

Securing Critical Shipping Lanes in an Age of Hybrid Maritime Conflict

Experts' Forum

Towards Stronger Global Governance and Cooperation to

Protect Critical Maritime Infrastructure

8 September 2026

Dr. Zhen Sun

Centre for International Law (CIL)

National University of Singapore

OUTLINE



I) Critical Shipping Lanes

II) International Legal Framework

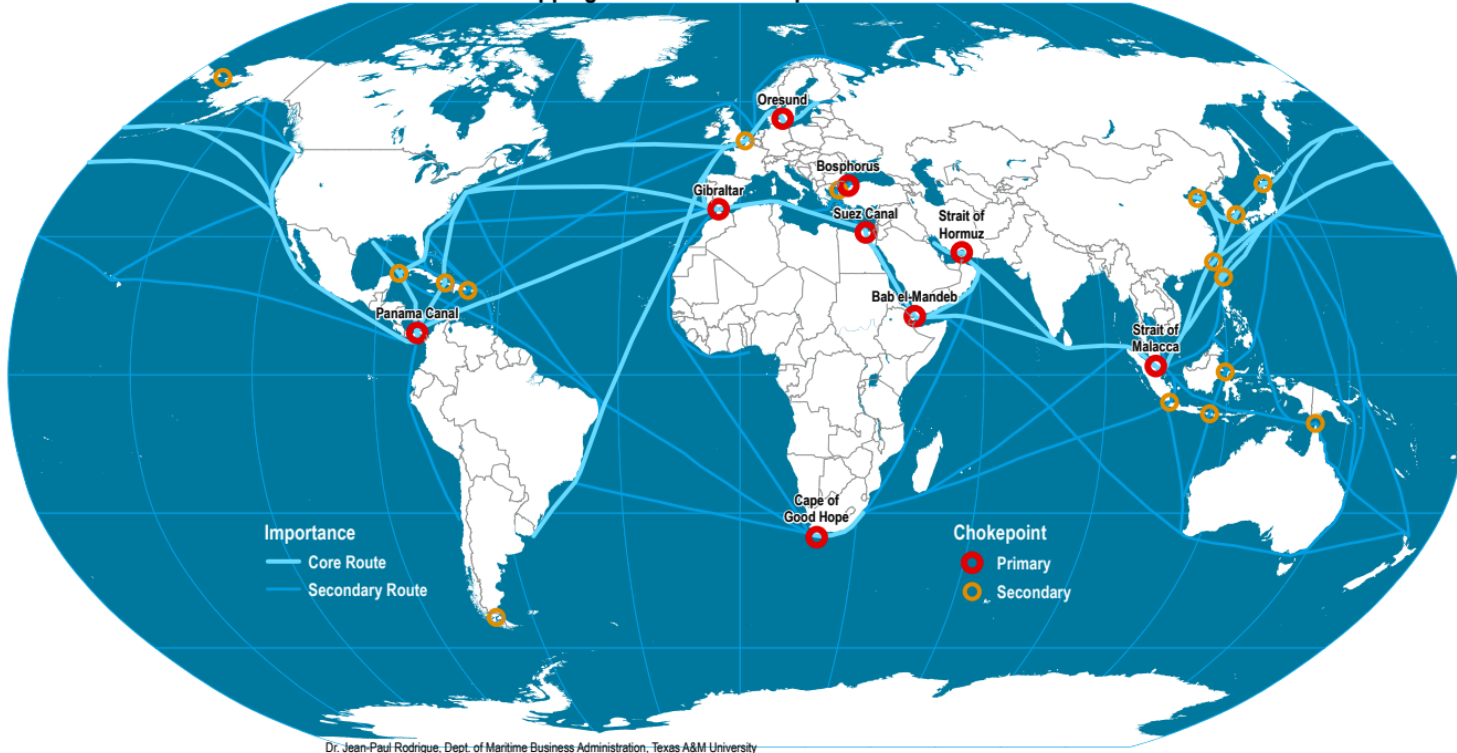
III) Maritime Safety Threats

IV) Maritime Security Threats

V) Peace and Security Threats

Part I Critical Shipping Lanes

Main Maritime Shipping Routes and Chokepoints



International Straits:

- Less than 6 M in width (52)
- Between 6 and 24 M in width (153)
- More than 24 M in width (60)

