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Indre Isokaite, *Dr. iur., Associate Professor*
Vilnius University, Faculty of Law, Lithuania

PROTECTING STATE'S CRITICAL MARITIME INFRASTRUCTURE FROM HYBRID THREATS

Key words: critical maritime infrastructure, State's undersea infrastructure, undersea cables and pipelines, hybrid threats, shadow fleet

Summary

The article explores basic challenges of the law of the sea to protect critical maritime infrastructure from hybrid threats. The research aims at a comprehensive analysis of the rights and jurisdiction of a coastal state, a flag state and other states in each of maritime zones in the area of critical undersea infrastructure with the aim to identify difficulties to take measures in response to injuries of such infrastructure caused by "shadow fleet" ships and to propose possible solutions to address such risks. Measures which would be available or effective in such cases are limited because of the lack of regulation of undersea infrastructure in the 1982 Law of the Sea Convention, limited coastal states' rights to board, intercept or start investigation in such cases beyond the limits of its territorial sovereignty, lack of suitable grounds in domestic law to be invoked in order to start and complete proceedings effectively, difficulties in establishing the violation and proving accountability, moreover, attributing it to a particular state, which in "shadow fleet" cases is often a flag of convenience, unwilling (or unable) to assume its flag state's jurisdiction. Taking the complexity of the factors underpinning the cases of disruption of state's critical maritime infrastructure and the limitations enshrined in the zone-based and jurisdiction-based character of maritime zones into account, the article concludes that the response should be multilayer, comprehensive and coordinated. Legal issues as regards developing proactive and unanimous interpretation of relevant rules and improving domestic legislation should go in hand with practical dimension – surveillance, trainings, military presence (deterrence), building resilience and strengthening protection. Coastal states should seek to invoke their prescriptive and enforcement jurisdiction to a maximum extent: in internal sea waters and territorial sea coastal states' rights are widest as they derive from a territorial sovereignty, in the exclusive economic zone and the continental shelf sovereign rights apply in respect of underwater critical infrastructure and should be interpreted as allowing action in defined fields (navigation, environment), however, a coastal state does not have unlimited rights of interdiction, instituting proceedings and implementing accountability in respect of a foreign vessel the state of which in many cases related to the alleged injuries of undersea infrastructure holds primary jurisdiction. In addition, states may ground their rights on the articles providing for jurisdiction in cases of environment protection or rely on necessity. Action on a domestic level should be strengthened

by international cooperation, processes and institutions that such international frameworks provide. At NATO, information sharing, trainings and overall deterrence shall be emphasized, although the alliance lists disruption of critical infrastructure among hybrid threats, which in an extreme case could even amount to consideration of invocation of a collective self-defence. At the EU, different measures aimed at capacity building and cooperation have been adopted for maritime security and protection of critical infrastructure in addition to application of sanctions. International Maritime Organisation explicitly indicated the threats posed by "shadow fleet" ships among global challenges to maritime safety and strengthening compliance with established shipping standards and the rules of jurisdiction is what must be further pursued.

Introduction

Lasting Russia's aggression against Ukraine is the most explicit example of a full-scale war, which is conventional, involving usual military tactics and weapons, but also hybrid, involving use of proxies, propaganda, among other means. Both types of this war are also lasting on the maritime domain: in addition to mining sea waters, attacking military vessels and blocking seaports, there is also involvement of one more silent belligerent – the so called "shadow fleet".[1] The passage of such ships, often behaving at sea (or even constructed as regards their intended service), unusually, considering the route or purpose of their voyage, carrying the flags of convenience, often leaves undersea infrastructure injured causing the risk of interruption of the provision of critical communication and energy transmission services. Such incidents and states' attempts to respond to them reveal challenges and lack of clarity as regards the measures at their disposal to address these threats.

