Oil Spill Intervention in the Mediterranean Sea

Neil Bellefontaine, Patrick Donner, Lawrence Hildebrand, and Tafsir Johansson

Abstract It is axiomatic that maritime transportation is essential for international trade. As the global economy and commerce continue to grow, significant pressure falls on maritime transportation. The types of goods conveyed by maritime transportation are innumerable. Oil is one of the transported commodities that rank high among import–export items. Without oil, the world's energy supply is predicted to slowly run dry and in that instance, the ever-expanding global economy might lose its raison d'être. Marked by its versatile utility, oil supply has been in high demand in the international market for a considerable period of time. Occasionally, oil transportation via tankers does not always go as expected. Even though accidental discharges from incidents such as the *Torrey Canyon, Amoco Cadiz*, and the *Exxon Valdez* are considered to be less when compared to other types of vessel-source pollution, those incidents have nevertheless, demonstrated the need for a comprehensive national contingency plan to combat the deleterious effects of oil pollution at sea. Hence, they have been the reason behind the outcry of affected coastal communities and increased public attention to the threat of oil spills.

Although studies show that oil tanker incidents have been declining significantly, accidental spills as a part of the broader "oil spill" regime have been a contentious issue for decades and therefore, the "cause and effect" cannot be overlooked by Coastal States. While operational spills can be regulated through stringent laws and regulations, an accidental spill due to its unpredictable nature cannot be fully regulated by stringent policies. Again, compared to operational spills, the quantity of oil spilled from a single accident can be more than a number of operational spills combined and far more devastating. Researchers are, therefore, leaving no stones unturned to help the shipping industry lower the number and volume of accidental oil spills. While maritime engineers, scientists, and

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researchers are focusing on technical defects and human errors, governments of Coastal States are trying to develop ways to protect the marine environment through immediate response. More recently, countries within North America are studying an emerging concept related to oil spill immediate response. This modern concept entitled "oil spill intervention" is a combination of first response prior to a spill and rapid response in the immediate aftermath of a spill. In other words, governments are looking at advanced ways of dealing with oil spills, which go beyond the concept of ordinary "oil spill response." Since the semi-enclosed Mediterranean Sea, bordered by 23 states, consists entirely or primarily of Territorial Seas and Exclusive Economic Zones, an accidental oil pollution incident in any part of the Mediterranean Sea is likely to effect a significant number of States whether they are adjacent, opposite, or located at a far distance. The marine ecology of the semi-enclosed Mediterranean Sea is known to science as unique and there is a limit to how much oil contaminants these sensitive sea areas can absorb. Therefore, the Mediterranean Sea areas are in need of better governmental control and advanced rapid response plans. This is where the national laws of the Mediterranean States and regional cooperation need further scrutiny to confirm whether they contain the required elements of "oil spill intervention." Furthermore, Mediterranean national measures aimed at preventing, limiting, or responding to oil pollution needs to be cross-examined against the backdrop of status quo international law, which governs immediate response and intervention.

Although there has not been any major maritime oil spill incident within the Mediterranean region, accidents are considered as inevitable occurrences and the risk of one happening in the near future cannot be ruled out. Past incidents have taught us that an oil tanker accident is a force to be reckoned with. So, time not only runs against first responders who jump into immediate action in the aftermath of a maritime incident, but it also runs against the concerned governments of the Mediterranean Sea region. They need to review their current action plans and look into a functional and effective intervention plan before any future occurrence impacts the quality of the marine environment. This review is needed mainly because maritime traffic in the Mediterranean is increasing and the shipping industry will continue to take advantage of the Mediterranean transportation corridor.

Keywords Accidental pollution, Boundary delimitation agreement, Immediate response, International law, Mediterranean action plan, Mediterranean coastal states, National contingency plan, Oil spill intervention

Contents

1 Introduction

The name "Mediterranean" originates from the two Latin terms "medius" and "terrae" [1]. When combined, the term "medius terrae" is translated as "inland" or "in the middle of the earth" whereby the sea itself is formed by several other seas or basins, i.e., the Adriatic Sea, the Tyrrhenian Sea, the Alboran Sea, the Balearic Sea, the Ligurian Sea, and the Aegean Sea [1]. Encyclopaedia Londinensis has defined the Mediterranean Sea as "a large gulf or lake of the Atlantic Ocean, bounded on the north by Europe and Asia, on the east by Asia, and on the south by Africa; towards the west it joins the Atlantic by a narrow passage, called the Straits of Gibraltar" [2]. From a geographical perspective, the Sea stretches 3,800 kilometers (km) from East to West and its surface area is 2,511,000 square km [1]. The usage of the Mediterranean Sea dates back to ancient times when merchants and travellers began to use the Sea as a route for trade and cultural exchange between "emergent peoples" belonging to that region, i.e., the Mesopotamian, Egyptian, Phoenician, Carthaginian, Iberian, Greek, Macedonian, Illyrian, Thracian, Levantine, Gallic, Roman, Albanian, Armenian, Arabic, Berber, Jewish, Slavic, and Turkish cultures [1]. Today, the Mediterranean Sea is considered as the main transportation corridor between Far-East Asia and Europe [3].

Given the fact that international business is conducted in a "just-in-time" fashion, over the years it has become necessary to transport goods from the manufacturer to the buyer in a faster, safer, and more efficient manner. Therefore, it was important to modernize the central element of maritime commerce, i.e., the merchant fleet, which consists of a variety of ship types that range from oil tankers, bulk carriers and container ships to general cargo ships, and many specialized ship types. As science and technology began to progress at a rapid pace, maritime transportation has undergone significant transformations so that there is continuity in the so-called just-in-time fashion. Parallel to the advancement in technology and modernization of maritime transportation, the number of merchant vessels has simultaneously increased by the shipping industry in order to satisfy the growing economic demands of both developed and developing countries. In short, development of "national economy and international exchange" is seen as a logical rationale behind the increase in maritime traffic in sea areas such as the Mediterranean.

Although the Mediterranean coastal and marine ecology differs from one place to another, the sea areas, which are considered to be the transportation corridor

between Europe and Asia, are highly valued and are subject to equal pressure from heavy usage by the shipping industry [4]. Today thousands of oil tankers carrying large quantities of crude oil cross the main routes of the Mediterranean Sea [5]. It is also observed that the extensive maritime traffic coupled with the carriage of large quantities of crude oil: (a) from the Middle East to ports in Europe and North America via the Suez Canal; (b) between the Mediterranean and the Red Sea; (c) through the Straits of Gibraltar; and (d) through the Turkish Straits, has not only given rise to maritime congestion in the Mediterranean semi-enclosed sea, but it has also increased the chance of major oil pollution in the sensitive Mediterranean Sea areas [5]. In 2006, it was estimated that the "Mediterranean alone sees 360 million tonnes of oil and refined products per year" being carried, which accounts for 22% of the global total [5, 6]. In the same year, it was estimated that a staggering 220 million tonnes of crude oil were loaded at Mediterranean ports [7]. Therefore, the risk of oil pollution and possibilities of acute contamination have placed the Mediterranean region in a vulnerable state.