L.M. Alexander,
J.A Roach,
Navigational Restrictions within the New LOS Context
(Brill, 2017)

Part I Critical Shipping Lanes

- Shipping lanes underpin trade, energy security, food security, industrial production, strategic mobility, maritime safety, and sustainable development
- In 2024, maritime transport carried approximately 12.72 billion tonnes of internationally traded goods, representing more than 80% of global merchandise trade by physical volume; the global merchandise trade was worth approximately US\$25 trillion, while total trade in goods and services reached about US\$33 trillion
- The Straits of Malacca and Singapore is one of the world's busiest shipping corridors with more than 100,000 vessel transits annually, it handles 22-30% of global maritime trade by value (approximately \$3.4-3.5 trillion annually), including one-third of global oil and gas supplies

UNCTAD Review of Maritime Transport 2025

<https://www.iims.org.uk/unctad-review-of-maritime-transport-2025-report/>

Part I Critical Shipping Lanes

Threats to Critical Shipping Lanes

- ***Maritime Safety***: severe weather and natural disasters, seaworthiness of the ships, safety of navigation, and crew safety
- ***Maritime Security***: piracy and armed robbery, terrorism, drugs and weapons trafficking, migrant smuggling and trafficking in persons, illegal fishing, environmental crimes, and cyber security
- ***Peace and Security***: military operations, grey-zone operations, and armed conflict at sea

Part II International Legal Framework

- Convention on the International Regulations for Preventing Collisions at Sea (COLREG), 1972
- International Convention for the Safety of Life at Sea (SOLAS), 1974
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978 / for Fishing Personnel (STCW-F), 1995
- International Convention on Maritime Search and Rescue (SAR), 1979
- United Nations Convention on the Law of the Sea (UNCLOS), 1982
- Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA), Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf, 1988, and their 2005 Protocols
- United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988
- International Convention for the Suppression of Terrorist Bombings, 1997
- United Nations Convention against Transnational Organized Crime (UNTOC), 2000
- International Regulations for the Safety of Fishing Vessels (Cape Town Agreement), 2012

ASEAN Member States

As at 25 August 2026 Status of Treaties	SOLAS 74	COLREG 72	Cape Town Agreement 2012	STCW 78	STCW-F 95	SAR 79	SUA Convention 88	SUA Protocol 88	SUA Convention 2005	SUA Protocol 2005	UNCLOS 82	Narcotic Drugs 88	Terrorist Bombings 97	UNTOS 00
Brunei Darussalam	X	X		X			X	X			X	X	X	X
Cambodia	X	X		X			X	X			X	X	X	X
Indonesia	X	X		X	X	X					X	X	X	X
Lao People's Dem. Rep.							X	X			X	X	X	X
Malaysia	X	X		X							X	X	X	X
Myanmar	X	X		X			X	X			X	X	X	X
Philippines	X	X		X			X	X			X	X	X	X
Singapore	X	X		X		X	X	X			X	X	X	X
Thailand	X	X		X							X	X	X	X
Timor-Leste	X	X		X							X	X		X
Viet Nam	X	X		X		X	X	X			X	X	X	X

Allocation of Jurisdiction

	Coastal State's Rights and Duties	Rights/Freedoms and Duties of All States
Territorial Sea	• Sovereignty • Temporary suspension of IP in specified areas • Shall not hamper the IP	• Right of innocent passage (ships) • Comply with the applicable laws and regulations
Straits used for International Navigation	• Sovereignty • Shall not hamper TP/IP • Shall not suspend TP/IP	• Right of transit passage (ships and aircraft) and innocent passage (ships) • Comply with the applicable laws and regulations
Archipelagic Waters	• Sovereignty • Shall not hamper ASLP • Shall not suspend ASLP • Temporary suspension of IP in specified areas	• Rights of innocent passage (ships) and archipelagic sea lanes passage (ships and aircraft) • Comply with the applicable laws and regulations
Exclusive Economic Zone	• Sovereign rights and recognized jurisdiction • Due regard obligation	• Freedoms of navigation and overflight, other lawful uses of the sea • Comply with the applicable laws and regulations (mainly GAIRS) • Due regard obligation