In recent years, dozens of incidents of injuries or cutting undersea infrastructure at the Baltic Sea have been registered. Under often repeated statistics, more than 90% of global data flow is transmitted through undersea cables, therefore called "invisible highways".[2] For example, in 2025 Finland seized a ship sailing from Russia for injury of the cable between Finland and Estonia, a cable between

[1] "Shadow fleet" – also referred to as "dark fleet" or "ghost fleet" – describes a specific type of illegal maritime activity carried out by states to evade sanctions, improve their economies, and broadly disrupt the international order. Vassort I. Combating Maritime Insecurity: EU and NATO's strategic role against shadow fleet in the Indo-Pacific. 26 January 2026. Available: https://www.isdp.eu/combating-maritime-insecurity-eu-and-natos-strategic-role-against-shadow-fleet-in-the-indo-pacific/ [last viewed 12.02.2026].

[2] Undersea cables and pipelines may be injured by intentional and unintentional human activities, fishing, natural disasters and other factors. "There are typically 150 to 200 cable incidents each year, averaging about three to four per week", about / up to 80% are caused by human activities (fishing, anchors)". Invisible highways: the vast network of undersea cables powering our connectivity. Available: https://news.un.org/en/story/2026/02/1166867 [last viewed 12.02.2026]. Similar factors causing injuries are indicated by the International Cable Protection Committee. First Global Assessment of Environmental Considerations. 11 December 2025. Available: https://www.iscpc.org/news/ [last viewed 12.02.2026].

Finland and Germany was also cut and the one between Lithuania and Finland.[3] Most recently, in January 2026, Latvia reported having started investigation under the criminal code for intentional damaging or cutting subsea electric cable.[4] The series of explosions of a Nord Stream gas pipeline in 2022 is perhaps mostly surrounded by different interpretations. Despite public opinion expressed by state representatives or declarations at international forums and general depiction of such incidents, including the assessment of experts, as intentional,[5] there has been lack of proving attribution of a particular state or accountability in general.

This article aims to provide a comprehensive and systematic analysis of basic limitations enshrined in the law of the sea to respond to risks posed by "shadow fleet" ships to a state's undersea critical infrastructure[6] and to propose means to address them. Firstly, the rights, duties and jurisdiction as regards undersea cables and pipelines in different maritime zones are analysed and basic limitations are highlighted in the context of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and its interpretation. Secondly, measures taken by states on international level, mainly, NATO and the European Union (EU), as well as International Maritime Organisation (IMO), are explored. Thirdly, some key issues of enforcement to be taken at domestic level is generally addressed. The research, however, does not intend to encompass all possible scenarios which damaging undersea critical infrastructure might (in some rare cases) amount to, such as piracy, use of force, etc.

The research is based on a systematic analysis, doctrinal analysis and research of case law, comparison, critical approach and assessment-description are also needed, for clarification of a true meaning of treaty provisions methods for treaty interpretation are invoked (the aim, parties' intentions, etc.). Systematic analysis serves for the main aim of providing a comprehensive research, based on comparison and interpretation of treaty provisions, state practice and instruments of international organisations and taking relevant developments into account.

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[3] Finnish police seize ship suspected of sabotaging undersea cable. BBC, 31 December 2025. Available: https://www.bbc.com/news/articles/c62040np372o [last viewed 12.02.2026].

[4] Owner expects to repair damaged Lithuania-Latvia undersea cable within weeks. LRT, 5 January 2026. Available: https://www.lrt.lt/en/news-in-english/19/2797314/owner-expects-to-repair-damaged-lithuania-latvia-undersea-cable-within-weeks?srsltid=AfmBOoo5W9v8K15NB9gby8sYud-dHDZUhmYK1PlVJSGC0Ir0KbaQZzEQ [last viewed 12.02.2026].

[5] International surveys and individual researches have listed dozens of such incidents, for example: Milmo D. Wire cutters: how the world's vital undersea data cables are being targeted. Available: https://www.theguardian.com/world/2024/nov/22/wire-cutters-how-the-worlds-vital-undersea-data-cables-are-being-targeted [last viewed 12.02.2026].

[6] Mostly focusing on undersea cables for transmission of electricity and internet and gas pipelines, as there are some peculiarities in respect of each type of sea infrastructure and installations that fall outside the scope of this article.

