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Towards Comprehensive Protection
of the Marine Environment:
Testing the Boundaries of the
MARPOL and BASEL Regimes

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Summary

This thesis discusses the potential conflicts between the MARPOL and BASEL regimes in relation with management of wastes derived from operations of ships. The analysis whether the BASEL Convention provides an overarching regime to deal with waste cycle from generation to disposal is also addressed for determining if MARPOL has to complement this regime.

To this end, a holistic view regarding the evolution of the control of ship source pollution and transboundary movement of wastes is presented. This historic approach reveals that fundamental principles governing transboundary transfers are inapplicable to wastes generated on board vessels. An essential piece of analysis is the exclusion of wastes derived from normal operations of ships which discharge is covered by another Convention, *i.e.* MARPOL, from the scope of the BASEL Convention. This exclusion is relevant to define up to what extent the categorization of wastes as derived from normal or abnormal operations influences their juridical treatment. In addition, it is scrutinized whether ship residues received into port reception facilities, as required by MARPOL, are subject to the national legislation of the State receiving those wastes or to the environmentally sound management obligations prescribed in the BASEL Convention. Furthermore, this thesis attempts to clarify the potential conflicts between the BASEL regime and navigational freedoms of vessels engaged in transboundary movement of wastes. Finally, the jurisdictional powers of flag, coastal, and port States in relation to ship source pollution are examined.

From the study of the scope of application of MARPOL and the BASEL Convention together with their main obligations, it is concluded that these Conventions are mutually exclusive. In this sense, efforts directed to justify their concomitant application undermine the effectiveness of both regimes.

Key words: ship source pollution, port reception facilities, navigational freedoms, blending operations, transboundary movement of wastes, prior informed consent, environmentally sound management of wastes, legislative and enforcement jurisdiction.

Abbreviations

APS	Amsterdam Port Services
BAMA KO Convention	Convention on the Ban of the Import in Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, 1991
BASEL Convention	Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, 1989
CLC 1992	International Convention on Civil Liability for Oil Pollution Damage, 1992
CO ₂	Carbon Dioxide
COW	Crude Oil Washing
EC	European Community
EEZ	Exclusive Economic Zone
ESM	Environmentally Sound Management
GENEVA Conventions	Convention on the High Seas, 1958 Convention on the Territorial Sea and Contiguous Zone, 1958
GESAMP	UN's Group of Experts on the Scientific Aspects of Marine Pollution
HELSINKI Convention	Convention for the Protection of the Marine Environment of the Baltic Sea Area, 1992
ICJ	International Court of Justice
IMDG Code	International Maritime Dangerous Goods
IMO	International Maritime Organization
IMO Convention	Convention on the International Maritime Organization
INTERVENTION Convention	International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969
IOC	UNESCO's Inter-governmental Oceanographic Commission
ITLOS	International Tribunal for the Law of the Sea

Kyoto Protocol	Protocol to the United Nations Framework Convention on Climate Change, 1997
LONDON Convention	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 and its 1996 Protocol
MARPOL	International Convention for the Prevention of Pollution from Ships as Modified by its 1978 Protocol (MARPOL 73/78)
NO _x	Nitrogen Oxide
OBO carrier	Ore-bulk-oil carrier
ODMACS	Oil Discharge, Monitoring, and Control System
OECD	Organization for Economic Cooperation and Development
OEGW	Open-ended Working Group of the BASEL Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal
OILPOL 54	International Convention for the Prevention of the Sea by Oil, 1954
OPRC 90	International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990
PIC	Previous Informed Consent
RIO DECLARATION 1992	United Nations Conference on Environment and Development
SOLAS Convention	International Convention for the Safety of Life at Sea, 1974 as amended
SO _x	Sulphur Oxide
STOCKHOLM POPS Convention	Convention on Persistent Organic Pollutants, 2001
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea, 1982
UNFCCC	United Nations Framework Convention on Climate Change, 1992
UNESCO	United Nations Educational, Scientific and Cultural Organization
VLCC	Very Large Crude Carrier
VOCs	Volatile Organic Compounds

1 Introduction

“When it is asked how much it will cost to protect the environment, one more question should be asked: How much it will cost our civilization if we do not?”

Gaylord Nelson

Since the dawn of humanity the ocean has provided wealth to civilizations by enabling trade and providing natural resources. However, human activities have put enormous pressure on the health of the marine environment through overexploitation, for instance, of fisheries¹ and the entry of pollutants from several sources into the sea.² Although land based pollution is by far the greatest source of marine pollution,³ no pollutant has attracted more attention and has raised such deep emotions as ship source oil pollution.⁴ In fact, the *Torrey Canyon* disaster in 1967⁵ shook the international community that faced the oil spill of the Liberian tanker without the tools to effectively mitigate or remedy the damage caused by this major environmental catastrophe. Further, the advent of VLCCs⁶ transporting huge amounts of oil worldwide represented a ticking bomb threatening coastal States with further oil spills. This scenario prompted the replacement of OILPOL 54, the main objective of which was to control ship source oil pollution resulting from operational discharges.⁷ As a result, MARPOL was adopted and today it represents a comprehensive preventive regime regarding operational and accidental pollution from ships, through its six Annexes, which cover pollution not only from oil, but also from chemicals, harmful substances in packaged form, sewage, garbage, and air pollution.⁸ Further, the *Torrey Canyon* disaster served as a catalyst to strength coastal and port State jurisdiction in relation to the protection of the marine environment from ship source pollution.

MARPOL has been successful in contributing to the conservation of the marine environment.⁹ Nonetheless, two recent incidents have raised questions about the relationship of this regime with the BASEL Convention. The latter Convention is a regulatory instrument that governs transboundary movement of wastes and imposes strict controls to reduce waste generation. In principle, the BASEL Convention does not apply to

¹ Patricia Birnie, Alan Boyle, and Catherine Redgwell, *International Law and the Environment* (Oxford University Press, United States, 3rd Edition, 2009) Chapter 13.

² About the sources of marine pollution *see* UNCLOS, Part XII.

³ *Note* that “the major sources of marine pollution are on land, not afloat.” Birnie, *et al*, *supra* note 1, p. 400.

⁴ *See*, Proshanto K. Mukherjee, ‘The Penal Law of Ship-Source Marine Pollution: Selected Issues in Perspective,’ in: Tafsir Malick Ndiaye and Rüdiger Wolfrum (eds.), *The Law of the Sea, Environmental Law and Settlement of Disputes: Liber Amicorum Judge Thomas A. Mensah* (Martinus Nijhoff Publishers, The Netherlands, 2007), p. 465.

⁵ *Ibid*, pp. 463-464.

⁶ Colin de La Rue and Charles B. Anderson, *Shipping and the Environment: Law and Practice* (Informa Law, United Kingdom, 2nd Edition) p.10.

⁷ *Ibid*, pp. 821-823.

⁸ *Note* that only the Annexes I and II referent to oil and chemicals are mandatory.

⁹ Louise Angélique de La Fayette, ‘The Sound Management of Wastes Generated at Sea: MARPOL, not BASEL’, 39/4-5 *Environmental Policy and Law* (2002) pp. 207-208.

wastes governed by MARPOL.¹⁰ However, the limits between waste and marine environmental law seem to be blurred as the *Probo Koala* facts demonstrated. The vessel *Probo Koala* was chartered by Trafigura,¹¹ which performed blending operations on board the vessel. In July 2006, the ship arrived in Amsterdam and the services of Amsterdam Port Services (APS)¹² were engaged to discharge the slops into port reception facilities, as required by MARPOL. However, after half the wastes were discharged, APS noted the chemical characteristics of the slops that were finally reloaded upon the approval of the Port Authority.¹³ Up to this point the marine environmental legislation was scrutinized, but no consideration was given to the waste legislation. Finally, in August 2006 the ship sailed to Ivory Coast, where the wastes were discharged in Abidjan,¹⁴ resulting in loss of life, personal injury, damage to property, environmental damage, and pure economic loss. A second incident involved the OBO carrier *Probo Emu*. In this case, Trafigura also performed blending operations on board the vessel, which called at the port of Sløvåg on the west coast of Norway and declared to have on board slops that required to be discharged into reception facilities.¹⁵ Finally, in May 2007 an explosion occurred causing the release of harmful substances and further property damage, personal injury, economic loss and environmental damage.

The above mentioned events serve as an illustration to address several questions useful to elucidate the relationship between MARPOL and the BASEL regime. First, one should analyze the meaning of normal operation of the ship in the light of article 1 (4) of BASEL Convention to determine which wastes do not fall into the ambit of this regime, but under MARPOL. Second, under which circumstances do BASEL and MARPOL could, or is recommendable, to be applied together? Third, the BASEL Convention provides for the control of transboundary movement of wastes and the ESM of those wastes. Regarding this matter, an interesting debate has emerged in relation to the application of BASEL's ESM of wastes when no transboundary movement has occurred.

As Professor Birnie, *et al*, correctly explains, uncertainties about the boundaries of MARPOL and the BASEL regime undermine the effectiveness of both regimes.¹⁶ Hence, it is necessary to clarify whether these Conventions are complementary or mutually exclusive.

¹⁰ See article 1 (4) of the BASEL Convention: “[w]astes which derive from the normal operations of a ship, the discharge of which is covered by another international instrument, are excluded from the scope of this Convention.”

¹¹ Trafigura has its headquarters in London and the company is established in The Netherlands. J.M. Verschuuren and S. Kuchta, ‘Victims of Environmental Pollution in the Slipstream of Globalization’, in: Rianne Letschert, Jan van Dijk (eds.), *The New Faces of Victimhood. Globalization, Transnational Crimes and Victim Rights* (Springer, The Netherlands, 2011), pp. 127-156.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ Trygve Skjold, *Accident investigation following the Vest Tank explosion at Sløvåg*, <www.dsb.no/Global/Farlige%20stoffer/Dokumenter/Report_accident_vest_tank.pdf>, visited on 21 October 2011.

¹⁶ Birnie, *et al*, *supra* note 1, p. 484.

1.1 Subject and Purpose

The purpose of this thesis is to study the conflict between two important international regimes relating to the marine environment. Specifically, it is of fundamental importance to elucidate if the regulatory law regarding the prevention of ship source pollution governed by MARPOL is subject to the waste legislation established in the BASEL Convention. The topic will be discussed in three sections. The first section addresses the evolution of the principles that govern ship source pollution and the transboundary movement of wastes in relation with the marine environment. The second section tests the boundaries of MARPOL and the BASEL Convention. This is fundamental to fully understand the scope and aim of these instruments, and how they contribute to the protection of the marine environment as a whole. Finally, when protecting the marine environment from ship source pollution, Part XII of UNCLOS balances the legislative and enforcement jurisdiction of flag, port and coastal States. This balance of power will be scrutinized in the third section to identify in which maritime zone a State, flag, port, or coastal, can legislate ship source pollution, and under what circumstances violations of such legislation can be enforced.

This thesis aims to provide a holistic view of the public law of ship source pollution at the international level. To achieve this aim it is necessary to clarify the uncertainties regarding the relationship between MARPOL and the BASEL Convention. Indeed, these uncertainties have led to conclusions regarding the concomitant application of these instruments which have not taken consideration that: a) the BASEL regime provides a framework that controls and discourages the movement of wastes while MARPOL provides a regime to prevent and reduce pollution from shipping activities without discouraging trading by sea; b) the BASEL Convention impinges directly on States while MARPOL impinges directly on private operators; and c) MARPOL and the BASEL Convention do not use the same terminology, thus, it is not easy to determine the precise moment when MARPOL ends and the BASEL regime begins.

1.2 Methodology

To develop this thesis the information available needs to be systematized. Thus, the traditional dogmatic legal method of research is used. This method is essential to describe, interpret, and classify a variety of legal documentation, including international legislation, case-law, preparatory works, and doctrine.¹⁷ Through this method, clear basic concepts are established regarding: a) the principles that govern transboundary movement of wastes and the protection of the marine environment from ship source pollution; b) the aims, subject, and characteristics of MARPOL and

¹⁷ “the object of legal science is primarily of the legal dogmatic kind, *i.e.* that the main task of legal science is to investigate and systematize the applicable law.” *Note also* that the author is critic about the dogmatic method and provides insights about the evolution of this methodology. Peter Walhgren, ‘On the Future of Legal Science’, *Stockholm Institute for Scandianvian Law 1957-2009*, pp. 514-525.

the BASEL Convention; and c) the legislative and enforcement jurisdiction that flag, port and coastal States have in relation to the protection of the marine environment from ship source pollution.

Along with the dogmatic legal methodology a historical approach is used to grasp the underlying evolution of the regulation of ship source pollution and transboundary movement of wastes. A historical overview is not only significant to understand the past, but also to judge the present, and predict future trends. As Samuel correctly argues, the historical overview of the law allows tracing “its internal rationality.”¹⁸ Further, Van Hoecke characterizes legal science as a hermeneutical discipline “with also empirical, argumentative, logical, and normative elements”,¹⁹ where the interpretation of legal documents and texts in context, *i.e.* social, historical, or political, is fundamental to the jurist. After the data is collected, legal hermeneutics is of fundamental importance to the formulation of concepts and hypotheses that assist to clarify the uncertainties regarding the boundaries between MARPOL and the BASEL Convention, as well as, to provide a comprehensive view of the protection of the marine environment from ship source pollution.

1.3 Sources

The sources used to develop this thesis are literature contained in books, articles in peer reviewed journals, international law, case law, preparatory works, and official reports. The legal criteria produced by Secretariat of BASEL Convention are also scrutinized. Further, information is gathered from semi-structured interviews with professionals of IMO and BASEL Secretariat, and academics.

¹⁸ See that “[y]et, in doing this, it is necessary to adopt an external position as well... a scholar needs to understand... its development “from the inside”... but he also needs to stand outside the tradition, perceiving connections and adaptations over long periods of time and places.” Geoffrey Samuel, *Epistemology and Method in Law* (Ashgate Publishing Limited, United Kingdom, 2003) p 110.

¹⁹ “[i]n a hermeneutic discipline, texts and documents are the main research object, and their interpretation, according to standards methods, is the main activity of the researcher. This is clearly the case with legal doctrine.” Mark Van Hoecke, ‘Legal Doctrine: Which Methods for What Kind of Discipline,’ in: Mark Van Hoecke (ed.), *Methodologies of Legal Research* (Hart Publishing Ltd., United Kingdom, 2011), pp. 1-18.

2 Principles that Govern Ship Source Pollution and Transboundary Movement of Wastes

Before discussing in detail about ship source pollution and transboundary movement of wastes, a general overview of marine pollution is explained here. When it comes to the protection of the marine environment from the devastating effects of pollution, one question should be addressed first: What is pollution? The Merriam-Webster dictionary defines it as “the action of polluting especially by environmental contamination, with man-made waste”,²⁰ and the term polluting is defined as contamination, or to make something unclear or impure.²¹ All in all, pollution is described as a *human being activity that has as a consequence a detrimental impact, i.e. contamination and impurity*. However, a precise definition of marine pollution was developed after the growing awareness that the marine environment could not be considered any longer as an everlasting receptacle of pollutants. In this sense, the GESAMP and UNESCO’s IOC defined marine pollution as:

the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to marine activities, including fishing, impairment of quality for use of sea water and reduction of amenities.²²

This definition is incorporated, almost verbatim, in article 1 (4) of UNCLOS and a similar description of marine pollution is established in principle 7 of the Stockholm Conference, 1972.²³ Furthermore, from this characterization of pollution, one can conclude that the oceans shall be protected from all type of substances, introduced by human beings that have or may have a harmful effect to human health, to marine life, marine activities, and amenities of the marine environment as a whole. Hence, pollution is derived only from human activities, and no pollution will arise if the environment suffers no deleterious effect.²⁴ In determining which substances would constitute pollutants, the precautionary approach and the ecosystem approach are useful in this task. However, Churchill and Lowe mention that

²⁰ *Merriam Webster Dictionary*, <www.merriam-webster.com/dictionary/pollution>, visited on 15 February 2012.

²¹ *Ibid.*, <www.merriam-webster.com/dictionary/polluting>, visited on 15 February 2012.

²² GESAMP, *Report of the First Session* (UN Doc. GESAMP I/11, 1969) p. 5.

²³ See principle 7 that states: “States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.”

²⁴ *Note that* the “adverse environmental effects may also be inflicted by natural processes, but such contamination –including *e.g.* oil-seepage from the sea-bed ... is not “pollution” for the definition’s purposes.” Kari Hakapää, *Marine Pollution in International Law* (Suomalainen Tiedeakatemia, Finland, 1981) p. 39.

this definition has “been criticized for not taking sufficient account of the need to prevent changes in the marine environment.”²⁵ Finally, from the above mentioned definition, it is evident that the sea is subject to the harmful effects of several pollutants, but what are the sources of these marine environment’s pollutants?

The increasing concern about marine pollution during the 1960s and the 1970s, especially after disasters, such as the *Torrey Canyon* in 1967 and the *Amoco Cadiz* in 1978, served as catalysts to legislate it in a comprehensive manner. In this sense, one of the main accomplishments of UNCLOS was to establish a framework that deals with all sources of marine pollution. These sources according to article 194 of UNCLOS derive from the following human activities: shipping, exploitation and exploration of the sea bed, dumping, land-based, and atmospheric pollution. The umbrella provisions prescribed in UNCLOS have endorsed many international regimes, such as MARPOL²⁶ or the London Convention²⁷ that regulates dumping. Furthermore, UNCLOS has also allowed developments in respect of the protection of the marine environment from pollution. For instance, article 195 of UNCLOS is the blueprint for the BASEL Convention.

This general overview illustrates how pollution is understood in legal terms. Also, the variety of marine pollution sources demonstrates that the protection of the oceans is a complex task where cooperation among States is central for achieving the objectives established in Part XII of UNCLOS.

2.1 The Marine Environment and Ship Source Pollution

According to the 1990 GESAMP report, shipping activities contribute to marine pollution in 12 per cent, while land based activities represent 44 per cent of the marine pollution.²⁸ Furthermore, although major oil pollution from ships has attracted public attention as no other pollutant, ship source pollution is not only confined to oil spills. Indeed, as Professor Mukherjee accurately explains, shipping activities cause atmospheric²⁹ and marine pollution, and the latter can be voluntary or accidental.³⁰ Voluntary must be understood as to ship operational discharges that are *necessary* and “incidental to its regular and normal operations.”³¹ For instance, a ship during its voyage will generate sewage, garbage, and oil wastes from machinery spaces. These substances and their discharge into the sea and/or

²⁵ R.R. Churchill and A.V. Lowe, *The Law of the Sea* (Manchester University Press, United States, 3rd Edition, 1999) p 329.

²⁶ See article 211 of UNCLOS.

²⁷ See articles 210 and 216 of UNCLOS.

²⁸ GESAMP, *The State of the Marine Environment* (UNEP 1990) p. 88. Available at <www.gesamp.org/data/gesamp/files/media/Publications/Reports_and_studies_39/gallery_1283/object_1296_large.pdf, visited on 15 February 2012.

²⁹ See MARPOL Annex VI. International Maritime Organization (IMO), *MARPOL: Consolidated Edition 2006* (International Maritime Organization, United Kingdom, 2006).

³⁰ Mukherjee, *supra* note 4, p. 466.

³¹ *Ibid.*

into reception facilities are strictly regulated under MARPOL Annexes I to VI concerned respectively with: oil, noxious liquid substances in bulk, harmful substances carried at sea in packaged form, sewage, garbage, and air pollution. Finally, accidental ship source pollution results, for example, from a collision or stranding and the spill of cargo could have disastrous effects in the marine environment, its living resources, human health, and property. Nevertheless, there is in place regulations to prevent accidental ship source pollution and to take prompt and immediate action to mitigate the effects of an accidental pollution. Particularly, preventive measures are prescribed under MARPOL (Annexes I and II), and the OPRC 90 has both preventive and mitigation measures.³² The above mentioned classification reveals that ship source pollution is multidimensional. Indeed, in relation with public regulatory law, MARPOL is the most comprehensive and successful regime regarding the prevention of ship source pollution.

At this point, it is necessary to clarify that wastes generated on land that are taken by ships with the exclusive objective to be disposed at sea are not generally treated as ship source pollution, but as an extension of land based pollution.³³ Nevertheless, these wastes can be considered as ship cargo, which is voluntarily disposed in the ocean.³⁴ Thus, what is the difference between dumping and pollution from ships? According to Churchill and Lowe, the *rationale* behind dumping, which differentiates it from ship source pollution, is that in the former, the ship voyage is conducted to *deliberate* dump wastes in the sea.³⁵ As Professor Mukherjee summarizes, dumping is “neither operational nor accidental.”³⁶ Furthermore, dumping is now heavily regulated under the London Convention 1976 and even prohibited under the London Convention Protocol of 1996.

All in all, ship source pollution at present is strictly regulated. Indeed, the international community has experienced a trend from a certain freedom to pollute the oceans to a comprehensive obligation to protect and preserve the marine environment, as explained below.

2.1.1 The Geneva Conventions 1958: A License to Pollute the Oceans?

Looking through the Geneva Conventions, those instruments provide little guidance about the principles that govern ship source pollution. In fact, the evolution of the control of ship source pollution demonstrates an initial

³² *Ibid*, p. 468.

³³ Churchill and Lowe, *supra* note 25, p. 330. “although it has to be considered from land-based sources because the areas where dumping takes place are obviously juridical different from land territory.”

³⁴ *Cf.* Mukherjee, *supra* note 4, p. 467. “whether it can be characterised as ship-source, or more appropriately as a land-based source of pollution, is a matter of inconsequential debate.”

³⁵ Churchill and Lowe, *supra* note 25, p. 330.

³⁶ Mukherjee, *supra* note 4, p. 467. *Note that* “[t]he distinction between operational discharge and deliberate dumping is manifested by their mutual exclusions stated expressly in the respective definitions of “discharge” in MARPOL and “dumping” in the London Convention. Discharge and dumping are, in a sense, both voluntary acts, but whereas discharge is necessitated by operational compulsion, dumping is clearly deliberate.”

concern about oil pollution and a need to obtain further understanding of the oceanic processes.³⁷ For these reasons, it is not surprising that article 24 of the High Seas Convention of 1958 is the only reference regarding ship source oil pollution. In fact, this article prescribes that: "Every State shall draw up regulations to prevent pollution of the seas by the discharge of oil from ships ... taking account of existing treaty provisions on the subject." It is interesting to note that this provision refers to 'existing treaty provisions on the subject,' but does not mention that States *must or shall* conform its oil pollution standards to such treaty provisions, *e.g.* OILPOL 54, but only to take them into consideration. As Professor Birnie, *et al*, correctly points out, States were not bound to follow international provisions, but had "much discretion in the choice of measures to take."³⁸ In this context, it is obvious that regulations among States could be dissimilar with the result of "a substantial freedom to pollute the oceans"³⁹ not only with oil, but also with other substances, such as sewage.

To fully understand article 24 of the High Seas Convention of 1958 several aspects must be taken into consideration. First, vast areas of the sea, beyond the territorial sea, were subject to the high seas regime as article 1 of the Convention prescribes. Second, article 6 of the Convention confirms that the flag State exercises exclusive jurisdiction over its vessels on the high seas. Third, although the Territorial and Contiguous Zone Convention of 1958 does not establish the breadth of the territorial sea, by that time, most of the States claimed the territorial sea's breadth up to three, four, and six nautical miles.⁴⁰ Finally, OILPOL 54 was concerned with oil pollution from ships, but there was no single instrument of international law dealing with ship source pollution. All these circumstances made coastal States particularly vulnerable to ship pollution, coupled with a growing dissatisfaction regarding the prevention of marine pollution.⁴¹ Additionally, as analyzed below, several changes were brought by UNCLOS. Among the most distinguished are: a) the advent of the EEZ and the retreat of vast areas from the high seas regime, b) a comprehensive regime to deal with marine pollution, and c) conservation of the principle of jurisdiction of the flag State to regulate pollution from ships with a strengthening of coastal and port State jurisdiction.

The vague obligation to regulate ship source oil pollution established in article 24 of the High Seas Convention of 1958 has to be analyzed in the light of article 2 of the Convention. This article prescribes that the freedoms of the high seas, *e.g.* navigation, have to be exercised with reasonable regard of other States' interests. Nonetheless, the term

³⁷ See Jan Schneider, 'Pollution From Vessels' in: Douglas M. Johnston (ed.), *The Environmental Law of the Sea* (IUCN, Switzerland, 1981), Chapter 3, Part II, pp. 203-217.

³⁸ Birnie, *et al*, *supra* note 1, p. 386.

³⁹ *Ibid.*

⁴⁰ Churchill and Lowe, *supra* note 25, pp. 77-81.

