Maritime Accident Review 2007

EUROPEAN MARITIME SAFETY AGENCY

Table of contents

CHAPTER 1

THE SCOPE AND PURPOSE OF THE REVIEW

EMSA gathers information on maritime accidents on a daily basis as an input to EU level information and decision making. As a result of these activities, although there has not been a passenger ship disaster since the 1990s, and there has not been a major oil spill since 2002, a significant increase in the number of vessels involved accidents in and around EU waters (the term EU includes Norway and Iceland for the purpose of this review) has been observed. This has negative consequences on human activities, the environment and the European economy, and it has become clear that making people aware of the situation is important. The purpose of this review is to make both the EU maritime community and EU citizens aware of what is happening, and it will be the first in an annual series to be published by EMSA.

The daily information gathering ensures that EMSA obtains available information when maritime emergencies occur, and enables Agency staff and interested parties in the other European Union institutions to have an up to date picture of the state of maritime accidents in and around EU waters at all times. For the purpose of this publication, this includes the Atlantic coast (including the North Sea and the English channel), the Baltic Sea and the EU related parts of the Mediterranean and the Black Sea. At the present time, the information comes from multiple sources, including the media monitoring service of the European Commission, reliable accident information sources, recognised shipping information systems, the maritime and general media and a wide range of internet based publications. Some of the most prominent sources can be seen in the acknowledgements at the end of this review. As EMSA generates this information

The Prestige disaster showed the catastrophic results of structural failure

for the stated purposes, it is believed that it would also be of interest to a wider audience, and with this in mind, the main points have been summarised in this review. While comprehensive reporting cannot be fully guaranteed (due primarily to the possibility of under-reporting from some sources), it is believed that the figures represent a relatively accurate overview of accidents in and around EU waters during 2007.

The review focuses on significant accidents involving commercial vessels of all ages and sizes (including fishing vessels) which occurred during the year, although only sinkings have been recorded for vessels under 50 gross tonnes (gt). For the purpose of the review, significant accidents include all total/partial sinkings, collisions, groundings, fires and explosions on board ships while underway, under tow, anchored, berthed or under construction /maintenance. Unless otherwise stated, figures refer to the number of vessels involved, as opposed to the number of accident events (eg two or more vessels can be involved in a single collision event and one vessel can collide, ground and/or sink in a single accident). It should also be noted that on the relatively rare occasions when a vessel has been involved in more than one event at the same time (sinking, collision, grounding, fire, etc.), only the event judged to be the most significant is recorded. For example, if a vessel collides and then sinks, it is recorded as a sinking, or if a vessel has a collision and then runs aground, it is recorded under the category which causes the greatest damage and/or which is judged to have had the greatest effect. In addition to those mentioned above, other types of significant accident have also been included (eg crew members/passengers lost overboard, significant cargo loss, major heavy weather damage, structural failure and infrastructure collapse).

However, the figures do not include machinery failures (ie those which had no further impact), minor cargo losses, anchor losses, etc. Importantly, although machinery failure occasionally leads to groundings or collisions in particular, EU waters are relatively well monitored and, with very few exceptions, the hundreds of breakdowns which happen each year are normally handled without incident. Figures for loss of life have also been inserted, although there is a risk of under-reporting for fishing vessel accidents, in particular, in some parts of the EU. Also, as the review focuses on commercial vessels, the figures do not include the significant numbers attributed to illegal immigrants trying to reach the EU by sea.

The review does not focus on the causes of accidents. The reason for this is that: many accidents are not the subject of investigations; information sources frequently do not specify the cause and; in the case of those which do, the information may not be accurate. However, it is acknowledged that there is evidence to show that the great majority of accidents have a human error component, and also that seafarers often make mistakes under difficult circumstances (eg bad weather, geographical/infrastructure restrictions, fatigue, task overload, training shortcomings, structural failure, engine failure, steering failure, etc.). It is also acknowledged that alcohol intake contributes to accidents. These things show through in accident reports provided to EMSA by Member States, and in information from other sources mentioned previously.