1. "Navigating" under the Law of the Sea Convention

In this section, the term "navigating" is used symbolically, with no intention to limit the analysis of UNCLOS provisions to this issue, although fundamental for the topic of this article, as a right and freedom of navigation, which has evolved through centuries and developed as customary law, usually prevails over a coastal state's interference, but to emphasize difficulties to address "shadow fleet" enshrined in the nature of UNCLOS, which was adopted in a different security environment and another stage of technology development. As stated by A. Lott, "the drafters of the UNCLOS granted hardly any protection to underwater infrastructure. Submarine pipelines and power cables as well as telecommunications cables that carry 95 to 99% of intercontinental data flows were left unprotected from intentional or accidental damage".[7] Other authors also acknowledge a broad freedom of building submarine cables and pipelines and limited room for enforcement: "firm parameters for the measures that States can take on an individual basis to protect such infrastructure"[8].

The limits of maritime zones define the extent of the allowed or prescribed powers of states – rights, duties and jurisdiction (prescriptive or legislative and enforcement, adjudicative can be listed separately). In addition to the following key factors – the location of a foreign vessel, undersea infrastructure or occurrence of injury (also consequences) and a particular field at issue (area, for example, environment protection or situation, such as vessel collision), the rules of jurisdiction define exclusive, priority or conflicting rights of certain degree of interference by a flag state, a coastal state or particular states (e.g. of a citizenship, etc.). This is the general UNCLOS landscape which applies in respect to the "shadow fleet" ships and undersea infrastructure leaving ambiguities and definitely demanding interpretation.

Sovereignty characterises the legal regime of the internal sea waters and territorial sea[9] with the exceptions of, accordingly, flag state's jurisdiction's priority at seaports and innocent passage through territorial sea. UNCLOS is silent on undersea cables and pipelines in these maritime zones,[10] however, legal doctrine and case law confirm a coastal state's right to construct infrastructure, ensure its protection and seek liability for damage caused. So the right of prescriptive and enforcement jurisdiction arises from sovereignty and is based on the territorial principle extending to the outer limit of the territorial sea. Contiguous zone's

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[7] Lott A. Unconventional Legal Approaches to Protecting Underwater Infrastructure. The Hague: The Hague Centre for Strategic Studies, 2025, p. 1.

[8] Ratcovich Leopardi M. Critical Perspectives in the Law of the Sea – The Regulation of Underwater Infrastructure as an Example of Facilitation and Limitation in Parallel. In: Klamberg M., Svanberg K., Ronnelid L. (eds.). Reconstructing Power and Hegemony in Public International Law. The Hague: T.M.C. Asser Press, 2026, p. 84. https://doi.org/10.1007/978-94-6265-743-4_5

[9] UNCLOS Article 2.

[10] UNCLOS Paragraph 4 of Article 79.

regime[11] is less relevant in current case: disruption of infrastructure in this area would mostly fall under the regime of the exclusive economic zone with which the contiguous zone overlaps.

Coastal state holds sovereign rights and defined jurisdiction in its exclusive economic zone. Sovereign rights are granted "for the purpose of exploring and exploiting, conserving and managing the natural resources" and "with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds",[12] so may be interpreted as allowing construction related with living or natural resources, building wind power plants and other installations or safety zones across them and ensuring compliance. The list of areas of coastal state's jurisdiction explicitly lists the establishment and use of artificial islands, installations and structures,[13] marine scientific research, the protection and preservation of the marine environment, but the list is not exhaustive.

Over the continental shelf a coastal state exercises sovereign rights for the purpose of exploring it and exploiting its natural resources[14] and shall take "reasonable measures for the prevention, reduction and control of pollution from pipelines".[15] Although "the rights of the coastal state over the continental shelf do not affect the legal status of the superjacent waters",[16] its regime is related with the exclusive economic zone as, for example, building of lighthouses, artificial islands, wind power plants stretches from the seabed to the surface as well as some constructions related with undersea cables and pipelines (maintenance platforms, safety zones, etc.).

On the high seas ships enjoy freedom of navigation and a flag state is responsible for its ships' compliance with international navigation standards,[17] including the duty not to injure infrastructure. A specific provision calling for making injury of cables and pipelines a punishable offence also establishes this as a duty of a flag state.[18] In specific situations there are explicit rules for jurisdiction, for example, penal jurisdiction in matters of collision or any other incident of navigation where jurisdiction of a flag state or a state of nationality applies.[19] Other provisions allow coastal states to inspect foreign ships in cases of pollution,[20] however, injury of cables would hardly amount to such consequences in the way gas pipelines would.