⁴¹ See a declaration of Canada in 1970 about high seas freedom in respect of the Arctic: "The major maritime powers have insisted for too long on a peculiar conception of the freedom of the seas in which freedom has tended to mean license ... Canada cannot accept the view that ... pollution jurisdiction must stop at twelve miles." Robert Neuman, 'Oil on Troubled Waters: The International Control of Marine Pollution', Vol 2, No.2 *Journal of Maritime Law and Commerce* (January 1971) p. 351.

reasonable regard is not entirely clear because it does not stipulate the rights and obligations of States, so “there should be a case by case weighing of the actual interests involved... in order to determine which use is reasonable.”⁴² Thus, it seems that the reasonable use established under the High Seas Convention of 1958 deals with the competition of lawful activities on the high seas, but says little about protection of the marine environment and prevention of ship source pollution.

Finally, none of the Geneva Conventions define what pollution or environmental harm is.⁴³ Additionally, those instruments do not establish explicit principles that govern ship source pollution. Nevertheless, what guidance can be found in customary law?

2.1.2 Customary Law Before UNCLOS

When discussing about customary law, it is necessary to be acquainted with the meaning of custom, its impact on the development of law, and the difference with treaty law. It is a well-recognized principle that treaties are only binding to States that express their consent to become parties of a particular Convention, as established in the *North Sea Continental Shelf* cases.⁴⁴ However, many treaties codify existing customary law. In this particular scenario, non-parties are still bound by the customary rules that have been reiterated in the treaty. Finally, treaties may create customary law and then bound non-parties. Evidently, customary law will not bound States that have rejected it. All in all, although treaty law is the most widespread source of international law, custom still remains important to be studied.

From a historical perspective, custom was the earlier manner to govern the behavior of a society, and it comprised religious, morals, and ethic practices.⁴⁵ In fact, custom led to the development of law, through codification.⁴⁶ However, among the international community, today, custom is a source of law as established in article 38 of the Statute of the ICJ.⁴⁷

As a source of law, international custom must fulfill the conditions prescribed in article 38 of the ICJ’s Statute: a) it has to be a ‘general practice’, and b) it must be ‘accepted as law’. Thus, international custom has an objective parameter: the practice of the State, which ought to be general, uniform, repetitive, and should be exercised through a period of time.⁴⁸ Furthermore, international custom has a subjective parameter known as *opinio juris*, which demands the State practice to be accompanied with the internal conviction that a law exists and demands a particular

⁴² Churchill and Lowe, *supra* note 25, p. 206.

⁴³ Note that environmental damage is a broader term than pollution. Birnie *et al*, *supra* note 1, pp. 184-189.

⁴⁴ *North Sea Continental Shelf* cases [1969] ICJ Rep. 3.

⁴⁵ Proshanto K. Mukherjee, *Maritime Legislation* (WMU Publications, Sweden, 2002) p.5.

⁴⁶ *Ibid.*, p. 27.

⁴⁷ Malcolm N. Shaw, *International law* (Cambridge University Press, United States, 6th Edition, 2008) pp. 70-71. Note “since all members of the United Nations are *ipso facto* parties to the Statute ... there is no serious contention that the provision expresses the universal perception as to the enumeration of sources of international law.”

⁴⁸ *Ibid.*, pp. 76-78. Note that some customary law can develop very quickly.

performance.⁴⁹ As well, the development of customary rules should be examined in relation to other States' reactions to a particular practice. Taking into consideration that the international community interacts under the basic principle of sovereign equality contained in the United Nations Charter, article 2 (1), a custom requires the acceptance of other States, through explicit or tacit consent.⁵⁰

Before the advent of UNCLOS, Brownlie and Teclaf expressed that international law did not have particular customary law related with marine pollution.⁵¹ Nevertheless, there are rules that could be applied to the protection of the marine environment from pollution. First, in the *Trail Smelter* arbitration, between United States and Canada, a smelter situated in Canada released fumes that caused damage in the United States. In this case, the tribunal stated that "no State has the right to use or permit the use of its territory in such a manner to cause injury by fumes in or to the territory of another"⁵² State. Similarly, in the *Corfu Channel* case, British warships while navigating in Albanian territorial waters (the status of the North Corfu Channel as an international strait was disputed by Albania) struck mines causing loss of life and property damage. Albania was held liable and the Court indicated that is "every State's obligation not to allow knowingly its territory to be used contrary to the rights of other States."⁵³

Authors like Abecassis and Jarashow,⁵⁴ and Churchill and Lowe⁵⁵ argue that these cases formed the basis of a general duty to protect the marine environment. So, States must prevent that its nationals, ships, and floating devices do not, for example, discharge substances into the sea, which could affect other States. However, Churchill and Lowe correctly recognize that this general duty, if any, does not offer any concrete obligation regarding ship pollution or liability standards.⁵⁶ Furthermore, it is undeniable that both the *Corfu Channel* and the *Trail Smelter* are concerned with the use of a State's territory. In this case, one can argue as depicted in *The Lotus* that a ship on the high seas is an extension of the territory of the State which flag the ship is entitled to fly. But this proposition seems now to be archaic and has been extensively rejected.⁵⁷ Particularly, ships on the high seas are subject to the law of the flag State not as an extension of the territory, but as Colombos explains, vessels are "property in place where no

⁴⁹ *Ibid*, pp.84-88.

⁵⁰ *Ibid*, pp. 89-90. See that the "silence of other states can be used as an expression of *opinio juris* or concurrence in the new legal rule." But "States fail to protest for many reasons ...-e.g.- diplomatic and political considerations."

⁵¹ Hakapää, *supra* note 24, p. 131.

⁵² *Trail Smelter* [1938/1941] III UNRIIAA, p. 1905.

⁵³ *Corfu Channel* [1949] ICJ Reports, p. 4.

⁵⁴ David W. Abecassis and Richard L. Jarashow, *Oil Pollution from Ships: International, United Kingdom, and United States Law and Practice* (Stevens & Sons Ltd., United Kingdom, 2nd Edition, 1985) p. 14.

⁵⁵ Churchill and Lowe, *supra* note 25, p. 332.

⁵⁶ *Ibid*. "this rule appears to be too vague to be very effective, and certainly is incapable of developing ... into detailed emissions standards or liability regimes that are required."

⁵⁷ C. John Colombos, *The International Law of the Sea* (Longmans, United Kingdom, 6th Edition, 1967) p. 286-288.

local jurisdiction exists.”⁵⁸ All in all, even the customary law analyzed here fell short of regulating and preventing ship source oil pollution.

As a final point, Hakapää interpreted the cases above mentioned in the light of the doctrine of the abuse of rights,⁵⁹ good neighborliness, and the maxim of *sic utere tuo ut alienum non laedas*,⁶⁰ i.e. use your own as not to injure another’s property.⁶¹ Nonetheless, these principles do not provide any further content of rights and obligations in respect of prevention of marine pollution.

2.1.3 UNCLOS: The Constitutional Treaty

At the thirtieth anniversary of the adoption of UNCLOS in 1982, it is essential to recall the words of Tommy Koh, President of the Third United Nations Conference on the Law of the Sea, regarding UNCLOS as the constitution of the oceans.⁶² This accurate description is supported by the wide acceptance of the Convention, which now counts with 162 parties.⁶³ In relation to the protection of the marine environment, Part XII of this instrument reflects the transition from a ‘freedom’ to pollute to a duty to prevent, mitigate, and remedy the damage caused by all sources of marine pollution. Additionally, this comprehensive framework is considered as customary law “by courts, international organizations, and non-parties.”⁶⁴ This view is strengthened by the language used in Part XII of the Convention that addresses to the States as the whole international community and not only to ‘States parties.’ Regarding ship source pollution, UNCLOS contains general and particular principles dealing with this matter.

Article 192 provides that States have a duty to protect and preserve the marine environment. This article is significant because it refers to the marine environment as a whole, so States must protect the oceans, including the high seas. Furthermore, article 194 (1) recognizes that measures to prevent, reduce, and control marine pollution from any source have to be taken by States using “the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavor to harmonize their policies”.⁶⁵ This provision concedes some degree of discretion to States when adopting the required measures, by taking into consideration a State’s capabilities and availability of resources. According to Professor Birnie, *et al*, this provision was established mainly for

⁵⁸ *Ibid*, p. 285.

⁵⁹ See Professor’s Birnie view about the doctrine of abuse of rights that can be understood in two ways: a) as a concept “that limits the exercise of a rights in bad faith” or b) as “a doctrine of reasonableness or a balancing of interests.” Birnie, *et al*, *supra* note 1, p. 204.

⁶⁰ Hakapää, *supra* note 24, pp. 136-145.

⁶¹ Farlex, *The Free Legal Dictionary*, <legal-dictionary.thefreedictionary.com/Sic+utere+tuo+ut+alienum+non+laedas>, visited on 20 February 2012.

⁶² Tommy Koh, *A Constitution for the Oceans*, <www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf>, visited on 20 February 2012.

⁶³ United Nations, *Status of UNCLOS*, <www.un.org/Depts/los/reference_files/status2010.pdf>, visited on 20 February 2012.

⁶⁴ Birnie, *et al*, *supra* note 1, 382.

⁶⁵ See article 194 (1) UNCLOS.

developing countries, and it is criticized for being vague and for constitute and ‘unhelpful generality.’⁶⁶ Despite the accuracy of this criticism, articles 202 and 203 of UNCLOS impose an obligation upon States to promote and provide technical and scientific assistance to developing States in the view to allocate resources and enhance the adoption and enforcement of measures to protect the marine environment. Either way, it seems that the flexibility given in article 194 (1) is absent in relation to ship source pollution because measures to prevent, reduce, and control pollution from ships must at least conform to “generally accepted international rules and standards.”⁶⁷

Article 194 (2) develops the customary law described in the *Trail Smelter* arbitration. Particularly, it indicates that:

States ... 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 ... under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights.⁶⁸

Finally, it is substantial to note that article 194 (5) demands the protection of fragile ecosystems. This provision strengthens the view that the marine environment has to be considered in its integrity, beyond national boundaries. Thus, marine ecosystems have to be protected not only because the benefit that they can offer to humanity, but also because of its intrinsic value.

The general obligations of UNCLOS as Sands correctly argues “serve as a basis for more detailed standards”⁶⁹ regarding marine pollution. Particularly, States have the obligation to: a) notify about imminent or actual damage of pollution to other States likely to be affected, b) promote scientific research and maintain contingency plans, and c) monitor and carry out environmental impact assessments.⁷⁰ Furthermore, article 197 prescribes that States must cooperate at global or regional basis, directly or through competent international organizations, *e.g.* IMO, in order to develop rules and standards regarding the protection of the marine environment. The obligation to cooperate acknowledges that marine pollution is international in nature because pollutants do not recognize boundaries and have deleterious effects to the oceans as a unit. So, regional and global standards will promote harmonization and an effective prevention, control, and remedy of marine pollution without discouraging legitimate uses of the sea, such as shipping. Furthermore, ITLOS in the *MOX Plant* case pointed out that: “the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law.”⁷¹ When dealing with ship source pollution, the general principles here analyzed must be observed, but UNCLOS also prescribe some specific principles regarding this pollution source.

⁶⁶ Birnie, *et al*, *supra* note 1, p. 389.

⁶⁷ See article 211 (2) UNCLOS.

⁶⁸ See article 194 (2) UNCLOS.

⁶⁹ Philippe Sands, *Principles of International Environmental Law* (Cambridge University Press, United Kingdom, 2nd Edition, 2003) p. 398.

⁷⁰ See articles 198, 199, 200, 201, 202, 204 and 206 of UNCLOS.

⁷¹ *MOX Plant Case (Provisional Measures)* [2001] ITLOS No. 10.

Pollution from ships involves many issues as established in article 194 (3) (b) of UNCLOS, such as: a) design, construction and ship manning, b) reduction and control of operational discharges, c) prevention and mitigation of accidental pollution, and d) safety of operations at sea. Furthermore, as Churchill and Lowe accurately explain, ship source pollution also deals with prescription and enforcement of pollution standards, cooperation to deal with pollution incidents and emergencies at sea, as well as liability.⁷² On the whole, when dealing with ship source pollution, it has to be in place, at international, regional, and national level, the trilogy presented by Professor Mukherjee as the “continuum of prevention, mitigation, and remedy.”⁷³

Article 211 of UNCLOS deals exclusively with ship source pollution and it has a twofold aim. First, it provides a jurisdictional framework that balances the interests of flag, coastal, and port States as analyzed in Chapter 4 of this document. Second, it requires States to act through a general diplomatic conference or the competent international organization, *i.e.* IMO, in order to establish rules and standards to “prevent, reduce, and control pollution of the marine environment from vessels.”⁷⁴ In fact, according to article 211 (2) the regulations and laws prescribed by the flag States must

at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference.⁷⁵

It has been widely accepted that ‘the competent international organization’ is a reference to IMO.⁷⁶ However, what are general accepted rules and standards is not a matter without controversy. As of 1 January 2012, parties to MARPOL Annexes I to VI represented the following percentages of world’s merchant shipping tonnage: both Annexes I and II 99 percent, Annex III 96 percent, Annex IV 86 percent, Annex V 97 percent, and Annex VI 91 percent.⁷⁷ The wide acceptance of MARPOL reveals that their Annexes can be regarded as general accepted rules and standards under article 211 (2) of UNCLOS. Nonetheless, up to what extent are States obliged to follow IMO’s guidelines or codes that are not binding? Furthermore, Churchill and Lowe,⁷⁸ Birnie,⁷⁹ and Rothwell and Stephens⁸⁰

⁷² Churchill and Lowe, *supra* note 25, p. 339.

⁷³ Mukherjee, *supra* note 4, pp. 468-471. “Preventive measures are put into place with the object of eliminating or reducing the chances of the pollution occurring ... By contrast remedial measures ... in relation to operational discharges, they are pursued routinely because of the cumulative effect of the pollution occurring over an infinite period. In cases of accidental spills, the measures are deployed expeditiously. Remedial measures are introduced when preventive measures fail to materialise.”

⁷⁴ See article 211 (1) UNCLOS.

⁷⁵ See article 211 (2) UNCLOS.

⁷⁶ Donald R. Rothwell and Tim Stephens, *The International Law of the Sea* (Hart Publishing, United Kingdom, 2010) pp. 343-344.

⁷⁷ International Maritime Organization, *Summary of the Status of Convention*, <www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx>, visited on 20 February 2012.

⁷⁸ Churchill and Lowe, *supra* note 25, p. 347.

⁷⁹ Birnie, *et al*, *supra* note 1, p. 404

argue that article 211 (2) may force flag States to follow standards adopted by the IMO even though they are not parties to a particular Convention. Although this argument may be truth if conventional law transforms into customary law, it is quite difficult to oblige a sovereign State to follow a Convention if such State has not consent to be bound. Hence, when discussing about general rules and standards it is not entirely clear what those rules and standards comprise, but a guidance is found in the wide participation of States in MARPOL Annexes I to VI, which should be considered to fall into the prescription of article 211 (2).

Finally, the framework structure to deal with ship source pollution prescribed under UNCLOS has endorsed many existing treaties, as well as allowed the development of further standards. As Barnes mentions UNCLOS constitutes a “reference point for the validity of subsequent rules on oceans matters.”⁸¹ Hence, in relation with ship source pollution there is a variety of instruments ranging from public to private law dealing with this matter.

2.1.4 UNCLOS’ Development after the Rio Declaration 1992

The constitutional character of UNCLOS serves as a basis for further development of standards especially in relation with the protection of the marine environment where scientific research, technology, ‘hard’, and ‘soft law’ have had an impact in the adoption of several environmental Conventions. Thus, UNCLOS as a framework treaty is a dynamic instrument. In fact, the provisions of Part XII must be read in conjunction with the international standards, global, regional rules, guidelines, and codes that have been established by the international community to give effect to its provisions. In this sense, up to what point is Part XII of UNCLOS subject to an “evolutionary interpretation” as called by Boyle?⁸² For instance, the Rio Declaration 1992 has introduced the precautionary approach, the polluter pays principle, and the need for a sustainable development that should integrate the society, economy, and environment.⁸³ Further, this Declaration emphasizes principles provided under UNCLOS, such as the importance of cooperation to deal with global environmental concerns, and the need to carry out environmental impact assessments for activities that could be harmful for the environment.⁸⁴ It must be noted that several instruments have introduced the precautionary approach and the polluter pays principle, such as the Helsinki Convention, 1992 that deals with the restoration of the Baltic marine environment, including the prevention for

⁸⁰ Rothwell and Stephens, *supra* note 76, p. 344.

⁸¹ See, Richard Barnes, David Freestone, and David M. Ong, ‘The Law of the Sea: Progress and Prospects’ in: Richard Barnes, David Freestone, and David M. Ong (eds.), *The Law of the Sea*, (Oxford University Press, United States, 2006), p. 465.

⁸² Alan Boyle, ‘Further Development of the 1982 Convention on the Law of the Sea: Mechanisms for Change’ Vol. 54, *International and Comparative Law Quarterly* (July 2005) p. 567.

⁸³ See principles 4, 13, and 15 of the Rio Declaration 1992.

⁸⁴ See principles 12, and 17 of the Rio Declaration 1992.

ship source pollution. Additionally, Boyle accurately explains that the precautionary approach, *i.e.* to take the measures to protect the environment although there is no scientific certainty about the potential harm of a proposed activity, definitely has an impact on the obligation established in article 194 of UNCLOS regarding the prevention, reduction, and control pollution of the marine environment.⁸⁵ Hence, it is undeniable that principles of the Rio Declaration and its Chapter 17 promote governance⁸⁶ of the oceans, by encouraging a sustainable⁸⁷ use and conservation of the marine environment and an integrated management of the marine and coastal environment. These goals influence the interpretation of UNCLOS - Part XII.

It must be borne in mind that the Rio Declaration is a ‘soft law’ instrument, and so, it is neither ‘law’ nor it is binding. Nonetheless, the influence of ‘soft law’ documents must not be overlooked because they encourage the development of law and provide evidence of the States’ political will. Additionally, the influence that soft or hard law may have in UNCLOS does not mean a “revision or rewriting”⁸⁸ of the Convention because interpretation “is a judicial function, whose purpose is to determine the precise meaning of a provision, but which cannot change it.”⁸⁹ Indeed, when interpreting treaties one should follow the principles established in articles 31 to 33 of the Vienna Convention on the Law of Treaties, 1969. First, article 31 of the Convention establishes that treaties must be interpreted in good faith. Furthermore, the principal rules of interpretation are: a) objective approach that consists to look into the natural or literal meaning of the words of the treaty; b) subjective approach that involves taking into consideration the context, which includes for example, any agreements or practice between the parties in “connection with the conclusion of the treaty”;⁹⁰ c) teleological approach, which means observing the purpose of the treaty, *i.e.* preamble.⁹¹ Second, if the interpretation of a treaty has absurd and/or unclear results, article 32 of the Vienna Convention on the Law of Treaties, 1969 establishes secondary means of interpretation based on the preparatory works and the circumstances of the treaty’s conclusion. All in all, the umbrella provisions of Part XII of UNCLOS have given the convention the necessary flexibility to become a dynamic instrument capable of being interpreted in the light of ocean governance.

⁸⁵ Boyle, *supra* note 82, p. 573.

⁸⁶ Note that ocean governance is a recognition of the need to “manage ocean issues in an integrated and coordinated manner” because the interrelation of the marine ecosystems., *et al*, *supra* note 76, p. 461.

⁸⁷ Note that sustainability is linked with the concept of development and it refers to the humanity’s “ability... to ensure that it meets the needs of the present generation without compromising the ability of future generations to meet their own needs.” United Nations – General Assembly, *Brundtland Report of the World Commission on Environment and Development* (Distr. GENERAL A/42/427, 1987) p. 24.

⁸⁸ Boyle, *supra* note 82, p. 568.

⁸⁹ Shaw, *supra* note 47, p. 153.

⁹⁰ See article 31 (2) (a) of the Vienna Convention on the Law of Treaties, 1969.

⁹¹ Proshanto K. Mukherjee, *Maritime Legislation Lecture*, Lund University, 13 December 2010.

2.2 Transboundary Movement of Wastes and the Marine Environment

Waste is a problematic issue to deal with because of the complexity of its cycle and the variety of connotations that this word has. In fact, efforts may be directed to reduce wastes' generation or to improve their treatment or to avoid their final disposal, for example, in the sea. As Kummer correctly points out, wastes in principle are polluting substances⁹² that may have deleterious effects of the human environment. Moreover, when talking about wastes one could refer for example to household waste, agricultural waste, or chemical waste. Furthermore, waste can be regarded as a variety of liquid, solid or gaseous substances.⁹³ As well, waste could be characterized according to its degree of hazard to the environment and to the human health. For instance, Sands classifies a) municipal waste as not hazardous, b) sewage or agricultural pesticides as toxic or hazardous, and c) radioactive waste as ultra-hazardous.⁹⁴ Also, one can distinguish if the waste is generated at land or at the sea and if its generation or disposal affects only a particular State or provoke transboundary pollution.

This complex reality reflects on the juridical treatment of waste, which is far away from a global regime that could deal with the intricate waste's cycle from generation to disposal or re-use. So, waste refers to a polluting substance, but it is important to note that no universal legal definition of this term has been developed. For instance, the London Convention 1972, which regulates dumping, defines wastes as "material and substance of any kind, form or description."⁹⁵ On the other hand, MARPOL does not use the term "waste" except when defining sewage in Annex IV, or in relation to garbage in Annex V. Also, a reference of oily wastes is found in Annex I, Chapter 4 - Regulation 29 relating to slop tanks. All in all, when talking about waste one should be careful about delimiting the meaning of this term.

For the purposes of this discussion, the word 'waste' is scrutinized in the light of the BASEL Convention that governs the transboundary movement of wastes and their disposal. This Convention is a regulatory instrument designed to strictly control the transnational shipments of hazardous and other wastes from their place of generation into another jurisdiction. Particularly, the BASEL regime establishes that wastes are "substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law."⁹⁶ In fact, according to article 1 of the BASEL Convention wastes that are *subject to transboundary movement* are classified into hazardous and

⁹² Katharina Kummer, *International Management of Hazardous Wastes: The Basel Convention and Related Rules*, (Oxford University Press, United States, 1995), p. 14. Note that "[s]ome of these activities (e.g. disposal) can directly lead to pollution, while others (e.g. transport or temporary storage) merely create a risk of pollution ... the medium is primarily international trade..."

⁹³ Sands, *supra* note 69, p. 677-681.

⁹⁴ *Ibid*, pp. 678-681.

⁹⁵ See article III (4) of the London Convention 1972.

⁹⁶ See article 2 of the BASEL Convention.

other wastes according to the categories established in Annexes I and II of the Convention respectively.⁹⁷

After considering the multilayered notion of waste, it is important to look into the relationship between the protection of the marine environment contained in UNCLOS and the BASEL regime. The basic principles that govern transboundary movement of wastes are also explained below.

2.2.1 The Constitution of the Oceans and the Basel Regime

Article 195 of UNCLOS constitutes the blueprint of the BASEL regime. This article prescribes that:

in taking measures to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.⁹⁸

Nordquist explains that the records of the negotiations and discussions relating to this article have no guidance about the meaning of the terms transfer or transform.⁹⁹ So, the interpretation of this provision is not crystal-clear, but following the objective approach of treaty interpretation, transfer means to “move to a different place, region or situation.”¹⁰⁰ All in all, this article recognizes that polluting agents, *e.g.* wastes, may not stay in their generation place and their transference within and beyond national boundaries implies a potential risk of pollution to the marine environment. Furthermore, Teclaff uses the words “transfer” and “transform” without distinction and argues that article 195 of UNCLOS does not only involve waste trade among different States, but also the transfer of a pollutant “from one medium to another,”¹⁰¹ *e.g.* incineration of waste generated on land that causes air pollution. However, regarding the latter reference, it is more appropriate to use the word transform that means “to change in composition, character, or condition”¹⁰² and that according to Nordquist refers “to the quality or nature of the pollution.”¹⁰³ In this regard, one may consider that transform is to: a) *change the source of pollution*, for instance, from land based pollution to marine pollution, by disposing land pollutants into the

⁹⁷ Note that hazardous wastes under Annex I of the BASEL Convention are, for example, “wastes from medical care in hospitals, medical centers and clinics” or wastes that contain arsenic, cadmium, among others. According to Annex II, other wastes are those “collected from households” and those “arising from the incineration of household wastes.”

⁹⁸ Article 195 UNCLOS.

⁹⁹ Myron H. Nordquist (ed.), *United Nations Convention on the Law of the Sea 1982: A Commentary Vol IV*, (Martinus Nijhoff Publishers, The Netherlands, 1991), p. 72.

