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Safety Issues Turned Security Risk: Substandard Vessels as a Threat to Maritime Security in the Baltic Sea

Recommendations for Action to the German Government

1 Introduction

The increasing presence of 'shadow fleet' vessels and their use in 'substandard shipping' – a long-known phenomenon – mark a dangerous development for global maritime safety and security in the 21st century. Two recent incidents demonstrate the urgency of resolving this issue: In February 2024, the Russian oil tanker *EVENTIN*, presumably part of a shadow fleet transporting (crude) oil of Russian origin, lost control and manoeuvrability off Sassnitz, a port city located on the German island of Rügen. At the time, it was carrying around 100,000 tons of crude oil, thus risking a potential maritime crisis directly off the German coast. While this accident fortunately did not result in any damage to the marine environment, a much more serious incident occurred in the Black Sea just a few months later in December 2024 when the Russian tankers *WOLGONEFT 212* and *WOLGONEFT 239* collided, causing significant oil spills. What would happen if such a vessel was damaged – or even sank – in the ecologically vulnerable Baltic Sea? Such a major incident would not only impact a short stretch of coastline, but would quickly affect significant parts of the sensitive inland sea with 'disastrous effects on the vulnerable nature of the area'.[1] An accident involving an Aframax tanker[2] carrying an average of 100,000 tons of oil would likely severely affect

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1 Cf. Marine Environment Protection Committee (MEPC).136(53): Designation of the Baltic Sea Area as a Particularly Sensitive Sea Area, IMO Environment Protection Committee, Resolution Adopted on 22 July 2005, Annex 1, 2.2.

2 The term 'Aframax tanker' is based on the Average Freight Rate Assessment – AFRA for

the entire Baltic Sea and its coasts. To get an idea of the possible extent of pollution, one only needs to look at the sinking of the *PRESTIGE* off the Spanish Atlantic coast in 2002: The tanker leaked 77,000 tons of oil which contaminated more than 2,000 kilometres of Spain's coastline, killed 250,000 to 300,000 seabirds, damaged the development of marine organisms for years to come, and led to massive losses in fishing and tourism. The cost of cleaning up the oil spill alone amounted to 2.5 billion euros.[3] The total economic damage was estimated at approximately 5 billion euros.[4] Such a disaster would be significantly aggravated in the Baltic Sea, as there is little water exchange with the oceans that could mitigate the consequences.

Despite these risks, global sanctions have led to an increasing number of actors using old and poorly maintained vessels, sometimes with a deliberate lack of transparency regarding inspections and ownership structures and in disregard of international safety and environmental standards. This is what substandard shipping is about. In December 2024 alone, 5.5 million tons of oil products were transported via Russia's Baltic Sea ports,[5] accounting for over half of Russia's total oil product exports at the time.[6] For maritime security and safety in the Baltic Sea and beyond, substandard shipping represents a significant increase in risks, making it more difficult to identify and allocate vessels and have governments control them. Moreover, it reduces the opportunities for prevention and crisis intervention. This situation is particularly critical in the small and concentrated Baltic Sea area – an inland sea with a high density of vessels that is geopolitically charged, structurally very dense and ecologically fragile – and might result in considerable damage to its flora, fauna and all littoral states.

2 Substandard Shipping and Shadow Fleets: Characteristics and Definitions

Although global shipping is essential to world trade, the transport of large quantities of crude oil and refinery products by sea poses considerable risks to the global maritime ecosystem. In order to avoid oil disasters such as those caused by *ERIKA* (1999), *EXXON VALDEZ* (1989) and *TORREY CANYON* (1967), global shipping generally has to meet high safety standards. These standards primarily include regular maintenance and repair, reliable insurance coverage, and the use of well-trained and efficient crews.

Despite these established standards, a global oil trade and transport network has developed in recent years that undermines the standardised rules of global shipping. In order to be as cost-effective as possible in oil trading, some actors deliberately ignore the decisive measures for the protection of the seas. A growing number of vessels repeatedly change the flag under which they are registered (flag hopping) – preferably using flags of states that have very few requirements for registering a ship under their flag and offer favourable tax and working conditions (so-called 'flags of convenience').[7]

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short –, which refers to the cargo capacity of crude oil tankers with a maximum of approximately 70,000 to 120,000 tons deadweight (tdw).