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11 UNCLOS Article 33.

12 UNCLOS Article 56.

13 Undersea cables and pipelines are not listed here, but the right to build such type construction derives from other UNCLOS provisions, mainly the continental shelf.

14 UNCLOS Paragraph 1 and Article 77.

15 UNCLOS Paragraph 2 of Article 79.

16 UNCLOS Paragraph 1 of Article 78.

17 UNCLOS Article 94.

18 UNCLOS Article 113.

19 UNCLOS Article 97.

20 UNCLOS Article 221, 112, etc.

Some grounds for defined extent of interference (boarding, interception, arrest or instituting proceedings) may be found in another conventions.[21]

International courts and tribunals have adopted some case law interpreting UNCLOS provisions which might be relied on in unclear cases of coastal state's rights. Moreover, they have even been called to interpret certain elements of hybridity on a maritime domain. For example, in the Case Concerning the Detention of Three Ukrainian Naval Vessels hybridity may be seen in overlap of time (peace and war), subjects acting (naval and civil) and mode of conduct (Russian Coast Guard ships stopping Ukrainian ships calling their home seaports in the area of Ukraine's sovereignty occupied by Russia). International Tribunal for the Law of the Sea (ITLOS) stated: "the traditional distinction between naval vessels and law enforcement vessels in terms of their roles has become considerably blurred".[22] Coastal state's jurisdiction in the exclusive economic zone could be asserted on the ground of vital national interests and plea of necessity. In the Arctic Sunrise Arbitration, the Arbitral Tribunal clearly indicated action to prevent dangerous situations that can result in injuries to persons and damage to equipment and installations, delay or interruption in essential operations, as well as violations of its laws adopted in conformity with UNCLOS and negative environmental consequences, as legitimate interests of coastal states.[23]

2. "Shadow fleet" at a glance of international organisations: NATO, EU and IMO

Disruption of undersea cables and pipelines threatens provision of critical state services, endanger maritime safety and security and undermine regional security and stability. Unsurprisingly, having faced such threats states raised concerns at both, NATO and the EU, also IMO. As acknowledged by NATO Secretary General M. Rutte, NATO and the EU are "really unique partners" which

[21] The relevance of the high seas regime and international seabed area is limited in cases of "shadow fleets" in Baltic Sea, as almost all sea falls under maritime zones of states. Just as an example, the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA) and its 2005 Protocol provides for certain acts (the discharge of explosives or use of a ship that result in a death or serious injury or damage), however, authorization of a flag state is required to board the foreign vessel (Article 8bis(5)(c) of the Protocol 2005). 1884 Convention for the Protection of Submarine Telegraph Cables applies outside territorial waters and might be invoked to board a foreign vessel under established circumstances.

[22] Para. 64. ITLOS further noted that "it is not uncommon today for States to employ the two types of vessels collaboratively for diverse maritime tasks" and in Para 110 declared that "any action affecting the immunity of warships is capable of causing serious harm to the dignity and sovereignty of a State and has the potential to undermine its national security." Order of 25 May 2019 in the Case concerning the detention of three Ukrainian Naval Vessels.

[23] Para. 327.

share interests and can do more together.[24] Recently international cooperation has seen more polarisation and fragmentation, geopolitical shifts have fostered states to individualise areas of aligning common interests invoking the advantages of and retaining the cooperation framework, even if some states are hesitating or reluctant to contribute to the values international organisation was established for. IMO listed "shadow fleet" "or "dark fleet" in addition to maritime security and decarbonisation among key global challenges on its Agenda 2025.[25]