- **Flag State:** exclusive jurisdiction, irrespective of where the ship navigates
- **Coastal State:** concurrent jurisdiction when the ship is navigating within the maritime zones of the coastal State; limited enforcement jurisdiction over recognised activities or/and with consent of the flag State; universal jurisdiction over recognised activities; treaty based jurisdiction
- **Port State:** concurrent jurisdiction when the ship is navigating within the internal waters of the port State; enforcement jurisdiction over violations of GAIRS or by request by relevant/affected States or flag State; universal jurisdiction over recognised activities; treaty based jurisdiction

Part III Maritime Safety Threats

Safety Challenges in Southeast Asia

- Safety of domestic shipping
- Severe weather and damages to navigational aids
- Complicated navigational conditions, including congested navigational channels
- Sensitive marine environment
- Operational errors
- Contingency planning and responses
- New developments related to e-navigation, autonomous shipping, alternative fuels
- Safety of fishing vessels and fishers



Container ship sinks in Singapore Strait after collision with a cable-layer on 5 June 2026:

<https://www.tradewindsnews.com/casualties/container-ship-sinks-in-singapore-strait/2-1-2000534>

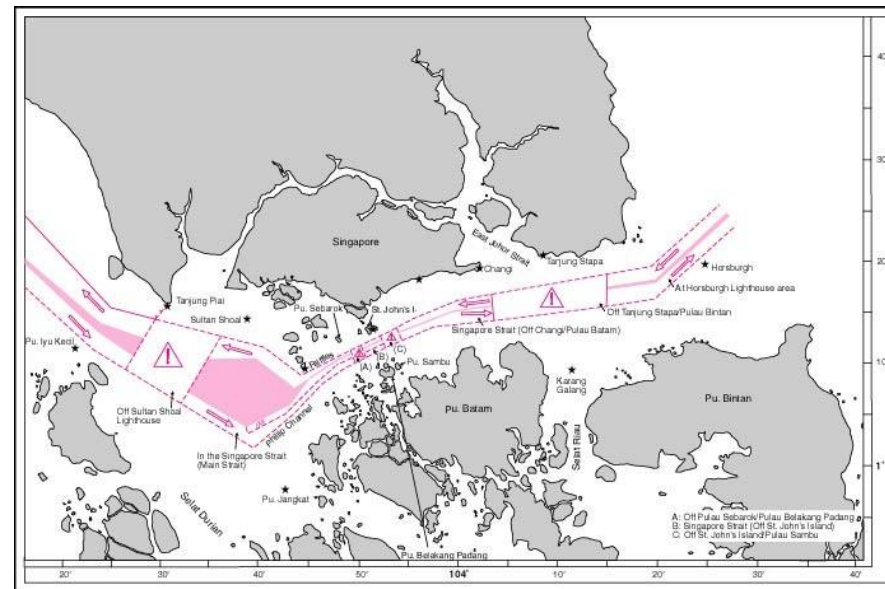
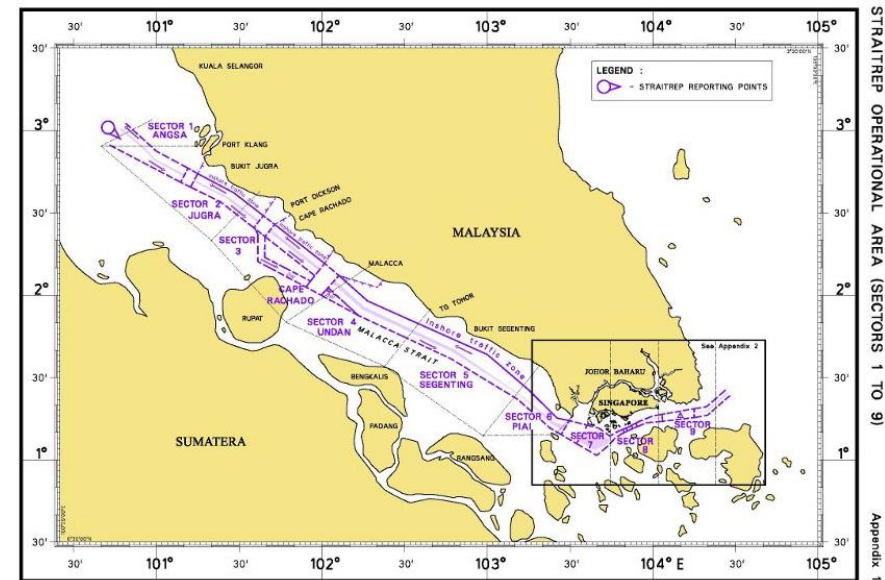
The Straits of Malacca and Singapore

