



Protection and Preservation of Marine Environment under LOSC  
 MARPOL  
 MARPOL Annex 1 (oil pollution)  
 Ballast Water Management Convention

China-ASEAN Academy on Ocean Law and Governance  
 1<sup>st</sup> Special Program of Maritime Law Enforcement

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Anthony Morrison, PhD (amorriso@uow.edu.au)  
 Research Fellow, Australian National Centre for Ocean Resources and Security (ANCORS)




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**Protection and Preservation  
 of the Marine Environment  
 Under Law of the Sea  
 Convention**

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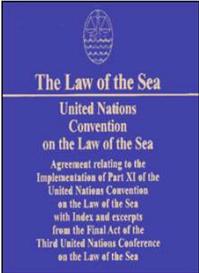
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**INTRODUCTION**

- Protection and preservation of the marine environment was one of the fundamental reasons for the Law of the Sea Convention



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PART XII: PROTECTION AND PRESERVATION OF THE MARINE ENVIRONMENT

- Part XII divided into 11 distinct Sections
- Most Important:
  - **Section 1:** General Obligations: Arts 192-196
  - **Section 6: Enforcement:** Arts 213-222

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General Principles – Section 1

- Article 192-  
States have the obligation to protect and preserve the marine environment.

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- Article 194
  - (1) States shall take ...all measures...to prevent, reduce and control pollution of the marine environment from any source...
  - (2) States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights...

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(3) The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimize to the fullest possible extent:

- (a) the release of toxic, harmful or noxious substances ...from land-based sources, from or through the atmosphere or by dumping;
- (b) pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels;

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- (c) pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil,
- (d) pollution from other installations and devices operating in the marine environment...etc

...

(5) The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

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- Article 1(4) LOSC
- "pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities

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- Trail Smelter Arbitration (*United States v Canada*) (1941)  
 ‘“Under the principles of international law...no state has the right to use or permit the use of territory in such a manner as to cause injury by fumes in or to the territory of another of the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.”

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- Principle 21 of Stockholm Declaration
- States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.
- Article 194(5) – Particularly Sensitive Sea Areas (PSSA)

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- Article 196(1)  
 1. States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto.

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- Arts 207 – 212, each dealing with a specific source of pollution.
- Art 211 lays down a general obligation for States, acting through the competent international organization (IMO) or general diplomatic conference, to establish international rules and standards regarding vessel-source pollution and to re-examine them from time to time, as necessary.

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Main Pollution Conventions

- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
- International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (Intervention Convention)

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- International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM 2004); and
- International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001 (AFS 2001).

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**Vessel Source Pollution**

- What is meant by the "marine environment"?
  - Not defined in the LOSC
- Only term defined is "Pollution of the marine environment" .  
Art 1(4) defines "pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities

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**MARPOL – Definition of "Ship"**

- **Ship** means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.

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**Protection of Marine Environment – MARPOL**

- Historical Background
  - *International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL)*, 1954
  - *Torrey Canyon* sinking, 1967
  - *International Convention for the Prevention of Pollution of Ships*, 1973
  - *Protocol to International Convention for the Prevention of Pollution of Ships*, 1978 (*MARPOL*)

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**MARPOL 73/78**

- MARPOL -
  - governs the design, construction, equipment and operation of ships;
  - establishes a system of certificates, surveys and inspections; and
  - requires port States to provide reception facilities for the disposal of waste oil, chemicals and garbage from ships.

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**MARPOL 73/78**

- **Substantive Provisions** – include the obligation on States:
  - to implement the Convention’s technical standards on board its ships (Flag State obligation);
  - to penalise breaches and co-operate in enforcement;
  - to ensure the provision of waste reception facilities in ports; and
  - to provide information on participation in the Convention to other State Parties through the IMO (which is the depository and Secretariat to the Convention).

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**MARPOL 73/78**

- A port State's entitlement to exercise jurisdiction over visiting foreign ships, both party and non-party, is defined (Port State Control)
- There are also Articles relating to
  - requirements for the reporting of marine pollution incidents,
  - settlement of disputes between Parties to the Convention,
  - communication of information from Parties to IMO,
  - investigation of ship casualties

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**MARPOL 73/78**

- **Technical Provisions – six Annexes:**
  - Annex 1 – oil
  - Annex 2 – noxious liquid substances (NLS)
  - Annex 3 – harmful packaged substances (HPS)
  - Annex 4 – sewage
  - Annex 5 – garbage
  - Annex 6 – air pollution

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### MARPOL (Annex 1)