Attacks on undersea critical infrastructure are classified by NATO among hybrid threats such as sabotage and propaganda and already for some 10 years NATO has been developing tools for response to hybrid activities having declared that they may even reach the threshold of Article 5 of NATO Treaty.[26] However, only high-scale attacks (hybrid, cyber) causing extremely severe consequences may call for considering the collective self-defence and this has not been an issue at least so far, in response to "shadow fleet" activities, NATO has mostly focused on such means as deterrence, training and developing resilience in maritime domain, which remains among priorities of action in order to maintain peace and security. This challenge has not emerged only recently, it was known years ago and is likely to remain in the future. As noticed in NATO 2030 report, "assertive Russian behavior has intensified in the High North and North Atlantic, with air and naval build ups in and around key maritime chokepoints in the Barents, Baltic, and Black seas, and the Mediterranean. In the last three of these, Russia has placed anti-access/area-denial (A2AD) capabilities, expanded hybrid warfare, and threatened energy and critical infrastructure".[27]

NATO not only serves as a political framework and a platform for consultation, but also provides a coordinated action needed – a range of maritime security operations and activities: Critical Undersea Infrastructure Coordination Cell, NATO-EU Task Force and NATO'S Critical Undersea Infrastructure Network

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[24] Remarks by NATO Secretary General Mark Rutte. NATO, 26 January 2026. Available: https://www.nato.int/en/news-and-events/events/transcripts/2026/01/26/remarks-by-nato-secretary-general-mark-rutte-at-the-meeting-of-the-european-parliaments-committee-on-security-and-defence [last viewed 12.02.2026]. EU-NATO cooperation is also witnessed by the EU-NATO Task Force on the Resilience of Critical Infrastructure Final Assessment Report of June 2023 (available: https://commission.europa.eu/system/files/2023-06/EU-NATO_Final%20Assessment%20Report%20Digital.pdf [last viewed 01.03.2026]), where parties agree on certain recommendations and to take joint action.

[25] Dark fleet, decarbonization and geopolitical pressures remain top maritime focus areas in 2025. International Maritime Organisation, 15 January 2025. Available: https://www.imo.org/en/mediacentre/pressbriefings/pages/dark-fleet-decarbonization-geopolitics-top-maritime-focus-areas.aspx [last viewed 12.02.2026].

[26] Countering Hybrid Threats. NATO, 29 January 2026. Available: https://www.nato.int/en/what-we-do/deterrence-and-defence/countering-hybrid-threats [last viewed 12.02.2026].

[27] NATO 2030: United for a New Era. Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General. 25 November 2020. Available: https://www.ndc.nato.int/nato-2030-united-for-a-new-era-a-digest/ [last viewed 12.02.2026].

were established in 2023–2024.[28] In 2025, following incidents at the Baltic Sea cutting undersea critical infrastructure in December 2024, NATO launched Baltic Sentry as a comprehensive multi-domain activity in order to increase NATO's military presence and improve abilities to identify and respond to destabilising acts.[29]

Security has become a key issue for the EU and trespasses its policies and different areas – a comprehensive approach linking related areas, such as navigation, environment, economy, security characterises EU maritime regulation. In the field of countering threats posed by "shadow fleets", the following instruments should be emphasized. EU Maritime Security Strategy[30] is an "umbrella" for a closer collaboration within EU dealing with challenges on maritime domain and upholding rule-based international legal order as well as fostering international cooperation with likeminded countries, regional and international organisations and provides for maritime security exercises, maritime domain awareness, increasing resilience and better preparedness to respond to risks. EU Critical Entities Resilience Directive[31] defines critical entities[32] and creates a framework to ensure they are able to prevent disruptive incidents (ranging from natural hazards to sabotage) or recover from them, monitor and protect critical maritime infrastructure and ships from physical and cyber threats.

Following Russia's aggression against Ukraine the EU has accelerated the imposition of sanctions which used to be called unprecedented and cover a range of fields and subjects. The 20th sanctions package launched by the European Commission which lists 43 more vessels as part of the "shadow fleet" increases the list to 640 ships in total. Although insufficient to stop the war and often criticised as not strict enough, sanctions remain among the key tools at the disposal of the EU to target Russia's potential to further wage the war. Attempts are made to decrease Russia's abilities to acquire tankers to be used for the "shadow fleet", to limit provision of services for such ships, etc.[33]

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[28] NATO's maritime activities. NATO. Available: https://www.nato.int/en/what-we-do/operations-and-missions/natos-maritime-activities [last viewed 12.02.2026].