Traffic Separation Scheme (TSS) (250-nautical-mile)

- Vessel traffic information system – STRAITREP
- Ships' routing measures – two-way routes, no anchorage zones, precautionary areas, deep water routes

Cooperative Mechanism (only example of UNCLOS Article 43 among littoral States, user States, maritime industries, and stakeholders)

- Co-operation Forum
- Project Co-ordination Committee
- Aids to Navigation Fund

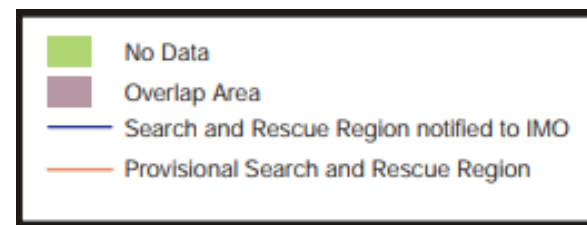
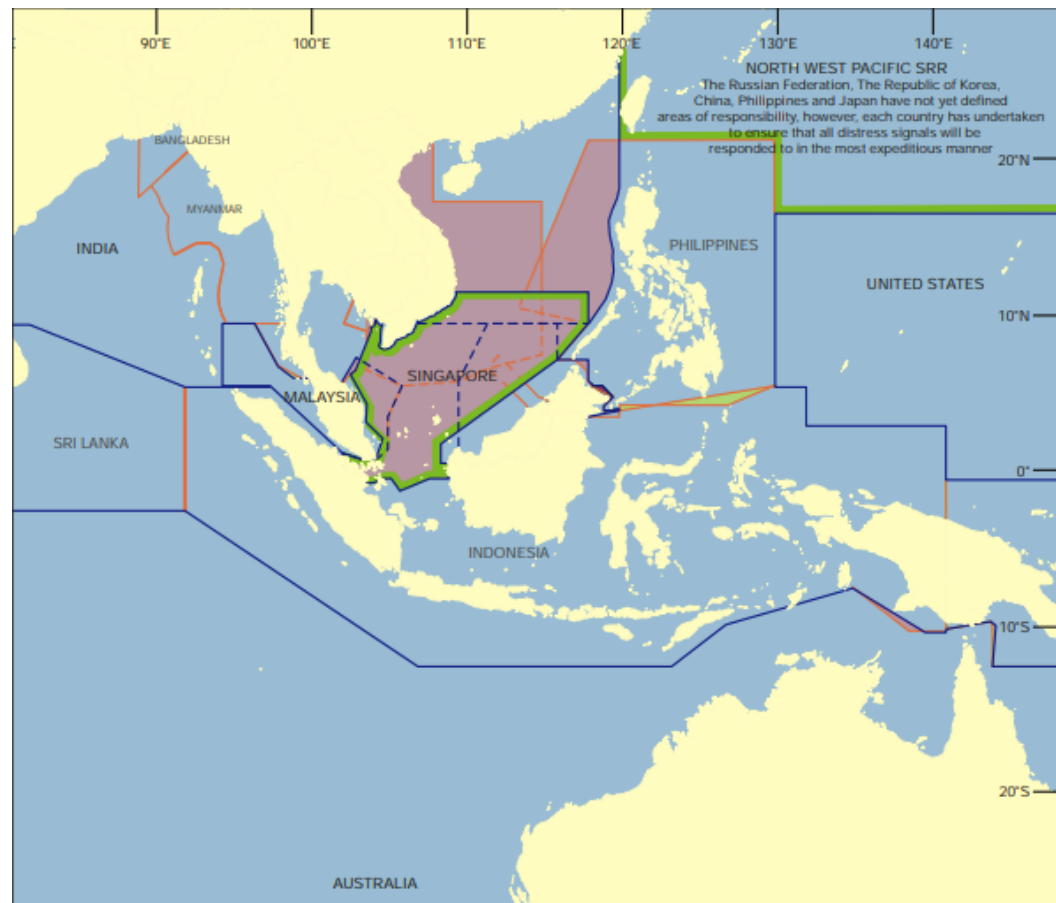