Although the oil pollution "risk factor" increases with increased shipping of oil, states are required to control and regulate all sources of marine pollution in accordance with customary international law. As such, Coastal States are required to exercise "due diligence" to ensure that chronic pollution originating from maritime transportation will be controlled and prevented. While operational discharges can be limited and narrowed down to a certain permissible amount, accidental discharges or spills from accidents[1] involving oil tankers have resulted in massive oil spills. Fifty years have passed since the *Torrey Canyon* (1967) spill and since then, there have been other major oil spills, e.g., *Amoco Cadiz* (1978), the *Exxon Valdez* (1989), the *Erica* (1999), the *Prestige* (2002), the *Tasman Spirit* (2003), and the *Hebei Spirit* (2007) that have stood out as landmarks in the history of accidental oil pollution [8]. These accidental spills are often termed as the most apparent, visible, and dramatic examples of oil pollution in the marine environment [9]. From a general perspective, accidental spillage of oil in the wake of a maritime incident is dependent on the occurrence of an unforeseeable event and calls for rapid response and preparedness actions. Whether it is a vessel collision, a vessel in distress or a blowout of an offshore oil well, the first responders of a Coastal State usually engage in rapid "response" in order to control the extent and degree of oil pollution.

While oil pollution response actions have dominated the aftermath scenario, major maritime nations including the United Kingdom of Great Britain and Northern Ireland (UK), the United States of America (US), and Canada have made an effort to develop a form of "advanced response action plan" to: (a) deal with the "likelihood of a spill," i.e., control a situation that poses an "imminent threat" of a

[1]A series of occurrences in any maritime zone of a state having the same origin, which results or may result in the discharge of oil and may pose a threat to the marine environment, or to the coastline of related interests of one or more states, which may require an emergency action or other immediate response.

spill; and (b) minimize the amount of pollution if the "imminent threat" transposes to an "actual spill" situation. This advanced response action, known as "intervention," is the current term associated with maritime accidents. It is considered to be a phase that is comprised of: (a) actions prior to actual response; and (b) the "actual response"[2] actions initiated by responsible authorities whereby the central objective is to control the source of the pollution that could lead to a major oil spill or control the amount that has already spilled into the water. "Oil spill intervention," therefore, refers to the planned actions and measures taken during a casualty to limit damage or avoid a spill or contain the amount spilled altogether. In other words, this chapter is guided by the term "intervention" insofar as the strategy itself concerns first responders and instantaneous decisions during an incident to correct "imminent" situations, "cap" a developing leak, minimize potential damage leading to the final response in case of unwanted spill. The time duration is critical during an intervention phase and may be narrowed down as:

> The first responders of a coastal state generally undertake "intervention" actions and the phase commences the very minute a national authority is advised of an incident in progress that has the potential for a spill and concludes the very minute the spill has been successfully contained.

In addition to the preparedness and response actions mapped out in respective national contingency plans, oil spill intervention could include directing a vessel to a place of refuge and directing said place of refuge to accept the vessel or providing/directing a resource onto a vessel to aid in stopping a leak. With the projected increase in maritime traffic in the Mediterranean region and the lessons learned from major oil spills that received global attention, it is deemed important to analyze the status quo of the Mediterranean "oil spill response" regime and examine whether features of "intervention" can be found in the national laws. To that extent, both primary and secondary sources with regard to national law and international law governing regional cooperation have been taken into account. It should be noted that in the study and examination of "oil spill intervention" approaches, significant consideration is given to the oil spill preparedness, prevention, and response regime because of the limited usage of the term "intervention" and due to the existing differences in the way "intervention" is perceived by authorities of different jurisdictions. Therefore, the term intervention has been extended to include first response in the immediate aftermath of an oil spill and is not only limited to potential spills or near spills or the likelihood of a spill. Although some countries have given authorities intervention powers, which are limited to a potential spill or threat of significant pollution from maritime incidents, to date, there are no concrete examples where such "intervention" to contain a "potential spill" has been successful. Again, there is a thin line between potential spill "intervention" and oil spill response because a number of incidents, e.g., the *Rocknes* (2004), the *TK Bremen* (2011), the *Golden Trader* (2011), the *Gdansk*

[2]Delivering effective and fit-for-purpose oil spill response preparedness and capability to contain oil already discharged.

(2011), the *ECE* (2006), the *Bunga Kelana* (2010), the *Braer* (1993), the *Baltic Carrier* (2001), the *Atlantic Empress* (1979), the *Aragon* (1989), the *Tanio* (1980), the *Aegean Sea* (1992), and the *Agios Dimitrios* (2009), demonstrate the fact that potential spill "intervention" might be completely impossible and at any given moment the potential spill "intervention" phase may shift to a response, containment, or clean-up stage, leaving the potential spill "intervention" phase distorted and completely indiscernible. Therefore, the term "intervention" in this chapter follows the theme of the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties of 1969 (Intervention Convention) and has not been restricted to the examination of actions taken to prevent potential spills or near spills or the likelihood of a spill.

2 Oil Spill Intervention in an International Context

Principles, standards, and actions corresponding to the prevention and control of vessel-source marine pollution are currently one of the most regulated areas of international law. Vessel-source pollution, or in more restricted terms "oil pollution" from ships, is not a new phenomenon [8]. Lessons learned from maritime incidents that have left their marks in history make it clear that the seas cannot continue to absorb oil contaminants and still remain healthy. The source of the pollution, i.e., the vessel in distress, requires immediate intervention by authorities concerned states and this action by authorities relates to the "precautionary principle" under international law [10]. The "precautionary principle" indicates that in certain situations it may not be necessary to wait for scientific certainty or conclusive scientific proof of actual or imminent harm before taking actions to control harmful activities that may cause irreversible damage to the marine environment [10]. It is generally understood that the global regulations related to oil pollution control stem from either the United Nations Convention on the Law of the Sea 1982 (UNCLOS) or from the "generally accepted international regulations and standards" as adopted by the International Maritime Organization (IMO) [8].