[29] Baltic Sentry. NATO. Available: https://shape.nato.int/operations/operations-and-missions/baltic-sentry [last viewed 12.02.2026].

[30] 10.3.2023, JOIN (2023) 8 final, European Commission, Joint Communication on the update of the EU Maritime Security Strategy and its Action Plan, "An enhanced EU Maritime Security Strategy for evolving maritime threats". Available: https://oceans-and-fisheries.ec.europa.eu/document/download/7274a9ab-ad29-4dae-83fb-c849d1ca188b_en?filename=join-2023-8_en.pdf [last viewed 12.02.2026].

[31] Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC (Text with EEA relevance) PE/51/2022/REV/1. OJ L 333, 27.12.2022, pp. 164–198.

[32] Article 2 provides that "critical entity" means a public or private entity which has been identified by a Member State in accordance with Article 6 as belonging to one of the categories set out in the third column of the table in the Annex.

[33] European Commission puts forward 20th package of sanctions against Russia. 9 February 2026. Available: https://euneighbourseast.eu/news/latest-news/european-commission-puts-forward-20th-package-of-sanctions-against-russia/ [last viewed 12.02.2026].

The EU and its Member States have also expressed their commitment to UNCLOS, including importance to follow its provisions and noted that UNCLOS provides a wide range of measures allowing to take action in response to threats posed by "shadow fleets".[34]

IMO does not apply sanctions, but its activities and policies are affected by and in line with them. Leading in establishment of global maritime safety standards and seeking adherence to them, IMO has referred to risks posed by "shadow fleets" in its resolution and provided a definition: "shadow feet" or "dark fleet" ships are ships engaging in illegal operations for the purposes of circumventing sanctions or engaging in other illegal activities.[35] Flag states bear primary responsibility to ensure their ships meet established standards and port state control allows coastal states to verify this compliance. Still, IMO is a key player in supporting states to fight fraudulent activities and deceptive practices and seek compliance with maritime safety standards: from urging universal participation in IMO conventions to strengthening their enforcement are among measures that IMO calls for.

Member States of NATO, the EU and IMO have also developed their cooperation on a regional level. For example, Memorandum of understanding on the protection of critical undersea infrastructure in the Baltic Sea was signed among Baltic states and the European Union,[36] where parties agreed to better monitor, prevent incidents, address sabotage, recover damages, develop undersea monitoring and repair capabilities, collaborate and coordinate and exchange best practices. International cooperation demands coordination of many interests and in different sectors: "integrating the different sectors and related policy fields is difficult to achieve and presents an enormous coordination challenge on a national but also regional level".[37]

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[34] Paragraph 9 of the Declaration of the European Union and its Member States of 15 December 2025 No. 16829/25 on making full use of the international law of the sea framework relating to threats from the "shadow fleet" and to the protection of critical undersea infrastructure provides that "international law permits States to take enforcement action in a number of scenarios potentially relevant to the protection of critical undersea infrastructure, including but not limited to Articles 21, 73, 110, 111, 220 and 221 of UNCLOS, as well as Article X of the 1884 Paris Convention for the Protection of Submarine Telegraph Cables, where applicable".

[35] International Maritime Organisation. Resolution A 33/Res.1192 A.1192(33) of 6 December 2023, Urging Member States and all Relevant Stakeholders to Promote Actions to Prevent Illegal Operations in the Maritime Sector by the "Dark Fleet" or "Shadow Fleet".

[36] Memorandum of Understanding among The Government of Denmark, the Government of the Republic of Estonia, the Government of the Republic of Finland, the Government of the Federal Republic of Germany, the Government of Iceland, the Government of the Republic of Latvia, the Government of the Republic of Lithuania, the Government of the Kingdom of Norway, the Government of Republic of Poland, the Government of Sweden and the European Union of 16 May 2025.