¹⁰⁰ *Merriam Webster Dictionary*, <www.merriam-webster.com/dictionary/transfer>, visited on 9 March 2012.

¹⁰¹ Ludwik A. Teclaff and Eileen Teclaff, “Transfers of Pollution and the Marine Environment Conventions, Vol 31, *Natural Resources Journal* (1991) pp. 190-192.

¹⁰² *Merriam Webster Dictionary*, <www.merriam-webster.com/dictionary/transformed>, visited on 12 March 2012.

¹⁰³ Nordquist, *supra* note 100, p. 72.

sea; or b) *alter the composition of the pollutant*, for example, by incinerating industrial waste, which generates by-products or other types of pollutants.¹⁰⁴

On the whole, it must not be overlooked that article 195 of UNCLOS has a direct impact on the development of waste trade regulation, including the BASEL regime. However, it is substantial to take into account that article 195 establishes a prohibition to transfer pollution when taking measures *to protect the marine environment*. On the other hand, the BASEL regime although it recognizes that the generation of waste must be reduced and, in principle managed where it is generated, does not prohibit transboundary movement of wastes. Nonetheless, the BASEL Ban Amendment adopted by the parties in 1995, brings the BASEL Convention into line with the objectives of UNCLOS. This amendment prohibits hazardous waste exportation for final disposal¹⁰⁵ from OECD States, the EC, and Liechtenstein to other States. However, the amendment is not yet in force, but has been implemented, for example, by the European Union.¹⁰⁶ This does not mean, however, that transboundary movement of wastes cannot be undertaken between OECD States. Additionally, a regional initiative that is also aligned with the already mentioned article 195 is the BAMAKO Convention 1991, which article 4 (1) prohibits the import of all hazardous wastes, including nuclear waste, to African contracting parties from non-contracting parties. However, there is no ban for waste trade between African countries. Finally, regional waste trade may be desirable between States capable of managing wastes in an environmentally sound manner, especially if such wastes can be recycled or re-used.¹⁰⁷

Hence, when discussing waste trade one should consider the relation between article 195 of UNCLOS and the transboundary movement of wastes. Special attention is required when the final disposal of wastes, subject to transboundary movement, may pose a threat of pollution to the marine environment.

2.2.2 Waste Trade: Which Principles Govern this Dirty Business?

The increasing generation of waste (*i.e.* chemical, municipal or agricultural) as a by-product of industrialization has put an enormous pressure regarding the management of such waste in order to dispose and/or re-use it in an environmentally sound manner. During the decade of 1980, due to the

¹⁰⁴ See that “matter is indestructible, it does not go anywhere. Modern pollution laws that fragment the environment into air, land, and water have created a legacy of transformations and transfers. Discharge limitations in one medium, such as air, often do little more than shift the pollution from air to land” Lakshman Guruswamy, ‘The Promise of the United Nations Convention on the Law of the Sea (UNCLOS): Justice in Trade and Environment Disputes, Vol 25, *Ecology Law Quarterly* (1998- 1999) pp. 217-218.

¹⁰⁵ Note that the Ban Amendment does not distinguish if the exportation is made for final disposal, recycling, or re-use.

¹⁰⁶ Colin de La Rue and Anderson, *supra* note 6, pp. 1023-1024.

¹⁰⁷ *Ibid.* An example is the waste movement between OECD States that are “capable of managing hazardous wastes in an environmentally sound way; that the recovery of such wastes can provide a valuable source of raw materials ... and that no country is self-sufficient in waste recovery.”

awareness of the threats that hazardous wastes pose to the environment and to human health, industrialized countries enacted stringent environmental legislation regarding waste disposal.¹⁰⁸ The apparent dichotomy between States with strict environmental standards and those with weak regulation, enforcement, and lower waste disposal costs promoted waste trade beyond national frontiers from industrialized countries to developing countries, for instance, to Africa and Eastern Europe.¹⁰⁹ Transboundary movement of wastes kept the attention of the international community due to well-known incidents of unsafe disposal of hazardous wastes, such as the *Khian Sea* that in 1986 left the United States of America with “15,000 tons of incinerator ash.”¹¹⁰ The ash was partially discharged in Haiti as fertilizer and in 1988 the rest of the cargo was dumped illegally in the Atlantic and Indian Ocean after the vessel tried to discharge it in different ports in Africa, Asia and Europe.¹¹¹ The legacy of these scandals is the idea that waste trade is inherently harmful, discriminatory, and unwanted. Indeed, in 1988 the Organization of African Unity declared that “dumping of ... industrial wastes in Africa is a crime against Africa and the African people.”¹¹²

However, waste trade is not always intrinsically illegitimate, especially if after minimizing the waste generation, other countries have better technology and capacity to environmentally dispose it. Further, it is erroneous to think of waste as valueless substances because many raw materials can be recycled. For instance, according to Kummer, during 1990 50 per cent of hazardous wastes with metal compounds that were traded between OECD States “were subject to recovery operations in the State of destination.”¹¹³ Hence, waste trade may bring economic benefits and constitute an alternative to achieve an ESM of wastes, but the difficulty is to effectively tackle illicit waste traffic to developing countries. Indeed, due to the lack of adequate implementation and enforcement mechanisms regarding transboundary movement of wastes, the UN Human Rights Commission characterized illegal waste traffic as a serious threat to the human rights of health and life.¹¹⁴

The struggles between two positions, one led by developing countries’ demand to completely ban waste trade, and the position of industrialized countries to allow it if properly regulated concluded in the adoption of the BASEL Convention, which is the global regime that governs transboundary movement of wastes. This regulatory instrument establishes fundamental principles that must be taken into consideration when testing the boundaries with MARPOL.

¹⁰⁸ Colin de La Rue and Anderson, *supra* note 6, p 1016.

¹⁰⁹ “[a]ccording to a study carried out in the late 1980s, the average disposal costs for one ton of hazardous waste in Africa was between US \$ 2.50 and US \$ 50 ... in industrialized nations ranging from US \$ 100 to US \$ 2.000.” Kummer, *supra* note 92, pp. 6-7.

¹¹⁰ Colin de La Rue and Anderson, *supra* note 6, p 1016.

¹¹¹ *Ibid.*, p. 1017.

¹¹² Organization of African Unity, *Dumping of Nuclear and Industrial Wastes in Africa* (CM/RES. 1153 XLVIII) p. 1.

¹¹³ Kummer, *supra* note 92, p. 9

¹¹⁴ UN Human Rights Commission, *Adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes* (UN Doc. E/CN.4/1997/9 1997).

Particularly, States must “ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction.”¹¹⁵ This customary law principle, which is firmly entrenched in international law, is the foundation for promoting regulation of activities that may have a deleterious transboundary impact on the environment as a whole. Additionally, this principle that can be traced back to the *Trail Smelter Arbitration* demonstrates that States have no freedom to pollute. Nonetheless, customary law of transboundary pollution traditionally dealt with the use of a territory and the control of activities within a jurisdiction that could cause damage to other States, specially neighboring States. On the other hand, transboundary movement of wastes deals with the *transfer* of pollutants from one place to another. So, wastes subject to a transboundary movement could be disposed far away from its source of generation. Hence, specific environmental standards, rights and obligations of the States involved in waste trade have been developed under the BASEL regime.

The BASEL Convention is a regulatory instrument that has a twofold objective. The first aim is the reduction of wastes’ generation that has to be managed, in principle, where it originated.¹¹⁶ The second aim is the discouragement of transboundary movement of wastes which have to be subject to ESM.

Waste reduction can be achieved through “cleaner production”¹¹⁷ processes, such as manufacturing products by minimizing the use of hazardous wastes like asbestos, mercury or arsenic. Further, waste has to be managed close to its generation source. This is referred to by the BASEL Secretariat as ‘the proximity principle’.¹¹⁸ The proximity principle implies also the “self-sufficiency”¹¹⁹ approach where States must have suitable disposal facilities to manage wastes in an environmentally manner. It is necessary to take into consideration that disposal under the BASEL Convention, covers recycling operations such as reclamation of metal compounds and other operations, such as incineration or storage.¹²⁰

Due to proximity principle, the transboundary movement of wastes must be discouraged, and strictly controlled. Thus, *States shall minimize the transboundary movement of wastes* as prescribed in article 4 (2) (d) of the BASEL Convention. Additionally, a transboundary movement of wastes may only take place with the consent of the importing and transit States.¹²¹ This prior informed consent is fundamental to the BASEL regime because as Professor Birnie, *et al*, explains, it is an assertion of the precautionary principle and the State’s “sovereignty to determine what impacts on its territory it will accept.”¹²² Also, the prior informed consent is

¹¹⁵ See principle 2 of the Rio Declaration 1992.

¹¹⁶ See article 4 (2) (a) and (b) of the BASEL Convention.

¹¹⁷ Kummer, *supra* note 92, p. 264.

¹¹⁸ Secretariat of the BASEL Convention, *The BASEL Convention: A Global Solution for Controlling Hazardous Wastes* (UNEP 1997) p. 12.

¹¹⁹ *Ibid.*

¹²⁰ See the disposal operations in Annex IV of the BASEL Convention.

¹²¹ See article 6 of the BASEL Convention.

¹²² Birnie, *et al*, *supra* note 1, p. 473. Note also that “[i]t cannot be assumed that waste disposal in other states is permissible unless shown to be harmful.”

substantial to determine the risks involved in the management of wastes and it serves to protect vulnerable States that have suffered unsafe waste disposal. Particularly, according to article 9 of the BASEL Convention, transboundary movements of wastes are illegal if no prior informed consent has been obtained. In this case, the exporting State must: a) take back the wastes if feasible, or b) ensure their ESM.¹²³ Since the BASEL Convention strengthens the principle of “sovereignty of a State over the use of its territory and resources,”¹²⁴ States may prohibit under national legislation all the importation of wastes.¹²⁵

Finally, transboundary movements of wastes must be subject to ESM, which is vaguely defined by article 2 (8) of the BASEL Convention as to wastes’ management “in a manner which will protect human health and the environment against the adverse effects which may result from such wastes.”¹²⁶ Furthermore, the word management according to article 2 (2) of the BASEL Convention includes not only the collection and disposal of wastes, but also its *transport*. Therefore, the occurrence of transboundary movements of wastes is fundamental when analyzing the ESM principle. Both the exportation and the importation of wastes shall not be allowed if such wastes will not be managed in an environmentally sound manner.¹²⁷ Thus, all the States involved in waste trade must be responsible to discharge the ESM obligations without discrimination. The principle of non-discrimination implies that ESM standards shall be “applied equally”¹²⁸ in the exporting and importing States. On the whole, the international regime relating waste trade promotes the restriction and minimization of transboundary movement of wastes which should be allowed as an exception. The principles of proximity, waste minimization, prior informed consent, and the ESM are mechanisms directed to promote the self-sufficiency of generating States and the discouragement of waste trade to States lacking the capacity to effectively dispose of or recycle wastes.

¹²³ See article 9 of the BASEL Convention.

¹²⁴ Birnie, *et al*, *supra* note 1, p. 476.

¹²⁵ See article 4 (1) (2) of the BASEL Convention.

¹²⁶ *Ibid* article 2 (8). For further discussion *see infra* section 3.2.4.

¹²⁷ *Ibid* article 4 (2) (e) (g).

¹²⁸ Kummer, *supra* note 92, p. 272.

3 MARPOL and BASEL: Complementary or Mutually Exclusive Regimes?

The complex cycle of wastes from generation to disposal influences its juridical treatment. In fact, wastes as polluting substances may have deleterious effects on the environment at land, sea, air, or watercourses, *i.e.* lakes, rivers, lagoons. For these reasons, several instruments have been developed to prevent, reduce, control, mitigate, and remedy pollution damage of a particular portion of the environment, such as the oceans. Regarding ship source marine pollution, undoubtedly MARPOL constitutes the most comprehensive preventive regime that deals with operational and accidental pollution. On the other hand, there are international regimes dealing with specific hazardous substances or activities, such as the control of persistent organic pollutants under the Stockholm POPs Convention or waste trade under the BASEL Convention.¹²⁹ Finally, when discussing about wastes and the prevention of environmental pollution as a whole, one should bear in mind that some areas of ‘the environment’ have different legal status. For example, some areas are subject to a certain jurisdiction, while others are cataloged as *res communis*, *e.g.* high seas, or common heritage, *i.e.* seabed beyond national jurisdiction. Due to this intricate scenario the juridical treatment of pollution and wastes has resulted in “a sectoral approach to environmental protection,”¹³⁰ and remains fragmented. Due also to this ‘sectoral approach’ many international regimes that were intended to deal with specific concerns, *e.g.* waste trade or ship source pollution, may overlap or uncertainties about their scope may arise as is now the case between MARPOL and the BASEL regime.

In principle, the BASEL Convention excludes:

Wastes which derive from the normal operations of a ship, the discharge of which is covered by another international instrument, are excluded from the scope of this Convention.¹³¹

According to the *travaux préparatoires* of the Convention, this exclusion was drafted to preserve the scope of application of MARPOL.¹³² In fact, according to the BASEL Secretariat, the IMO requested to include this text,¹³³ but there are no further discussions about the extent of this

¹²⁹ Cf. the view of Kummer who envisages the BASEL regime not only as a piece of the sectoral approach to waste and pollution treatment, but as a “comprehensive global regulation” of the waste cycle. As a consequence, other rules “have a useful and important role in complementing and enhancing the BASEL Convention.” *Ibid*, p. 29.

¹³⁰ *Ibid*, p. 25.

¹³¹ See article 1 (4) of the BASEL Convention.

¹³² Final Report of Working Group on its 5th Session (UNEP/IG.80/4) Annex I, para. 15.

¹³³ Secretariat of the BASEL Convention, *Report on Cooperation Between the Basel Convention and the IMO* (UNEP/CHW/OEWG/6/1, 2007) p. 2.

exclusion.¹³⁴ Additionally, there is no instrument that defines what ‘normal operations of a ship’ are and, as explained above,¹³⁵ the terminology ‘waste’ is not used in MARPOL except when referring, for example, to garbage or sewage. Moreover, although both instruments were intended to be applied independently, blending operations of bio fuels and petroleum products carried at sea and on board vessels have brought uncertainties regarding the applicable regime to hazardous substances generated at sea. Particularly, blending operations refers to the process of “mixing two products to give only one product ... and this relates only to physical blending as distinct from any chemical processing.”¹³⁶

Blending operations carried out at sea attracted the attention of the international community in the aftermath of the *Probo Koala* incident in 2006. Indeed, the polluting characteristics of the residues generated as a consequence of blending gasoline with caustic soda¹³⁷ raised questions about the nature of these activities as to whether normal or abnormal operations from ships. Further, at the time of the *Probo Koala* affair, the IMO acknowledged that there were no regulations on blending operations at sea.¹³⁸ Thus, these activities were not illegal. In this scenario, one could think that the regulation of blending operations on board vessels at sea and in port would close the ‘gap’ between the MARPOL and BASEL regimes. However, this is just the tip of the iceberg because it is of fundamental importance to investigate if the BASEL Convention provides an overarching regime regarding waste cycle from generation to disposal. In this sense, throughout this chapter the following issues will be discussed: a) the reach of the exclusion contained in article 1 (4) of the BASEL Convention, b) whether MARPOL provides for an ESM of ship source pollutants, c) the meaning and obligations regarding transboundary movements, and d) if the ESM obligation subsists regardless of whether there is a transboundary movement of wastes.

3.1 MARPOL Regime

The protection of the marine environment from ship source pollution needs to be addressed from the triumvirate of “prevention, mitigation, and remedy.”¹³⁹ In fact, a variety of public and private law conventions¹⁴⁰ govern diverse aspects of ship source pollution. There are instruments intended to minimize operational and accidental pollution, but when

¹³⁴ Telephonic interview with Ms. Juliette Kohler, Policy and Legal Advisor, BASEL Secretariat (Lund, Sweden, 24 February 2012).

¹³⁵ See *supra* p. 19

¹³⁶ IMO - Sub-Committee on Bulk Liquids and Gases, *Report to the Maritime Safety Committee and the Marine Environment Protection Committee* (BLG 13/18, 13th Session, Agenda Item 18, 6 March 2009), p. 11.

¹³⁷ Secretariat of the BASEL Convention, *The Application of the Basel Convention to Hazardous Wastes and other Wastes Generated on Board Ships*, (4 April 2011), Available at <www.basel.int/Implementation/LegalMatters/Ships/tabid/2405/Default.aspx>, visited on 30 November 2011.

¹³⁸ IMO, *supra* note 136, p. 11.

¹³⁹ Mukherjee, *supra* note 4, p. 468.

¹⁴⁰ *Ibid*, pp. 471-472.

preventive regimes fail, mitigation and compensation regimes of pollution damage must be in place. Within the preventive spectrum of ship source pollution, unquestionably MARPOL is the most comprehensive global regime that governs ship source pollution.

MARPOL was adopted under the auspices of the IMO. The Convention was the result of the International Conference on Marine Pollution convened in 1973.¹⁴¹ Unlike its predecessor, OILPOL 54 which was only concerned with oil, MARPOL 73 acknowledged the need to prevent marine pollution from a range of other harmful substances through five Annexes dealing respectively with oil, noxious liquid substances carried in bulk, harmful substances in packaged form, sewage, and garbage. Although the ratification of Annex III, IV and V was optional, MARPOL 73 was not successful in entering into force because of difficulties faced by States in implementing the obligatory Annexes I and II.¹⁴² The implementation of port reception facilities and technological demands were particularly challenging. For example, according to Abecassis and Jarashow oil discharge monitoring and control systems (ODMACS) were intended to “eliminate reliance on human skill and judgment.”¹⁴³ However, the technology to develop such equipment was not available at that time.¹⁴⁴ These constraints coupled with pressures from the United States to individually legislate ship source pollution prompted the adoption of the 1978 Protocol to MARPOL through the International Conference on Tanker Safety and Pollution Prevention of 1978.¹⁴⁵ At the Conference, some compromises were reached in respect of the use of segregated ballast tanks and crude oil washing (COW) of cargo tanks.¹⁴⁶ Furthermore, the implementation of Annex II was postponed after three years from the entry into force of the Protocol.¹⁴⁷ MARPOL 73 as modified by its 78 Protocol entered into force on 2 October 1983¹⁴⁸ and since that time the Convention has been known as MARPOL 73/78. Finally, in 1997 a sixth Annex was adopted at a Conference of the Parties, relating to air pollution.¹⁴⁹

All Annexes of MARPOL have been successfully kept updated in line with technological developments through the tacit amendment procedure prescribed in article 16 (f) (iii) of the Convention. This procedure simplifies amendments entering into force by establishing a period of time after which the amendment is deemed to be accepted if it is not objected to by more than one third of the Parties.¹⁵⁰ This procedure is

¹⁴¹ Colin de La Rue and Anderson, *supra* note 6, p. 823.

¹⁴² Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation*, (Cambridge University Press, United Kingdom, 2006) p. 134.

¹⁴³ Abecassis and Jarashow, *supra* note 54, p. 42.

¹⁴⁴ *Ibid.*, pp. 42-43.

¹⁴⁵ Jeff B. Curtis, ‘Vessel-Source Oil Pollution and MARPOL: An International Success Story?’, Vol 15, *Environmental Law* (1984-1985) pp. 698-700. “President Carter demanded unilateral action that superseded any previous international standards.”

¹⁴⁶ *Ibid.*

¹⁴⁷ *Ibid.*

¹⁴⁸ IMO, *supra* note 77.

¹⁴⁹ Khee-Jin Tan, *supra* note 142, p. 159.

¹⁵⁰ See article 16 (2) of MARPOL. An Amendment to an annex is considered accepted “unless ... an objection is communicated ... by not less than one third of the Parties or by

quicker than requiring formal acceptance and it has contributed greatly to the success of MARPOL and other IMO Conventions.

The purpose of MARPOL is to preserve the marine environment from the *discharge of harmful substances* that have a deleterious effect on human health, the marine environment including amenities or that hamper legitimate uses of the sea, *e.g.* navigation or fishing.¹⁵¹ Additionally, the Convention deals with both operational and accidental pollution from ships. Operational pollution should be understood as discharges arising out of the operation of the ship which can be minimized, but are not entirely avoidable. Accidental pollution refers to the discharge of hazardous substances due to an incident, such as a collision or grounding. Activities such as dumping, pollution caused by seabed exploration and exploitation, and pollution caused by “legitimate scientific research into pollution abatement”¹⁵² are outside the scope of the Convention. In view of the objectives, aim, terminology, and operation of MARPOL, it is necessary to distinguish it from the scope of the BASEL Convention. For this reason, a brief outline of the Annexes of MARPOL’s is outlined below.

3.1.1 What Standard for Which Type of Harmful Substance?

Annex I of MARPOL is concerned with oil pollution, *i.e.* sludge, fuel oil, oil mixtures,¹⁵³ from cargo and machinery spaces. According to Regulation 2.2, Annex I applies to all ships. Nonetheless, under some circumstances, exceptions are established in relation to the ship’s gross tonnage,¹⁵⁴ built date, and type.¹⁵⁵ Oil pollution management under this Annex relates to the following issues. First, according to Chapter 2, the flag State Maritime Administration has to conduct certain prescribed surveys and issue an International Oil Pollution Prevention Certificate. Second, according to the type of ship and its gross tonnage there are regulations dealing with the construction and equipment for cargo spaces of oil tankers, such as segregated ballast tanks or double hulls, and for machinery spaces for all ships, such as oil filtering equipment or sludge tanks.¹⁵⁶ Third, strict discharge criteria for cargo and machinery spaces apply based on various parameters: a) type of ship (tanker or non-tanker), b) geographical location from the nearest land, c) prohibition of discharge within special areas,¹⁵⁷ d)

the Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet.”

¹⁵¹ *Ibid*, article 2 (2).

¹⁵² *Ibid*, article 2 (3).

¹⁵³ *Ibid*, Annex I, Chapter, Regulation 1.1.

¹⁵⁴ Gross tonnage is “a measure of the internal volume of spaces within a ship” including cargo spaces. Jan-Åke Jonsson, *MARPOL Lecture*, Lund University, 20 May 2011.

¹⁵⁵ “air-cushion vehicles and submarines are exempt from the regulations of the Annex relating to construction and equipment.” Colin de La Rue and Anderson, *supra* note 6, p. 823.

¹⁵⁶ *Ibid*, pp. 825-833.

¹⁵⁷ “[s]pecial area means a sea area where for recognized technical reasons ... and to the particular character of its traffic the adoption of special mandatory methods for the

ship's gross tonnage, e) ship's equipment, f) oil content in parts per million, and g) continuous discharge in liters per nautical mile when the vessel is *en route*.¹⁵⁸ Additionally, an Oil Record Book must be carried in all ships.¹⁵⁹ Finally, within the MARPOL regime, it is of fundamental importance that States provide adequate reception facilities to receive oil residues.¹⁶⁰ Nonetheless, the implementation of these facilities in developing countries is still challenging¹⁶¹ and where available private operators may be restrained from using them due to their cost or adequacy.¹⁶²

Annex II deals with pollution by noxious liquid substances carried in bulk. Regulation 6 classifies these substances in four categories (X, Y, Z, and other substances) according to its hazard degree to human health and the marine environment. Substances in category X are the most hazardous while 'other substances' are deemed to present no harm to the environment. Furthermore, the regulation applies to all ships "certified to carry noxious liquid substances in bulk."¹⁶³ Pollution prevention within this Annex is based on a survey and certification system effectuated by the Flag State Maritime Administration.¹⁶⁴ In principle, the discharge of substances under categories X, Y and Z is prohibited,¹⁶⁵ and thus, adequate port facilities are necessary to effectively implement Annex II. When allowed, the discharge criteria depend on the following parameters: a) the geographical location of the ship from the nearest land and within special areas, b) the categorization of the noxious liquid substance, c) discharges must be made below the water line and the ship must proceed *in route*, d) type of ship (self or not self-propelled), and e) substance's concentration in the effluent.¹⁶⁶ Additionally, Chapter 4 prescribes that ships built after 1988 carrying noxious liquid substances must be built and equipped in accordance with the International Bulk Chemical Code. Finally, all operational and accidental discharges must be documented in the Cargo Record Book as established in Chapter 5 – Regulation 15.

Annex III is concerned with harmful substances, as defined in the IMDG Code, which are carried in packaged form.¹⁶⁷ The standards to prevent pollution from these substances include adequate packaging, marking, labeling, stowage, and quantity limitation.¹⁶⁸ It is important to note

prevention of sea pollution by oil is required." Some of special areas under Annex I are: the Baltic Sea, Oman Sea. MARPOL, Annex I, Chapter, Regulation 1.