2.1 The OPRC Convention

As a response to the *Exxon Valdez* incident, the IMO adopted the International Convention on Oil Pollution Preparedness Response and Co-operation (OPRC) in November 1990. The initial connection between OPRC and "oil spill intervention" may be established through Article 2 insofar as "oil pollution incident" has been defined as:

> . . . an occurrence or series of occurrences having the same origin, which results or may result in a discharge of oil and which poses or may pose a threat to the marine environment,

> or to the coastline or related interests of one or more States, and which requires emergency action or other immediate response [11]

Since the main essence of "intervention" revolves around the efforts to: (a) limit damage; (b) avoid a spill; or (c) contain the amount spilled from the source, the keywords observed in the aforementioned definition, i.e., "which results," "or may result," "discharge of oil," "which poses," and "or may pose a threat," elucidates the implied yet inherent connection between the OPRC and the notion of "oil spill intervention." In terms of immediate response or intervention actions, Article 3 of the OPRC makes it obligatory for each state party to require that ships entitled to fly its flag have on board a shipboard oil pollution emergency plan [11]. To confirm and ensure this "required" readiness of the Flag State, the Port State also has an obligation to inspect the ship and confirm that the operator has the oil pollution emergency plan in place in accordance with "international agreements" or its "national legislation" [11]. From a purely "intervention" perspective, the Flag State is considered to be the first responder if there is a need to intervene in an oil pollution incident. In all other cases, the OPRC stresses "international co-operation in pollution response" as encapsulated in Article 7 of the Convention. As the title suggests, parties are asked to cooperate in every aspect "when the severity of such incident so justifies" and "upon the request of any party affected or likely to be affected" [11]. From an analysis of the wordings of Article 7(1), it is presumed that "likely to be affected" can be considered as being synonymous with "near spill," which has an "imminent factor" involved. This hypothesis emanates from the fact that "intervention" is a word that is not readily used in the OPRC itself and the flexibility of the phrase "likely to be affected" needs to be taken into consideration. Furthermore, based on the arrangements of wordings in Article 5, the OPRC is observed to promote intervention cooperation at the international level:

> (1) Whenever a Party receives a report referred to in article 4 or pollution information provided by other sources, it shall: (a) assess the event to determine whether it is an oil pollution incident; (b) assess the nature, extent and possible consequences of the oil pollution incident; and (c) then, without delay, inform all States whose interests are affected or likely to be affected by such oil pollution incident, together with (i) details of its assessments and any action it has taken, or intends to take, to deal with the incident, and (ii) further information as appropriate, until the action taken to respond to the incident has been taken . . . [11]

It should be noted that 19 out of 23 Mediterranean countries bordering the Mediterranean Sea are parties to the OPRC. These Mediterranean Sea countries include Gibraltar, Spain, France, Monaco, Italy, Malta, Slovenia, Egypt, Croatia, Albania, Greece, Turkey, Syria, Lebanon, Israel, Libya, Tunisia, Algeria, and Morocco.

2.2 The Intervention Convention

The only Convention that has explicitly used the term "intervention" is the 1969 Intervention Convention and the scope of the Convention is limited to oil pollution on the high seas [12]. The Intervention Convention was ratified by the governments of 29 states by 1977 and came into force in 1975. Although the term "intervention" has not been distinctively defined in the "definition" section (Article II), the Intervention Convention has nevertheless, provided a definition of "maritime casualty." It is also observed that the words that are used in Article 1 refer to the conditions that may give rise to an "intervention" operation and includes both "pollution" and "threat of pollution":

> Parties to the present Convention may take such measures on the high seas as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil, following upon a maritime casualty or acts related to such a casualty, which may reasonably be expected to result in major harmful consequences [12]

Under Article III of the Intervention Convention, the Coastal State is under an obligation to consult with "independent experts" before proceeding to undertake any measures. However, it should also be noted that consultations can be overridden in cases of extreme urgency, and whereto there is a need to take immediate measures [12]. More often, it seems that a threat from an "oil spill" can at any stage transpose to an actual "oil spill incident" and "consultation" with other parties may take up the time that could be used to control the pollution at source. To remedy the situation, the Coastal State has a prerogative to take measures rendered necessary by the urgency of the situation. This oil spill intervention action can be undertaken by the Coastal State "without prior notification or consultation or without continuing consultations already begun" in accordance with Article III of the Convention [12].

Similar to the OPRC Convention, the Intervention Convention incorporates the word "consultation" instead of "cooperation." In this context, it can be deduced that consultation and cooperation are participatory processes, which involve the participation of various stakeholders, i.e., Flag State and Coastal State in the decision-making and the successful completion of an "oil spill intervention operation." The term "consultation," as implemented in the Intervention Convention, is a medium to increase transparency and trust by establishing a dialogue over objectives, projects, needs, and problems. It is noteworthy that 9 out of 23 Mediterranean Coastal States had become parties to the Intervention Convention by late 1977 and as of April 2016, the number has increased to 13, i.e., Spain, France, Monaco, Italy, Slovenia, Egypt, Croatia, Montenegro, Syria, Lebanon, Tunisia, Algeria, and Morocco.

The Intervention Convention has emerged with a certain limitation and stirred international debate due its departure from the traditional principle of "freedom of the high seas." This was the first time that states, other than the Flag States, were granted permission to take preventative, mitigating, and intervention actions against foreign vessels on the high seas in cases where oil pollution posed a threat.

However, from a positive perspective, the Intervention Convention is unique in the sense that it has done its best to address immediate response issues that emanate from "grave and imminent danger" and has paved a roadmap for Coastal States to follow and undertake "oil spill intervention" actions in sensitive areas through mutual cooperation.

2.3 The Barcelona Convention and Regional Cooperation

The Convention for the Protection of the Mediterranean Sea Against Pollution, also known as the "Barcelona Convention," entered into force on 12 February 1978 [13]. It was modified by amendments in 1995 by the "Conference of Plenipotentiaries on the Convention for the Protection of the Mediterranean Sea against Pollution and its Protocols" [13]. The amended Convention was renamed to the "Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean." The "precautionary principle" and the "polluter pays principle" are the two doctrines that are suggested to be applied by the Contracting States whereby the former relates to cost-effective measures, which need to be applied without delay, and the latter identifies with costs, which are related to pollution prevention, control, and reduction. It is important to mention that the Barcelona Convention currently has 22[3] Contracting parties. The main objectives of the Barcelona Convention include:

(a) to assess and control marine pollution;
(b) to ensure sustainable management of natural marine and coastal resources;
(c) to integrate the environment in social and economic development;
(d) to protect the marine environment and coastal zones through prevention and reduction of pollution, and as far as possible, elimination of pollution, whether land- or sea-based;
(e) to protect the natural and cultural heritage;
(f) to strengthen solidarity among Mediterranean Coastal States; and
(g) to contribute to improvement of the quality of life [14].