STRAITREP operational areas:

<https://www.mpa.gov.sg/port-marine-ops/operations/vessel-traffic-information-system/operational-areas>

Maritime Search and Rescue

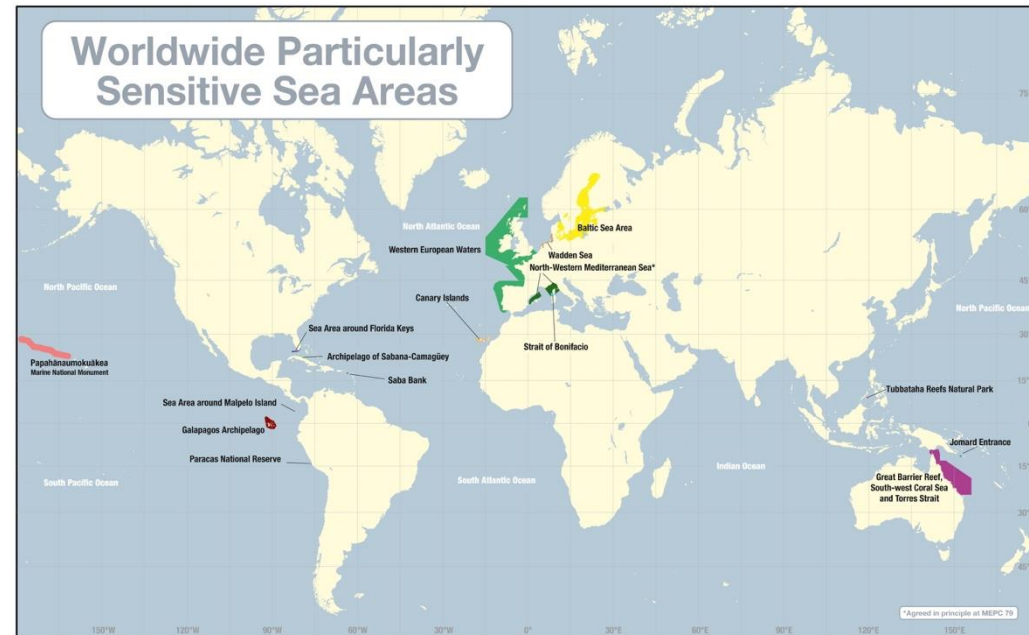
- ASEAN Declaration on Cooperation in Search and Rescue of Persons and Vessels in Distress at Sea 2010 and ASEAN Transport SAR Forum 2012
- ASEAN Agreement on Aeronautical and Maritime Search and Rescue Cooperation 2023 (not in force)
- ASEAN Search and Rescue Standard Operating Procedures 2018
- ASEAN Coordinating Centre for Humanitarian Assistance (AHA Centre)
- ASEAN Coast Guard Forum (ACF)
- ASEAN Standby Arrangement (voluntary contributions and cooperation)



<https://www.dco.uscg.mil/Portals/9/CG-5R/nsarc/IMO%20Maritime%20SAR%20Regions.pdf>

Particularly Sensitive Sea Areas

- A PSSA is an area that needs special protection through action by IMO because of its significance for recognized **ecological, socio-economic, or scientific** attributes where such attributes may be vulnerable to damage by international shipping activities.
- **Associated Protective Measures**
 - designation of Special Areas under MARPOL, ships' routing and reporting systems, other measures aimed at protecting the areas against environmental damages from ships



- Tubbataha Reefs Natural Park, the Sulu Sea, Philippines (2017)
 - Nusa Penida Islands and Gili Matra Islands in Lombok Strait (2024)
- <https://www.imo.org/en/ourwork/environment/pages/pssas.aspx>

Part IV Maritime Security Threats

Piracy

- Any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed, on the **high seas**, against another ship or aircraft, or against persons or property on board such ship or aircraft; or against a ship, aircraft, persons or property in a **place outside the jurisdiction of any State**

Armed Robbery

- Any illegal act of violence or detention or any act of depredation, or threat thereof, other than an act of piracy, committed for private ends and directed against a ship or against persons or property on board such a ship, within a State's **internal waters, archipelagic waters and territorial sea**