[37] Bueger C., Liebetrau T. Critical maritime infrastructure protection: What's the trouble? Marine Policy, Vol. 155, 2023, Article 105772. https://doi.org/10.1016/j.marpol.2023.105772

3. A few implications at a domestic level

Risks posed by "shadow fleets" are multifaceted and demand comprehensive response both, on international and domestic level. Although states have activated mechanisms and procedures at NATO, the EU and IMO, so far there have been more difficulties than effective solutions when dragging anchors, cutting cables or causing similar injuries to undersea infrastructure called states to act. Experts and politicians often referred to unclear regulation under UNCLOS, ambiguities left in its interpretation, loopholes in domestic law, limitations of the rights of countries other than a flag state to take enforcement action in respect of "shadow fleet" ships among other challenges. However, in the words of M. Rutte, "within the legal framework, there are ways to intervene".[38]

Territorial jurisdiction and sovereignty that coastal state enjoys allow to take broadest range of measures, such as port state control, regulation of innocent passage (which might establish specific requirements for navigation referring to undersea critical infrastructure), enforcement of sanctions, implementing jurisdiction in respect of foreign vessels, including criminal,[39] etc. In the exclusive economic zone and continental shelf, the rights to intercept or board a foreign vessel and start investigation mostly depend on the location of the vessel and occurrence of the incident (or consequences), the field and situation under which the incident can be classified (navigation (collision) or environment (pollution), etc.) and other circumstances. Even when coastal states took measures at initial stage, for example, made orders to comply with navigation route or even boarded the foreign vessel, further proceedings usually faced limitations and were terminated. For example, Finland has instituted proceedings in the case involving the tanker *Eagle S* for cutting undersea cables, however, the Helsinki District Court dismissed the charge as it was not possible to apply Finnish criminal law.[40]

States define criminal offences in their domestic law differently (sabotage, damage to state property, etc.), but they cannot be applied in all cases due to limited territorial scope of application or the need of proving intentional conduct or other reasons. Although excessive reliance on the introduction of new criminal offences to solve all "shadow fleet" problems is misleading, the relevance of the development and continuous review of national legislation as making an important contribution to the prevention and control of maritime fraud should be acknowledged.[41] Coastal states should be more brave or creative relying on a broader interpretation of UNCLOS provisions related with their sovereign rights and jurisdiction in respect

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[38] Remarks by NATO Secretary General Mark Rutte. 26 January 2026. Available: https://www.nato.int/en/news-and-events/events/transcripts/2026/01/26/remarks-by-nato-secretary-general-mark-rutte-at-the-meeting-of-the-european-parliaments-committee-on-security-and-defence [last viewed 12.02.2026].

[39] Subject to restrictions under UNCLOS Article 27.

[40] Finland dismisses case over Baltic cable cuts. Euractiv, 2025. Available: https://www.euractiv.com/news/finland-dismisses-case-over-baltic-cable-cuts/ [last viewed 12.02.2026].

[41] IMO Resolution A 33/Res.1192 A.1192(33) of 6 December 2023 (preamble).

of foreign vessels (in particular when the state of the latter fail to implement their flag state duties). "Protecting critical maritime infrastructure from hybrid threats requires a proactive and multi-faceted approach. The availability of robust legal authorities and close cooperation across what is a fragmented jurisdictional landscape are key".[42]

Much should be done on a practical level – exercises, deploying surveillance and sensing technologies, using drones, increasing physical protection and patrolling and in other ways strengthening awareness, resilience and response. Flag state's duties compliance shall be fostered by all states fighting the challenges posed by "shadow fleets" which rely on fraudulent registration and other deceptive practices distorting the true understanding of a flag state's responsibilities, historically perceived through a genuine link. Combining all tools could create a "coordinated pressure" making the Baltic Sea "inhospitable to Russia's illegal and dangerous maritime practices", in particular for Baltic and Nordic countries which are "uniquely positioned to act" as they "possess exceptional maritime domain awareness, capable coast guards and navies, and dense legal and regulatory ecosystems".[43]

Invoking various coordinated and harmonised measures by different actors and on separate levels could contribute to a more effective response.[44] "Improved monitoring and surveillance capabilities, protection and repair capabilities, stronger interagency cooperation and coordination, and robust regional mechanisms and partnerships" are among often proposed tools.[45]

Conclusions

Attacks on state's critical maritime infrastructure raise legal concerns and practical challenges as they threaten the provision of vital state services of communication and energy transmission. Difficulties to take measures against "shadow fleet" ships and respond to threats posed by them effectively are stipulated

[42] Sari A. Protecting maritime infrastructure from hybrid threats: legal options. Hybrid CoE Research Report No. 14, March 2025. Available: https://www.hybridcoe.fi/wp-content/uploads/2025/03/20250306-Hybrid-CoE-Research-Report-14-web.pdf [last viewed 12.02.2026], p. 36.