The Barcelona Convention is based on a Mediterranean Action Plan (MAP) that was signed in 1975 and adopted by 16 Mediterranean countries and the European Community. It is relevant to mention that the Mediterranean became the first region to adopt an Action Plan in 1975, just after the creation of the Regional Seas Programme in 1974. The Barcelona Convention has seven Protocols that address different aspects of environmental conservation:

[3] Albania, Algeria, Bosnia and Herzegovina, Cyprus, the European Community, Croatia, Egypt, Spain, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Morocco, Monaco, Montenegro, Slovenia, Syria, Tunisia, and Turkey.

(1) Dumping Protocol (from ships and aircraft) of 1995;
(2) Prevention and Emergency Protocol (pollution from ships and emergency situations) of 2002;
(3) Land-based Sources and Activities Protocol of 1980;
(4) Specially Protected Areas and Biological Diversity Protocol of 1995;
(5) Offshore Protocol (pollution from exploration and exploitation) of 1994;
(6) Hazardous Wastes Protocol of 1996;
(7) Protocol on Integrated Coastal Zone Management (ICZM) of 2008.

When it comes to matters concerning first response, imminent danger, containment of near spills or actual spills, it seems that state responsibility is not the sole basis of giving effect to international law. Civil liability, in this context, can serve as an option. Several treaties dealing with civil liability have merged to form a comprehensive civil liability regime and in reality, due to the shortage in the number of ratifications, these treaties dealing with civil liability, such as the Protocol on Civil Liability for Damage Caused by Transboundary Effects of Industrial Accidents on Transboundary Waters of 2003, have not yet entered into force. On the other hand, some of the treaties, which are currently in force, do not adequately embody the core concept of "intervention" and even if there is adequate relevance, it is not tailor made to fit all Sea regions. Therefore, consideration has to be given to regional initiatives based on cooperation, which are decided, agreed upon, and entered into by concerned states of a particular region. The reason behind regional cooperation is quite clear. Through regional cooperation, states come together to achieve a few common goals, e.g., to "restrict" the spread of pollution or "control" pollution at source. The Protocol of the Barcelona Convention that reflects regional cooperation and one that is relevant to "oil spill response" or "intervention" is the Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea adopted in 2002 (1978 Protocol) [15]. Article 1 of the 1978 Protocol contains the basic definitional element of "intervention" and this is evident from the usage of specific words (for example, "grave and imminent danger"):

> The Contracting Parties to this Protocol (hereinafter referred to as "the Parties") shall cooperate in taking the necessary measures in cases of grave and imminent danger to the marine environment, the coast or related interests of one or more of the Parties due to the presence of massive quantities of oil or other harmful substances resulting from accidental causes or an accumulation of small discharges which are polluting or threatening to pollute the sea within the area defined in article 1 of the Convention for the Protection of the Mediterranean Sea against Pollution [15]

The 1978 Protocol has the same features as observed in regional agreements for the Baltic Sea and the North Sea insofar as it highlights the responsibility of "competent national organization or authorities" (Article 6) [15]. Moreover, similar to the OPRC, a nexus can be established between the 1978 Protocol and "intervention" through the definition of "pollution incident" as incorporated in Article 1 [15]. One of the important Articles of the 1978 Protocol is Article 10 entitled "operational measures" that suggests Contracting States to take pragmatic measures

to "prevent, reduce and, to the fullest possible extent, eliminate the effects of the pollution incident" whether it is oil or other noxious substances [15]. Again, the 1978 Protocol is commendable, as it makes an effort to cover significant points of what is known as "oil spill intervention." The three keywords, i.e., prevent, reduce, and eliminate, can be hypothesized as being synonymous to avoid, limit, and contain the three inherent features related to the term "intervention." It is observed that the 1978 Protocol is primarily founded on "cooperation" and endeavors to promote "cooperation" in every aspect and is consistently spread across the 13 Articles of the Protocol. The 1978 Protocol also encourages Coastal States to "promote" respective contingency plans (Article 3) and to "develop" monitoring activities (Article 4) [15]. Finally, the "assistance" aspect pursuant to the 1978 Protocol can be seen as an essential pre-requisite for the success of an "immediate response" or "intervention" operation and is also observed to be in sharp contrast with the Intervention Convention, which emphasizes only "consultation."

2.4 MARPOL 73/78

The IMO instrument that has always been the center of discussion when it comes to operational spills and accidental spills is the International Convention for the Prevention of Pollution from Ships, 1973 as Modified by the Protocol of 1978 (MARPOL 73/78). All countries bordering the Mediterranean Sea region (except Bosnia and Herzegovina) are parties to both Annex I and Annex II of MARPOL 73/78. Pursuant to Annex I Regulation 47 of MARPOL 73/78, oil tankers of 150 gross tonnage (GT) and above, as well as all ships of 400 (GT) and above, must carry an approved Shipboard Oil Pollution Emergency Plan (SOPEP) [16]. This is observed to be similar to the requirement of a shipboard emergency plan as incorporated in Article 3 of the OPRC. From a generic context, Annex II Regulation 17 of MARPOL 73/78 requires all ships of 150 gross tonnage and above that carry "noxious liquid substances" in bulk to have an SOPEP approved by the national administration [17]. Moreover, for practical reasons, these plans could be combined into one single plan and if combined, the "joint" plan should be called Shipboard Marine Pollution Emergency Plan (SMPEP). In order to meet the requirements of these emergency plans, IMO has issued Guidelines for the Development of Shipboard Marine Pollution Emergency Plans in 2010 [18]:

> To help Administrations and shipowners meet these requirements, IMO has produced the Guidelines for the Development of Shipboard Marine Pollution Emergency Plans, 2010 Edition which includes Guidelines for the development of Shipboard Oil Pollution Emergency Plans (SOPEP) (resolution MEPC.54(32), as amended by resolution MEPC.86 (44) and Guidelines for the development of Shipboard Marine Pollution Emergency Plans of Oil and/or Noxious Liquid Substances (Resolution MEPC.85(44), as amended by resolution MEPC.137(53)). [18].