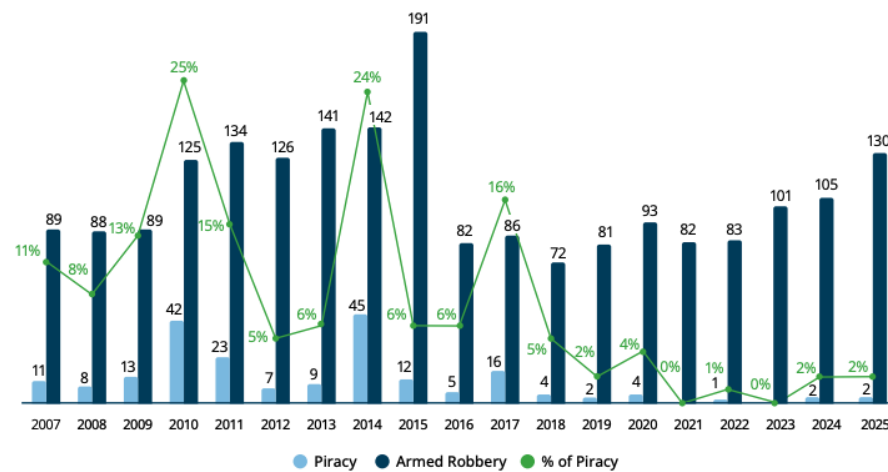
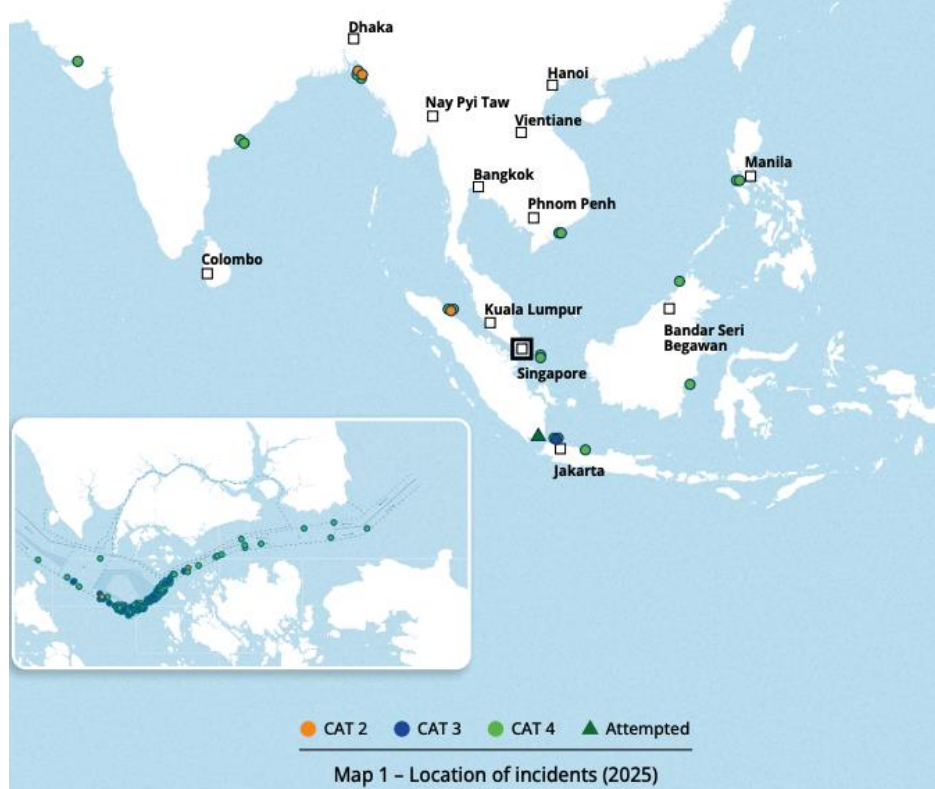


Chart 2 - Piracy Vs Armed Robbery Against Ships (2007-2025)

Dark / Shadow Fleet

IMO 2023 Resolution A.1192(33)

- “Dark fleet” or “shadow fleet” mean ships that are engaged in illegal operations for the purposes of circumventing sanctions, evading compliance with safety or environmental regulations, avoiding insurance costs or engaging in other illegal activities.
- CALLS UPON **coastal States** to monitor STS operations in their territorial sea and exclusive economic zone, notified in accordance with regulation 42 of Annex I of MARPOL, including monitoring the provision of the notifications required pursuant to regulation 42 of Annex I of MARPOL, and take appropriate actions in cases identified as not complying with the maritime safety and prevention of marine pollution regulations.