¹⁵⁸ Edgar Gold, *Gard Handbook on the Protection of the Marine Environment*, (Gard AS, United Kingdom, 3rd Edition, 2006) pp. 204-205.

¹⁵⁹ The Oil Record Book is for both machinery spaces operations and cargo ballast operations. See Annex I, Chapter 3 and 4, Regulations 17 and 36 of MARPOL.

¹⁶⁰ *Ibid*, Chapter VI.

¹⁶¹ Gold, *supra* note 158, p. 208.

¹⁶² Khee-Jin, *supra* note 142, p. 261.

¹⁶³ See Annex II, Chapter 1, Regulation 2 of MARPOL.

¹⁶⁴ *Ibid*, Chapter III.

¹⁶⁵ See, Annex II, Chapter 5, Regulation 13 (1) of MARPOL.

¹⁶⁶ *Ibid*, Regulation 13. See also, Gold, *supra* note 158, p. 213-225.

¹⁶⁷ See Annex III, Regulation 1 of MARPOL.

¹⁶⁸ *Ibid*, Regulations 2, 3, 5, and 6.

that according to Regulation 7, jettisoning¹⁶⁹ of harmful substances in packaged form is prohibited unless it is necessary for saving life at sea and for the ship safety. Gold accurately explains that Annex III does not follow Annexes I or II patterns of surveys, certifications, and implementation of port reception facilities because the risk of pollution does not arise from operational discharges, “tank cleaning or cargo residues.”¹⁷⁰ So, regulations must ensure instead a proper handling of these substances to avoid accidental pollution.

Prevention of pollution by sewage is governed by Annex IV. For the purposes of the Annex, sewage includes, for example, wastes from medical premises and toilets.¹⁷¹ It is noteworthy that ‘waste’ is not defined in the Annex, and it should be understood as a harmful substance that if discharged, it is deleterious for human health and the marine environment. In fact, the pre-eminence of the term ‘waste’ within the BASEL regime is incidental within MARPOL. Surveys, certification, treatment and disinfection systems, and the implementation of reception facilities are required to prevent pollution from sewage.¹⁷² The discharge criteria is based on: a) the ship’s gross tonnage, b) the number of people certified to carry on board, c) distance from the nearest land, measured from the baseline, and d) equipment available on board.¹⁷³

A ship while operating produces garbage such as residues from food, glass, plastic, dunnage that requires being disposed of. Annex V deals with the prevention of garbage pollution which includes victual and domestic waste “generated during the *normal operation* the ship.”¹⁷⁴ Within this Annex, ‘normal operation’ is used, but not defined. The meaning of this term is discussed below to establish the boundaries between MARPOL and the BASEL Regime. The standards to prevent pollution by garbage oblige States Parties to provide adequate reception facilities.¹⁷⁵ Indeed, these facilities are of fundamental importance due to the strict discharge criteria that absolutely prohibit discharging plastics, fishing nets, and synthetic ropes into the sea.¹⁷⁶ Furthermore, the disposal of certain type of garbage into the sea depends on several factors, such as: a) distance from the nearest land and b) geographical location of the ship, *i.e.* special areas.¹⁷⁷ Finally, a Garbage Management Plan and a Garbage Record Book must be kept on board ships certified to carry more than fifteen people and ships of 400 gross tonnage or above.¹⁷⁸

Article 212 of UNCLOS addresses atmospheric source pollution of the marine environment. Dealing with this pollution source is a

¹⁶⁹ Jettison is a general average act, a “sacrifice of the cargo in order to lighten the ship and keep her afloat.” N. Gaskell, C. Debattista, and R. Swatton, *Chorley & Giles’ Shipping Law*, (Pitman Publishing, Great Britain, 8th Edition, 1987) p. 291.

¹⁷⁰ Gold, *supra* note 158, p. 227.

¹⁷¹ See Annex IV, Chapter 1, Regulation 1 of MARPOL.

¹⁷² Gold, *supra* note 158, pp. 229-230.

¹⁷³ See Annex IV, Regulations 2, 9, 10 and 12 of MARPOL.

¹⁷⁴ *Ibid*, Annex V, Regulation 1.

¹⁷⁵ *Ibid*, Regulation 7.

¹⁷⁶ *Ibid*, Regulation 3 (1).

¹⁷⁷ *Ibid*, Regulations 3, and 5. The special areas are established in Regulation 5 (1).

¹⁷⁸ *Ibid*, Regulation 9.

complex issue because exhaust emissions from ships do not enter directly into the sea. Particularly, articles 212 and 222 of UNCLOS prescribe that States must: a) enact and enforce regulations to prevent, control, and reduce pollution *from or through* the atmosphere in relation to ships entitled to fly their flag, among others, and b) endeavour the establishment and implementation of global rules through the competent international organization, *i.e.* the IMO, or diplomatic conference. Particularly, it is noteworthy that ships' exhaust emissions of nitrogen oxides (No_x) and sulphur oxides (So_x) go into the atmosphere and cause acid rain that enters the sea causing marine pollution.¹⁷⁹ Nonetheless, No_x as well as halon and other substances deplete the ozone layer which is responsible for the regulation of sunlight and ultraviolet radiation entering the earth. Furthermore, substances like carbon dioxide (CO₂) provoke the global warming effect and therefore climate change.¹⁸⁰ Undoubtedly, ozone layer depletion increases ultraviolet radiation and causes, *inter alia*, detrimental effects on fisheries and climate change contribute to ocean rising.¹⁸¹ However, those substances do not seem to contribute directly or indirectly to marine pollution. Indeed, UNCLOS is concerned exclusively with marine pollution from or through the atmosphere and there is no reference about climate change or ozone depletion and their harmful effects on the marine environment.

IMO has addressed not only atmospheric marine pollution, *i.e.* exhausts emissions from ships containing No_x and So_x, through Annex VI of MARPOL, but also the control of certain ozone depleting substances found on board vessels. Furthermore, the IMO has been developing guidelines regarding ships' emissions of CO₂ to reduce the effect of global warming.¹⁸² Particularly, prevention and control of exhausts emissions from ships of No_x and So_x fall within the definition of harmful substance established in article 2 of MARPOL, which refers to the *discharge from ships or introduction into the sea*, directly or indirectly, of substances that have a deleterious effect on the marine environment. On the other hand, dealing with substances that contribute to global warming and ozone depletion apparently is beyond the scope of application of MARPOL and the mandate of the IMO related to the control of marine pollution from ships.¹⁸³ Nonetheless, Professors Mukherjee and Jingjing Xu justify the IMO efforts in the control of CO₂ emissions from ships because article 2 (2) of the Kyoto Protocol to the UNFCCC states that parties must reduce greenhouse gases by working,

¹⁷⁹ Proshanto K. Mukherjee and Jingjing Xu, 'The Legal Framework of Exhausts Emissions from Ships: A Selective Examination from a Law and Economics Perspective', in: Neil Bellefontaine and Olof Lindén (eds.), *Impacts of Climate Change on the Maritime Industry* (WMU Publications, Sweden, 2009), p. 72. *Note that* acid rain "consists of nitrous acid and sulphuric acid."

¹⁸⁰ *Ibid.*

¹⁸¹ Sands, *supra* note 69, pp. 343 and 358. *Note that*, ozone depletion increased ultraviolet radiation and "cause harm to human health and the environment, including organisms in the marine environment." *Note also*, that global change will provoke "a rise in a global mean "level of 20 cm by 2030."

¹⁸² Proshanto K. Mukherjee and Jingjing Xu, *supra* note 179, pp. 76-79.

¹⁸³ *See* article 1 (a) of the Convention on the International Maritime Organization (IMO) as amended.

inter alia, with the IMO.¹⁸⁴ Moreover, within the mandate of the IMO, the organization must consider issues assigned to it by international instruments, organs, and specialized agencies of the UN.¹⁸⁵ Even so, such assignments must be related with shipping and its impact on the marine environment.¹⁸⁶ The same considerations can be made regarding MARPOL the purpose of which is the prevention of accidental and operational ship source pollution. Notwithstanding these criticisms, it seems appropriate that the IMO promotes, through MARPOL Annex VI, the control and reduction of ships' greenhouse gases emissions and substances found on board ships that deplete the ozone layer because as Professors Mukherjee and Jingjing Xu, accurately explain, it is "a matter of technicality and less of substance."¹⁸⁷ In addition, the IMO contribution represents a step forward towards a comprehensive treatment of atmospheric pollution, climate change, and ozone depletion which are inherently global problems.

All in all, Annex VI is concerned with exhaust emissions from ships of No_x and So_x, some ozone depleting substances, and volatile organic compounds (VOCs). As with other Annexes, the prevention of 'air pollution' is based on surveys, certification, and installation of equipment for controlling emissions. The limits of these emissions depend on the substance. For instance, regulation 12 establishes that deliberate emissions of ozone depleting substances, such as halons, are prohibited and States must provide adequate port reception facilities to receive them. Additionally, sulphur content in fuel oil is limited and within Emission Control Areas sulphur oxides' emissions are strictly controlled according to the standards provided in regulation 14. Finally, regulation 16 deals with incineration on board ships. Incineration of residues from Annexes I, II and III is prohibited while sewage or sludge oil generated due to *normal operations of the ship* can be incinerated under certain conditions on board vessels.

Prevention of accidental pollution under MARPOL consists of standards for "ship construction, and equipment, as well as for emergency plans."¹⁸⁸ From this brief outline it is evident that MARPOL impinges directly on private operators who are responsible for managing harmful substances generated during ship operations and who must minimize the risk of accidental pollution. The role of flag States is of fundamental importance to ensure that ships entitled to fly their flag comply with MARPOL standards. Furthermore, article 4 of the Convention reaffirms flag State jurisdiction in respect of any violation of MARPOL regardless the location of the ship. Additionally, the success of this regime depends on the provision of adequate reception facilities for receiving diverse types of residues from Annexes I to VI. However, some authors criticize the Convention because compliance relies heavily on private operators and flag

¹⁸⁴ Proshanto K. Mukherjee, *et al*, *supra* note 179, p. 78.

¹⁸⁵ *Ibid*, pp. 77-78. *See also* articles 1 (d) and 2 (a) (d) of the Convention on the International Maritime Organization (IMO) as amended.

¹⁸⁶ *Ibid*.

¹⁸⁷ *Ibid*, p. 79.

¹⁸⁸ De La Fayette, *supra* note 9, p. 210.

States.¹⁸⁹ For instance, Professor Birnie, *et al*, considers that the lack of mechanisms to effectively deal with non-performing State parties, substandard ships, and illegal discharges are the main shortcomings of MARPOL.¹⁹⁰ Nonetheless, as Gold has emphatically opined, this convention “is the most important environmental regime affecting the shipping industry.”¹⁹¹ This is mainly because of: a) the wide acceptance of the Convention, b) comprehensive treatment of all harmful substances generated on board ships, c) efforts to improve its implementation through prescriptions generated by the Flag State Implementation Committee of the IMO, and d) the continuing improving of the Convention that has allowed it to keep up to date with technological advances.

3.1.2 ‘Normal’ Operations of Ships

Before the *Probo Koala* and the *Probo Emu* gained notoriety, the exclusion of ‘wastes derived from the normal operation of ships’ from the scope of the BASEL Convention raised no serious doubts about its extent and meaning. Actually, a similar exclusion is contained in article 1 (4) (2) of the London Convention 1972 on dumping as amended by its 1996 Protocol. It was generally understood that these exclusions meant MARPOL and were intended to distinguish the scope of application of these instruments. For instance, Kummer stated that the objective of the exclusion contained in article 1 (4) of the BASEL Convention “is to make a clear distinction between the substances regulated by the BASEL Convention and those regulated by the MARPOL Convention.”¹⁹² All in all, this article is now one of the key issues in terms of whether there is a potential conflict when construing the phrase ‘normal operations of a ship’ and the boundaries between the MARPOL and BASEL regimes. In this regard, several possible interpretations will be scrutinized.

Professor de La Fayette argues that the phrase ‘normal operations’ does not have any real significance because its introduction in article 1 (4) of the BASEL Convention was exclusively intended to identify MARPOL.¹⁹³ Thus, it would be immaterial to characterize a harmful substance or waste, generated at sea, as normal or abnormal because the BASEL regime’s obligations are incompatible with those established under MARPOL.¹⁹⁴ For instance, while the BASEL Convention establishes that States shall take measures to reduce transboundary movements of wastes to a minimum, this principle is inapplicable to the shipping industry.¹⁹⁵ In fact, vessels operate at sea and harmful substances are continuously generated on

¹⁸⁹ Curtis, *supra* note 145, p. 681. “although MARPOL provides an adequate solution to vessel-source oil pollution, compliance with the new standards suspiciously depends upon ship operators and the individual countries which license the ships.”

¹⁹⁰ Birnie, *et al*, *supra* note 1, p. 342.

¹⁹¹ Gold, *supra* note 158, p. 237.

¹⁹² Kummer, *supra* note 92, p. 52.

¹⁹³ De La Fayette, *supra* note 9, p. 209. “[t]his exclusion ... is understood to exclude wastes generated at sea because they are covered by MARPOL. That was the distinction, not any definition of “normality”, which must be interpreted in context.”

¹⁹⁴ *Ibid*, p. 212.

¹⁹⁵ See article 4 (2) (d) of the BASEL Convention.

board ships while crossing through national boundaries. Thus, as Professor de La Fayette correctly explains, the transboundary movement of harmful substances or wastes generated at sea is the rule, not the exception.¹⁹⁶ In this sense, MARPOL has been successful in providing a scheme to reduce and control operational and accidental discharges of ‘wastes’ generated during ships’ operations, but cannot demand minimization of transboundary movements because it will make trading by sea impossible.

Another foundation of the BASEL Convention which is mutually exclusive with MARPOL is the principle of proximity. According to the BASEL regime, “wastes should be disposed as close as possible to the source of generation.”¹⁹⁷ Evidently, ships during their operation and while navigating *constantly* generate harmful substances. Thus, it is not feasible to precisely determine their place of generation and in which jurisdiction should those wastes be disposed. The scenario is further complicated if wastes are generated in the high seas. MARPOL’s success depends heavily not only on private operators and flag States’ enforcement, but also in the provision of reception facilities by States parties which must be adequate to receive ‘wastes’ of vessels calling their ports. If no reception facilities were available, wastes generated at sea would be disposed entirely into the sea.¹⁹⁸ On the other hand, article 4 (1) of the BASEL Convention, prescribes States’ rights to prohibit the importation of hazardous wastes to be disposed of into their territories. This is the result of States’ sovereignty regarding the use of their territory.¹⁹⁹ Moreover, requirements for transboundary movement of wastes under the BASEL Convention are extremely burdensome and inapplicable for harmful substances generated at sea.

Finally, Professor de La Fayette explains that the BASEL regime is concerned with waste generated at land and shipped as cargo to be disposed in another jurisdiction.²⁰⁰ Although in broad terms this conclusion seems correct, it is not without its flaws. First, the BASEL Convention does not confine its scope of application to wastes generated on land. In fact, article 1 (1) –scope– when classifying wastes governed by the Convention, begins by referring to wastes ‘subject to a transboundary movement’, but no reference is made to where they are generated. Indeed, article 2 (3) defines transboundary movement as:

any movement of ... wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State ... provided at least two States are involved in the movement.²⁰¹

On the whole, the BASEL Convention *governs all transfers of wastes which are not excluded from its scope of application, e.g. ships’ wastes, independently of where, whom or how those wastes are generated as long as those wastes are subject to a transboundary movement as defined in article 2 (3)*. However, taking into consideration the distinctive operations of ships,

¹⁹⁶ De La Fayette, *supra* note 9, p. 212.

¹⁹⁷ Kummer, *supra* note 92, p. 47.

¹⁹⁸ De La Fayette, *supra* note 9, p. 211.

¹⁹⁹ Kummer, *supra* note 92, p. 61.

²⁰⁰ De La Fayette, *supra* note 9, pp. 208-209.

²⁰¹ See article 2 (3) of the BASEL Convention.

the exclusion of wastes generated by the ‘normal operation’ of ships was fundamental to prevent the application of the BASEL regime to wastes generated at sea.

After the *Probo Koala* incident, the OEGW in its seventh session required the BASEL Secretariat to provide a legal analysis regarding the application of the BASEL Convention to ‘wastes’ generated on board ships.²⁰² In April 2011, the legal analysis was put into consideration of the Parties.²⁰³ Particularly, the Secretariat supported the view that the phrase ‘normal operations’ refers exclusively to MARPOL being irrelevant to differentiate between ‘normal’ or ‘abnormal’ operations within or outside a ship.²⁰⁴ Furthermore, the BASEL regime is concerned with the protection of human health and the environment from hazardous and other wastes. This objective is accomplished by addressing the cycle of wastes from generation to disposal independently of the generation process of such waste.²⁰⁵ This view is shared by de La Rue who argues that the exclusion of ‘normal operations’ in article 1 (4) means MARPOL.²⁰⁶ So, the exclusion, according to this point of view, prevents the application of the BASEL Convention to ships’ wastes as long as they are subject to MARPOL. Following this argument, it is natural to conclude that all wastes generated on board ships which are not covered by MARPOL will be subject to the BASEL regime. Norway arrived also to this conclusion by stating that:

waste generated on board a ship, but presently not covered by MARPOL, the “export” provisions of the Basel Convention *may be* applicable *if there is a case of transboundary transport*.²⁰⁷ (Emphasis added)

However, the BASEL Secretariat has recognized that the generation of wastes on board vessels is inherent to ships’ operations and it is “an ongoing activity ... within and outside the national jurisdiction of States. The generation of such wastes ... is a transboundary process.”²⁰⁸ For this reason, the transboundary movement of wastes and prior inform consent procedure established in the BASEL Convention is not feasible to be applicable to wastes generated on board ships.²⁰⁹ Hence, in principle, ‘wastes’ or harmful substances not covered by MARPOL should be governed by the BASEL Convention if those wastes are subject to a transboundary movement as defined in this regime. But even in this scenario, the determination whether a transboundary movement is triggered and the compliance of the requirements to allow a transboundary movement cannot be applied for practical considerations as scrutinized below.

²⁰² OEGW, *Report of the Open-ended Working Group of the Basel Convention on the work of its seventh session* (UNEP/CHW/OEWG/7/21, OEGW-VII/13, 2010) p. 37.

²⁰³ Secretariat of the BASEL Convention, *supra* note 137.

²⁰⁴ *Ibid.*, pp. 18-21.

²⁰⁵ *Ibid.*

²⁰⁶ Telephonic interview with Mr. Colin de La Rue, (Lund, Sweden, 25 March 2012).

²⁰⁷ Norway, <www.basel.int/Portals/4/Basel%20Convention/docs/legalmatters/coop-IMO/rep-norway.pdf>, visited on 23 December 2011.

²⁰⁸ Secretariat of the BASEL Convention, *supra* note 137, p. 22.

²⁰⁹ *Ibid.* p. 24. “[a]n interpretation of article 1 paragraph 4 that would not exclude the application of the Basel Convention TBM requirements to wastes generated on board ships appears manifestly unreasonable and should not be sustained.”

The position of the BASEL Secretariat differs from Professor de La Fayette's view because the former does not acknowledge that these Conventions are mutually exclusive. In fact, the BASEL Secretariat argues that the cycle of wastes as addressed in the BASEL regime has two pillars: a) minimization of wastes generation and transboundary movements, and b) ESM of such wastes. Thus, although the requirements for transboundary movement cannot be applied to wastes generated on board ships, the ESM²¹⁰ applies to wastes discharged from the ship. The accuracy of this statement is scrutinized below. It is sufficient to say that the Convention deals with the *transfers* of wastes and it is unlikely that any obligation under the BASEL regime subsists if no transboundary movement occurs.

The opinions expressed by the BASEL Secretariat are not legally binding on the Parties who may or may not accept this analysis. It is notable that Argentina²¹¹ fully agreed with the interpretation given by the Secretariat. Indeed, Argentina's *national legislation* provides that the Naval Prefecture, in charge of the enforcement of MARPOL, controls harmful substances generated at sea until those wastes are discharged at land while the Secretary of Environment and Sustainable development, in charge of the enforcement of the BASEL Convention, is concerned with the final disposal of those wastes. It is interesting to note that Argentina has implemented the principles of the BASEL Convention into their national legislation to deal not only with wastes subject to a transboundary movement, but with the entire national waste system. It is evident that a sovereign State can adopt international principles to be applied in its jurisdiction. However, it does not mean that the BASEL Convention applies *ipso jure* to waste management within national boundaries.

Guatemala, Mexico, and Qatar also agreed with the Secretariat conclusions.²¹² Trinidad and Tobago considers that both Conventions are mutually exclusive, but agrees that the BASEL Convention will "apply as far as MARPOL no longer applies."²¹³ Finally, the European Union and its member States requested the BASEL Secretariat to specify that others interpretations of article 1 (4) of the BASEL Convention are also possible.²¹⁴ Furthermore, the European Union and its member States did not agree that the phrase 'normal operations' is without significance and found difficulties in understanding the Secretariat suggestion regarding MARPOL as an instrument that has to support the BASEL regime. The latter opinion of the BASEL Secretariat seems to be based on the idea advanced by Kummer who conceives the BASEL regime as a global attempt to regulate waste cycle without focusing on a particular environment, *i.e.* air, sea or land.²¹⁵ So, other rules, including MARPOL "have a useful and important

²¹⁰ *Ibid.* pp. 24-25.

²¹¹ Argentina, <archive.basel.int/legalmatters/coop-IMO/oewgVII13-comments/argentina.pdf>, visited on 4 April 2012.

²¹² Guatemala, Mexico and Qatar, <archive.basel.int/legalmatters/coop-IMO/oewgVII13-comments/argentina.pdf>, visited on 4 April 2012.

²¹³ Trinidad and Tobago, <archive.basel.int/legalmatters/coop-IMO/oewgVII13-comments/trintob.pdf>, visited on 4 April 2012.

²¹⁴ European Union and its Members States, <archive.basel.int/legalmatters/coop-IMO/oewgVII13-comments/eu.doc>, visited on 4 April 2012.

²¹⁵ Kummer, *supra* note 92, p. 28-29.

role in complementing and enhancing the BASEL Convention.”²¹⁶ Nonetheless, this conclusion is not accurate because the BASEL Convention is mainly focused on waste transfers.

The BASEL Convention has 179 Parties.²¹⁷ Thus, from the relatively few States that gave their comments to the BASEL Secretariat’s analysis, it is difficult to predict how the parties are going to address the conflict between MARPOL and the BASEL Convention. Furthermore, in October 2011, a revised document was prepared by the BASEL Secretariat which ‘superseded’²¹⁸ the above scrutinized legal analysis. The revised document creates complex and confusing scenarios that reveal the difficulties in applying principles of the BASEL regime extraneous to MARPOL. Particularly, regarding the phrase ‘normal operations’ it is explained that ships used for industrial processes, *e.g.* refining oil, and wastes generated due to these processes are not unavoidable or inherent to the operation of the ship and consequently those activities should be characterized as ‘abnormal operations’ of ships.²¹⁹ In this sense, the phrase normal operations is significant and it is defined as:

those operations that are in conformity with Chapter IX of the SOLAS Convention (Management of safe operation of ships) which mandates that ships shall comply with ... auditing and certification by the flag State of a ship and of its managing company, and the implementation ... plans and instructions ... concerning the safety of the personnel, ship and the environment.²²⁰

The SOLAS Convention 1974 governs the construction, equipment and operation of vessels to safeguard safety of life at sea. Although it is undeniable that safe operation of ships minimizes risks of accidents and therefore of pollution, the main concern of the SOLAS Convention is not the prevention of pollution from ships. Thus, the definition provided is inaccurate and it is difficult to envisage how an instrument which does not deal directly with wastes’ transfers or marine pollution can elucidate the conflict between MARPOL and the BASEL Convention. Furthermore, the Secretariat is aware that activities carried on board ships may not easily be characterized as ‘normal’ or ‘abnormal’ operations, and so further clarification is required.²²¹ Additionally, if this characterization is not clear, uncertainties will arise regarding the applicable regime of wastes generated at sea.

²¹⁶ *Ibid.*, p. 29.

²¹⁷ United Nations, *Status of the BASEL Convention*, <treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-3&chapter=27&lang=en#1>, visited on 6 April 2012.

²¹⁸ Secretariat of the BASEL Convention, *Revised Legal Analysis on the Application of the Basel Convention to Hazardous Wastes and other Wastes Generated on Board Ships*, (UNEP/CHW.10/INF/16, 2011).

²¹⁹ *Ibid.*, p. 7. Nonetheless, it was recognized that not all industrial processes are abnormal because Floating Production and Storage and Offloading are authorized to carry industrial processes on board.