3 Caballero 2003.

4 Garcia 2003.

5 Reuters 2025a.

6 PIZ Marine [German Navy Press and Information Centre] 2025.

7 Edwards 2020.

In addition, fake vessel registration websites have emerged which can be used to obtain registration documents without approval of the designated flag state, and thus without triggering its obligations as a flag state.[8] The same applies to fraudulent insurance certificates issued by companies not registered as insurance providers, meaning vessels are left without insurance cover.[9] In light of these circumstances, substandard vessels call at ports less frequently. And if they do, they are more likely to do so in countries that neither control pro-environmental standards nor intervene adequately in the event of a violation – or at least only to a little extent. Maintenance and repairs are delayed or omitted entirely, so vessels are often sailed for as long as possible, despite serious safety issues, until there is no option left but to replace them. The vessels in question are sold by different countries. In fact, one third of all shadow fleet vessels sold since the start of Russia's full-scale invasion of Ukraine have their origins in Europe and the United States.[10] Longer periods at sea also put a strain on the crews' performance. In addition, crews on substandard vessels are sometimes poorly trained and undermanned, which poses a threat to shipping, especially in challenging maritime areas.

In summary, substandard shipping equals maritime transport carried out below internationally recognised safety and environmental standards. By avoiding standards and control mechanisms, substandard vessels can be used as tools for undermining sanctions and export bans. They are collectively known as shadow fleets, which have recently been associated with countries such as the Russian Federation, Venezuela and Iran. The largest recipients of the products transported by these shadow fleets are China, India or even Turkey, i.e. countries that are interested in continuing to import cheap goods from overseas.

However, not every incident involving intransparency or deviations from normal shipping practice necessarily means that a vessel belongs to a shadow fleet. In order to better understand the phenomenon of shadow fleets and substandard shipping one must clearly distinguish between different concepts: The so-called shadow fleet refers, strictly speaking, to a fleet of merchant vessels – usually tankers – that is specifically used to evade sanctions. These vessels frequently switch registries and flags, at times disable the Automatic Identification System (AIS) tracking system, obfuscate their ownership structures, and have fraudulent insurance coverage (or none at all). Shadow fleets can be divided into grey and dark fleets: Grey fleets consist of vessels with a governmental or semi-governmental function whose mission and affiliation remain unclear. These are vessels, for example, that carry out hybrid grey zone operations and are used for both military and civilian activities. Grey fleet vessels obfuscate their ownership structures and origin. The aim of this approach is to facilitate sanction evasion by maintaining the appearance of legal business through legal ambiguity. It is extremely difficult to verify whether or not these vessels adhere to sanctions, because they often operate with intransparency, complex ownership structures, deliberate deception mechanisms and flag hopping.[11] Dark fleets, on the other hand, consist of vessels that typically disable their AIS tracking systems almost all of the time to intentionally conceal their position, route, or cargo. Using these different terms not only provides semantically relevant

8 Meade 2025.
9 Reuters 2025b.
10 Follow the Money 2025; Brooks/Harris 2025.
11 MarineForum 2025.

information, but also enables security and safety actors and decision-makers to better assess the situation and plan interventions. This is important because each of these concepts entails different risks ranging from unwanted collisions and environmental disasters to asymmetric threat scenarios (caused by state-supported sabotage and carried out under the guise of civilian shipping).[12]

3 Risks and Areas of Concern for Maritime Safety and Security

The growing proportion of substandard vessels – i.e. technically deficient, inadequately maintained and undermanned ships – that are part of shadow fleets deployed to sustain the oil trade, for example, poses an increasing challenge for global and regional maritime safety and security. These vessels do not comply with established regulations and systematically undermine international standards regarding security and safety, the environment and working conditions. This leads to complex implications:

- The risk of (maritime) accidents: Vessels operating under inadequate technical standards are significantly more likely to be involved in maritime accidents and other incidents than well-maintained vessels. Among other things, this is due to poor maintenance cycles, outdated equipment, inadequate safety precautions, structural staff shortages, and under-qualified crews. Taken individually, but even more so together, these characteristics increase the risk of serious accidents at sea ranging from navigational errors to maritime accidents with long-lasting consequences. This not only jeopardises the maritime environment, trade routes and critical infrastructure, but also global supply chains. The average, relatively high age of these vessels also frequently correlates with maritime accidents worldwide.[13]
- The risks for crews: Substandard vessels are not only a technical risk, but also a safety and health hazard to the personnel employed on board. Lack of insurance coverage, serious safety equipment deficiencies, and overlong periods at sea without adequate (medical) care put crews under considerable strain. In particularly problematic cases, labour rights are violated and crews are deprived of their liberty or even marooned in international waters when vessels are no longer needed or unable to manoeuvre.
- Technical deficiencies and operational safety: The negligent operation of substandard vessels and inadequate technical equipment on board pose significant risks to the environment. Improper handling of fuels, lubricants, or hazardous cargoes, leaks due to technical failures, and an increased likelihood of serious accidents can lead to massive environmental damage – from oil spills to the irreversible destruction of maritime ecosystems.
- Long-term erosion of international maritime law: The systematic evasion of international standards and conventions and the erosion of the existing international legal framework – in particular the United Nations Convention on the Law of the Sea (UNCLOS) – by substandard shipping pose a long-term threat to the rules-based international order. If certain principles such as flag

12 Windward n.d.
13 Allianz Commercial 2025.

state responsibility and due diligence are eroded by countries deliberately not applying or evading them, a precedent is established: States or non-state actors could begin to enforce their own security and economic interests outside the multilateral, legal framework, with serious consequences for the stability of global shipping.

— The use of shadow fleet vessels for grey zone operations: The use of substandard vessels for grey zone activities below the threshold of armed conflict is also relevant to security. They can be used, for example, to map German maritime critical infrastructure (marKRITIS) and to carry out acts of sabotage or reconnaissance operations. In an era of global strategic competition, these grey zone activities could be a first step towards future military escalations, for example, by levelling the playing field in strategic maritime areas like the North Sea and Baltic Sea.

This range of risks to maritime safety and security – both regionally and globally – shows that substandard shipping is not a purely technical or regulatory issue. Rather, it is a phenomenon that is related to security policy and closely intertwined with hybrid threats in the grey zone below the threshold of armed conflict, environmental hazards, humanitarian deficiencies, and geopolitical power shifts.

4 Reliable Data as a Basis for Further Courses of Action

The situational pictures that exist in Germany and Europe on substandard vessels and shadow fleets are unclear, incomplete and partly contradictory. This is due in particular to the nature of these vessels: Since they deliberately exploit legal and administrative grey areas of global trade and systematically mask their activities, it is difficult to always trace their routes and to know their exact numbers. Estimates on how many substandard vessels are directly or indirectly linked to the shadow fleets transporting their cargo across the Baltic Sea are between 500 and 2,300 vessels.[14] Besides the lack of clarity about the number of these vessels, there is also a definition problem: This includes the difference between ‘grey’ and ‘dark’ vessels, for example, and whether only vessels that regularly carry Russian oil should be taken into account or individual transports, too. This is because, in principle, any vessel that does not act according to the above-mentioned standards is considered a substandard vessel.

However, the more fundamental issue here is the registration of these vessels, since they usually do not call at ports with established thorough port state controls. Russian transhipment ports in the Baltic Sea – Ust-Luga, Primorsk and Kaliningrad – do not have any controls in place at all, and neither do the oil-receiving countries such as China, India and Turkey, or the United Arab Emirates and Egypt, for that matter. As a result, substandard vessels usually slip through the cracks of the international control system and carry out their transports without being checked.

Currently, a structured situational picture that provides a better overview and helps to enforce sanctions can only be obtained by analysing and comparing information on vessels

14 Bouissou/Michel/Tchoubar 2024; Braw 2024; Craw 2025; Wagner 2025.

- that are recorded in the Global Integrated Shipping Information System by the International Maritime Organisation (IMO),
- but not (or only with outdated information) in databases such as THETIS due to the evasion of port state controls;
- that do not have insurance coverage by reliable insurance companies (i.e. Protection and Indemnity Clubs, P&I Clubs) and
- that call at Russia's Baltic Sea, Black Sea or Arctic ports.