19 July 2024, a [Singapore-flagged tanker Hafnia Nile](#) and [Sao Tome and Principe-flagged tanker Ceres I](#) [collided](#) about 55km northeast of Pedra Branca island, causing both ships to catch fire.

Lloyd's List Intelligence identified Ceres I as part of the "dark fleet" with a documented history of transporting sanctioned oil.

2005 Protocol to the 1988 SUA Convention

Article 3bis — (Core offences) Unlawfully and intentionally:

- Uses a ship, or discharges explosives, radioactive material, BCN weapons, oil, LNG, or other hazardous substances, causing or likely to cause death, serious injury, or damage, with the purpose of intimidating a population or compelling a government/international organization
- Threatens to commit such acts
- Transports explosives, radioactive material, BCN weapons, nuclear-related materials, or technology intended for prohibited or harmful purposes

Article 3ter — Transporting offenders

- Transports a person aboard a ship, knowing that person committed a Convention offence, with the intention of helping them evade criminal prosecution

Article 3quater — Related and secondary liability, Criminalizes:

- Killing or injuring persons in connection with the offences
- Attempting to commit specified offences
- Aiding or abetting
- Organizing or directing others
- Intentionally contributing to offences committed by a group acting with a common criminal purpose or with knowledge of that purpose

2005 Protocol to the 1988 SUA Convention

Article 6:

1. Each State Party shall take such measures as may be necessary to **establish its jurisdiction** over the offences set forth in articles 3, 3bis, 3ter and 3quater when the offence is committed:

- (a) against or on board a ship flying the flag of the State at the time the offence is committed; or **(flag State)**
- (b) in the territory of that State, including its territorial sea; or **(territory)**
- (c) by a national of that State. **(nationality)**

2. A State Party may also establish its jurisdiction over any such offence when:

- (a) it is committed by a stateless person whose habitual residence is in that State; **(residential)** or
- (b) during its commission a national of that State is seized, threatened, injured or killed; **(nationality)** or
- (c) it is committed in an attempt to compel that State to do or abstain from doing any act. **(affected/protective)**

2005 Protocol to the 1988 SUA Convention

Article 11:

1. The offences set forth in articles 3, 3bis, 3ter and 3quater shall be **deemed to be included as extraditable offences in any extradition treaty existing** between any of the States Parties. States Parties undertake to include such offences as extraditable offences in every extradition treaty to be concluded between them.
2. If a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, the requested State Party may, at its option, **consider this Convention as a legal basis for extradition** in respect of the offences set forth in articles 3, 3bis, 3ter and 3quater. Extradition shall be subject to the other conditions provided by the law of the requested State Party.
3. States Parties which do not make extradition conditional on the existence of a treaty shall **recognize the offences set forth in articles 3, 3bis, 3ter and 3quater as extraditable offences** between themselves, subject to the conditions provided by the law of the requested State Party.