²²⁰ *Ibid.*

²²¹ *Ibid.*

It is also suggested that ship operations that are not categorized as ‘normal’ shall be subject to the BASEL Convention. In this sense, transboundary movement requirements will apply to wastes from abnormal operations of ships, but it is recognized that practical difficulties may prevent the application of such requirements.²²² It is notable that the Secretariat does not propose any solutions to overcome these ‘practical difficulties.’

The revised legal analysis was put into consideration of the Parties to the BASEL Convention at its tenth meeting who requested another analysis of the subject by decision BC-10/16.²²³ Some Parties have also submitted their comments regarding this document. Canada expressed its concerns relating to the characterization of normal and abnormal operations of ships and the difficulties in applying the prior informed consent established in the BASEL Convention to harmful substances generated at sea. In this regard, Canada correctly suggests that any gaps should be dealt through MARPOL due to “its central role in regulating ships.”²²⁴ The European Union and its member States also raised their concerns because the analysis scrutinizes the application of the BASEL Convention to wastes generated on board ships without specifically clarifying the meaning and extent of the exclusion of ‘normal operations’ of ships from the scope of this instrument.²²⁵ Further questions were raised regarding the implications following the BASEL regime even in circumstances where the exclusion contained in article 1 (4) applies.²²⁶ This approach suggested by the Secretariat is misleading not only because of the burden that those undertakings represent, but also because it does not take into consideration the express exclusion of the scope to the convention of wastes generated from the normal operations of ships.

The exclusion from the scope of the BASEL Convention to wastes generated from normal operations of ships which are covered by another international instrument should be understood as MARPOL. It is irrelevant to characterize operations on board ships as normal or abnormal for the following reasons. First, the introduction of the phrase ‘normal operations’ was requested by the IMO to preserve the scope of application of MARPOL. Second, the scope of application of MARPOL is not restricted by any characterization of normal or abnormal. Indeed, the Convention deals with the discharge from ships of harmful substances that could have deleterious effects in human health and the marine environment. Third, even if some activities can be characterized as abnormal or if those activities are not covered by MARPOL, it is of fundamental importance to recognize that obligations regarding transboundary movement of wastes and prior informed consent cannot be applied to ships. This is not only because of practical considerations, but also because these instruments’ principles are

²²² *Ibid.*, pp. 4-5.

²²³ Tenth Meeting of the Conference Parties of the BASEL Convention (UNEP/CHW.10/28, 2011) pp.51-52.

²²⁴ Canada, <archive.basel.int/legalmatters/coop-IMO/cop10-comments/canada.pdf>, visited on 8 April 2012.

²²⁵ European Union, <archive.basel.int/legalmatters/coop-IMO/cop10-comments/eu.doc>, visited on 8 April 2012.

²²⁶ *Ibid.*

mutually exclusive. For instance, while the BASEL Convention discourages transboundary movements of wastes, under MARPOL it is the rule. Thus, Canada correctly suggested that any gap between these instruments regarding ship activities should be dealt under MARPOL. The true debate does not lie in defining normal or abnormal operations of ships, but in the characterization of the BASEL Convention as an overarching framework to deal with hazardous wastes from generation to disposal where other norms have to enhance its objectives. This implies that certain obligations of the BASEL regime, such as the ESM of wastes will subsist with or without the occurrence of transboundary movement of wastes. Furthermore, the ESM of wastes will apply to ships' wastes whether normal or abnormal. The real dilemma is how to deal with sea-land interface. What happens after ships discharge their wastes into reception facilities? If the BASEL regime should be applicable or national legislation is what is going to be discussed below.

3.1.3 Blending Operations on Board Ships: The Loophole

Within this discussion, it is of fundamental importance to be aware that blending operations should be distinguished from industrial processes carried on board vessels. The former consist in mixing two substances into one while the latter involves deliberate chemical reactions to create a new product with different properties from the substances originally processed.²²⁷ Blending operations of fuel at sea is a common practice²²⁸ and the demand of bio-fuels blends has also incremented for several reasons, such as: a) meeting the customers' needs regarding the characteristic of a product, and b) lowering costs.²²⁹ Despite blending operations on board vessels being not unusual, in the aftermath of the *Probo Koala* and *Probo Emu* cases, concerns arose regarding the nature of wastes generated as a result of blending activities and the regime applicable to those substances.

Due to the *Probo Koala* affair, the BASEL Secretariat requested the IMO to identify and address possible gaps between MARPOL and the BASEL Convention.²³⁰ In this particular case, gasoline was blended with caustic soda on board the vessel, and the IMO informed the BASEL Secretariat that the cargo of gasoline falls under Annex I of MARPOL and the cargo of caustic soda falls under Annex II of this Convention.²³¹

²²⁷ Telephonic interview with Dr. Nikos Mikelis, Implementation Officer of the IMO (Lund, Sweden, 17 February 2012).

²²⁸ Secretariat of the BASEL Convention, *supra* note 137, p. 23 “[b]lending activities are common for MARPOL Annex I product cargoes.”

²²⁹ IMO - Sub-Committee on Bulk Liquids and Gases, *Application of the Requirements for the Carriage of Bio-Fuels and Bio-Fuel Blends* (BLG 13/4/2, 13th Session, Agenda Item 4, 9 January 2009), pp. 1-3. Note that biofuel are “produced from biological raw materials” while fossil fuels are “formed in the earth from plant or animal remains.” *Merriam Webster Dictionary*, <www.merriam-webster.com/dictionary/fossil%20fuel>, <www.merriam-webster.com/dictionary/biofuel> visited on 15 April 2012.

²³⁰ Eight Meeting of Conference of the Parties of the BASEL Convention (UNEP/CHW.8/16*, decision VIII/9, 2007) p 35.

²³¹ IMO, Miguel Palomares – Director of the Marine Environment Division, *Letter to the Executive Secretary of the BASEL Secretariat* (May 2007).

However, once the cargoes are blended and residues are generated, an evident problem arises regarding the standards applicable to this mixture. Does this cargo have to be subject to Annex I or to Annex II of MARPOL? Furthermore, when the *Probo Koala* and the *Probo Emu* incidents took place, blending operations on board vessels were neither regulated, nor illegal.²³² However, these events reveal uncertainties regarding: a) toxicity of wastes that if subject to unsafe disposal causes extensive damage to human health, the environment, and property, b) safety and technical issues of blending operations on board vessels, and c) lack of an adequate interface between management of harmful substances at sea and at land.

To deal with this loophole in the regulatory system two solutions have been proposed. The first option is to examine the possible application of the BASEL regime to wastes generated on board ships that are abnormal or the discharge of which is not covered by another Convention, *i.e.* MARPOL. It has been already discussed that the difference between normal or abnormal operations is irrelevant and even if certain activities are not governed by MARPOL, the principles and requirements of transboundary movements to ships are inapplicable. Regarding wastes' interface between sea and land, the application of the ESM under the BASEL Convention has been suggested even if no transboundary movement occurs and independently of any characterization of ships' wastes normality. The accuracy of this possibility will be discussed below.

The second option is regulating blending operations on board vessels. This has been an IMO undertaking. In the thirteenth session of the Sub-Committee on Bulk Liquids and Gases, provisional guidelines were developed to ensure blending operations safety on board ships during the sea voyage.²³³ Also, certain percentages were established in order to determine the application of Annex I or II to the blended cargo and its residues.²³⁴ Regarding blending operations on board ships in ports, it was recognized that installations and expertise to conduct these operations are available ashore, so the risks of pollution and further damage decrease.²³⁵ This may be true, but one should remember that in the *Probo Emu* incident the explosion and release of harmful substances occurred while the ship was in port, in Norway. The guidelines to conduct blending operations on board vessels during the sea voyage were temporary because during this session the decision to prohibit the activities was supported.²³⁶ For this reason, the IMO's Committees on Maritime Safety and Marine Environmental Protection issued a Circular in August 2009 which recommended the prohibition of activities related to the blend of cargoes regulated under MARPOL during the sea voyage and announced further development of

²³² “[c]austic washes like this have been banned by most countries because of the hazardous waste that remains ... and because of the absence of facilities prepared to take that waste. Therefore, Trafigura decided to do the washing at sea, on board the *Probo Koala*.” J.M. Verschuuren, *et al*, *supra* note 11, p. 157.

²³³ IMO - Sub-Committee on Bulk Liquids and Gases, *supra* note 136, pp.11-13.

²³⁴ *Ibid.*

²³⁵ *Ibid.*

²³⁶ *Ibid.*

mandatory provisions about this issue.²³⁷ It is noteworthy that IMO's circulars are no-mandatory and therefore can be characterized simply as a soft law approach the impact of which is not without relevance. Particularly, 'soft law' promotes the development of standards, policies and hard law, *i.e.* binding obligations. In the words of Sands, soft law establishes "acceptable norms of behavior."²³⁸ Additionally, soft law instruments, such as guidelines or codes of conduct can become legally binding if they are incorporated, for instance, into national legislation. Finally, in the eighty-ninth session of the Maritime Safety Committee held in May 2011, an amendment to the SOLAS Convention 1974, Chapter VI: Carriage of Cargoes was proposed to prohibit blending operations on board ships during the sea voyage.²³⁹ No proposal has been made in relation of blending operations on board vessels at port. Nonetheless, ports are situated in internal waters where the coastal State "enjoys full territorial sovereignty"²⁴⁰ and, thus, national legislation would apply in this respect.

In conclusion, blending operations on board vessels represent a loophole in relation to the management of harmful substances generated at sea. Moreover, any express regulation on the subject will only be applicable to future events.

3.1.4 Port Reception Facilities: Environmental Sound Management of Wastes at Land?

MARPOL as a preventive regime establishes standards to minimize accidental and operational discharges of harmful substances into the marine environment. Although some operational discharges are allowed if strict standards are complied with, most residues generated from cargo and machinery spaces remain on board vessels. In fact, many operational discharges are prohibited taking into consideration, for example, the geographical location of ships, *e.g.* special areas, and the type of substances, *e.g.* plastics. Ships have a timeframe within which harmful substances can be kept on board before discharge. For this reason, States have to provide 'adequate' reception facilities to receive harmful substances of Annexes I, II, IV, V, and VI. As Professor de La Fayette explains: "[s]hips operators have a right and an obligation to discharge certain wastes into port reception facilities, while port States have an obligation to provide suitable facilities."²⁴¹

MARPOL does not define what 'adequate reception facilities' are, but the IMO has developed guidelines to facilitate the implementation

²³⁷ IMO, *Prohibition of Blending MARPOL Cargoes on Board* (MSC-MEPC.2/Circ.8, 2009).

²³⁸ Sands, *supra* note 69, p. 124.

²³⁹ IMO, Maritime Safety Committee, *A Report of the Maritime Safety Committee on its Eighty-Ninth Session* (MSC 89/25, 89th Session, Agenda Item 25, 27 May 2009), p. 56.

²⁴⁰ Churchill and Lowe, *supra* note 25, p. 61, 65-66. "[b]y entering foreign ports and other internal waters, ships put themselves within the territorial jurisdiction of the coastal State... matters relating solely to the 'internal economy' of the ship tend in practice to be left to the authorities of the flag State."

²⁴¹ De La Fayette, *supra* note 9, p. 211. "[t]he obligations on ship's operators and on port States are reciprocal and mutually dependant."

of the Convention. For example, the Comprehensive Manual on Port Reception Facilities assists States Parties regarding collection and storage of ships' residues taking into consideration the type of ships calling at their ports in order to avoid unjustified delays.²⁴² Furthermore, the Manual encourages the legal, (e.g. control, licensing, enforcement), and technical (e.g. equipment and training) implementation of a waste management system in order to ensure an adequate disposal of ships' residues at land.²⁴³ However, it does not mean that MARPOL governs how ships' residues must be disposed of once they are discharged because as the IMO recognizes waste management at land is not within the scope of the Convention.²⁴⁴

States parties to MARPOL have an obligation to prevent marine pollution, and considering that ships operate at sea, it is reasonable that the Convention requires States parties to receive ships' residues. This is a fundamental difference with the BASEL Convention which establishes the right of States to prohibit the import of wastes into their territories.²⁴⁵ This strengthens the notion that the BASEL regime and MARPOL are mutually exclusive regimes. On one hand, the BASEL Convention, while dealing with minimization of wastes' transfers, recognizes the right of importing States to deny waste importation because in principle wastes should be managed as close as possible to their generation source. On the other hand, MARPOL deals with ship source pollution which inherently implies that ships' wastes can be discharged at sea if no port reception facilities are provided by State parties. Therefore, under MARPOL States parties must receive ships' wastes into port reception facilities, otherwise, the Convention's purpose in relation to the protection of the marine environment would be undermined.

While at sea it is evident that MARPOL provides standards for managing ships' wastes in an ESM, e.g. equipment on board, discharge criteria.²⁴⁶ However, as soon as ships' wastes are discharged into port reception facilities, it is beyond the Convention's scope to deal with management systems of waste disposal at land. In this sense, Professor de La Fayette clarifies that:

even where port facilities are adequate, there often remains a problem ... due to inadequate disposal facilities on land for all kind of wastes. Many developing countries ... do not have well-functioning general waste management and disposal systems.²⁴⁷

Port reception facilities do not provide an ESM of ships' wastes at land, and therefore, two possible scenarios for ships' wastes management after their discharge are discussed in the following section: a) those wastes should be

²⁴² International Maritime Organization (IMO), *Comprehensive Manual on Port Reception Facilities* (Ashford Press, United Kingdom, 2nd Edition, 1999) Chapters 5, 6 and 7.

²⁴³ *Ibid.*

²⁴⁴ *Ibid.* See also, IMO, Miguel Palomares – Director of the Marine Environment Division, *Letter to the Executive Secretary of the BASEL Secretariat* (July 2010).

²⁴⁵ See article 4 (1) of the BASEL Convention.

²⁴⁶ “[e]nvironmentally Sound Management of shipping operations is the main goal of MARPOL. For example, ... requirements for the provision of slop tanks ... all operations related to wastes must be noted in the record books.” De La Fayette, *supra* note 9, p. 213.

²⁴⁷ *Ibid.*

disposed of according to national legislation or b) as MARPOL no longer applies, the BASEL Convention becomes applicable. In the latter scenario the BASEL Secretariat has suggested that the ESM of wastes should be enforced regardless of any transboundary movement of wastes and irrespective any characterization of ships' wastes normality.²⁴⁸

Finally, port reception facilities are of fundamental importance to prevent marine pollution. However, if those facilities are inconveniently located, non-existent, and costly for ships' operators or if their use is time consuming, illegal discharges are encouraged. This is especially true if enforcement and control of illegal discharges are weak. In fact, unsuitable reception facilities are mostly found in developing countries.²⁴⁹ The problem is further exacerbated by the lack of enforcement mechanisms against States failing to ensure suitable reception facilities because the IMO "as a consultative organization ... has never been allowed to exercise enforcement powers against its members."²⁵⁰ The restricted faculties of the IMO as a supervisory body is reflected in States failing to report about port reception facilities as prescribed in Article 11 (d) of MARPOL. According to Khee-Jin Than approximately 50 per cent of States parties "have never responded to IMO requests for information."²⁵¹ MARPOL's success is heavily reliant on the provision of adequate reception facilities. So, many could argue that non-compliance is a material breach of the Convention as prescribed in article 60 of the Vienna Convention on the Law of Treaties. The consequence of the breach is therefore the termination or suspension of the Convention. However, as Professor Birnie, *et al*, accurately explains, treaty suspension or termination is essentially inadequate to deal with environmental problems.²⁵² Hence, IMO's efforts to assist defaulting States to improve their compliance should be encouraged.

3.2 BASEL Regime

The BASEL Convention governs transboundary movement of wastes and their ESM. Article 1 of the Convention establishes its scope of application classifying wastes *subject to a transboundary movement* into hazardous wastes and other wastes. Hazardous wastes are those established in Annex I, such as clinical waste, industrial waste, hydrocarbon waste, and those substances containing hazardous constituents, for example, cadmium, selenium, arsenic, mercury or lead. All wastes established in Annex I are governed by the Convention unless they do not possess the hazardous characteristics established in Annex III, *e.g.* flammability, explosiveness, corrosiveness, toxicity. Furthermore, *transit, exporting and importing* States can characterize wastes as hazardous under their national legislation.²⁵³

²⁴⁸ Secretariat of the BASEL Convention, *supra* note 218.

²⁴⁹ Khee-Jin, *supra* note 142, pp. 261-262.

²⁵⁰ *Ibid*, p. 267.

²⁵¹ *Ibid*, p. 271.

²⁵² Patricia Birnie, and Alan Boyle, *International Law and the Environment* (Oxford University Press, United States, 2nd Edition, 2002) pp. 195 and 200-203.

²⁵³ *See* article 1 (1) (b) of the BASEL Convention.

Other wastes are divided into two categories listed in Annex II, *i.e.* household waste and residues from the incineration of household waste.

The classification of hazardous wastes was heavily criticized because the range of substances included in Annex I was too extensive and no consideration was given to wastes containing minor quantities of hazardous constituents.²⁵⁴ Additionally, some of the hazardous characteristics of Annex III were vague and hard to define.²⁵⁵ For these reasons, the Conference of the Parties in its fourth meeting, in 1998, amended the Convention and Annexes VIII and IX were included into the BASEL Convention to facilitate its practical application.²⁵⁶

The word waste is defined as: “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law.”²⁵⁷ In this sense, disposal includes a wide range of operations contained in Annex IV of the Convention. Those activities are classified in two categories. The first category refers to operations with no possibility of recycling, such as deposit in landfills, release into the ocean, biological treatments or incineration.²⁵⁸ The second category refers to recycling operations, such as reclamation of metals, solvents or fuel.²⁵⁹ The interpretation of wastes’ definition is not crystal clear. First, it could be argued that all substances or objects subject to disposal operations are immediately governed by the BASEL Convention, except from those wastes excluded from its scope, *i.e.* wastes derived from normal operation of ships and radioactive wastes. However, as Langlet accurately clarifies: “[a]n additional requirement for any waste to fall under the Convention’s definition of wastes is that it is subject to transboundary movement.”²⁶⁰ This is clearly stated in article 1 which establishes the scope of the Convention by classifying wastes with a fundamental premise: its transboundary transfer. If no transboundary movement occurs, the application of the entire Convention is not triggered.

Throughout this section the principal obligations contained in the BASEL Convention will be scrutinized. The analysis of the requirements allowing transboundary movement of wastes and their subsequent disposal will strengthen the conclusions reached in section 3.1.2 regarding the inapplicability of transboundary movement obligations to harmful substances derived from vessels’ operations.

²⁵⁴ Kummer, *supra* note 92, pp. 50-51.

²⁵⁵ *Ibid.*

²⁵⁶ Fourth Meeting of Conference of the Parties of the BASEL Convention (UNEP/CHW.4/35 decision IV/9, 1998). The amendment entered into force on 6 November 1998. Annex VIII has been amended twice by the Sixth and Seventh Meeting of Conference of the Parties (UNEP/CHW.7/15, 2004). Those amendments entered into force on 20 November 2003 and 8 October 2005 respectively.

²⁵⁷ See article 2 (1) of the BASEL Convention.

²⁵⁸ *Ibid.*, Annex IV.

²⁵⁹ *Ibid.*

²⁶⁰ David Langlet, *Prior Informed Consent and Hazardous Trade* (Kluwer Law International, The Netherlands, 2009) p. 78.

3.2.1 Defining Transboundary Movement of Wastes

A transboundary movement of wastes according to the BASEL Convention is:

any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement.²⁶¹

The interpretation of this definition has a two-fold problem regarding: a) the determination whether a transboundary movement of wastes is triggered according to the BASEL Convention, and b) the rights of the States involved in a transboundary movement. The rather ambiguous expression 'area under national jurisdiction of a State' is a key element to identify when a transboundary movement occurs. Article 2 (9) describes 'area under national jurisdiction' as: "any land, marine area... within which a State exercises administrative and regulatory responsibility... in regard to the protection of human health or the environment." The reference regarding marine areas does not entirely clarify which transboundary transfers will be subject to the BASEL regime. The imprecise language used to define transboundary movements is the result of disagreements during the negotiation process regarding the inclusion of precise references, for example, to the EEZ²⁶² and how to balance States' rights to prevent pollution of maritime zones under their jurisdiction without conflicting with navigational freedoms.

Taking into consideration that a movement must commence within an 'area under the national jurisdiction of a State,' (*i.e.* including a marine area within which States have responsibility towards the protection of the environment), it can be argued, for example, that wastes' transfers initiated within the territorial sea and the EEZ are transboundary movements of wastes for the purposes of the BASEL Convention. However, even if a transboundary movement commences in these maritime zones, the rights of States involved in a transboundary movement may conflict with the rights of innocent passage and freedom of navigation that ships enjoy in the territorial sea and the EEZ respectively.²⁶³ Particularly, as it is explained below, the foundation of the regulatory system established in the BASEL regime is the PIC procedure which allows transboundary movements to take place when exporting States notify and receive a prior consent for such movement from importing and transit States alike.²⁶⁴ On the other hand, article 4 (12) of the BASEL Convention establishes that:

²⁶¹ See article 2 (3) of the BASEL Convention.

²⁶² Iwona Rummel-Bulska, 'The Basel Convention and the UN Convention on the Law of the Sea', in: Henrik Ringbom (ed.), *Competing Norms in the Law of Marine Environmental Protection* (Kluwer Law International Ltd., United Kingdom, 1997), p.88.

²⁶³ See article 17 *et seq.* and article 58 (1) of UNCLOS.

²⁶⁴ See article 2 (3) of the BASEL Convention.

Nothing in this Convention shall affect ... the exercise by ships ... of navigational rights and freedoms as provided for in international law and as reflected in relevant international instruments. (Emphasis added).

This article endorses the view that the regulatory system prescribed in the BASEL Convention must be exercised taking into consideration the customary rights and relevant provisions established in UNCLOS regarding freedoms of navigation and innocent passage. Therefore, as Kummer explains this provision seems to “give priority to these rights, *i.e.* navigational, over any rule of the BASEL Convention.”²⁶⁵

This interpretation is not shared by all the parties to the BASEL Convention. For instance, several Latin American States, such as Colombia, Mexico, Uruguay, Venezuela, and Ecuador declared that the BASEL regime safeguards their rights as coastal States and, therefore, actions can be taken against ships involved in transboundary movements of wastes in their territorial seas and EEZs.²⁶⁶ Furthermore, China has enacted legislation to prohibit the transit of ships carrying wastes through its territorial sea and EEZ.²⁶⁷ Transit may be allowed previous approval of the Ministry of Environmental Protection.²⁶⁸ In this case, Maes and Nengye Liu accurately explain that this legislation may be in conflict with the navigational rights and freedoms established in the international law of the sea.²⁶⁹ On the other hand, States like Germany and Japan do not accept that the principles and obligations prescribed in the BASEL regime may curtail the freedom of navigation and innocent passage of ships²⁷⁰ by requiring for instance, previous consent.

The specific rights and obligations of coastal States regarding the territorial sea and EEZ are analyzed further below in relation to the rights of transit States involved in a transboundary movement of wastes. Suffice it to say that coastal States have obligations towards the protection of the marine environment, for example, in their territorial seas and EEZs. Thus, these maritime zones are ‘areas under national jurisdiction of a State’ as prescribed in the BASEL Convention and a transboundary movement will take place, for example, when it commences in an EEZ or territorial sea. On the other hand, wastes generated and transferred from the high seas do not fall under this definition and are not governed by the BASEL Convention. Nonetheless, the relevant provisions analyzed here say little about how to overcome the potential conflicts between rights of States involved in a transboundary movement and navigational freedoms of ships.

It is noteworthy that the Convention confines the definition of transboundary movement of wastes to transfers that commence from *an area under national jurisdiction*. This is because the pivotal role of

²⁶⁵ Kummer, *supra* note 92, p. 53. See that according to the author article 4 (12) of the BASEL Convention seems to imply that “a transit state’s rights may only be exercised only to the extent that they are not in conflict with the international law of the sea.”

²⁶⁶ Rummel-Bulska, *supra* note 262, pp. 88-89.

²⁶⁷ Frank Maes and Nengye Liu, ‘Prevention of Vessel-Source Marine Pollution: A Note on the Challenges and Prospects for Chinese Practice Under International Law’, 42, *Ocean Development and International Law* (2011) pp. 361-362.

²⁶⁸ *Ibid.*, p. 362.