To ensure a reliable situational picture despite the above-mentioned issues, it would be advisable to close the strategic gap in the monitoring of the sanctions regime against substandard shipping in general and shadow fleets in particular, given that there is no central authority among the oil-producing countries to monitor these activities comprehensively. In the future, at least within Europe, a central information fusion centre (IFC) should be created to collect, pool, analyse and ultimately consolidate data on the global activities of substandard vessels.

However, since the situational picture provided by such a centre will always depend on the quality of the underlying data, the following is essential for it to be able to fulfil its task: close and constructive cooperation and extensive data sharing with state institutions of oil-producing countries as well as with relevant non-governmental organisations, research institutions, data companies and insurance and classification societies (DNV, Bureau Veritas, etc.). Moreover, the IFC would need to be adequately staffed and equipped with the necessary capabilities, infrastructure and authority.

An existing European body/authority should serve as an institutional basis for the work of the IFC to avoid unnecessary duplication of structures and to create synergy effects – a role for which the Maritime Surveillance Project (MARSUR) would be well suited. Within this project undertaken by the European Defence Agency (EDA), 20 EU member states, Norway and the United Kingdom cooperate within a technical network that allows dialogue between the European maritime information systems. The exchange of maritime data such as vessel positions, identification data, chats or images enables the provision of a common maritime situational picture. This could effectively be complemented by data on the above-mentioned state and non-state actors to illuminate blind spots and better capture shadow fleet activities.

Alternatively, the IFC could be linked to the European Maritime Security Agency (EMSA). It operates THETIS, the Port State Control inspection Database, which provides port state control (PSC) inspection results and records deficiencies. Therefore, this database already plays a central role in detecting substandard vessels. By cross-checking PSC inspection results with data on the above-mentioned state and non-state actors, a more reliable situational picture of shadow fleet vessels could be obtained.

Given the complex structures of global networks and ever-new tactics employed by Russia to evade sanctions, the situation will remain dynamic and confusing. In order to cope with these circumstances and to be proactive, the new IFC should consistently exploit and analyse all the necessary data sources using state-of-the-art technology and methodology, regardless of its institutional basis. It would also be a good idea for the respective intelligence services to share relevant data and intelligence with the IFC and for the member countries to remove their national caveats in order to serve common interests. In particular, analysing signals intelligence (SIGINT) and imagery intelligence

(IMINT) could help to detect movements and origins of suspicious vessels and thereby complement the situational picture.

As regards the IFC's mandate, it should differ from that of reconnaissance and surveillance operations such as Baltic Sentry. This NATO activity also provides a common situational picture of the Baltic Sea area, but aims to deter sabotage of underwater infrastructure through an increased maritime presence. Therefore, Baltic Sentry is more about providing a situational picture at short notice which helps to focus on protecting critical infrastructure. The IFC proposed in this paper, on the other hand, is to create a holistic and predictive situational picture through longer-term and more far-reaching surveillance measures – and, above all, through the structured integration of data from very different sources – to identify which vessels of Russia's shadow fleet are substandard vessels and pose risks to the maritime environment and shipping.

5 Possible Courses of Action regarding the Protection of the Maritime Environment: MARPOL, Particularly Sensitive Sea Areas and Associated Protective Measures

The Baltic Sea enjoys the highest protection standards under international law. Being part of the marine environment, it is first of all subject to the general protection granted under Article 192 UNCLOS[15] – an obligation which must be met by all signatory states. Moreover, the MARPOL Convention[16] designates both the Baltic Sea and the North Sea as 'Special Areas' and 'Emission Control Areas', where stricter emission standards apply.[17]

In addition, both the Wadden Sea[18] and the Baltic Sea[19] were declared 'Particularly Sensitive Sea Areas' (PSSAs) in 2002 and 2005, respectively. According to the definition used in the corresponding Maritime Environment Protection Committee (MEPC) resolution, the PSSA Baltic Sea Area consists of 'the Baltic Sea proper, the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerak at 57° 44.8' N'[20], excluding the maritime areas within the sovereignty of the Russian Federation as referred to in Article 56 UNCLOS, i.e. the Russian exclusive economic zones and coastal waters off St. Petersburg and Kaliningrad. The Russian Federation's sovereignty or sovereign rights and its jurisdiction under international law shall not be affected by the designation of the Baltic

15 United Nations Convention on the Law of the Sea (UNCLOS) as of 10 December 1982, via https://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm.