[43] Justina Budginaite-Froehly. The US is taking action against Russia's shadow fleet. In the Baltic Sea, Europe should follow suit. Atlantic Council, 22 January 2026. Available: https://www.atlanticcouncil.org/dispatches/the-us-is-taking-action-against-russias-shadow-fleet-in-the-baltic-sea-europe-should-follow-suit/ [last viewed 12.02.2026].

[44] For example, review of domestic legislation and development of harmonised regulation, establishment of cooperative mechanisms, subsea cable security and resilience in national preparedness and crisis response planning are proposed among other measures by C. Kavanagh, J. Franken, and W. He. Achieving Depth: Subsea Telecommunications Cables as Critical Infrastructure. Geneva: UNIDIR, 2025, p. 9.

[45] Chan J., Lim N. Protecting Critical Undersea Infrastructure. Accelerating the Momentum in ASEAN. IDSS Paper, 11 March 2026, p. 3.

by limited regulation of undersea critical infrastructure in UNCLOS which was adopted in a different from current international environment and mainly follows maritime zone-based and jurisdiction-based approach. Even if an injury of such infrastructure is established (at a real time), a coastal state's right to intercept or board the foreign vessel much depends on the consequences caused, the location of the vessel and other factors; and if a state proceeds with boarding and arresting the vessel and crew, it may face obstacles in pursuing the legal proceedings due to failure to prove intentional conduct, attribution to a particular state, etc.

Disruptive practices targeting critical maritime infrastructure cause a global concern. States should further combine their efforts making use of procedures, instruments and powers vested in the international organisations, such as NATO, the EU and IMO. Each acting within the limits of its mandate, they still have much in common. NATO perceives attacks on states' critical maritime infrastructure as hybrid threats and has developed a range of activities and tools allowing for a multi-domain action in response to threats posed by "shadow fleets" (military presence (deterrence), exercise, situational awareness, monitoring, etc.). "Shadow fleets" are also at a glance of the EU as their activities fall within a comprehensive concept of the EU maritime security. EU should provide for politically consented and practically enabled means aimed at strengthening the protection of critical infrastructure, identifying the injuries, keeping awareness, training response and uniting action. The sanctions imposed by the EU should further tackle Russia's capabilities to wage the war in Ukraine and limit its potential to use "shadow fleets" for its interests. IMO plays a leading role in fostering a global compliance with flag state responsibilities which is key in ensuring maritime safety and security.

Ambiguities left by UNCLOS provisions should not be perceived as limitations for states to take action in respect of "shadow fleet" ships. Coastal states' legislative and enforcement jurisdiction within its territorial sovereignty (internal sea waters and territorial sea) is comprehensive and limited only in cases provided for by UNCLOS. Beyond this area (in the exclusive economic zone and the continental shelf) costal states should take a proactive action in broadly interpreting their sovereign rights and jurisdiction under UNCLOS in a contemporary context as encompassing their legitimate rights to take action in order to enforce domestic regulation adopted in line with UNCLOS, to protect a state's vital interests, etc. On the high seas the allowed extent of intervention of states other than a flag state may be limited, however, states should develop a unified practice in taking all measures allowed under international law to address "shadow fleet" ships, which are usually sanctioned, the states of which fail to assume jurisdiction and disregard their flag state's duties. In updating their domestic maritime laws, states should explore the scope provided by UNCLOS, including regulation of innocent passage and navigation near critical infrastructure (or safety zones), take certain measures for pollution prevention, rely on a plea of necessity, on their international obligations outside UNCLOS (for example, EU sanctions regime), customary law or case law. Modern maritime security context will further demand an innovative and a more comprehensive

approach which would better reflect the realities and global trends in maritime domain and will develop guided by state practice and case law.

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