These guidelines indicate that the plan must provide specific guidance for dealing with a range of issues, for example, pipe leakage, tank overflow, hull

leakage, groundings, fire, and collision [19]. These comprise the intervention aspects and procedures and can be termed as fairly detailed. Examples can be cited from the New Shipboard Oil Pollution Emergency Plan (SOPEP) Manual whereby the US Coast Guard (USCG) provides clear intervention instructions in terms of first response measures, which are closely tied to operator responsibility:

> Possible sources for hull leakage are welded seams and cracks in hull plating due to fatigue or stress. Oil leakage can occur above or below the water line. The appropriate agencies should be notified and the following considered:
>
> When oil sheen is observed around the vessel, any bunkering operations should be stopped immediately. Shore-side personnel should be notified immediately . . . Depending on the location of the leak, it may be necessary to bring the oil level below the water line . . . If the source of oil leak from the hull is below the water line, identification of the compartment may prove difficult due to tidal and current conditions. When the source is identified, any deck openings, e.g., ventilation pipes, filling lines or sounding tubes on the damaged tank should be closed to hermetically seal the tank and avoid further release of oil overboard.
>
> If divers are unable to identify the source of the underwater leak, then to the extent possible, the oil level should be reduced in tanks nearest to the source. That may be possible through internal transfer to other tanks, or, if along side a terminal, pumped ashore . . .[20]

3 Mediterranean Zones and National Legislation on Oil Spills

"Near spills" and "oil spills" are common phenomena and originate from maritime casualties. Since many of them are accidental, it is hard to presume as to when, where, or how they will occur. However, to remedy the situation, oil spill preparedness, prevention, and response are the best strategies for avoiding potential or significant damage to human health and the environment. Hence, prevention of a near spill or response to an actual spill is primarily an issue that is linked to an "intervention" or "first response" process. Once a spill occurs, the best approach for containing and controlling the spill is to respond quickly in a well-organized manner. It is generally understood that a "first response" will be quick and organized if intervention measures have been planned ahead of time. Moreover, this success also depends on weather conditions, the area of the maritime zone in question and the time it may take for the first responder to reach the incident site. The national contingency plans are more or less developed taking into consideration the total area of the coastline, the offshore areas, and the areas within national jurisdiction.

3.1 Maritime Zones of the Mediterranean Sea

International environmental law has developed and reached a level of high standard during the past few decades, and as a result, the world has seen the emergence of several core principles that provide for a framework of customary international law [21]. These core principles have been consolidated and codified in different international environmental legal instruments [21]. The umbrella Convention, i.e., UNCLOS, is one such instrument that is a unified effort by the international actors to provide a "Charter of the Ocean" that could act as a basic framework to deal with issues concerning maritime boundary delimitation and usage of the ocean space [21, 22]. Under UNCLOS, Flag States and Coastal States enjoy prescriptive and enforcement jurisdiction so that all maritime activities can be governed in a rational manner.

In the context of boundary delimitation, a range of maritime zones, i.e., Internal Waters, Territorial Sea, Contiguous Zones, and Exclusive Economic Zones (EEZ), have been established in the Mediterranean pursuant to the provisions of UNCLOS. The status quo maritime zones of different states within the Mediterranean is quite complex and in some cases undetermined and unresolved [23]. The coastline of the Gaza Strip, which has a 40 km coastline, is one case the legal status of which is complex and controversial [23]. While many of the Mediterranean Coastal States have claimed a 12 nautical mile (nm) Territorial Sea, some countries, i.e., Greece and Turkey, have claimed 6 nm [23]. Gibraltar, in this respect, has claimed a Territorial Sea with a breadth of 3 nm [23]. A majority of these countries have already adopted applicable national legislation to seal their claims (see Table 1).

To date, only 11 Mediterranean countries, i.e., Algeria, Cyprus, Egypt, France, Italy, Malta, Monaco, Morocco, Spain, Syria, and Tunisia, have claimed a Contiguous Zone that extends to 24 nm [23]. Although a few states, i.e., Algeria, Bosnia and Herzegovina, are not geographically positioned to claim an EEZ, a number of Mediterranean countries have proceeded to establish "derivative zones" based on applicable national legislation [23]. These zones are considered to be broad enough to establish (full) EEZs [23]. It is also observed that some countries, such as Albania, have national legislation in place, but have not taken any steps to establish an EEZ. On the other hand, countries like Lebanon have lodged the coordinates of its EEZ based on a national instrument (Law no. 163 of 2011) with the UN and to that extent has deposited a decree setting out its EEZ boundaries [23]. Again, in an effort to understand the maritime zones of different Mediterranean Coastal States, it can be said that many of the boundary delimitations are governed by agreements between two or more States (see Table 2). Some of the important agreements/treaties include:

Table 1 Mediterranean coastal states with a Territorial Sea claim and relevant national instrument

Mediterranean country	Applicable domestic instrument
Albania	Law on the State Border 2008
Algeria	Decree No. 63-403 of 12 October 1963 establishing the Breadth of the Territorial Waters
Croatia	Maritime Code of 1994
Cyprus	Treaty concerning the Establishment of the Republic of Cyprus (Annex A) 19 August 1960
Egypt	Decree concerning the Territorial Waters of the Arab Republic of Egypt of 15 January 1951, as amended by presidential Decree of 17 February 1958
France	Law No. 71-1060 of 24 December 1971 regarding the delimitation of French territorial waters
Greece	Law No. 230 of 17 September 1936
Israel	Territorial Waters Law, 5717/1956, as amended by the Territorial Waters (Amendment) Law, 5750-1990, of 5 February 1990
Italy	Navigation Code of 30 March 1942, as amended by Law No. 359 of 14 August 1974, Law No. 1658 of 8 December 1961 authorizing accession to the Convention on the Territorial Sea and the Contiguous Zone, adopted at Geneva on 29 April 1958, and giving effect to that Convention
Lebanon	Legislative Decree No. 138 concerning territorial waters and sea areas, of 7 September 1983
Libya	Gulf of Sirte Claim United Nations, Legislative Series, ST/LEG/SER.B/18, p. 26
Malta	Territorial Waters And Contiguous Zone Act, 10th December, 1971 as amended
Monaco	Act No. 1,198 of 27 March 1998 containing the Code of the Sea
Montenegro	Maritime and Inland Navigation Law, 12/98
Morocco	Dahir concerning Act No. 1-73-211 of 26 Muharran 1393 (2 March 1973) establishing the limits of the territorial waters and the Exclusive Fishing Zone
Palestine	The 1995 Israeli–Palestinian Interim Agreement regarding the West Bank and the Gaza Strip states that the territorial jurisdiction
Slovenia	Maritime Code 2001, as amended
Spain	Act No. 10/1977 of 4 January 1977
Syria	Law No. 28 of 19 November 2003
Tunisia	Act No. 73-49 delimiting the territorial waters, of 2 August 1973
Turkey	Act No. 2674 of 20 May 1982, on the Territorial Sea of the Republic of Turkey
UK – Gibraltar	Interpretation and General Clauses Act 1962 and other references in legislation

Source: MRAG Ltd. In partnership with IDDRA and LAMANS Management Services S A (2013) Client: European Commission, DG MARE. Costs and benefits arising from the establishment of maritime zones in the Mediterranean Sea, Final report (Original Source: Maritime Space: Maritime zones and Maritime Delimitation http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/europe.htm)