16 MARPOL 73/78: International Convention for the Prevention of Pollution from Ships, 1973 and the Protocol of 1978 relating to this Convention, 1340 UNTS p. 61.

17 Cf. MEPC.1/Circ.778/Rev.5: LIST OF SPECIAL AREAS, MISSION CONTROL AREAS AND PARTICULARLY SENSITIVE SEA AREAS, IMO Environment Protection Committee, 09 May 2025.

18 MEPC.101(48): IDENTIFICATION OF THE WADDEN SEA AS A PARTICULARLY SENSITIVE SEA AREA IMO Environment Protection Committee, Resolution Adopted on 11 October 2002.

19 MEPC.136(53): DESIGNATION OF THE BALTIC SEA AREA AS A PARTICULARLY SENSITIVE SEA AREA, IMO Environment Protection Committee, Resolution Adopted on 22 July 2005.

20 MEPC.136(53), Annex I, 1.1.

Sea as a PSSA.[21] In the MEPC resolution on the PSSA Baltic Sea Area, the Baltic Sea is described as a globally unique and sensitive brackish water ecosystem.[22] Being one of the world's areas with the highest maritime traffic density, it is considered to be particularly vulnerable to detrimental influences on the marine environment. Not only has maritime traffic generally increased there, but also the share of oil transports and transports of other potentially harmful substances, leading to an overall higher risk of pollution. To the east, the traffic mainly consists of oil tankers bound for Finland, Lithuania and Poland (oil intended for German refineries is unloaded in Gdansk for onward transport by land); tankers traveling westward mainly transport Russian oil.[23]

The specific measures set out for the Baltic Sea Area PSSA include, in particular, traffic separation schemes (TSS) near Bornholm, Rügen, Gotland and Gedser and the deep water route east of Gotland ('Off Gotland Island'), which runs from Bornholm to the Estonian island of Hiiumaa. In addition, the resolution defines areas south of Gotland that should be avoided by shipping.[24] IMO-approved associated protective measures in a PSSA aim at stricter shipping regimes, be it through ships' routeing and reporting systems or recommendations regarding areas to be avoided.[25] However, traffic management does not prevent substandard vessels from entering a PSSA and from representing an unnecessarily high risk to the marine environment.

In addition, measures pursuant to Art. 211 (6) UNCLOS are also considered to be appropriate associated protective measures.[26] Included in Part XII UNCLOS ('Protection and Preservation of the Marine Environment'), Art. 211 contains regulations regarding the 'Pollution from vessels' with Par. 6 giving coastal states the possibility to take 'special mandatory measures for the prevention of pollution from vessels' for clearly defined parts of their exclusive economic zones (EEZ). These measures need to be approved by IMO. So far, IMO has used the designation of Special Areas in accordance with MARPOL as a practical application of Art. 211 (6) UNCLOS, particularly as such areas are not limited to a state's EEZ. This notwithstanding, the procedure is generally open.

All in all, it is fair to say that even though the special sensitivity of the Baltic Sea ecosystem and its need for protection are recognised under international law, the standard measures provided therein do not appropriately address the threat posed by substandard vessels, especially tankers.

5.1 The Right of Innocent Passage

As stated above, international maritime law shows a certain restraint in this respect based on the principle that, in accordance with Art. 17 UNCLOS, ships usually enjoy the right of innocent passage through coastal seas. The standard regulations for Special Areas and PSSAs set boundaries to ships' behaviour during innocent passage, but do

21 MEPC.136(53), Annex I, 1.1.
22 MEPC.136(53), Annex I, 2.1.
23 Vakulenko 2024.
24 Cf. MEPC.136(53), Annex II.
25 IMO Resolution A.982(24): REVISED GUIDELINES FOR THE IDENTIFICATION AND DESIGNATION OF PARTICULARLY SENSITIVE SEA AREAS, Adopted on 1 December 2005 (Agenda item 11), Annex, No. 6.
26 IMO Resolution A.982(24), Annex, No. 7.5.2.3. (iii).

not affect the right of passage itself. As a result, unhindered travel is the top priority for all vessels that are equipped and manned in accordance with international regulations. The risk of a possible oil spill in the Baltic Sea, for instance, is accepted in the (more or less justified) hope that the available emergency management capabilities will be sufficient in the event of an accident. For substandard vessels – which would not even exist if all ship owners behaved in accordance with the regulations – this hope is probably less justified.