The information is of particular relevance at this time, following various reports of significant increases in the number and cost of accidents in recent years, which are reflected in insurance premiums and which are subsequently passed on to the citizen.

CHAPTER 2

SUMMARY OF THE RESULTS

2.1 OVERVIEW

The results cover accidents involving all types of commercial vessels, including fishing vessels, in and around EU waters. They give a perspective on accidents in terms of type of accident, type of ship, size, age, time of year and region. Most importantly, even when allowing for a proportion of under-reporting, the figures show that the number of accidents in all regions, and for all ship types, substantially increased from 2006 to 2007.

2.2 TOTAL NUMBERS FOR 2007

The EMSA statistics show that 762 vessels were involved in 715 accidents (sinkings, collisions, groundings, fires/explosions and other significant accidents) in and around EU waters during 2007. Although many of these did not result in significant damage, this represented a significant increase over the number recorded for 2006 (535 vessels in 505 accidents). This reflects trends in global reviews undertaken by P&I clubs and other maritime interests. Indeed, classification society Det Norske Veritas says that its statistics show that a ship is twice as likely to be involved in a serious grounding, collision or contact accident today compared to only five years ago. In addition, estimates also show that the costs of these accidents have doubled (DNV press release dated 20.2.2008).

The majority of vessels in the EMSA survey were involved in collisions and contacts (around 40% in both 2006 and 2007) and groundings (around 26% in 2007 and 22% in 2006), while sinkings accounted for around 7% of the total (8% in 2006) and fires and explosions for around 12% (9% in 2006). All other types of significant accidents combined represented around 15% of the total (20% in 2006). The figures also show that over 80 seafarers died in accidents on vessels operating in and around EU waters in 2007 (compared to around 75 in 2006).
A large proportion of the lives lost were in fishing vessel accidents, and this subject is dealt with in greater detail in sections 3.1 and 4.1.

Many accidents happen in heavy weather

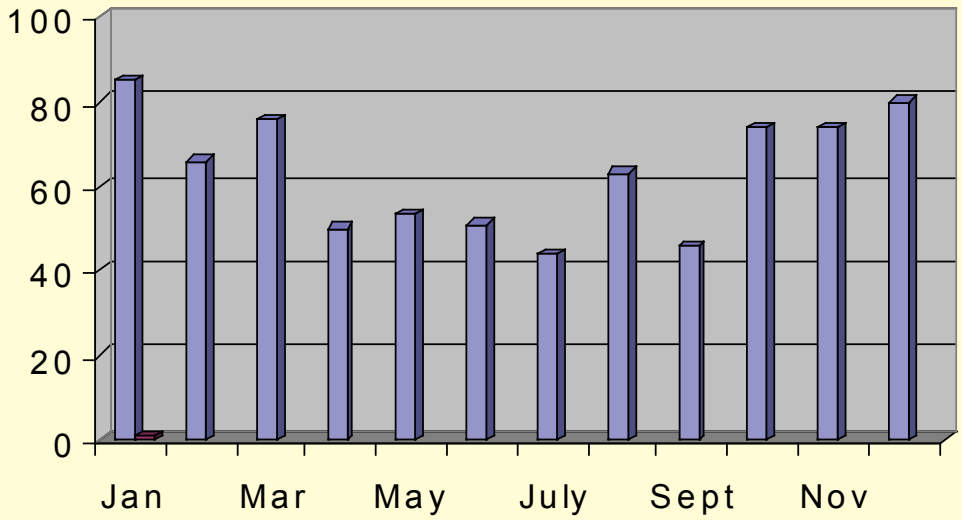
Although many accidents happen in northern waters during the winter months when the weather is at its worst, with crews having to navigate ships under the most difficult of conditions, the time of year is not as significant as might be expected when looking at European accidents overall. During 2007, the months of January, February and December accounted for around 30% of vessels involved in accidents, while the figures for other quarters were March– May (around 25%), June-August (around 20%) and September-November (around 25%). A feature of the year was a pronounced summer peak in August. When looked at more closely, it can be clearly seen that almost 50% of the August accidents relate to vessels involved in collisions and contacts. The main reason for this is that the number of tourist ferry sailings is at its height, and they occasionally come into hard contact with infrastructure while berthing, although the extent of damage is usually not reported to be significant.

