiversity within their jurisdiction, including through the setting up of structures such as sea defences. States are obliged to ensure that any human activities, including construction and resource extraction, do not damage the marine environment, and they must adopt effective measures to mitigate potential damage. When sea fences are erected illegally or without adequate environmental considerations, they violate these obligations, contribute to the degradation of marine ecosystems and undermine the principles of sustainable resource management outlined in international law. The negative impacts on biodiversity and public access highlight the

urgent need for stricter enforcement of regulations governing coastal development and marine resource management to protect the environment and the livelihoods of local communities.

Illegal activities associated with sea fences, such as unregulated fishing, often lead to unfair competition for local fishers. While legal fishers follow regulations regarding catch limits and season restrictions, illegal operators using sea fences can exploit resources without such restrictions, leading to overfishing and further depletion of marine resources. This creates an unbalanced playing field where law-abiding fishers are at a disadvantage, struggling to compete with those who break the rules. The cumulative effect is a long-term decline in fish stocks and fishers' incomes, significantly undermining the economic security of coastal communities in the region.

The environmental impact of illegal sea fences in Tangerang and Bekasi is also concerning, as these structures can cause considerable damage to marine ecosystems. Marine fences, if built improperly or without environmental consideration, can disrupt coastal habitats, such as coral reefs, mangroves and seagrass beds. These ecosystems play an important role in maintaining biodiversity, stabilising shorelines and supporting marine life. Marine fences, depending on their material and construction, can block water flow, alter sediment distribution, and impede the movement of marine species, including fish and invertebrates that depend on open water for breeding and feeding.

In addition, the use of marine fences for illegal activities such as sand mining or unauthorised fishing can exacerbate environmental damage. Sand mining, for example, causes damage to vital seabed habitats and contributes to coastal erosion. Sand extraction without proper management and monitoring can destabilise coastlines, making them more vulnerable to the impacts of storms and rising sea levels. These activities not only damage the surrounding environment but can also have long-term consequences for marine biodiversity and the health of ecosystems that depend on a balanced and sustainable approach to resource use.

The case of illegal sea fences in Tangerang and Bekasi waters highlights a multi-faceted issue involving significant economic, environmental and social implications. The illegal structures disrupt the livelihoods of local fishermen, damage marine ecosystems, and contribute to social tensions and inequalities. Addressing this issue requires concerted efforts from local, national and international stakeholders to strengthen marine law enforcement, encourage sustainable practices and ensure that coastal communities have access to the resources they need for long-term prosperity and environmental stewardship.

Law Enforcement Challenges

One of the most significant challenges in addressing illegal sea fencing in Tangerang and Bekasi waters lies in the overlapping jurisdictional responsibilities at the local, national and international levels. Indonesia's maritime territory, as an archipelagic state under the United Nations Convention on the Law of the Sea (UNCLOS), covers a vast area, creating complexities in law enforcement related to coastal and marine resource management. While Indonesia has clear sovereignty over its territorial waters and exclusive economic zone (EEZ), law enforcement is complicated when activities such as illegal sea fencing occur near boundaries shared with other countries or involve transnational maritime crimes, such as illegal fishing or smuggling.

At the local level, law enforcement is often the responsibility of provincial or district governments, which may have limited resources and expertise in managing conservation or marine security. These local bodies may struggle to address illegal activities in remote or hard-to-reach areas, especially when sea fences are built in shallow waters or coastal zones. At the national level, Indonesia's Ministry of Marine Affairs and Fisheries, along with other government agencies such as the Marine Security Agency (Bakamla) and the Indonesian Navy, are tasked with enforcing laws relating to marine resource management, pollution control and illegal activities. However, these agencies may experience jurisdictional confusion when their roles overlap, leading to inefficient coordination and gaps in law enforcement.