Innocent passage is such a highly valued, if not exceptional, right because it limits a country's sovereignty over its coastal sea – but only under the condition that the passage is 'innocent'. This is stipulated in Art. 19 (1) UNCLOS:

> Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.

As a counterbalance, Art. 25 (1) UNCLOS states very clearly:

> The coastal State may take the necessary steps in its territorial sea to prevent passage which is not innocent.

Paragraph 2 of Art. 19 UNCLOS lists activities that, if carried out, make a passage 'prejudicial to the peace, good order or security of the coastal State'. This includes subparagraph h): 'any act of wilful and serious pollution contrary to this Convention'. Thus, passage is clearly not innocent if a serious pollution incident has already occurred and if it has been caused intentionally. Whether, apart from this striking case, other forms of serious violations of the protection of the marine environment would also render a passage 'prejudicial to the peace, good order or security of the coastal State' – and thus non-innocent –, depends on whether the list of Art. 19 (2) UNCLOS is considered exhaustive.

In fact, this list should not be considered exhaustive for at least two reasons: Firstly, subparagraph l) contains an opening clause for 'any other activity not having a direct bearing on passage', i.e. for cases other than those explicitly listed in paragraph 2 that make a passage non-innocent.[27] Secondly, the list under paragraph 2 is a specification of the broader general clause of paragraph 1. This general clause would be meaningless if the acts leading to non-innocent passage were then listed exhaustively.

Innocent passage is a cornerstone principle of maritime law that takes into account that the freedom of navigation should be given priority over the sovereignty of coastal states. In order to justify this restriction of sovereignty, however, such passage is granted only under the condition of being innocent. If it is not, the protection status cannot be claimed and Art. 25 (1) UNCLOS provides for the coastal state to 'take the necessary steps in its territorial sea' to prevent non-innocent passage. Given that the right of innocent passage has strong implications for a coastal state's sovereignty, the consequences of violating this right are quite drastic, too.

In the event of such a violation, i.e. a non-innocent passage, UNCLOS does not further interfere with the coastal state's rights, but merely requires the steps taken to be

27 Hakapää 2013: B. 1. 7.

'necessary'. What is considered 'necessary' to protect the coastal state from the adverse consequences of such a violation is provided by the common set of instruments and customs of maritime law: hailing the vessel, checking its nationality and requesting further information on the vessel and its route. And if the situation escalates further: warning by radio, then warning shots, interdiction, boarding and inspection. Subsequently, if deemed necessary, the coastal state may take measures such as denying passage, diverting the vessel, ordering it to leave the coastal sea or detaining it in port for further investigation.[28]

Acts that render a passage non-innocent and are considered prejudicial to a state's peace, good order or security in the sense of Art. 19 (1) are military actions, sea-based flight operations, espionage, propaganda, the violation of customs, health and immigration regulations, serious environmental pollution, fishing, research or survey activities and the interference with communication installations. They provide the framework for further cases in accordance with Art. 19 (2) l).

5.2 The Right to Seize Ships

When setting this framework, other provisions governing the restriction of a vessel's freedom of navigation must also be observed. Most importantly, these provisions include the clearly worded Art. 110 UNCLOS, which allows warships and other vessels clearly marked and identifiable as being on government service to enter ships on the high seas if the latter are engaged in piracy, the slave trade or unauthorised broadcasting, and also if they are sailing without nationality. According to Art. 58 (2) UNCLOS, this right also applies to the EEZ.

In this respect, it should be noted that the right to enter a ship represents a drastic measure. This harsh sanction indicates that the listed acts may be considered 'capital crimes' under the law of the sea. In addition, it becomes clear that the act of sailing under no flag, and thus without nationality, is considered to be such a substantial violation of the law of the sea that it was included in Art. 110 UNCLOS. Given a flag state's high responsibility for compliance with international regulations on a ship and its liability for the ship, this strict assessment is absolutely consistent. Therefore, the acts listed in Art. 110 UNCLOS must be part of the framework for further cases to be considered under the opening clause in Art. 19 (2) l) and consequently forfeit the privilege of innocent passage. Also, this further supports the argument that the list of activities under Art. 19 (2) can hardly be considered exhaustive.