With respect to tonnage, almost 45% of vessels involved in accidents were in the 500-5000 gt category, most of which were general cargo ships, and around 20% were under 500 gt. Less than 5% of vessels involved in accidents were over 50000 gt. Around 75% of the vessels which sank were under 500 gt, with the majority of these being fishing vessels (50% of total 2007 sinkings).

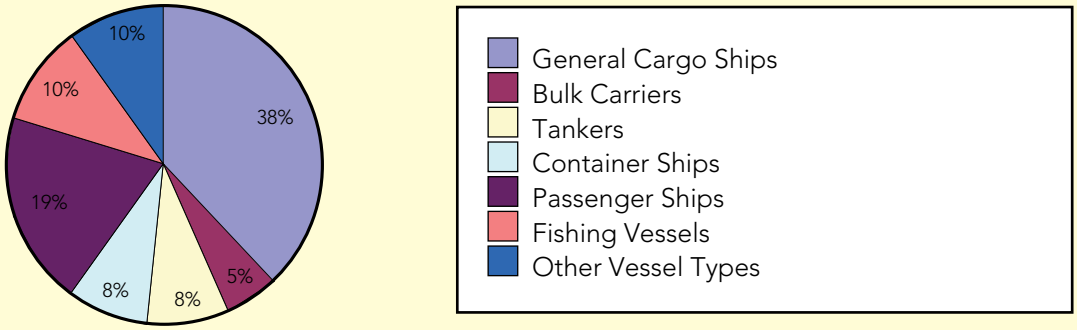
When looking at country of registry, it was noted that over 40% of the vessels involved in accidents flew non-EU/EEA flags, and that around 60% flew EU flags. For this calculation, accidents involving fishing vessels were excluded.

With respect to figures for classification societies, it was noted that over 30% of the vessels involved in accidents in and around EU waters in 2007 were not certified by classification societies. It is the responsibility of flag states to certify that the vessels under their jurisdiction satisfy international requirements, either themselves exercising flag state responsibilities, or by authorising a classification society. The EMSA research showed that, of the vessels certified by classification societies, all but 10 were with EU recognised societies. However, it should be borne in mind that EU recognised classification societies class well over 90% of the world fleet in terms of tonnage.

2007 Number of Vessels Involved in Accidents
(Time of Year)



2007 Accidents by Ship Type



When looking at the figures for management of vessels involved in accidents in and around EU waters, over 80% involved EU managed ships.

While the great majority of vessel accidents do not result in serious consequences, there are one or two each month which are significantly worse than the rest, and these are highlighted in Chapter 3. The progressive increase in the number of accidents around the world is one of the greatest concerns at the moment, as this is reported to be adding significantly to the cost of shipping insurance, in particular, as total claims increase. Many experts have suggested one of the main reasons for this is the inability of recruitment and training to keep pace with the growing number and size of ships in the global commercial fleet. It is argued that rapidly increasing commercial pressures, plus an increasing regulatory burden, result in: higher workloads per seafarer; a shortage of experienced crew and; existing officers being promoted before acquiring the necessary experience.

2.3 BREAKDOWN BY SHIP TYPE

2.3.1 Cargo Ships (General Cargo Ships and Bulk Carriers)

The great majority of commercial ships fall into this category. Consequently, it is no surprise that this is also by far the biggest category for shipping accidents in and around EU waters (around 45% of total EU vessel accidents recorded), with the great majority attributed to general cargo ships. A very large proportion of general cargo ships, and many bulk carriers, are in the 500-5000 gt range and the majority of the vessels were involved in collisions and contacts, which accounted for almost 40% of the accident total in this category, while over 30% of the vessels involved in accidents ran aground.