Internationally, Indonesia is bound by international treaties such as UNCLOS, which outlines responsibilities for the protection of the marine environment and the management of transnational issues such as illegal fishing. However, the enforcement of UNCLOS relies heavily on the cooperation of different countries and international bodies, such as the International Maritime Organisation (IMO). In the case of illegal maritime fencing that may involve activities beyond national borders, such as smuggling or illegal fishing by foreign vessels, the lack of coordinated enforcement across jurisdictions becomes even more apparent. Maritime boundary disputes, especially in overlapping EEZ areas, can further complicate the application of international law, leading to delays or lack of accountability in enforcement.

Overlapping jurisdictions-local, national and international-are a major obstacle to effective law enforcement in Indonesian waters. To address these issues, a clearer division of responsibilities, improved inter-agency

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coordination and greater international cooperation are essential to close enforcement gaps and ensure compliance with national and international laws of the sea.

Institutional Weaknesses: Law Enforcement Agencies and Resource Constraints

Institutional weaknesses are another significant barrier to effective law enforcement against illegal sea fencing in Tangerang and Bekasi waters. Although Indonesia has several key agencies responsible for maritime law enforcement, including Bakamla, the Indonesian Navy, and the Ministry of Maritime Affairs and Fisheries, these agencies often face resource constraints that hamper their ability to respond effectively to illegal activities. Limited funding, inadequate personnel and lack of specialised training are persistent challenges that undermine the capacity of these agencies to deal with illegal sea-fencing operations.

In addition to resource constraints, law enforcement agencies often face institutional fragmentation and a lack of inter-agency coordination, which hampers the effectiveness of enforcement efforts. The overlapping responsibilities of different agencies and their varying levels of expertise in maritime law create confusion and delays in taking action. In addition, some agencies may not have a clear mandate to enforce certain aspects of maritime law, such as environmental protection or coastal resource management, leading to inconsistencies in enforcement. The absence of a unified enforcement strategy also makes it difficult to monitor illegal activities such as the construction of sea fences and illegal fishing or sand mining operations.

In addition to human resources and coordination challenges, law enforcement agencies also face institutional weaknesses in terms of legal authority. In some cases, there are gaps in the legal framework governing maritime activities, especially when it comes to modern issues such as illegal sea fencing. Law enforcement related to coastal development, marine conservation and sustainable use of marine resources may lack the necessary legal clarity or up-to-date provisions to effectively address emerging threats. This legal uncertainty can delay enforcement actions or make it difficult for agencies to prosecute offenders, further exacerbating the problem of illegal sea fencing.

Limited resources and institutional fragmentation, combined with a lack of specialised training and legal authority, are therefore significant challenges to effective law enforcement in illegal sea fencing cases. To address these weaknesses, Indonesia needs to invest in strengthening its maritime law enforcement institutions through increased funding, capacity building and improved inter-agency collaboration. This should also include providing legal clarity and updating maritime laws to ensure that they can address the modern challenges posed by illegal activities such as sea fencing. Improved institutional coordination and strengthened capacity to enforce maritime laws will be key to addressing the issue of illegal sea fencing in the region.

Conclusion

Law enforcement in the illegal sea fencing case study demonstrates significant challenges in governance and environmental protection. While there is a legal framework intended to protect the coastal environment and local communities, enforcement of these laws remains inconsistent and ineffective. One of the main problems is the weak implementation of regulations, mainly due to limited resources, lack of coordination between different government agencies, and unclear jurisdictional boundaries. These factors hinder effective law enforcement and allow illegal activities to continue. In addition, there is a lack of accountability, as violators of illegal sea fences are rarely punished, resulting in continued disruption to coastal ecosystems and the livelihoods of local communities.

The study also revealed that current laws do not fully address the complexity of the problem, such as the wider environmental impacts of sea fences and the economic impact on the region. Furthermore, neither local communities nor law enforcement agencies have the capacity to monitor and regulate all cases of illegal sea fences, which exacerbates the problem. Ultimately, the findings emphasise the need for stronger enforcement mechanisms, clearer regulations and better coordination among stakeholders. A more integrated approach, involving local communities alongside the government, is essential to effectively tackle illegal sea fences and protect the environment and livelihoods of local residents.

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