Table 2 Important boundary delimitation agreements of the Mediterranean

Name of the agreement/treaty	Year
Agreement on Provisional Arrangements for the Delimitation of the Maritime Boundaries between the **Republic of Tunisia** and the **People's Democratic Republic of Algeria** (with annex of 7 August 2002)	6 December 1978
Treaty on the State Border between the **Republic of Croatia** and **Bosnia and Herzegovina**	30 July 1999 (yet to be ratified by either party)
Agreement between the **Republic of Cyprus** and the **Arab Republic of Egypt** on the Delimitation of the Exclusive Economic Zone	17 February 2003
Agreement between the Government of the **State of** Israel and the Government of the **Republic of Cyprus** on the Delimitation of the Exclusive Economic Zone	17 December 2010 (Signed); Entry into force 25 February 2011
Agreement between the **Republic of Cyprus** and **Lebanon** on the Delimitation of the Exclusive Economic Zone	January 2007
Agreement between the Government of the **French Republic** and the Government of the **Italian Republic** on the Delimitation of the Maritime Boundaries in the Area of the Strait of Bonifacio	28 November 1986
Agreement between the Government of the **Republic of Tunisia** and the Government of the **Italian Republic** concerning the Delimitation of the Continental Shelf between the two countries	Entry into force 6 December 1978
Agreement between the **Great Socialist People's Libyan Arab Jamahiriya** and the **Republic of Malta** implementing Article III of the Special Agreement and the Judgment of the International Court of Justice	29 January 1987 (ratified)

Source: MRAG Ltd. In partnership with IDDRA and LAMANS Management Services S A (2013) Client: European Commission, DG MARE. Costs and benefits arising from the establishment of maritime zones in the Mediterranean Sea, Final report (Original Source: Maritime Space: Maritime zones and Maritime Delimitation http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/europe.htm)

3.2 Intervention and National Contingency Plans

In a number of cases, the process of determining the different layers of maritime zones is incomplete due to the lack of political will or simply because the adjacent or opposite states have failed to come to an agreement. In hindsight, given the fact that IMO has designated the Mediterranean Sea as a "special area"[4] – the concerned

[4]Through Annex I of MARPOL 73/78, the Mediterranean Sea proper including the gulfs and seas therein with the boundary between the Mediterranean and the Black Seas constituted by the 41°N parallel and bounded to the west by the Straits of Gibraltar at the meridian of 5°36′W" as a "special area" in which, "for technical reasons relating to their oceanographic and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required."

Coastal States should have acted differently. In the midst of this complex and uncertain situation, two positive points can be gathered from certain actions by the Coastal States: (a) the states are making an effort through agreements/treaties (see Table 2) to reach an understanding; and (b) Coastal States have established a large number of Marine Protected Areas (MPA) in areas within national jurisdiction [23]. These actions, to a certain extent, solidify the Coastal State's commitment to protect and preserve the marine environment. But the inevitable question is – what effect do unresolved maritime boundary issues have on oil spill interventions?

An immediate response or intervention plan should be mapped out on the basis of a state's maritime-geography and the roles and responsibilities of maritime authorities, governmental departments, and first responders are allocated and divided on the basis of the total area that comprises the maritime-geography of a particular Coastal State. Furthermore, based on the total area of different maritime zones, the government may allocate resources; e.g., aerial surveillance, satellite surveillance, helicopters, and vessels of opportunity. In some cases, the regional chapters of a country's contingency plan detail and outline the action procedures, resources, and strategies used to prepare for and conduct a response to a marine pollution incident within a region's geographic area [24].

All in all, the concerned authorities must be aware and well-informed about the geographical points of coastal waters and the geographical coordinates of the areas beyond national jurisdiction. There needs to be a clear understanding of where national jurisdiction begins and where it ends. If the maritime boundary is properly delimited, the government can then station authorities in different parts with specific management responsibilities. Although "intervention" can be seen as that readiness to respond in the likelihood of a spill or that immediate response to contain a certain amount of oil that is spreading fast, underneath it all, there are numerous complex layers. An undetermined boundary adds to the complexity and has a chance of frustrating the emergency response operation developed under the national contingency plan. It should be borne in mind that "intervention" is not merely a phase, it is also a continuum with sensitive features. During an intervention operation, authorities should ensure that all resources are at hand and there are no internal slips or discontinuity through any kind of disturbance. If the Mediterranean Coastal States have entered into maritime boundary delimitation agreements, it may be argued that the Coastal State authorities will not face any form of disturbance in an oil spill intervention operation. However, maritime boundary delimitation can be seen only as a part of the problem. The smoothness of the operation will largely depend on the way the national response plans or national contingency plans have been structured. The following table provides an overview of the competent national authorities involved and oil spill response plans developed by respective governments of the Mediterranean Sea region.

It is observed that (see Table 3) with the exception of Lebanon and Libya, the other countries have a form of contingency plan in place to deal with emergency spills. Although it is not possible to provide a detailed evaluation of each and every plan, a cursory observation from the titles of individual national plans makes it clear that the plans solely focus on response. Although more than half of the

Table 3 Concerned authority and response arrangements of individual Mediterranean coastal state

Country	Concerned authority	Response arrangements
Albania	National Environmental Agency	A national contingency plan and national system for accidental marine pollution, preparedness, and response was adopted in July 1993
Algeria	Comite National (TELBAHR) (for Oil and HNS) Ministère de l'Aménagement du Territoire et de l'Environnement	A National Contingency Plan was adopted in 1994
Croatia	Ministry of Interior	A national contingency plan for accidental marine pollution, extending to the 12-mile territorial limit, was adopted by the government of the Republic of Croatia in January 1997
Cyprus	(1) Department of Fisheries and Marine Research (for Oil and HNS) (2) Ministry of Agriculture, Natural Resources and Environment	A National Contingency Plan was developed in 1983. It was updated in 1997 and underwent review in 2011
Egypt	Egyptian Environmental Affairs Agency	A National Oil Spill Contingency Plan was implemented in 1986
France	(1) Préfecture maritime de la Manch et de la Mer du Nord; (2) Préfecture maritime de la Méditerranée; (3) Préfecture maritime de l'Atlantique	Response arrangements are governed by the "At sea pollution response" section of ORSEC MARITIME (Organization de la Réponse de Sécurité Civile), i.e., France's civil defence plan
Gibraltar	Gibraltar Maritime Authority	Gibraltar Oil Spill Contingency Plan (updated in 2015)
Greece	Marine Environment Protection Division	Greek National Contingency Plan
Israel	(1) Marine and Coastal Environment Division (2) Ministry of the Environment	National Contingency Plan for Preparedness and Response to Combating Marine Oil Pollution (approved by government in 2007)
Italy	Ministero dell'Ambiente (Ministry of Environment) (HNS and Oil)	Two national plans exist for the Ministry of Environment and for the Department of Civil Protection
Lebanon	Service of Regional Departments and Environmental Police (for Oil and HNS)	**No national contingency plans**
Libya	Environment General Authority	**No national contingency plans**
Malta	(1) Pollution and Incident Response (for Oil and HNS) (2) Malta Planning and Environment Authority (3) Transport Malta	The National Marine Pollution Contingency Plan of 2010
Monaco	Direction des Ports et du Service de la Marine	In the event of an incident the Monaco authorities would collaborate closely with France under the French National