²⁶⁹ *Ibid.*

²⁷⁰ *Ibid.*

exporting States within the BASEL regime. In fact, an exporting State is a “party from which a transboundary movement of ... wastes is ... initiated.”²⁷¹ The determination of States of export is of fundamental importance because of the following reasons. First, exporting States remain responsible for the ESM of wastes. Indeed, this obligation cannot be transferred to importing or transit States according to article 4 (10) of the Convention. Second, if transboundary movements, carried out in conformity with the Convention, cannot be completed or if those movements are illegal, *e.g.* the PIC procedure was not applied, wastes must be re-imported to the State of export.²⁷² The obligation to re-import wastes in cases of illegal transit, according to Kummer, arises whether damage has been sustained or not.²⁷³

Regarding wastes generated on board ships at sea, even in the event that those wastes may be characterized as arising from abnormal operations of ships, it is extremely difficult to establish where a transboundary movement begins. For example, a vessel flying an Ecuadorian flag which operates in Africa is engaged in blending operations. During the ship operations, wastes from cargo and machinery spaces are generated constantly within several territorial seas and EEZs. Furthermore, blending operations are carried out in the high seas. In this scenario, it is not feasible to distinguish where the transboundary movement begins and which is the exporting State because wastes are *continuously* being generated. Additionally, wastes’ transfers from the high seas would not be covered by the BASEL Convention. If it is argued that wastes arising from abnormal operations of ships fall within the scope of the BASEL Convention, the ship of the example must comply with the PIC procedure, otherwise, the movement is illegal and the wastes have to be re-imported to the exporting State which is inexistent. In this case, the ship operator has no other option, but to discharge wastes in the sea. This is contrary to the provisions established in MARPOL and UNCLOS.

Finally, flag States cannot be considered as exporting States for the purposes of the BASEL Convention because ships are not an extension of a State territory. Therefore ships do not fall within the definition of ‘area under national jurisdiction’, *i.e.* any land, marine area or air space. The fiction of ships’ territoriality was advanced in the *Lotus* case,²⁷⁴ but it is now rejected because, as Colombos explains, ships are ‘moveable property’ and not a place.²⁷⁵

²⁷¹ See article 2 (10) of the BASEL Convention.

²⁷² *Ibid*, article 8.

²⁷³ Kummer, *supra* note 92, p. 221. “[t]he mere fact of the waste having been moved illegally ... is sufficient to entail the state’s duty to ensure environmental sound disposal.”

²⁷⁴ *Lotus, The (France/Turkey) [1927] PCIJ, Ser. A, No. 10* “a ship on the high seas is assimilated to the territory of the State the Flag of which she flies.”

²⁷⁵ Colombos, *supra* note 57, pp. 287-288.

3.2.2 Transboundary Movement of Wastes' requirements and the PIC Procedure

According to article 4 (2.d) of the BASEL Convention, States parties must reduce transboundary movement of wastes. Thus, wastes' transfers are the exception, but not the rule. To achieve this objective generation of wastes must be minimized and their disposal shall be carried out as close as possible to their generation source.²⁷⁶ Additionally, specific standards apply to transboundary movements between States parties and non-parties.

As a general rule no exportation or importation are allowed to or from a non-party unless States parties enter into transboundary movement of wastes' agreements with non-parties and provided that such agreements are in conformity with the ESM requirements of the BASEL regime.²⁷⁷ This 'limited ban,' as called by Kummer, implies that States entering into multilateral, regional or bilateral agreements must take into consideration the basic principles of the BASEL regime, such as sovereignty, proximity, and self-sufficiency.²⁷⁸ Another restriction established in article 4 (6) of the Convention is that wastes' exportations to the Antarctica are absolutely prohibited.

Between States Parties transboundary movements are allowed under restricted circumstances. For instance, if States do not possess technological capacity and facilities to dispose of wastes according to the Convention or if wastes are required for recycling in importing States, then transboundary movements may take place.²⁷⁹ Further restrictions apply between States Parties if: a) States exercises their sovereign right of prohibiting importations of wastes into their territories; and b) States consider that wastes will not be disposed of in accordance with the ESM of the Convention.²⁸⁰ Hence, transboundary movements will only be allowed between States parties if the transfer represents the best available solution to dispose of the wastes. This means that the primary obligation of ensuring the ESM of wastes *remains always* in the exporter or generator.²⁸¹

Once a transboundary movement is allowed, the parties and States involved in the movement shall apply the previous informed consent (PIC) procedure. This is the most important foundation of the regulatory scheme established under the BASEL Convention. This procedure is applied to hazardous and other wastes whether intended to be recycled or not. Furthermore, this procedure recognizes sovereign rights of States over their territories and enables them to make assessments about risks States are willing to accept.²⁸² This expression of sovereignty differs from obligations

²⁷⁶ *Ibid*, article 4 (2.b).

²⁷⁷ *Ibid*, articles 4 (5) and 11.

²⁷⁸ Kummer, *supra* note 92, pp. 61-62, 88-99.

²⁷⁹ *See* article 4 (9) of the BASEL Convention.

²⁸⁰ *Ibid*, article 4 (1.a) and 4 (2.e).

²⁸¹ *Ibid*, article 4 (10).

²⁸² "PIC is significant in the context of transforming formal rights into factual abilities ... to make informed decisions...The procedure may also be seen as a concrete manifestation of an alleged sovereign right of States to control the inflow of hazardous substances into their territories." Langlet, *supra* note 260, p. 12.

regarding common spaces or shares resources. As Professor Birnie, *et al*, explains, States engaged in hazardous activities are usually not bound to carry out PIC procedures because customary law as expressed in the *Lac Lanoux* case²⁸³ “expressly rejects such a rule for the use of shared resources, nor... common spaces. In these cases, prior informed consultation at most is called for.”²⁸⁴

Parties involved in transboundary movements of wastes are exporting, importing and transit States. This classification specifies respectively the place where transboundary movements initiate, where wastes are going to be disposed of and through which ‘areas’ shipments of wastes are intended to pass before arriving to an importing State.²⁸⁵ In general terms, PIC procedure obliges exporting States to notify and provide detailed information regarding transboundary movements as required by Annex VA of the BASEL Convention, *e.g.* reasons for exportation, identification of the exporter, disposer, carrier, itinerary, competent authorities, and methods of disposal. Transboundary movements require written acceptance of importing and transit states which also have prerogatives to ask for further information, deny or allow a movement subject to conditions.²⁸⁶ It is noteworthy that importing States have no time limit to answer requests for transboundary movements and no tacit consent can be implied. However, if transit States do not respond a request within sixty (60) days, the consent is inferred and the transboundary movement can take place.²⁸⁷ Additionally, transboundary movements are monitored through ‘movement documents’ signed by every person in charge of wastes’ transfers.²⁸⁸ Finally, in order to ensure the ESM of wastes, a contract for waste disposal must be in place.²⁸⁹

According to article 9 of the BASEL Convention if the PIC procedure is not complied with, transboundary movements become illegal and wastes must be returned to the exporting State if it is ‘practical’. Otherwise, the ESM of such wastes must be ensured. These obligations must be fulfilled by exporting States which remains responsible for wastes subject to transboundary movements. Furthermore, illegal traffic is deemed to be criminal as established in article 4 (3). Finally, some weaknesses must be noted about this regulatory system. First, it is inappropriate to qualify wastes’ re-importation to the standard of ‘practicality’ which is ambiguous.²⁹⁰ Second, any illegal traffic would be punished if implemented as an offence into national legislation. Furthermore, an offence characterized as ‘criminal’ in strict sense requires the proof of *means rea*,²⁹¹

²⁸³ *Lac Lanoux Arbitration* (France/ Spain) [1957] 24 ILR, 101.

²⁸⁴ Birnie, *et al*, *supra* note 252, p. 431.

²⁸⁵ See article 2 (10) (11) and (12) of the BASEL Convention.

²⁸⁶ *Ibid*, article 6.

²⁸⁷ *Ibid*.

²⁸⁸ *Ibid*.

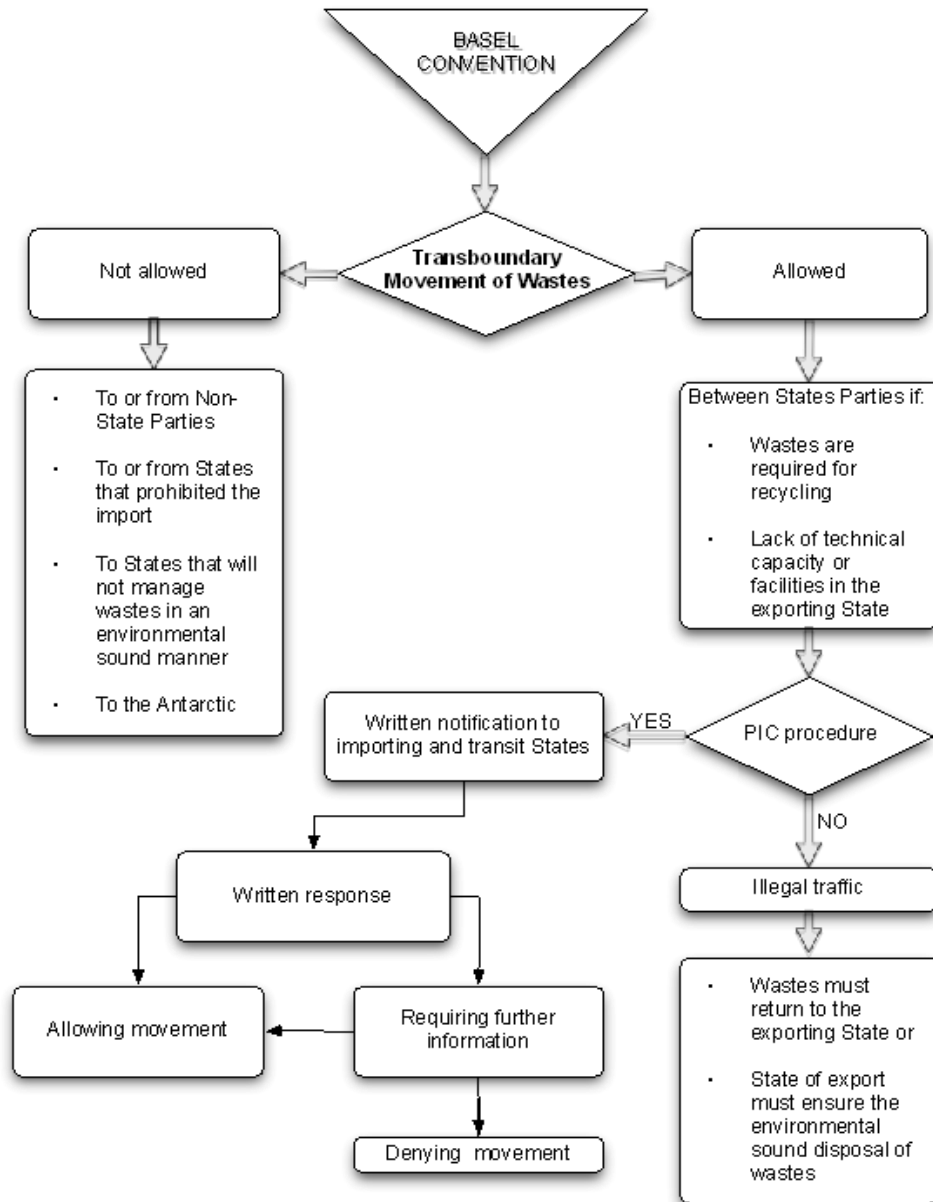
²⁸⁹ *Ibid*.

²⁹⁰ Birnie, *et al*, *supra* note 252, p. 432. “impracticability is a vague and subjective notion which the importing State itself is left to interpret.”

²⁹¹ For an analysis of characterization of penal offences, see Mukherjee, *supra* note 4, pp. 478-485.

but proving recklessness or *mala fide* may not be easy, especially when dealing with environmental issues.

All in all, the PIC procedure is complex and requires for its effective implementation a “sophisticated national infrastructure”²⁹² to control transboundary movements and their subsequent disposal. The following schematic diagram illustrates the principal issues discussed above.



Both of the legal analysis prepared by the BASEL Secretariat and the comments received by the parties, *supra* section 3.1.2, recognized that practical implications may hinder the application of transboundary movements’ requirements and the PIC procedure to wastes generated on board ships. *This is the case even if such wastes are generated due to ‘abnormal operations’.*

²⁹²Kummer, *supra* note 92, p. 81.

Understanding transboundary movement of wastes and the PIC procedure reveal also that fundamental principles established under MARPOL are mutually exclusive of those prescribed in the BASEL regime. First, international trade requires the transportation of goods between different States, so transboundary movements are the rule and cannot be restricted or minimized. Second, while navigating, ships continuously generate harmful substances or wastes in diverse areas of national jurisdiction or in the high seas. In this scenario, it is not feasible to identify exporting States, *i.e.* where transboundary movements commence, or to determine the closest place for disposal of such wastes. Third, the PIC procedure is contrary to the objectives of MARPOL because ships operate within the sea and have a limited capacity and time to maintain wastes on board vessels. If States do not consent receiving wastes generated on board ships, an unavoidable consequence is discharging those wastes into the ocean. This is specially true in the absence of an ‘exporting State’ to which wastes can be ‘returned’ for their disposal. In addition, a complex and lengthy system, as the PIC procedure, could hamper international trading by sea.

3.2.3 Transit States’ rights versus Innocent Passage and Freedom of Navigation

According to the PIC procedure established in article 6 of the BASEL Convention, not only importing States must consent a transboundary movement of wastes, but also transit States.²⁹³ If those transboundary transfers are carried out by sea, ships may navigate or transit through territorial seas and EEZs of several States before arriving to importing States. Furthermore, ships enjoy the right of innocent passage in the territorial sea and freedom of navigation in the EEZ.²⁹⁴ In this scenario, uncertainties arise regarding whether the PIC procedure is applicable to ships exercising their rights of navigation while engaged in transboundary movement of wastes.

Although article 4 (12) of the BASEL Convention seems to guarantee the navigational freedoms of ships engaged in transboundary movement of wastes while passing through the territorial sea or the EEZ, there are still disagreements between the parties, relating to the rights enjoyed by transit States under the BASEL Convention. However, even in the absence of article 4 (12), the PIC procedure is inapplicable to transit States in cases where ships are exercising, for instance, their freedom of navigation within the EEZ. This is because *the PIC procedure is a manifestation of States’ sovereignty*²⁹⁵ over their territory. As Professor

²⁹³ State of transit “means any State, other than the State of export or import, through which a movement of hazardous wastes or other wastes is planned or takes place.” See article 2 (12) of the BASEL Convention.

²⁹⁴ See article 17 *et seq.* and article 58 (1) of UNCLOS. See also article 14 of the Geneva Convention on the Territorial Sea.

²⁹⁵ The concept of State is founded on the notion of sovereignty, “[b]ut sovereignty itself is founded upon the fact of territory.” “[t]erritorial sovereignty has a positive and a negative aspect. The former relates to the exclusivity of the competence of the State regarding its

Birnie, *et al*, summarizes: “[w]here transit takes place through maritime areas, however, not such basis of territorial basis exists.”²⁹⁶

States enjoy full sovereignty over its internal waters as established in article 2 (1) of UNCLOS and article 1 of the Territorial Sea Convention of 1958. In this regard, Churchill and Lowe assimilate the status of internal waters to the land territory of a State²⁹⁷ where the sovereign can assess whether to accept, or not, the transit or entering of hazardous wastes. Thus, ships engaged in a transboundary movement of wastes can transit within internal waters if the PIC procedure established in the BASEL Convent is complied with.

In the territorial sea even though States enjoys sovereignty, it is limited by the customary right of innocent passage. Sufficient is to mention that ‘passage’ refers to foreign ships crossing through a territorial sea in a “continuous and expeditious”²⁹⁸ manner without entering or proceeding from internal waters.²⁹⁹ On the other hand the term ‘innocent’ refers to the passage of ships which is not detrimental “to the peace, good order or security of the coastal State.”³⁰⁰ Determining which activities are prejudicial to the coastal State is not an easy task. In this sense, article 19 (2) of UNCLOS provides a non-exhaustive list of activities that could render the passage non-innocent, such as being engaged in fishing or being involved in serious and willful acts of pollution. However, whether vessels carrying harmful substances, including hazardous wastes, are intrinsically prejudicial to the peace, good order or security of Coastal States is not a matter without controversy.

Coastal States in exercise of their sovereign rights can adopt laws to regulate innocent passage in relation to the protection of the marine environment including pollution.³⁰¹ Nonetheless, an important limitation must be observed by coastal States when enacting legislation in relation to innocent passage because this right cannot be hampered.³⁰² Thus, according to article 24 of UNCLOS any legislation enacted by Coastal States must not impair, discriminate, *or deny* innocent passage. In this sense, ships engaged in transboundary movements of wastes while navigating in a continuous and expeditious manner through territorial seas, cannot be demanded to obtain previous informed consent of coastal States because the PIC procedure implies the possibility of such consent being denied. Finally, article 23 of UNCLOS recognizes explicitly that ships carrying substances intrinsically harmful can exercise the innocent passage right, but must “carry documents and observe special precautionary measures established for such ships by international agreements.” Such precautionary measures are, for example, to confine ships’ passage to sea lines as prescribed in article 22 of UNCLOS.

own territory, while the latter refers to the obligation to protect the rights of other States.” Shaw, *supra* note 47, pp. 487-490.

²⁹⁶ Birnie, *et al*, *supra* note 252, p. 432.

²⁹⁷ Churchill and Lowe, *supra* note 25, pp. 60-61. “just as the State is in principle free to deal with its land territory, so it should be free to deal with its internal waters as it chooses.”

²⁹⁸ See article 18 of UNCLOS.

²⁹⁹ *Ibid.*

³⁰⁰ *Ibid.*, article 19. See also, article 14 (4) of the Geneva Convention on the Territorial Sea.

³⁰¹ *Ibid.*, article 21.

³⁰² *Ibid.*, article 24.

However, this article cannot be construed to include the PIC procedure established in the BASEL regime.

In the EEZ coastal States do not enjoy sovereignty and this maritime zone does not “have a residual territorial character.”³⁰³ The EEZ is characterized by Churchill and Lowe as a *sui generis* maritime zone³⁰⁴ where coastal States have certain ‘sovereign rights’ and jurisdiction regarding the protection of the marine environment.³⁰⁵ Coastal States, while exercising their duties as established UNCLOS, must take into consideration the rights of other States,³⁰⁶ such the freedom of navigation as prescribed in article 58 (1) of UNCLOS. All in all, the PIC procedure enshrines the sovereignty of States over the use of their territories and resources, and within the EEZ no such sovereignty exists. Therefore, freedom of navigation cannot be curtailed by requiring previous notification and consent when ships are carrying inherently harmful substances, including wastes regulated under the BASEL Convention. In this regard, the declaration made by the United States in relation to the position of transit States under the BASEL Convention seems accurate:

a State is a transit State only if wastes are moved or planned to be moved through ... its inland waters ... it will formally object to the declaration of any State to require its prior permissions or authorization of the passage of a vessel transporting hazardous wastes while exercising ... its right of innocent passage or freedom of navigation...³⁰⁷

Notwithstanding the previous analysis, this issue remains controversial. Many States, such as Egypt or Malaysia have enacted legislation requiring previous notification and consent when ships carrying hazardous wastes intend to pass through the territorial sea or EEZ.³⁰⁸

3.2.4 No Transboundary Movement, but Apply the Environmentally Sound Management of Wastes, Please!

It has been already explained that reducing transboundary movements of waste to a minimum, applying the PIC procedure, and disposing wastes close to their place of generation as established in the BASEL Convention is unfeasible to be applicable to wastes generated on board vessels regardless of any characterization of ‘normality’. In this sense, the obligations established under the BASEL Convention in relation to transboundary movement of wastes are completely inadequate to deal with ship wastes considering the distinctive characteristic of ships’ operations at sea, the on-going generation of wastes during this operation, and the dynamic features of trading by sea.

³⁰³ Churchill and Lowe, *supra* note 25, p. 165.

³⁰⁴ *Ibid*, p. 166.

³⁰⁵ See article 56 of UNCLOS.

³⁰⁶ *Ibid*.

³⁰⁷ Rummel-Bulska, *supra* note 262, pp. 100-101.

³⁰⁸ *Ibid*, p. 99.

The BASEL Convention establishes that “wastes which derive from the normal operations of a ship, the discharge of which is covered by another international instrument are excluded from the scope of this Convention.”³⁰⁹ In relation to this exclusion, the extent and meaning of the phrase ‘the discharge of which is covered by another convention’ must be analyzed. Construing this exclusion has a two-fold problem: a) whether ship wastes not covered by another Convention, *i.e.* MARPOL, are immediately subject to the BASEL Convention, and b) whether the entire BASEL regime is excluded when ship wastes are governed by MARPOL.

In sections 3.1.2. and 3.2.1, the difficulties in applying the obligations relating to the transboundary movement of wastes to ship wastes, even in the case where those wastes could be characterized as abnormal or not covered under MARPOL, was scrutinized. In this scenario, the application of the BASEL regime is clearly inadequate to deal with ship wastes. This is because the continuous generation of wastes on board ships within and outside areas under the jurisdiction of States impedes the determination of whether a transboundary movement is triggered. Additionally, the PIC procedure is a lengthy and complex process which does not take into consideration that wastes generated on board ships can be kept on board vessels within a limited period of time. Furthermore, if as a result of the PIC procedure no State consents to receive wastes generated on board vessels, those residues would be discharged in the sea.

Considering that the BASEL regime does not deal effectively with ship wastes while being at sea, the debate is also focused in improving waste management interface between sea and land. As well, since port reception facilities “do not extend to the environmentally sound management of the landed residues/wastes,”³¹⁰ it remains to be scrutinized if the BASEL Convention provides an overarching regime to manage those landed wastes. This implies that the provisions related to the ESM of wastes under the BASEL regime are not excluded even if ship wastes are covered by MARPOL or even in the scenario where transboundary movement obligations are not applicable to wastes generated on board vessels.

It is essential to be aware that article 1 (4) of the BASEL Convention, was incorporated into the Convention by request of the IMO.³¹¹ The text of the exclusion as proposed by the IMO explains the use of terminology that is extraneous to the BASEL regime. Particularly, the term *discharge* is of fundamental importance within MARPOL, but it is incidental and not defined under the BASEL Regime. In fact, MARPOL is concerned with the introduction of harmful substances into the sea. Discharge is defined in article 2 (3) of MARPOL in relation to harmful substances that have a deleterious effect on the marine environment and human health. In this sense, discharge is “any release ... from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or

³⁰⁹ See article 1 (4) of the BASEL Convention.

³¹⁰ IMO, Director of the Marine Environment Division, *supra* note 244, p.2

³¹¹ “[t]he text of article 1, paragraph 4 was drafted by a representative of the IMO Secretariat and submitted at a late stage of the negotiations of the Basel Convention.” Secretariat of the BASEL Convention, *supra* note 137, p. 20.

emptying,”³¹² but does not extend, for example, to dumping activities. Additionally, once ship wastes are received in port reception facilities, it is beyond the scope of application of MARPOL to deal with the disposal of landed wastes.

According to the first legal analysis prepared by BASEL Secretariat, the phrase ‘the discharge of which is covered by another international instrument are excluded from the scope of this Convention’ does not mean that “no Basel Convention provision would ever apply to wastes falling within the scope of MARPOL.”³¹³ The Secretariat argues that the obligations relating to the ESM of wastes remain applicable to wastes generated on board vessels because of the following reasons. First, the BASEL regime deals with waste cycle from generation to disposal while MARPOL applies to ship wastes until they are unloaded from the ship.³¹⁴ Thus, when the residues derived from ship operations are received in port reception facilities, the BASEL Convention becomes applicable to deal with the disposal of such wastes. Second, the ESM of wastes is an independent obligation which must be complied with, even if no transboundary movement takes place.³¹⁵ States parties to the BASEL Convention, such as Argentina, Guatemala, Mexico, Trinidad and Tobago, and Qatar fully agreed with the conclusions arrived at by the BASEL Secretariat.³¹⁶ Although the European Union and its members States did not make any specific comment regarding the conditions for the application of the environmentally sound management obligations in relation to wastes generated on board vessels, it was acknowledged that other interpretations of article 1 (4) of the BASEL Convention are also possible.³¹⁷

This legal analysis implicitly supports the conception of the BASEL Convention as an overarching regime to deal with wastes’ cycle. Thus, the strict control of transboundary movement of wastes is only one element to achieve the objectives of the Convention in relation to the protection of human health and the environment from hazardous wastes. Nevertheless, it is submitted that this analysis is inaccurate. Although it is correct to affirm that the BASEL Convention is concerned with wastes’ cycle from their generation until their disposal, it must be clarified which wastes are governed by the BASEL regime. In this sense, the Convention deals with the disposal of hazardous and other wastes *that are subject to a transboundary movement*.³¹⁸ Therefore, if transboundary transfers of substances or objects intended to be disposed of do not take place, none of the provisions of the BASEL regime become applicable.