Bulk Carrier

Tanker Astro Carina

The figures showed 330 cargo ships involved in accidents in 2007, as compared to 253 in 2006. They also recorded that 10 general cargo ships and one bulk carrier sank in 2007, and that 20 people died as a result (11 sinkings and 14 deaths recorded in 2006). Although bulk carriers have increased in numbers due to the global shipping boom, accidents only accounted for around 10% of the cargo ship total. The number of accidents involving refrigerated vessels was very small.

2.3.2 Tankers

This section includes tankers of all kinds. Tankers are a high interest category, given that the Erika (1999) and Prestige (2002) oil tanker disasters took place off the EU coast, and that they extensively polluted a large proportion of the western coastline. It is therefore very good news that, of all the ship types mentioned in this section, the tanker category was the only one that recorded no sinkings in 2007.

Also, tankers were second only to cruise ships in having the lowest number involved in accidents. This is a very good result, in particular when taking into account that there are many times more tankers operating in and around EU waters than cruise ships. There were no major tanker accidents in and around EU waters in 2007, and tankers were involved in only 8% of vessel accidents. Within the tanker total, collisions/contacts and groundings accounted for over 36% each, while notably, fires represented over 17%.

Box ship

Fishing vessel

2.3.3 Container Ships

2007 saw some significant container ship accidents around the EU coastline, and the most prominent of these are highlighted in Chapter 3. The global shipping boom has had a significant effect on the number and size of the vessels built, and as with all categories of cargo vessel, this has an effect on the number and cost of accidents. An important issue with container ships is that, when they have an accident, it can be particularly expensive in insurance terms. The reason for this is that, tonne for tonne, 'box ships' carry the cargoes with the highest value of any category of cargo ship, and they are also rapidly increasing in size. Indeed, some individual containers carry millions of euros worth of goods each.

Consequently, if an entire cargo is lost or significantly damaged, the costs can be huge, and even if a small number of high value containers are lost overboard, the insurance cost can be more than the loss of a general cargo ship. Added to this, larger and larger ships are carrying more and more bunker fuel on board, so the pollution risk that they pose is increasing. Less than 10% of the vessels involved in accidents around the EU in 2007 were container ships, but several of these were eventually total losses after significant efforts to save them. Almost 65% of box ship accidents were collisions or contacts and over 15% were groundings. A significant number of containers were lost overboard, but EMSA does not have accurate numbers or values available.

2.3.4 Passenger Ships

There were a number of major accidents involving passenger ships during 2007, and these are dealt described in Chapter 3. This is a cause for concern, because there were thousands of passengers on the vessels, and any one of the accidents could have been a major disaster. The spectres of the ferries ***Estonia*** and the ***Herald of Free Enterprise***, on which many hundreds of people lost their lives, are still with us, and extensive efforts are still being made to ensure that passenger ships are built and operated more safely in the future.

The figures suggest that there is room for significant improvement, as this was the second highest category for vessel accidents, and accounted for almost 20% of the total around the EU coast during the year, although most of these did not result in serious damage. Over 140 passenger ship accidents were recorded in and around EU waters in 2007, as compared to around 90 in 2006. Within the 2007 total, ferries were involved in almost 80% of the accidents, while cruise ships accounted for around 20% (obviously, it should be borne in mind that the number of ferries is far greater than the number of cruise ships operating in EU waters). Around 50% of the ferries were involved in collision or contacts, almost 20% ran aground and around 10% had fires on board. Around 35% of the cruise ships were involved in

collisions and contacts and around 10% grounded, while over 40% fell into the 'other' category, which includes such things as passengers overboard, unusual listing, lifeboat accidents, etc.