(continued)

Table 3 (continued)

Country	Concerned authority	Response arrangements
		Contingency POLMAR plans and the RAMOGEPOL plan (which details response arrangements between France, Monaco and Italy)
Montenegro	Ministry of Maritime Affairs, Transportation, and Telecommunications	The Montenegro National Contingency Plan for Response to Marine Pollution from Shipping and Offshore Installations
Morocco	Ministère de l'Environnement (for oil and HNS)	National Contingency Plan of 1996
Slovenia	(1) Administration for Civil Protection and Disaster Relief (2) Ministry of Transport	National Contingency Plan
Spain	Dirección General de la Marina Mercante (DGMM)	Royal Decree 253/2004 on prevention and counter pollution measures in maritime and port activities. In 2006 the Spanish government approved a new national plan which contains practical measures to augment its response capability
Syria	Directorate General for Ports (for Oil and HNS)	A draft national contingency plan for oil and other hazardous substances was prepared in 2003 but it was never tested or exercised. Syria is updating the plan with assistance from the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) (information current May 2011)
Tunisia	(1) Agence Nationale de Protection de l'Environnment (ANPE) (2) Ministère du Transport	A national contingency plan was prepared in March 1996, covering two levels of emergency – national and regional
Turkey	(1) Ministry of Environment and Forestry (MOEF) (2) Ministry of Transport, Maritime Affairs and Communications	The Undersecretariat for Maritime Affairs has ultimate responsibility for dealing with oil pollution at sea and the Ministry of Environment and Forestry (MOEF) undertakes or causes to be undertaken the necessary response measures, as formalized under the framework of Law 5312 adopted in 2005

Source: Official homepage of the International Tanker Owners Pollution Federation (ITOPF) http://www.itopf.com/knowledge-resources/countries-regions/mediterranean/. Retrieved 8 May 2016 (*N.B*. No information is provided on Bosnia and Herzegovina, State of Palestine oil spill national plans and it is unclear whether there are any ongoing plans to implement such plans at the national level)

Mediterranean Coastal States are parties to the Intervention Convention, it is unlikely that the aforementioned plans give due consideration to the term "intervention." Again, intervention is marked by a form of advanced response system that contains alternative methods, for example: (a) electronic tools for faster and more reliable data collection; (b) advanced electronic tools for quick and efficient mapping and surveys; (c) Unmanned Aerial Vehicle (UAV) technology to provide rapid and accurate geo-referenced imagery for both planning and evaluating the effectiveness of clean-up efforts; and (d) special "caps" to seal a developing leak. In the review process, the governments need to update their contingency plans and provide specific reference to these alternative methods and consider other aspects that might be useful to the first responders. It is also observed that in most cases the governments do not allow the use of dispersants and its usage has not been covered by specific national regulations. Moreover, when it comes to dispersants, a number of issues need to be considered and regulated; i.e., selection of dispersant products that can be used, the specific zones where they may be allowed or prohibited and their place in the response strategy. If these factors are not considered, they may not produce the desired results and on the contrary, pose additional risks to the environment.

In a maritime casualty, whether it means a collision of ships/oil tankers, stranding or other incident related to navigational safety, or any occurrence on board a ship – time is an essential factor. Whether it is a mechanical failure that can be fixed, a response to operational or mystery spills from vessels, or directing the distressed vessel to a place of refuge, the term "intervention" needs to be clearly defined and marked by a possible timeframe in the national plans. Since imminent danger may differ from one incident to another and the time for intervention may vary according to the vessel size and the type of risk, one possible way to calculate the timeframe is to commence from the very minute an early alert or distress signal has been sent to the response authority to the very last minute it took the response authority to complete the intervention action. This can be developed via joint exercises by concerned adjacent or opposite Coastal states. Although there has not been any major tanker incident in the Mediterranean, some of the States that are a part of the European Seas have already experienced problems with accidental spills in the past. These States include France (grounding of the *Amoco Cadiz*, off Brittany: 223,000 tonnes), Italy (explosion of the *Haven*, Genoa: 144,000 tonnes), Spain (hull failure of the *Prestige*, off Cap Finistere: 62,657 tonnes), and Turkey (collision of *Nassia*, Black Sea: 33,000 tonnes).

4 Examples of a (Potential Spill) Intervention Plan for the Mediterranean

Coastal States are becoming increasingly concerned about ecological and natural resource damage from tanker accidents. The concern is constant for the governments of the Mediterranean Sea region. The orthodox oil spill response system is

being modified and taken to the next level by a few maritime nations. The paradigm shift of using "intervention" to deal with oil pollution has already begun and maritime nations, i.e., the UK and Australia, have already vested authorities with "intervention" powers to deal with near spills or potential spills. For the UK, there is the Secretary of State's Representatives for Maritime Salvage and Intervention (SOSREP) and an important function of SOSREP is "acting at the earliest point during a shipping or offshore incident to assess the risk to safety, to prompt the end of any such incident and to ensure that increasing risk is evaluated and appropriate measures taken to prevent or respond to any escalation of risk" [24, 25]. The powers of the SOSREP are clearly indicated in the UK National Contingency Plan and the legal foundation of the Plan is Section 293 of the Merchant Shipping Act of 1995 (MSA), as amended by the Merchant Shipping and Maritime Security Act of 1997, the Pollution Prevention Control Act of 1999, and the Marine Safety Act of 2003 [24, 25]:

> The SOSREP has the ultimate and decisive voice for maritime salvage, offshore containment and intervention. The SOSREP role does not include any responsibility for either at sea or shoreline clean-up activities. In the unlikely event of conflicting priorities between the "at-sea" and "land based" response cells, the SOSREP may, where appropriate, consider exercising the intervention powers where actions being taken, or being proposed, are not deemed to be in the overriding UK public interest [25].

The role of the SOSREP is to represent the Secretaries of State for the Department of Transport and for the Department of Energy and Climate Change. The former representation is in relation to ships while the latter is in relation to offshore installations. It is noteworthy that the government of UK has extended the power of SOSREP to territorial waters, i.e., 12 nautical miles from the coast (baseline) and to the UK Pollution Control Zone, i.e., 200 nautical miles or the median line with neighboring states. The SOSREP works closely with the Marine and Coastguard Agency (MCA), its parent organizations, i.e., the Department for Transport (DFT) and the Department of Energy and Climate Change (DECC) [26].