For the purposes of the BASEL Convention, environmentally sound management of wastes is defined in general terms as:

³¹² See article 2 (3) of MARPOL.

³¹³ Secretariat of the BASEL Convention, *supra* note 137, p. 22.

³¹⁴ *Ibid.*

³¹⁵ *Ibid.*, p. 9

³¹⁶ See *supra* note 211, 212, 213.

³¹⁷ See *supra* note 214.

³¹⁸ “[t]he essential requirements for inclusion within the scope of the BASEL Convention are: 1) that a substance be a “waste,” 2) that it be hazardous or “other waste,” and 3) that it be subject to a transboundary movement.” De La Fayette, *supra* note 9, p. 209. See also article 1 (1) of the BASEL Convention.

taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes³¹⁹

On the other hand, management means:

the collection, *transport* and disposal of hazardous wastes or other wastes, including after-care of disposal sites³²⁰ (Emphasis added)

No specific regulation regarding waste management is provided by the BASEL Convention. As Professor Birnie, *et al*, explains this is a framework provision which only reiterates “the standard of due diligence which has generally been employed to describe international obligations for the control of environmentally harmful ... substances.”³²¹ Thus, the content of this obligation requires further development. However, in developing such regulations it is important to be aware that *compliance of ESM obligations is impinged directly on parties involved in a transboundary movement* (emphasis added). Consequently, it is not possible to discern between transboundary movements and ESM because these obligations are intrinsically linked since waste management “applies to exporting, transit, and importing states alike.”³²² For instance, the generating State must ensure the ESM of wastes according to article 4 (10) of the BASEL Convention. In fact, this provision denies the possibility of transferring such obligation to importing and transit states. Furthermore, principles of non-discrimination, *proximity*, waste minimization are key issues of ESM of wastes.³²³ Moreover, all parties involved in a transboundary transfer must require wastes to be managed in an environmentally sound manner, otherwise, exportation and importation must not be allowed.³²⁴ In conclusion, the provisions relating to waste management within the BASEL Convention refer to its transboundary transfer and cannot be applied independently.

It is noteworthy that the parties to the BASEL Convention have adopted a soft law approach to give content to the obligations relating to the ESM of wastes.³²⁵ Indeed, these technical guidelines offer certain criteria in relation with waste handling, like training, availability and adequacy of disposal sites, monitoring, among others.³²⁶ Moreover, the guidelines reiterate fundamental principles of the BASEL regime that cannot be applied to wastes generated on board vessels, such as minimization of transboundary movements, waste disposal as close as

³¹⁹ See article 2 (8) of the BASEL Convention.

³²⁰ *Ibid*, article 2 (2).

³²¹ Birnie, *et al*, *supra* note 252, p. 434.

³²² *Ibid*, p. 433. “[t]he primary obligation imposed by the BASEL Convention is to manage transboundary movement of wastes in an environmentally sound manner.”

³²³ See article 4 (2) of the BASEL Convention.

³²⁴ *Ibid*, article 4 (1).

³²⁵ See the Framework Document on the Preparation of Technical Guidelines for Environmentally Sound Management of Wastes subject to the BASEL Convention that was adopted in the Second Meeting of Conference of the Parties of the BASEL Convention (UNEP/CHW.2/30, decision II/13, 1994) pp. 20-21.

³²⁶ *Ibid*.

possible to its place of generation, and sovereignty of States to allow or deny importation of wastes into their territories. Even though these guidelines are not mandatory, “their adoption by the parties gives them persuasive force as a basic standard.”³²⁷

The BASEL regime is concerned with transboundary movements of wastes and their subsequent ESM. If no transboundary movement takes place, no provision of the BASEL convention remains applicable. Therefore, once the residues generated on board vessels are received into port reception facilities, those wastes “enter the national waste stream, national law applies.”³²⁸ States must be exhorted to implement principles of ESM of wastes within their national waste system. In fact, in exercising their sovereignty, States may adopt as national legislation some of the principles and guidelines established in the BASEL regime, but this Convention does not apply *ipso jure* to wastes that are outside of its scope of application.

It is further submitted that the revised legal analysis developed by the BASEL Secretariat, in October 2011, is misleading because it examines the application of the BASEL Convention to wastes generated on board vessels in general terms without taking into consideration the exclusion contained in article 1 (4) of the Convention. In fact, the exclusion of wastes derived from the normal operations of ships is only referred to in the last section of this analysis and is, therefore, confusing. For instance, the Secretariat argues that flag States that are parties to the BASEL Convention must ensure that masters and crews involved in the ‘*management*’ of wastes on board ships avoid and minimize pollution that may arise due to hazardous and other wastes as established in article 4 (2.c) of the Convention.³²⁹ However, as the European Union and its members correctly contest, management for the purposes of the BASEL regime includes ‘collection, transport and *disposal*.’³³⁰ It is inappropriate to maintain that a master of a ship shall undertake obligations in relation to disposal activities once they are discharged into port reception facilities. Professor de La Fayette clarifies that:

The master ... cannot know in advance whether the wastes will eventually be disposed of in an environmentally sound manner. They should know whether the port has facilities to remove the wastes from the ship... with ships constantly on the move, here today and gone tomorrow, it would be impossible for them to track the eventual fate of wastes in each and every port.³³¹

The BASEL Secretariat also suggests that while ship wastes are governed by MARPOL, the flag State should also act in conformity with the provisions of the BASEL Convention.³³² This proposal is inconsistent with article 1 (4) which excludes the application of the BASEL Convention of ships wastes which discharge is covered by another Convention, *i.e.*

³²⁷ Birnie, *et al*, *supra* note 252, p. 433.

³²⁸ De La Fayette, *supra* note 9, p. 212.

³²⁹ Secretariat of the BASEL Convention, *supra* note 218, p. 4.

³³⁰ See article 2 (2) of the BASEL Convention.

³³¹ De La Fayette, *supra* note 9, p. 212.

³³² Secretariat of the BASEL Convention, *supra* note 218, p. 7.

MARPOL. Thus, it is a contradiction in terms to recommend that even when MARPOL applies, the BASEL regime should also be observed. In this sense, Canada considered that the conclusion reached by the BASEL Secretariat was incorrect because when MARPOL applies, the BASEL Convention is expressly excluded.³³³ Furthermore, the European Union and its members States also expressed their concerns regarding this analysis by stating that:

[t]his paragraph apparently implies that even where the Article 1(4) exemption applies, Basel Conventions obligations must be followed... the Basel Convention clearly excludes from its scope wastes generated from the normal operation of a ship, and for which the discharge thereof is covered by another Convention. It does not mention any specific sections or obligations of the Convention which would be applicable.³³⁴

Additionally, this proposal seems to entail that flag States should adopt the obligations of exporting States in order to fulfill the obligations provided under the BASEL Convention. Once again this argument is fallacious because an exporting State is a “party from which a transboundary movement of ... wastes ... is initiated”³³⁵ and a movement will only take place when it begins from an ‘area under national jurisdiction of a State.’ In this sense, ships are property and do not qualify as areas under national jurisdiction, *supra* section 3.2.1. This conclusion is shared with Canada which stressed that ships are not territorial extensions of a State.³³⁶ Finally, the BASEL Secretariat also argues that the BASEL Convention applies to wastes that are no longer covered by MARPOL. However, as explained above, if wastes are not subject to a transboundary movement of wastes, no obligation of the BASEL Convention is triggered.

All in all, this convoluted legal analysis reveals the difficulties in applying two regimes that were intended to be mutually exclusive. Improving management waste interface between sea and land should be encouraged, but it does not mean that the BASEL Convention provides an adequate path to achieve this objective.

³³³ See *supra* note 224. Note that the objective of the exclusion contained in article 1 (4) “is to make a clear distinction between the substances regulated by the BASEL Convention and those regulated by ... MARPOL” Kummer, *supra* note 92, p. 52.

³³⁴ See *supra* note 225, p. 4.

³³⁵ See article 2 (10) of the BASEL Convention.

³³⁶ See *supra* note 224.

4 Jurisdiction over Ship Source Pollution

Ships operate at sea. Harmful substances from cargo and machinery spaces are generated during ship operations. Furthermore, vessels carrying hazardous substances like oil, chemicals, radioactive materials or wastes represent a pollution threat to the marine environment. In fact, incidents such as the *Torrey Canyon* in 1967 or the *Amoco Cadiz* in 1978 shocked the international community and served as a catalyst for extending the jurisdiction of coastal and port States to protect the marine environment. Additionally, there was a growing concern relating to the efficacy of flag States' control and enforcement of pollution standards over their vessels.³³⁷

It is noteworthy that UNCLOS has successfully achieved a balance of interests between traditional maritime States that wanted to preserve navigational freedoms and those States that demanded increasing powers to legislate and enforce stringent pollution standards to ships while navigating in sea areas next to their coastlines.³³⁸ In addition, an emerging maritime zone, *i.e.* EEZ, within UNCLOS excluded extensive areas of sea from the regime of high seas and extended the jurisdiction of coastal States in relation to the protection of the marine environment.³³⁹

Before discussing the jurisdictional powers of flag, coastal, and port States over the different maritime zones, one should understand the meaning of jurisdiction and the difference between legislative and enforcement jurisdiction. Shaw defines jurisdiction as an expression of State sovereignty "under international law to regulate or otherwise impact upon people or property."³⁴⁰ The capacity to enact laws about certain matters, such as criminal, administrative, environmental or civil is known as legislative jurisdiction. Its exercise depends on various principles, such as territoriality³⁴¹ which allows a State to prescribe laws within their territorial boundaries, *e.g.* territorial seas, or in areas where the State has certain sovereign rights to legislate about specific matters, for instance, preservation of the marine environment in the EEZ. Another foundation of legislative jurisdiction is nationality.³⁴² For example, ships are subject to the legislative jurisdiction of their flag State. Finally, the capacity to enforce the law is known as enforcement jurisdiction. Churchill and Lowe explain that usually the capacity to prescribe laws is accompanied by the power to enforce such

³³⁷ Erik Jaap Molenaar, *Coastal State Jurisdiction over Vessel- Source Pollution* (Kluwer Law International, The Netherlands, 1998) p. 88. "[i]ncreasing numbers of substandard ships and estimates of amounts of pollutants entering the oceans ... made the conclusion inevitable that the traditional principle of exclusive flag State jurisdiction over its vessels beyond the territorial sea has failed."

³³⁸ Neuman, *supra* note 41, p. 351. "[y]et the maritime states are also coastal states, and they have begun to appreciate the argument for protection of special coastal interests."

³³⁹ See article 56 of UNCLOS.

³⁴⁰ Shaw, *supra* note 47, p. 645.

³⁴¹ *Ibid.*, Chapter 12.

³⁴² *Ibid.*

laws, but this is not always the case.³⁴³ For instance, article 218 of UNCLOS preserves the enforcement jurisdiction of port States against vessels for “breaches of international pollution standards wherever these breaches.”³⁴⁴ Thus, a violation committed on the high seas can be enforced against a vessel lying voluntarily within a port although a port State has no legislative jurisdiction on the high seas.

4.1 Understanding the Meaning of Coastal, Flag, and Port State

The terms flag State, coastal State and port State must be understood in relation to a ship.³⁴⁵ Indeed, a State may at once have the status of all three descriptions or only of one or two of them. In other words, the same State may in relation to a ship be a flag State, or a coastal State or a port State, but not necessarily in relation to the same ship.

A flag State in relation to a ship is that State which has conferred its nationality on a vessel. Nationality is substantive matter,³⁴⁶ a link between a ship and a particular State that establishes their reciprocal rights and obligations. Therefore, nationality must not be confused with the bureaucratic or administrative process, called registration through which a State grants its nationality to a ship. In fact, certain ships may not be registrable by virtue of size³⁴⁷ or geographical area of operation which does not take the ship into the high seas. In general terms, chattels and immovable property do not have nationality. Thus, what makes a ship different? Vessels have the right of freedom of navigation on the high seas, where no claim of sovereignty can be proclaimed according to article 2 of the High Seas Convention of 1958, and article 89 of UNCLOS. In consequence, nationality is a ground of jurisdiction over the ship, *as a unit*, because on the high seas “they are property where no local jurisdiction exists.”³⁴⁸ For this reason, it is a verity of international law that flag State jurisdiction always prevails over its ships regardless of where the ship is physically located at a given time. Nevertheless, this jurisdiction may be shared with another State in whose waters the ship is situated.

Complementary, the conditions to grant nationality must be established exclusively by each State for it is a “domestic affair.”³⁴⁹ This approach is precise, and it was explained in *Lauritzen v Larsen*. In this case,

³⁴³ Churchill and Lowe, *supra* note 25, pp. 11-12.

³⁴⁴ Rothwell and Stephens, *supra* note 76, p. 356.

³⁴⁵ Proshanto K. Mukherjee, *Ship Registration Lecture*, Lund University, 12 November 2010.

³⁴⁶ *Ibid.*

³⁴⁷ See for example that in Canada, owners of vessels not exceeding 15 gross tons have no obligation to register their vessels. Edgar Gold, Aldo Chircop, and Hugh Kindred, *Maritime Law* (Irwin Law, Toronto, 2003) p. 177.

³⁴⁸ Colombos, *supra* note 57, pp. 285. Note also that on the high seas, a concurrent jurisdiction may arise, when the coastal States intervene in cases of oil pollution on the high seas. Further, the exclusive jurisdiction of the flag States is relative due the doctrine of hot pursuit, trade of slaves, among others.

³⁴⁹ Shaw, *supra* note 47, pp. 647 – 649.

the United States' Supreme Court stated: "[e]ach State under international law may determine for itself the conditions on which it will be grant its nationality to a merchant ship, thereby accepting responsibility for it and acquiring authority over it."³⁵⁰ Once a ship has been granted with a nationality, it must fly the flag of that particular State. Hence, the flag is a "visual evidence and a symbol of a ship's nationality",³⁵¹ but is not a synonym of it. On the other hand, registration is a procedure, an administrative function "by which nationality and collateral rights and duties are conferred to a ship."³⁵² Although registration is different from nationality, the former is the most important test for the latter.³⁵³

The coastal State in relation to a ship is that State in whose maritime zone a ship is situated at a given time.³⁵⁴ Of course, a ship may only be in one zone at a time, but so long as the ship is not in the high seas, then the State in question *vis a vis* that ship is the coastal State.

By contrast, a port State is categorized as such when a ship is physically located in a port or offshore terminal of that State. Port State jurisdiction, however, would only be applicable if the ship voluntarily enters the port or offshore terminal of that State.³⁵⁵ In other words, if a ship enters a port due to *force majeure* then such jurisdiction will not apply. Nonetheless, for purposes of ensuring that the ship is not unseaworthy, unsafe or environmentally harmful whether in relation to itself or other property or the environment, a ship may be detained through exercise of administrative measures permitted by international law.³⁵⁶ It is also relevant to note that a State may at the same time be a port State as well as a coastal State in relation to a ship, since the waters of a port are internal waters which are also a maritime zone under the international law of the sea.

4.2 What type of Jurisdiction for Which Maritime Zone?

Throughout this section, the legislative and enforcement powers of flag, coastal, and port States, in relation with ship-source pollution, are discussed. The analysis is mainly focused in the provisions contained in UNCLOS, but customary and conventional law prior the advent of this Convention are also scrutinized.

³⁵⁰ *Lauritzen v Larsen* [1953], 345, United States Supreme Court, 571. *See also*, article 5 of the High Seas Convention of 1958, and article 91 of the UNCLOS that prescribe that every "State shall fix the conditions for the grant of its nationality to ships."

³⁵¹ Nigel Ready, *Ship Registration* (Lloyd's of London Press, United Kingdom, 3rd Edition, 1998) p. 6.

³⁵² Z. Oya Özçayır, *Liability for Oil Pollution and Collisions* (Lloyds of London Press, Honk Kong, 1998) p. 7.

³⁵³ *Ibid*, p. 6. *Note* that "[i]n international texts and treaties the terms 'registration' and 'nationality' are often apposed. Thus, in the United Nations Convention on the Law of the Sea, the ships of a State are referred ... by expressions 'vessel of its registry' 'vessel flying its flag' or 'vessels having the nationality'."

³⁵⁴ Churchill and Lowe, *supra* note 25, p. 344.

³⁵⁵ *See* article 218 of UNCLOS.

³⁵⁶ Mukherjee, *supra* note 345.

4.2.1 Flag States

Since Grotius published *Mare Liberum*³⁵⁷ in the seventeenth century, the doctrine of freedom of the seas has become a cornerstone of the law of the sea. This doctrine shaped the legal status of the high seas as *res communis*. In other words, a maritime zone where no claim of sovereignty is allowed as provided in article 2 of the High Seas Convention of 1958 and article 87 of UNCLOS. Furthermore, the exclusiveness of flag State jurisdiction, in the high seas, over vessels entitled to fly its flag became firmly entrenched as a principle of customary law.³⁵⁸ Indeed, flag States can enact legislation for their vessels wherever their physical location is. This implies that flag States may share jurisdiction, for example, with coastal States according to the international law of the sea.

In relation to ship source pollution, article 211 (2) of UNCLOS preserves the customary law principle regarding the capacity of flag States to enact laws for their vessels wherever they are situated at any given time. However, this article also promotes harmonization in relation to the standards to be applicable to control pollution from ships by requiring States to adopt laws that “at least have the same effect as that of generally accepted international rules”³⁵⁹ *i.e.* MARPOL. Article 211 (2) demands the application of minimum standards, but does not deny the possibility to adopt more stringent regulations. In addition, this article represents a positive change in relation to the law prior the advent of UNCLOS. Particularly, article 24 of the High Seas Convention of 1958 established the obligation of States to prescribe regulations to prevent, among others, ship source oil pollution. To this aim States should take into account “existing treaty provisions on the subject.”³⁶⁰ This provision entails that States were not bound to follow international standards, such as OILPOL 54 or MARPOL 73, and had liberty to prescribe laws they considered appropriate, *see supra* section 2.1.1. Furthermore, article 24 only obliges States to legislate ship source oil pollution, but does not impose the same obligation relating pollution from ships in relation to garbage, carriage of hazardous substances, or sewage. In an attempt to circumvent the shortcomings of flag State jurisdiction, articles 3 of MARPOL³⁶¹ establishes that the provisions of the Convention apply to ships flying the flag of a State Party.

In relation to enforcement jurisdiction, article 217 of UNCLOS prescribes that flag States have the obligation to enforce pollution standards to their vessels notwithstanding their physical location. For instance, flag States must: a) not allow their vessels to sail until generally accepted international standards, *e.g.* MARPOL, are complied with b) ensure that ships carry on board certificates required, for instance, by MARPOL, c) investigate and bring proceedings regarding violations of

³⁵⁷ Churchill and Lowe, *supra* note 25, pp. 71-73.

³⁵⁸ *See* article 6 of the High Seas Convention of 1958.

³⁵⁹ *See* article 211 (2) of UNCLOS.

³⁶⁰ *See* article 24 of the High Seas Convention of 1958.

³⁶¹ “[n]egotiations of the MARPOL Convention coincided with increasing pressure from coastal states for extension of their pollution control jurisdiction beyond the narrow three-mile territorial sea” Birnie, *et al*, *supra* note 252, p. 366.

international standards irrespective of the place where such violations occur, d) investigate violations reported to the flag State by any State, and e) establish penalties adequate in severity that discourage the occurrence of violations.³⁶² Concerning the law prior UNCLOS, it is noteworthy that flag States had the capacity under customary law to enforce violations committed by their vessels.³⁶³ However, as Rothwell and Stephens explain UNCLOS “transforms the customary law capacity into a positive obligation.”³⁶⁴ Additionally, article 217 of the Convention reinforces MARPOL’s attempt to strength flag State enforcement jurisdiction. Indeed, articles 4 and 6 (4) of MARPOL also require that flag States institute proceedings against ships in case of suspected violations wherever they occur.

Although flag States may share enforcement jurisdiction with port and coastal States, predominance of flag State enforcement jurisdiction is strengthen in article 228 of UNCLOS. According to this article, all the proceedings instituted to impose penalties for pollution violations against foreign vessels that are committed beyond the territorial sea, must be suspended when those proceedings are instituted by flag States. This right enjoyed by flag States to pre-empt coastal and port State jurisdiction will not arise if: a) flag States do not institute proceedings within six months from the date when coastal or port States initiated proceedings against the vessel; b) pollution violations cause ‘major damage to the coastal State’; and c) flag States are ‘repeatedly disregarding’ their enforcement obligations against pollution violations committed by their vessels.³⁶⁵ The criteria, prescribed in article 228, upon which flag States cannot pre-empt coastal and port State enforcement jurisdiction, are not entirely clear. Dzidzornu criticizes the standard of ‘repeated disregard’ by the flag State of its obligation to enforce pollution standards against its vessels because this criterion is subjective and obscure.³⁶⁶ In fact, article 228 does not provide any parameter to determine when flag State enforcement jurisdiction is ineffective or how many times a flag State must fail in exercising its jurisdiction in order to fall within the definition of ‘repeatedly disregard’.³⁶⁷ The same criticism is accurate regarding the meaning of ‘major damage to the coastal State. Finally, as Khee-Jin Tan argues, once coastal and port State jurisdiction is pre-empted by a flag State “there is no way to ensure that it would render an effective or satisfactory judgment.”³⁶⁸ Nevertheless, if proceedings instituted by flag States are not concluded, port or coastal States “may lift the suspension ... and continue with the case.”³⁶⁹

³⁶² See article 217 of UNCLOS.

³⁶³ Churchill and Lowe, *supra* note 25, p. 345.

³⁶⁴ Rothwell and Stephens, *supra* note 76, p. 355.

³⁶⁵ See article 228 of UNCLOS.

³⁶⁶ David M. Dzidzornu, ‘Coastal States Obligations and Powers Respecting EEZ Environmental Protection Under Part XII of the UNCLOS: A Descriptive Analysis’, Vol. 8:2, *Colorado Journal of International Environmental Law and Policy* (1997) p. 311.

³⁶⁷ *Ibid.*

³⁶⁸ Khee-Jin Tan, *supra* note 142, p. 203.

³⁶⁹ Churchill and Lowe, *supra* note 25, pp. 350- 351. Article 228 of UNCLOS prescribes: “[w]hen proceedings instituted by the flag State have been brought to a conclusion, the suspended proceedings shall be terminated.”

On the whole, it is remarkable that UNCLOS provides positive obligations regarding flag State legislative and enforcing jurisdiction in relation to the prevention, reduction and control of ship source pollution. However, a major shortcoming of the Convention is the absence of any specific action against flag States failing to observe their obligations.³⁷⁰

4.2.2 Coastal States

Coastal States have unfettered territorial sovereignty in their internal waters³⁷¹ and, therefore, legislative and enforcement jurisdiction can be fully exercised in pollution matters against foreign vessels.³⁷² In principle, there is no right of innocent passage in internal waters. Thus, a coastal State may prohibit foreign vessels to navigate in its internal waters while engaged in a transboundary movement of wastes or while carrying inherent harmful substances, *e.g.* nuclear material. However, as prescribed in article 8 (2) of UNCLOS and 5 (2) of the Territorial Sea Convention of 1958, the right of innocent passage can be preserved in internal waters enclosed as such by the establishment of straight baselines if those waters were formerly considered, for example, as part of the territorial sea or the high seas.

Customary and conventional law prior UNCLOS empowered coastal States to exercise legislative jurisdiction in their territorial seas.³⁷³ Bearing in mind that coastal States have sovereignty in their territorial seas,³⁷⁴ it can be argued that legislative jurisdiction can be exercised in regard of any matter, including the control of ship source pollution, and without limitation as long as the right of innocent passage is not hampered.³⁷⁵ On the other hand, those that follow La Pradelle theory which conceives coastal State jurisdiction over the territorial sea as a ‘bundle of servitudes’³⁷⁶ argue that coastal State may legislate regarding certain matters, such as security, pollution, navigation or fisheries.³⁷⁷ In both scenarios, it is undeniable that coastal States have an interest and the capacity under customary law³⁷⁸ to prevent and legislate in relation to pollution from ships. However, as Khee-Jin Tan explain, prior the advent of UNCLOS it was uncertain if legislation to control ship source pollution should follow international standards or even impose more onerous standards,³⁷⁹ for instance, in relation to the construction or design of foreign

³⁷⁰ Khee-Jin Tan, *supra* note 142, p. 203.

³⁷¹ *Military and Paramilitary Activities in and Against Nicaragua* (Nicaragua/United States) [1986] ICJ Rep. 14 [213].