2.3.5 Fishing Vessels

27 fishing vessels were recorded as sinking in 2007, with the majority happening off the Atlantic coast. Most of these occurred off the UK and Ireland, with smaller numbers off the coasts of Spain and France. As with several other categories of accident, most happened in severe weather in the colder months of the year. Bearing in mind that only sinkings were recorded for fishing vessels under 50gt, the figures showed that fishing vessels accounted for around 10% of all vessel accidents in and around EU waters, and that fishing vessel sinkings represented around 50% of the total number of vessels which sank.

The review also recorded that 31 crew members died as a result of fishing vessel accidents at sea during the year (as compared to 42 in 2006), which represented around 40% of all deaths on board vessels in and around EU waters. The most serious individual fishing vessel accidents are described in Chapter 3.

2.3.6 Other Vessel Types

By far the worst accident affecting vessels in this category during 2007 was the sinking of the anchor handler ***Bourbon Dolphin*** in the North Sea (see Chapter 3), but there were also several others of a very serious nature. The category includes many different types of vessel, including tugs, offshore support vessels, anchor handlers, barges, research vessels, heavy lift vessels and dredgers. When taken together, over 10% of vessels involved in accidents were in this category, and around 20% of sinkings and the same proportion of deaths involved such vessels. Almost 25% of the vessel accidents in the category were groundings, around 20% were collisions or contacts and around 20% were fires.

Passenger Ships

CHAPTER 3

TYPES OF ACCIDENTS

So that the differences can be clearly seen between the different types of accidents, this section is divided into five parts (sinkings, groundings, collision/contacts, fires/explosions and other types of accident). The first part of each section gives an overview of the figures, with a breakdown of the 762 recorded accidents in 2007, and the second part takes a look at some of the more significant accidents that happened throughout the year. Accident black spots can be seen in the regional breakdown in Section 5.

3.1 SINKINGS

3.1.1 Overview

The recorded figures show that 55 commercial vessels sank in and around EU waters during 2007, with almost a half of these being fishing vessels. This compares with 45 sinkings recorded for 2006 (around 40% fishing vessels). Of the remainder, 10 were general cargo ships and 12 were in the 'Other Vessel Types' category (including tugs, offshore support vessels, anchor handlers, barges, research vessels, heavy lift vessels and dredgers). Sinkings accounted for almost 7% of the total number of vessel accidents.

3.1.2 Most Significant Accidents

The ***Sea Diamond*** accident involved a 22,400 gt cruise ship sinking in good weather while sightseeing close to the cliffs of the volcanic caldera at the island of Santorini in the Aegean Sea on 5th April. There were 1544 people on board at the time, with two reported missing, and the consequences could have been far worse if there had not been an adequate supply of rescue vessels nearby. The wreck now lies in over 100 metres of water, with the local authorities calling for it to be removed to avoid long term pollution of this very sensitive tourist area.

The ***Bourbon Dolphin*** accident involved the sinking of an oil industry support vessel in the North Sea, while it was handling one of the anchors of an oil platform together with other support vessels on 12th April. As a result, all eight crew members lost their lives in one of the worst North Sea oil industry accidents in recent years, and the vessel now lies hundreds of metres below the surface.

While the figures show that 27 fishing vessels are reported to have sunk in 2007, with the