The key responsibilities of SOREP are

(a) acting at the earliest point during a shipping or offshore incident to assess the risk to safety, to prompt the end of any such incident, and to ensure that increasing risk is evaluated and appropriate measures taken to prevent or respond to escalation;
(b) monitoring all response measures to significant incidents involving shipping and the offshore industry;
(c) if necessary, exercising control by implementing the powers of intervention, acting in the overriding interests of the UK and its environment;
(d) participating in major national and international exercises;
(e) reviewing all activities after significant incidents and exercises; and
(f) intervening if there has been any occurrence causing material damage or a threat of material damage to an offshore installation [26, 27]

Similar to SOSREP, the Australian Maritime Emergency Response Commander (MERCOM) has the responsibility to ensure an appropriate level of response to

shipping incidents in the Commonwealth waters and the "intervention" led by MERCOM is for incidents where there is "an actual or threat of significant pollution posed by ships" [28]. The MERCOM is appointed by the Australian Maritime Safety Authority (AMSA) pursuant to the Protection of the Sea (Powers of Intervention) Act of 1981 (Act of 1981) [29, 30]. MERCOM is empowered to issue direction to the owner or the master of ship if it is: (a) in Internal Waters; or (b) in the Australian coastal sea; or (c) in the EEZ of Australia; or (d) an Australian ship [29]. If the maritime casualty is on the High Seas, then the authority may take a number of actions:

> (a) the taking of action, whether or not directions have been issued under paragraph (b) in relation to the ship:
>
> (i) to move the ship or part of the ship to another place;
> (ii) to remove cargo from the ship;
> (iii) to salvage the ship, part of the ship or any of the ship's cargo;
> (iv) to sink or destroy the ship or part of the ship;
> (v) to sink, destroy or discharge into the sea any of the ship's cargo; or
> (vi) to take over control of the ship or part of the ship . . . [29]

5 Conclusion

In 2008, the Contracting parties to the Barcelona Convention adopted the ecosystem approach roadmap in view of an ecological vision for the Mediterranean as "a healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse for the benefit of present and future generations" [31]. Three years into the adoption of the ecosystem approach, the UNEP/Barcelona Convention Initial Integrated Assessment was completed [32]. The 2011 Assessment provides a sharp conclusion that "despite compelling evidence of the importance of services delivered by Mediterranean coastal and marine systems . . . ecosystem degradation continues" [32]. In the list of many pressures and impacts, the 2011 Assessment includes disturbance and pollution from maritime industries. Although the IMO has given the Mediterranean Sea the title of "special area" and Coastal States have established MPAs, the question is whether the ecosystem degradation caused by increased maritime traffic can be properly addressed?

Due to its geographical and historical characteristics, authors have dubbed the Mediterranean as an original and unique eco-region that is comprised of 23 countries and territories [33]. Due to these unique and special characteristics, the region brings Coastal States of the Mediterranean region together in a common platform guided by a common interest, i.e., the protection of the Mediterranean Sea from pollution [33]. To this end, the Regional Oil Combating Centre (ROCC) was established in 1976 with the mandate to strengthen the capacities of the Mediterranean Coastal States to deal with marine pollution by "oil" [34]. The ROCC was renamed in 1989 to REMPEC, currently administered by the IMO in cooperation

with UNEP/MAP [34]. Although renamed to REMPEC, the objective of ROCC remains constant [34]. One of the many scopes of action of REMPEC includes assisting Coastal States of the Mediterranean region in the development of national capabilities in terms of oil spill response.

Although many of the Coastal States have already developed national contingency plans to combat and prevent oil pollution, the efforts of REMPEC to assist the Coastal States still continue. While some States continue to develop their own contingency plans with the help of REMPEC, it seems that even after development or amendment of national oil spill contingency plans, the response situation has a high chance of being frustrated due to the number of unresolved maritime boundary issues, which still persists among Coastal States. However, there is an indication that boundary problems are being resolved through agreements/treaties between two or more states. While this reveals a positive picture of the problem, there is an emerging issue that reveals a not-so-positive picture. The statistical analysis database from the 2011 Assessment, referred to earlier, of "alerts and accidents" shows that for "collision, grounding, sinking and "other" accidents, about 50–65% of the cases cause an oil release" [35]. The "statistical analysis" study also concludes that there is a decrease in the number of oil tanker accidents from 70% (between years 1977 and 1984) to 23% (between years 2004 and 2010) [35].

Although there is a decline in the percentage of oil tanker accidents, considering the "original and unique eco-region" characteristics of the Mediterranean, 23% needs to be further reduced. Whether it is due to inconsistencies in recording the number of incidents or boundary issues, the 23% tanker incidents will continue to cause irreparable damage to the marine environment and as such, national measures aimed at limiting, preventing, or eliminating oil pollution caused by maritime industries should be encouraged. Although the Intervention Convention was adopted more than 3 decades ago, the concept of "intervention" has surpassed the original concept and many states have enforced a national "intervention" policy through which authorities "intervene" only in the likelihood of a spill. "Intervention" has been separated from "oil spill response" and pursuant to the UK and Australian legislation; they can be performed in both areas within and beyond national jurisdiction. As for Mediterranean Coastal States, the possibilities for development of an "intervention" plan are yet to be ventured into.

The *Castor* incident in late December 2000/early January 2001 confirmed the absence of an "intervention" framework for the Mediterranean Sea region [36]. The damaged *Castor* tanker was towed around in the Mediterranean Sea for over a month before a place of refuge could be found where a "lightering operation" could be carried out. This raises the question as to whether the Mediterranean Coastal States should have pre-designated places that can provide a sanctuary to vessels in distress and help decline the chances of an accidental spill. Place of refuge is a concept that is considered to be an important part of "intervention." Example of this is ripe in other jurisdictions whereby authorities such as the SOSREP and the MERCOM have been given the power to move a "ship in distress" to a place to prevent pollution or limit the chances of a near spill. Even if there are ongoing efforts to develop a national contingency plan or even regional cooperation with the

assistance of REMPEC, the *Castor* tanker event demonstrated the limited farsightedness of the Mediterranean Coastal States.

The Mediterranean Coastal States need not be torn between the definition provided in the International Convention and the definition as provided in the national laws of UK or Australia. The governments are free to define "intervention" based on their own experience with the Mediterranean "ecosystem approach." Whether the governments of the Mediterranean region want to cover only "response" in the "intervention plan or just simply deal with "near spill" needs to be determined sooner rather than later. Undoubtedly, maritime traffic will continue to increase and the shipping industry will continue to use the Mediterranean routes. While operational discharges can be lessened through stringent "zero discharge policy," the chances that accidental pollution will be contained are minimal. The Mediterranean Coastal States need to step up and define a solid action plan to deal with accidental vessel-source pollution before an incident similar to *Torrey Canyon* occurs in that region. Prevention through "intervention" is better than cure through "clean-up."

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