5.3 Application to Substandard Vessels

Taking a closer look at substandard vessels again, we see that they are characterised by varying combinations of insufficient maintenance and servicing, an avoidance of corrective port state controls and navigators and crews working overlong periods at sea. These deficiencies imply further violations of international regulations aimed at ensuring safety at sea and thus, among other things, at preventing accidents that could lead to a pollution of the marine environment. Moreover, these ships very often sail under flags of states with lax regulatory oversight. This issue becomes even worse if

28 Klein 2021.

such a vessel is not registered anywhere at all or in a falsified flag registry, which amounts to the same thing: sailing under no flag. The number of ships sailing under false flags – the use of which is both an act of fraud and flaglessness in the sense of Art. 110 (1) d) UNCLOS and gives any warship or other ship identifiable as being on government service the right to board the vessel – is increasing rapidly these days.[29]

In the context of the overall obligation to protect the marine environment, the use of substandard vessels – especially for the transport of substances hazardous to the environment – is already a grave violation of this obligation. This violation is exacerbated even further when such vessels sail through marine areas designated as a Special Area or PSSA. It would only be logical to regard such cases as non-innocent passage.

As mentioned above, the IMO's Maritime Environment Protection Committee describes the Baltic Sea as a globally unique and sensitive brackish water ecosystem.[30] At the same time, it is one of the areas with the highest maritime traffic density in the world. If, against this backdrop, ships are knowingly kept in a condition that increases the probability of catastrophic accidents and if, on top of that, they are inadequately manned and operated, it is obvious that laws are being (severely) violated. This situation is brought about deliberately, not at least because it requires structures, cooperation between exporting and importing countries and also considerable organisational effort and skills to evade port state controls in the long run. In many cases, the environmental disaster that ships are obliged to avoid would be wilfully caused – not necessarily as a deliberate objective, but at least with conditional intent (*dolus eventualis*). In other words, operators of substandard vessels willingly take the risk of causing a disaster that can occur with a significantly increased probability, a fact of which they are well aware.

The variety of violations of international law and environmental regulations by substandard vessels does not permit a general assessment concluding that such ships cannot enjoy the privilege of innocent passage. But when applying the standards listed in Articles 19 (2) and 110 (1) (d) UNCLOS, it is very likely that there are cases in which vessels violate the regulations to such an extent that it affects the peace, order or security not only of the respective coastal state but also that of other littoral states – all the more so if such violations are carried out systematically.

6 The Way Ahead: How Can We Effectively Respond to the Hazards Posed by Substandard Vessels?

Western sanctions on the import of Russian crude oil and falling oil prices have led to changes in global oil transports. As Russian exports have been expanded through the shadow fleet system, countries such as China, India, Libya and Turkey have significantly expanded their imports. The security risks associated with the operation of shadow fleets and substandard vessels are diverse and complex. The combination of technical wear, lack of maintenance and insufficient crew training significantly increases the risk of collisions and environmental disasters. The growing use of entire shadow fleets of these ships leads to increased risks to the marine environment, for

29 Meade 2025.
30 MEPC.136(53), Annex I, 2.1.

example from oil pollution, which can cause significant damage to marine ecosystems. In order to address these issues, we need increased international cooperation and more stringent enforcement measures. It is necessary to rigorously monitor and enforce the implementation of, and compliance with, agreed and necessary standards in navigation. This requires a comprehensive reform of international maritime regulatory mechanisms and sanctions in case these safety and environmental regulations are violated.