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**MARPOL Annex 1 – OIL**

- Under Annex I, the discharge of oil and oily mixtures into the sea from any ship is prohibited.
- “Oil” is defined as:
  - *Petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than petrochemicals which are subject to the provisions of Annex II of the present Convention) and, without limiting the generality of the foregoing, includes the substances listed in appendix I to this Annex.*

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**MARPOL Annex 1 – OIL**

- Some operational discharges are permitted but in strictly limited circumstances.
- All ships over 400 grt and all oil tankers over 150 grt
  - Must be surveyed and certified
  - Must obtain and carry a valid International Oil Pollution Prevention Certificate (IOPPC)
  - Must carry and maintain an Oil Record Book
  - Must carry a Shipboard Oil Pollution Emergency Plan
  - Must report all discharges of oil to relevant authorities

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**Ballast Water  
Management Convention**

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**The Problem of Ballast Water**

- Ballast water as a mode of introduction of invasive alien species
- Intentional or unintentional (“hitchhiking”)
- Some ships have ballast water amounting to 25%-50 % dwt.
- Vessels have from several 100 litres to over 100,000 tons of ballast water
- 3,000 alien species transferred in ballast water each day

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**Control of Ballast Water - LOSC**

- LOSC – Art 196(1)

States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from ... the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto

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**Ballast Water Convention**

- 22 Articles, 1 Annex and 2 Appendices
  - Preamble
    - RESOLVED to prevent, minimize and ultimately eliminate the risks to the environment, human health, property and resources arising from the transfer of Harmful Aquatic Organisms and Pathogens through the control and management of ships’ Ballast Water and Sediments, as well as to avoid unwanted side-effects from that control and to encourage developments in related knowledge and technology

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**Ballast Water Convention**

**Definitions – Article 1**

“Ballast Water” means water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship.

“Harmful Aquatic Organisms and Pathogens” means aquatic organisms or pathogens which, if introduced into the sea including estuaries, or into fresh water courses, may create hazards to the environment, human health, property or resources, impair biological diversity or interfere with other legitimate uses of such areas.

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**Ballast Water Convention**

**– Art 2 – General Obligations**

- Parties undertake to give full and complete effect to the provisions of this Convention and the Annex thereto in order to prevent, minimize and ultimately eliminate the transfer of Harmful Aquatic Organisms and Pathogens through the control and management of ships’ Ballast Water and Sediments.

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**Ballast Water Convention**

**– Art 3 – Application**

The Convention applies to:

- (a) ships entitled to fly the flag of a Party; and
- (b) ships not entitled to fly the flag of a Party but which operate under the authority of a Party.

The Convention does not apply to ships listed in Art 3 (2)

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**Ballast Water Convention**

- Main operating provisions -
  - Reception facilities – Art 5
  - Survey, Certification, Inspection and Enforcement
    - Primary responsibilities – Art 4
    - Survey requirements – Art 7
    - Port State inspection – Art 9
    - Enforcement – Arts 8,10,11 and 12
  - Scientific monitoring and cooperation Arts 6,13 and 14

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**Ballast Water Convention**

- Annex - 5 Sections
  - Section A – General Provisions (definitions, applicability, exceptions and exemptions)
    - A-2 “discharge of Ballast Water shall only be conducted through Ballast Water Management, in accordance with the provisions of this Annex.”
      - Exceptions:
        - Saving life at sea
        - Accidental discharge
        - Pollution prevention
        - Uptake and discharge on high seas
        - Uptake and discharge at same place without further uptake

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**Ballast Water Convention**

- Section B – Management and Control requirements for ships
  - Management plan,
  - record book,
  - timetable for implementation of standards in Section D,
  - requirements for ballast water exchange,
  - sediment management,
  - duties of crew.
- Section C – Special requirements in certain areas

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**Ballast Water Convention**

- Section D – Standards for Ballast Water Management
  - Two standards:
    - Regulation D-1 – Ballast water exchange standard
      - 95% volumetric exchange by either
        - » Contemporaneous discharge and uptake
        - » Pumping through method
    - Regulation D-2 – Ballast Water Performance Standard
      - sets out the level of discharge of viable organisms by volume by ships conducting ballast water management.
  - Regulation D-3
  - IMO approval required for all management systems

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**Ballast Water Convention**

- **Treatment Systems Approved**
  - Ballast water exchange not permitted after 2016
  - As January 2019, 43 systems given final approval by IMO under Regulation D-3 including:
    - Heated water
    - Centrifugal separators backed by UV treatment;
    - Use of biodegradable chemicals
    - Use of electric power

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**Ballast Water Convention**

- Convention came into force on 8 September 2017
- As of 5 August 2019, 81 countries representing 80.76% of world tonnage
- July 2017 – MEPC decision to stagger implementation

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