³⁷² Although ships entering internal waters “put themselves within the territorial jurisdiction of the coastal State... [m]atters related solely to the ‘internal economy of the ship’ tend in practice to be left to the authorities of the flag State.” Churchill and Lowe, *supra* note 25, pp. 65- 69.

³⁷³ *Ibid.* p. 344.

³⁷⁴ See article 1 of the Territorial Sea Convention of 1958 and article 2 of UNCLOS.

³⁷⁵ Churchill and Lowe, *supra* note 25, p. 93.

³⁷⁶ D.P. O’Connell, *The International Law of the Sea – Volume II* (Oxford University Press, United States, 1984) pp. 744-746.

³⁷⁷ Churchill and Lowe, *supra* note 25, p. 92.

³⁷⁸ Birnie, *et al*, *supra* note 252, p. 372.

³⁷⁹ Khee-Jin Tan, *supra* note 142, p. 205.

vessels. It is noteworthy that article 4 (2) of MARPOL obliges States to prohibit within their jurisdictions any violations of the standards prescribed in the Convention. Thus MARPOL “goes further by turning a power to regulate into a duty to so.”³⁸⁰

Churchill and Lowe correctly explain that UNCLOS limits the legislative jurisdiction of coastal States regarding pollution control, but increases its geographical application, *e.g.* EEZ.³⁸¹ For instance, coastal States in the territorial sea may enact legislation to control pollution that must be observed by foreign vessels while exercising their rights of innocent passage. However, such regulations must not “apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to generally accepted international rules or standards.”³⁸² Indeed, as explained in section 3.2.3., all the legislation enacted by coastal States in the territorial sea cannot hamper or deny the right of innocent passage enjoyed by foreign ships. Thus, coastal States cannot ban the passage of ships engaged in transboundary movement of wastes through their territorial sea. Finally, according to article 42 of UNCLOS, legislative jurisdiction of coastal States is further restricted in straits used for international navigation that are part of the territorial sea. In fact, vessels enjoy the right of transit passage³⁸³ through these straits and coastal States may adopt pollution regulations that give “effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait.”³⁸⁴

In relation to enforcement jurisdiction, when violations are committed in the territorial sea, coastal States have a customary capacity to enforce its pollution legislation against foreign vessels.³⁸⁵ UNCLOS does not modify this customary law principle, but prescribe some limitations about its exercise. In this sense, article 220 of UNCLOS prescribe that coastal States can undertake physical inspection, instituting proceedings and detain a foreign vessel when there are ‘clear grounds for believing’ that the vessel has violated, during its passage through the territorial sea, the pollution legislation of the coastal State or international standards, such as MARPOL. Of course exercise of enforcement jurisdiction is unlimited if a passage is considered not innocent, *e.g.* willful and serious pollution.³⁸⁶ According to article 233 of UNCLOS, ships exercising their right of transit passage in straits used for international navigation that are within the territorial sea will be subject to ‘appropriate enforcement measures’ of

³⁸⁰ Birnie, *et al*, *supra* note 252, p. 366. Note that article 9 (3) of MARPOL establishes that the term jurisdiction “shall be construed in the light of international law in force at the time of or interpretation of present Convention.”

³⁸¹ Churchill and Lowe, *supra* note 25, p. 347.

³⁸² See article 21 (2) of UNCLOS.

³⁸³ Note that article 38 (2) UNCLOS “[t]ransit passage means ... freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.”

³⁸⁴ See article 42 (1.b) of UNCLOS.

³⁸⁵ Birnie, *et al*, *supra* note 252, p. 372 “[c]ustomary law probably does allow the coastal State to arrest ships in illegal pollution ... in the territorial sea.”

³⁸⁶ Churchill and Lowe, *supra* note 25, p. 349.

coastal States if they cause or threaten a ‘major damage to the marine environment.’ It is submitted that appropriate enforcement measures will include, for example, the capacity to undertake physical inspection or detain the vessel as provided in article 220 of UNCLOS in relation with violations committed in the territorial sea. Additionally, it is not defined what major damage to the marine environment is, thus, coastal States seem to have some degree of latitude in interpreting this requirement.

A major change introduced in UNCLOS was the extension of coastal States jurisdiction in the EEZ. The EEZ is maritime zone beyond the territorial sea which extends up to 200 nautical miles from the baselines used to measure the breadth of the territorial sea.³⁸⁷ In this maritime zone, States can exercise jurisdiction to protect and preserve the marine environment as prescribed 56 (1.b) of UNCLOS. It is relevant to note that coastal States enjoy sovereign rights in the EEZ, but they do not have territorial sovereignty. The EEZ retrieved vast areas of the ocean from the characterization of high seas and therefore from the exclusive jurisdiction of flag States over their vessels. Indeed, prior UNCLOS coastal States had limited jurisdiction beyond the territorial sea. For example, in the contiguous zone, which now generally overlaps with the EEZ, coastal States are empowered to prevent infringements in the territorial sea of limited matters, such as customs, fiscal, or sanitary laws.³⁸⁸ Finally, the ICJ in the *Libya-Malta Continental Shelf* case declared that: “the institution of the EEZ ... is shown by the practice states to have become part of customary law.”³⁸⁹

Regarding ship source pollution, the legislative jurisdiction of coastal States in the EEZ is more restrictive than in the territorial sea because it is limited to “give effect to generally accepted international rules,”³⁹⁰ such as MARPOL. Hence, coastal States cannot establish more or even less stringent standards than those provided at international level. Exception to this restrictive legislative jurisdiction is found in article 211 (6) to protect defined areas within the EEZ due, for example, to ecological or oceanographical conditions of such areas. In fact, after consultation with the IMO, coastal States can implement “international rules ... which the IMO has made applicable to special areas”³⁹¹ or even to adopt its own legislation regarding discharges or navigational practices, but this legislation cannot depart from generally accepted international rules regarding foreign vessels’ equipment, manning, design or construction.³⁹² Another exception was established due to pressures from Canada and Russia in relation to the protection of the Arctic Ocean.³⁹³ Particularly, article 234 of UNCLOS enables coastal States to prescribe non-discriminatory legislation to control pollution for ice-covered areas within the EEZ. It is worth mentioning that

³⁸⁷ See articles 55 and 57 of UNCLOS.

³⁸⁸ *Ibid*, article 33. See also, article 24 of the Territorial Sea Convention of 1958.

³⁸⁹ *Libya-Malta Continental Shelf* case, [1985] ICJ Rep. 13.

³⁹⁰ See article 211 (5) of UNCLOS.

³⁹¹ Churchill and Lowe, *supra* note 25, p. 349. Note also that “[t]his is little more than a re-enactment of special areas provisions of MARPOL designed for the needs of enclosed and semi-enclosed seas.” Birnie, *et al*, *supra* note 252, p. 374.

³⁹² See article 211 (6) (c) of UNCLOS.

³⁹³ Birnie, *et al*, *supra* note 252, p. 374.

article 234 of UNCLOS does not prescribe any limitation regarding the standards to be adopted by the coastal States, for example, in relation to construction and design of foreign vessels. Nonetheless, coastal States have the obligation when legislating to have due regard to the freedom of navigation that ships enjoy in the EEZ. Thus, coastal States' legislation cannot have the effect of denying or hampering freedom of navigation. Lastly, Rothwell and Stephens comment on the contribution of the IMO to the protection of ice-covered areas through a soft law approach.³⁹⁴ In fact, the IMO 2009 Guidelines for Ships Operating in Polar waters establish, for example, standards for vessels' equipment and crewing³⁹⁵ and represent an important instrument to promote harmonization of standards to be applicable to prevent ship source pollution in ice covered areas.

Enforcement of ship source pollution in the EEZ by coastal States is restricted and "graduated according to the degree of harm"³⁹⁶. First, when a violation of international standards is committed in the EEZ and while the vessel is navigating either in the territorial sea or in the EEZ, coastal States are confined to request information relating to the identity of the ship, its port of registry, and its last and next port of call.³⁹⁷ Furthermore, this enforcement measure must be based in 'clear grounds' for believing that a violation has occurred in the EEZ as prescribed in article 220 (3) of UNCLOS. Second, coastal States may undertake physical inspection of the vessel in the EEZ or territorial sea if a violation committed in the EEZ results in "a substantial discharge causing or threatening significant pollution."³⁹⁸ Finally, if there is 'clear objective evidence' that such violation consists in "a discharge causing major damage or threat of major damage to the coastline or related interests of the coastal State, or to any resources of its territorial sea or exclusive economic zone,"³⁹⁹ then coastal States can detain the vessel, while navigating in the territorial sea or EEZ, and institute proceedings. Uncertainties regarding the meaning of 'substantial discharges' and 'discharges causing major damage' give coastal States discretion in interpreting these provisions.⁴⁰⁰ Moreover, prior the exercise of enforcement jurisdiction, coastal States must have 'clear objective evidence' or 'clear grounds' regarding an alleged violation. It is not entirely clear what grounds or evidence is needed to allow coastal States the exercise of enforcement jurisdiction. However, it is submitted that 'clear objective evidence' is a higher standard than 'clear grounds'. Finally, article 234 of UNCLOS does not impose any restriction in enforcing legislation to control ship source pollution in ice covered areas.

Articles 92 (1) of UNCLOS and 6 of the High Seas Convention of 1958 preserve the exclusive jurisdiction of flag States over

³⁹⁴ Rothwell and Stephens, *supra* note 76, p. 357.

³⁹⁵ *Ibid.*

³⁹⁶ Alan Boyle, 'Marine Pollution under the Law of the Sea Convention' Vol. 79 No.2, *The American Journal of International Law* (April 1985) p. 364.

³⁹⁷ See article 220 (3) of UNCLOS.

³⁹⁸ *Ibid.*, article 220 (5).

³⁹⁹ *Ibid.*, article 220 (6).

⁴⁰⁰ "[i]t is likely that coastal States will tend to assume that any significant discharge will fall into the latter category, thus endowing themselves with a greater enforcement competence." Churchill and Lowe, *supra* note 25, p. 349.

their vessels while navigation on the high seas. An exception to this principle is found in the capacity of coastal States to intervene, beyond their territorial seas, if a major maritime casualty threatens or causes significant pollution damage to coastal States. This right was established in the Intervention Convention of 1969 following the *Torrey Canyon* disaster where the legality of the actions taken by the British government to mitigate the damage caused by the Liberian tanker was uncertain because a ship while navigating on the high seas is subject to the exclusive jurisdiction of its flag States.⁴⁰¹ However, this intervention could be justified due to the principle of necessity.⁴⁰² Furthermore, this exceptional capacity to intervene beyond the territorial sea is also included in article 221 of UNCLOS, and according to Professor Birnie, *et al*, it is today a principle of customary law. Nonetheless, the significance of this exceptional capacity to intervene seems to be decreasing because of the extension of the jurisdiction of coastal States to prevent and control ship source pollution as provided in UNCLOS. In this sense it is fundamental to take into consideration, that when the disaster of the *Torrey Canyon* took place the territorial sea's breadth was generally up to three, four or six nautical miles.⁴⁰³ Therefore, coastal States were more exposed to suffer pollution damage by a casualty on the high seas due to its proximity to their coastlines.

4.2.3 Port States

Under customary law prior UNCLOS, port States can legislate in their ports ship source pollution for foreign vessels.⁴⁰⁴ Considering that ports are situated in internal waters, foreign vessels do not have any legal right to entering into ports, except in distress situations.⁴⁰⁵ For this reason, port States can demand the compliance of ship source pollution legislation as a condition to allow ships entering into ports as states. In this sense, UNCLOS does not modify the legislative jurisdiction of port States. Indeed, articles 25 (2) and 211 (3) confirm the right of port States to prescribe conditions to access their ports and their offshore terminals. In case of ship source pollution, such conditions must be communicated to the IMO and port States shall give due publicity of such requirements.

In relation to enforcement jurisdiction, prior UNCLOS, port States were confined to enforce pollution legislation when violations were committed in their ports or territorial seas.⁴⁰⁶ MARPOL tries to enhance port State jurisdiction by establishing that foreign vessels while in a port or offshore terminal are subject to inspections by port State authorities.⁴⁰⁷ Inspections are limited to verify that vessels carry on board certificates required by the Convention. However, in the absence of valid certificate or

⁴⁰¹ Birnie, *et al*, *supra* note 252, p. 379.

⁴⁰² *Ibid*.

⁴⁰³ Churchill and Lowe, *supra* note 25, pp. 77-81.

⁴⁰⁴ *Ibid*, p. 345.

⁴⁰⁵ Louise de La Fayette, 'Access to Ports in International Law' Vol. 11 No.1, *The International Journal of Marine and Coastal Law* (1996) p. 1. "coastal States generally maintain open ports ... because they have an interest in international trade and commerce."

⁴⁰⁶ Churchill and Lowe, *supra* note 25, p. 345.

⁴⁰⁷ See article 5 (2) of MARPOL.

if the condition of the ship does not conform with the certificate, port States, may detain the ship through exercise of administrative measures until the vessel does not present an “unreasonable threat of harm to the marine environment” as prescribed in article 5 (2) of MARPOL. State parties to MARPOL must apply this provision even to ships of non-parties to guarantee that no more favorable treatment is given to those ships.⁴⁰⁸

Article 220 (1) of UNCLOS preserves the customary enforcement jurisdiction analyzed above. However, a revolutionary development of UNCLOS is the extension of port State enforcement jurisdiction established in article 218. The Convention allows port States to enforce violations committed beyond their ports, territorial seas or EEZs. This means that port States have the capacity to undertake investigations and institute proceedings against foreign vessels for violations committed on the high seas. Of course, in this case only international rules and standards, such as MARPOL can be enforced. It is worth mentioning that article 211 (1) empowers port States, but do not impose a duty, to exercise enforcement jurisdiction of pollution violations wherever they occur and independently of any potential harm to the interests of the port State. Additionally, port States can exercise its jurisdictional powers when a violation is committed within the maritime zones of other coastal States, if it is so requested either by the flag State or the coastal State where the violation occurred.⁴⁰⁹ Finally, the scrutinized enforcement jurisdiction of port States only arises when ships are in a port or offshore terminal voluntarily. Thus, a vessel entering due to distress is not subject to this jurisdiction.

Increasing the jurisdictional powers of port States for violations committed on the high seas is an exception to the exclusive jurisdiction of flag States over their vessels in the high seas. Furthermore, article 218 of UNCLOS safeguards enforcement of international standards “where the vessel is unlikely to come within the flag State’s authority.”⁴¹⁰

Port and coastal States while exercising their enforcement jurisdiction against foreign vessels are subject to several safeguards prescribed in articles 223 to 232 of UNCLOS “to prevent oppressive exercise of their authority.”⁴¹¹ For example, as analyzed in section 4.2.1. flag States have the right to pre-empt coastal and port State jurisdiction when those proceedings are instituted by flag States. Other safeguards consist on, *inter alia*, not endangering the safety of navigation while exercising enforcement powers, acting in a non-discriminatory manner and imposing only monetary penalties for violations, unless willful and serious pollution occurs within the territorial sea.⁴¹²

⁴⁰⁸ *Ibid*, article 5 (4).

⁴⁰⁹ *See* article 218 (2) of UNCLOS.

⁴¹⁰ Birnie, *et al*, *supra* note 252, p. 376. “this article recognizes the inability ... of flag States when dealing with pollution incidents on the high seas, and gives the port State the power to act in the public interest.”

⁴¹¹ *Ibid*, p. 377.

⁴¹² *See* articles 225, 227 and 230 of UNCLOS.

Conclusion

Disasters such as the *Torrey Canyon* and the *Amoco Cadiz* increased the awareness of the deleterious effects of human activities on the marine environment and prompted the adoption of MARPOL. This Convention undoubtedly constitutes the most comprehensive and successful regime that governs operational and accidental ship source pollution through its six annexes dealing respectively with oil, chemicals, harmful substances in packaged form, sewage, garbage, and air pollution. Despite MARPOL's effectiveness in managing harmful substances generated at sea until those residues are received into port reception facilities, it is outside the scope of the Convention to ensure an adequate disposal of ships' residues at land. Difficulties regarding the ESM of ship residues and other hazardous wastes at land represent a huge problem especially for developing countries where national waste management systems are incipient. In the aftermath of the *Probo Koala* incident, the lack of an adequate sea-land interface in relation to the management of wastes generated on board vessels was revealed. Due to this incident, uncertainties arose regarding the boundaries of the MARPOL and BASEL regimes. However, after scrutinizing the evolution of the principles that govern ship source pollution and transboundary movement of wastes together with the obligations prescribed in these regimes, it is submitted that these Conventions are mutually exclusive.

In relation to the evolution of the control of ship source pollution, customary and conventional law prior UNCLOS demonstrated an initial concern regarding oil pollution from ships. Although this early concern, the High Seas Convention of 1958 did not bind States to follow international standards and provided little guidance regarding principles to be applied when legislating and enforcing ship source pollution. Thus, States had not only wide discretion in deciding how to control pollution from ships, but also had certain liberty to pollute the seas. Since the advent of UNCLOS a comprehensive framework to deal with all sources of marine pollution, including ship source pollution was established in Part XII of the Convention. In fact, under the Convention, States have positive duties to prevent pollution from ships and to promote harmonization of standards by acting through the IMO. Furthermore, UNCLOS has endorsed existing treaties, such as MARPOL and also constitutes the blueprint for several regimes including the BASEL Convention. Although ship source pollution is heavily regulated, instruments dealing with this matter also recognize the fundamental importance of shipping activities. Therefore, instruments governing ship source pollution try to balance navigational freedoms and protection of the marine environment without discouraging, for example, trading by sea.

On the other hand, the evolution of the control of transboundary movement of wastes reveals that after several incidents of unsafe disposal of hazardous wastes during the 80s, waste trade was cataloged as inherently illegitimate. This conception influenced the negotiations of the BASEL regime and shaped its the basic principles. For

instance, the BASEL regime discourages transboundary movement of wastes that are allowed only as an exception and if such movements represent the best alternative for managing wastes in an environmentally sound manner. Furthermore, due to the proximity principle, wastes must be disclosed as close as possible to their place of generation. Considering that ships operate at sea and, therefore, wastes are continuously being generated during this operation within and outside national boundaries, transboundary movements are the rule and not the exception. Indeed, it is not possible that a master or crew guarantee the final disposal or recycling of wastes received into reception facilities all around the world. Additionally, if generation of wastes on board vessels is an ongoing activity, it is unfeasible to precisely determine their place of generation in order to comply with the proximity principle prescribed under the BASEL regime.

Bearing in mind that principles of the BASEL regime are completely inadequate for dealing with wastes generated on board vessels, article 1 (4) of the Convention excludes from its scope of application, wastes derived from the normal operation of ships which discharge is governed by another instrument, *i.e.* MARPOL. Nonetheless, even in the scenario where wastes could be characterized as abnormal or not covered by MARPOL, practical considerations hinder the application of transboundary movement obligations and the PIC procedure. Certainly, the continuous generation of wastes on board vessels impedes the determination of an 'exporting State' and the 'area under national jurisdiction' where a transboundary movement would commence as prescribed under the BASEL regime. Moreover, the scenario is further complicated when wastes are generated in the high seas. As far as the PIC procedure is concerned, States exercising their sovereign right over the use of their territories have the right, for example, to deny importation of wastes subject to a transboundary movement. This is contrary to MARPOL because under this Convention States have the obligation to provide adequate reception facilities for receiving ship residues, otherwise, these wastes would be discharged at sea.

Obligations relating to transboundary movement of wastes are inapplicable to harmful substances generated on board vessels. Nonetheless, the BASEL Secretariat argues that independently of any transboundary movement, the ESM is applicable to ship residues once they are received into port reception facilities. This suggestion implies that the BASEL Convention provides an overarching regime to deal with the cycle of wastes from generation to disposal. However, the scope of the Convention deals with hazardous and other wastes subject to a transboundary movement of wastes. Therefore, if no transboundary transfer takes place, no obligation remains applicable, including the ESM of wastes. Furthermore, compliance of ESM obligations is impinged directly on parties involved in a transboundary movement. Thus, transboundary movements and ESM are intrinsically linked and cannot be applied independently. In this sense, ship wastes received into port reception facilities form part of the national waste management system of the State receiving such wastes and, thus, national law applies. It is undeniable that States have the capacity to implement ESM principles to dispose wastes within their territories. However, the BASEL Convention does not apply *ipso jure* in relation to landed wastes.

In conclusion the BASEL regime is inadequate to deal with wastes generated on board vessels. In fact, MARPOL and the BASEL Convention are mutually exclusive regimes. Thus, efforts directed to justify their concomitant application undermine the effectiveness of both Conventions. Furthermore, if activities carried on board vessels, such as blending operations, are neither prohibited nor regulated, it does not mean that *ipso facto* such activities could be characterized as abnormal operations of ships. Indeed, the categorization of normal or abnormal operations of ships under the BASEL is not only irrelevant, but also it is not recommendable to insist in such categorization. Since the distinction between normal or abnormal operations is not defined in any instrument and such differentiation is not entirely clear, uncertainties will certainly arise regarding the applicable regime to wastes generated on board vessels. Furthermore, any gaps relating to the management and discharge of wastes derived from the operations of ships should be addressed by the IMO.

Undoubtedly ships carrying hazardous substances or engaged in transboundary movement of wastes are a pollution threat to the marine environment. Nonetheless, parties to the BASEL Convention cannot hamper the navigational freedoms and innocent passage that vessels enjoy in the EEZ and territorial sea respectively. In fact, article 4 (12) of the BASEL Convention guarantees the navigational freedoms of ships engaged in transboundary movement of wastes. Finally, flag, coastal and port States when dealing with the prevention, control and reduction of ship source pollution must exercise their jurisdictional powers according with the provisions prescribed in UNCLOS. It is noteworthy that UNCLOS succeeded in establish a jurisdictional framework that balances the interests of States in preserving navigational freedoms and protecting the marine environment from the devastating effects of ship pollution. Although flag States are still the primary responsible for controlling pollution from their vessels, UNCLOS has imposed positive duties and promoted the harmonization in the application of international standards. Even if flag States are inefficient in complying their jurisdictional duties, the extension of coastal and port State jurisdiction beyond territorial waters, *e.g.* EEZ, “should lead to much more effective enforcement of international pollution standards.”⁴¹³

On the whole, ship source pollution is a challenging issue to deal with. Particularly relevant are UNCLOS and MARPOL in preventing pollution of the marine environment from ships. Nonetheless, States are still struggling in managing and disposing of wastes generated at sea and received into port reception facilities. Tackling this problem requires the enhancement of national management waste systems.

⁴¹³ Churchill and Lowe, *supra* note 25, p. 351.

Supplement A

List of Interviewees by Date

Interviewees	Position	Interview Date
Colin de La Rue	London Solicitor Partner, Ince & Co	March 25, 2012
Juliette Kohler	Policy and Legal Advisor BASEL Secretariat	February 24, 2012
Nikos Mikelis	Implementation Officer of the IMO	February 17, 2012

Questions for Interviewees

1. The BASEL Convention refers to hazardous wastes and other wastes that are subject to a transboundary movement. Furthermore, those wastes must be managed in an environmentally sound manner. In other words, a transboundary movement of wastes seems to be intrinsically linked with their ESM.

Thus, up to what extent the ESM obligations subsist without a transboundary movement?

2. Suppose that wastes generated on board vessels are cataloged as derived from the normal operation of ships and those wastes are discharged into a port reception facility as required by MARPOL.

What is the *rationale* and extent of the exclusion from the BASEL Convention of wastes derived from the normal operation of ships? Is this provision established to prevent the application of the BASEL as a whole or only about the requirements of transboundary movements?

3. When wastes generated on board vessels are discharged into port reception facilities, up to what extent, the management of such wastes is governed by national legislation?
4. Up to what extent is the BASEL regime activated when wastes are pumped back into a ship after their discharge into a port reception facility?
5. In which circumstances, if any, can a transboundary movement of wastes be applied to wastes generated on board vessels?

6. Professor Louise de La Fayette considered that the BASEL and MARPOL regimes are mutually exclusive because BASEL deals with wastes as cargo, while MARPOL deals with wastes generated on board vessels. What is your opinion about her position?

Is this distinction relevant for the purpose of the analyses of the boundaries between MARPOL and the BASEL Convention? Why?

7. If the BASEL Convention can be applied to wastes generated on board ships after they are discharged, for example, into port reception facilities, how is possible to overcome that MARPOL and the BASEL regime do not use the same terminology?
8. The BASEL Convention requires that previous a transboundary movement of wastes takes place, the authorization of transit States must also be provided. However, customary and conventional law recognizes the right of navigation that vessels enjoy in the EEZ and the innocent passage in the territorial sea. Thus, a transit State under the BASEL Convention is such, only if the vessel is navigating in its internal waters?

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