Freedom of navigation as regulated by international maritime law in the form of UNCLOS remains the core principle of a free and open maritime order. At the same time, states must be able to actively respond to security risks and breaches of law whenever the safety of navigation, compliance with international standards or the protection of marine ecosystems is at risk. If we do not succeed in effectively limiting the activities of substandard vessels used in shadow fleet(s), there will be immediate consequences: first of all, increased hazards to humans and the environment, as the operation of substandard vessels implies a higher risk of collisions and accidents, which can lead to potentially irreversible damage to the Baltic Sea – a sea that requires particular protection. In fact, its status as a PSSA as per MARPOL Annex I is to minimise precisely such risks. Secondly, international maritime law and particularly the rules on sanctions enforcement, the obligation to register ships and environmental standards are systematically undermined if there is no consistent response to breaches of law.

Despite these dangers, however, Europe's response has been rather hesitant so far. It is true that Germany and Sweden, for instance, have recently taken initial steps such as frequently requesting insurance certificates from tankers passing through their waters, but vessels refusing to show such documents have so far not met with any negative consequences. This illustrates the classic dilemma of maritime governance: Without the political will and determination to take the necessary decisions, regulatory efforts will come to nothing. If we decide, however, to actively address the problem of substandard vessels in the Baltic Sea region, for example by denying them port, conducting port state controls, monitoring them in real time and enforcing MARPOL regulations, we must ask ourselves whether our national and European capabilities are sufficiently robust to do so. To what extent can we implement such measures in a consistent and coordinated manner? What are the legal bases and institutional responsibilities? And how can we react to possible convoying by armed actors – for instance, if Russia uses military escorts to protect its oil shipments, which are often conducted by substandard vessels?[31]

If we want to enforce the legal regimes available to protect the marine environment, looking into strategic escalation issues is inevitable. Where is our red line? How far would European states go when it comes to taking political, constabulary and military measures? Any form of physical enforcement in international waters carries risks, especially in highly frequented seas where states have competing interests. If we do not take action, however, we risk massive second-order effects with consequences beyond the Baltic Sea. If we continue to tolerate shadow fleet operations, other states – such as China in the South China Sea or Iran in the Strait of Hormuz – could also consider it legitimate to interpret maritime rules as they see fit. Illiberal actors may use such developments as precedents for creating their own enforcement mechanisms that are not

31 The Baltic Sentinel 2025; Sytas/Siebold 2025.

in line with international law. Consequently, it is all the more important for liberal democracies to show early and credibly that they do not only proclaim but enforce the rules-based order at sea.

7 Recommendations for Action to German and European Decision-Makers

The above analysis allows us to offer the following recommendations to policy-makers:

1. **Strengthen maritime governance enforcement:** The growing use of substandard vessels and shadow fleets reveals structural deficits in the enforcement of rules and sanctions at sea. It is essential to coherently strengthen international control mechanisms, particularly flag and port state controls, and to closer coordinate monitoring activities at the European level in order to intervene and (further) sanction actors who violate rules and regulations with regard to security or the environment or who circumvent sanctions.
2. **Strengthen political mandates and institutional coherence in maritime action:** Effective maritime security policy requires political willingness, institutional clarity and interagency decision-making processes. For a credible European policy, the Baltic Sea coastal states should develop a coordinated approach to actively enforce international standards and maritime security regulations.
3. **Use PSSA regulations as a strategic instrument against substandard shipping:** PSSAs are a central, yet currently under-utilised instrument to systematically reduce maritime risks and environmental hazards in the maritime dimension. As regards the Baltic Sea, PSSA regulations offer the possibility to protect particularly endangered marine areas by means of stricter navigation and safety requirements in order to significantly lower the risk of accidents, oil spills and environmental disasters. From a security perspective, consistent efforts should be made to further develop PSSA mechanisms and link them to EU and IMO enforcement measures in order to effectively contain substandard shipping.
4. **Establish layered response mechanisms to avoid strategic escalation:** In view of possible counter-reactions such as military escort operations, the European nations need clearly defined, scalable options for action. Escalation management that combines diplomatic signals, cooperative control and legal enforcement strengthens the ability to act without creating unnecessary security risks.
5. **Credibly defend the rules-based order at sea:** Permanent toleration of systematic violations weakens international maritime law and encourages revisionist actors worldwide. Liberal democracies must demonstrate that freedom of the seas is inextricably linked to the obligation to maintain maritime security as well as environmental and legal standards. Only through consistent action can the rules-based order at sea remain credible and assertive. Ultimately,

this also strengthens the credibility of our democratic value system and forms part of a credible deterrence policy.

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