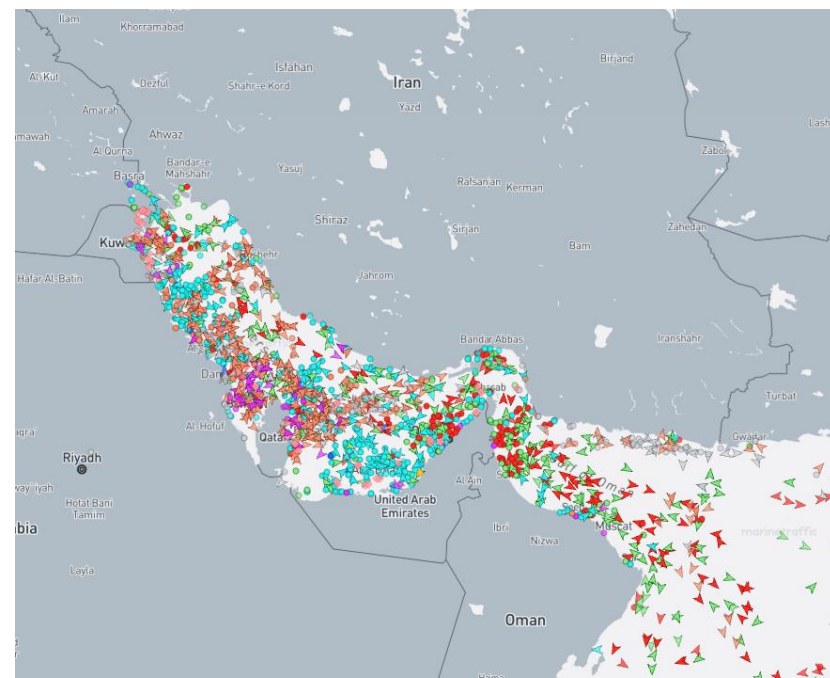
Part V Peace and Security Threats

- **Increased military activity and maritime confrontation** – naval deployments; military exercises; confrontations involving warships and government vessels; maritime-militia activity; and other forms of grey-zone pressure
- **Armed conflict and the use of force at sea** – attacks on merchant ships; purported or de facto blockades; threats of selective interdiction; sanctions and counter-sanctions; port disruption; mines and unexploded ordnance; and risks to the safety and well-being of seafarers
- **Impacts on the openness and security of critical shipping lanes** – rerouting to longer routes; increased insurance premiums; conflicting instructions from different authorities; crew fatigue; port disruption; and reduced confidence in the stability and predictability of international sea lanes

Armed Conflict at Sea

The Strait of Hormuz

- De facto blockade of the strait by Iran using the Revolutionary Guard Corps to target commercial shipping that lacks explicit Tehran authorization
- An IMO coordinated evacuation framework stalled following repeated drone and projectiles strikes
- At least 70 commercial vessels have been attacked in the region resulting in the deaths of 19 seafarers; up to 400 ships carrying around 6,000 seafarers have been unable to depart safely



[Maritime Traffic on 6 September 2026](#)



Thailand-flagged cargo ship [Mayuree Naree](#) struck by [Iran](#) while transiting the Strait of Hormuz

Armed Conflict at Sea

Legal Reime	Core Questions in the Strait of Hormuz	Responses by Non-Belligerent States
UN Charter / <i>Jus ad Bellum</i>	Is the resort to force lawful, including any claimed self-defence under Article 51?	Advocacy for rule-based legal order; Take bilateral and multilateral diplomatic actions including at the UNGA and UNSC
UNCLOS and customary law of the sea	What navigational rights apply in the Strait, and what may Iran regulate (non-party to UNCLOS)?	Insist on the customary status of the strait used international navigation; Insist on the non-suspendable transit passage and innocent passage
Naval warfare and international humanitarian law	Which vessels are civilian objects and which, if any, qualify as military objectives? Are naval blockades, maritime exclusion zones, mine warfare and convoy operations lawful?	Require parties to comply with distinction, proportionality and precautions; preserve the civilian character of national merchant shipping; provide or facilitate search-and-rescue and humanitarian assistance consistent
Neutrality law	When may a belligerent interfere with neutral commerce, through visit and search, contraband control, prize measures or enforcement of a lawful blockade?	Maintain impartiality between belligerents; Prevent use of national territory, ports, territorial waters and airspace for prohibited hostile acts; Protect neutral commerce and citizens

Concluding Remarks

- Critical shipping lanes are indispensable to global trade, energy security and human welfare, but are increasingly exposed to safety risks, maritime crime, coercive activity and armed conflict
- A rules-based legal framework remains essential: UNCLOS safeguards navigational rights; IMO conventions support safety and security; and IHL and neutrality law constrain conduct at sea during armed conflict
- The priority is to ensure that legal rights remain practically effective: civilian shipping must be able to navigate safely, crews must be protected, and critical sea lanes must not be unlawfully obstructed, threatened or militarized
- Protecting open and safe sea lanes requires respect for international law, effective cooperation among States, and accountability for unlawful interference with navigation



CENTRE FOR INTERNATIONAL LAW
National University of Singapore

Thank you

Dr. Zhen Sun

Centre for International Law

National University of Singapore

zhen.sun@nus.edu.sg