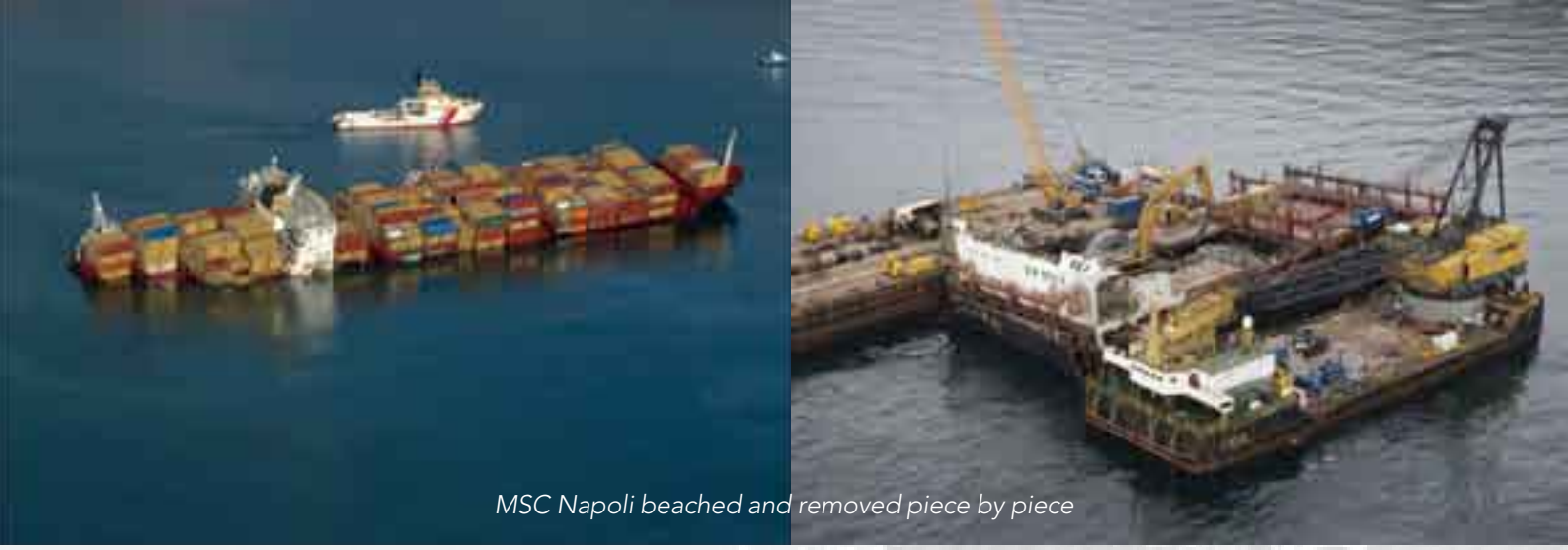
Sinkings by Ship Type	2007
General Cargo Ships	10
Bulk Carriers	1
Tankers	
Container Ships	1
Cruise Ships	1
Ferries	3
Fishing Vessels	27
Other Vessel Types	12
Total	**55**

deaths of 31 crew members, the most serious was the sinking of the French trawler ***La P'tite Julie*** off Brittany on 7th January. The accident resulted in the loss of 6 of its (French/Portuguese) crew members.

The sinking of the French trawler ***Sokalique*** after it was allegedly hit by the 1,400 gt general cargo ship ***Ocean Jasper*** in the English Channel on 17th August, with the death of its master and injuries to 6 crew members, was yet another in a series of fatal sinkings in this heavily trafficked area.

Without a doubt, the most widely publicised sinking in 2007 was that of the 53,400 gt container ship ***MSC Napoli***, which experienced structural failure near its engine room and began to break up in French waters the middle of the English Channel on 18th January. To avoid it sinking totally, it was deliberately beached on the south coast of the UK. After one unsuccessful re-floating attempt, a combination of structural problems and bad weather ensured that it stayed on the beach, with part still waiting to be removed at the end of 2007.

Sea Diamond before it sank



MSC Napoli beached and removed piece by piece

Just before this report went to print, the latest significant sinking occurred, when the 6,500 gt general cargo ship ***Ice Prince*** sank in bad weather off the Scilly Isles, south-western UK, on 15th January 2008. The vessel listed 25-40 degrees for two days with 5,200 tonnes of timber and around 550 tonnes of bunker fuel on board. Although the majority of floating timber has been recovered, the fuel remains an environmental hazard. This happened just one year after the 8,000 gt oil/chemical products tanker ***ECE*** collided with the 23,400 gt bulk carrier ***General Grot-Rowecki*** and also capsized and sank in the English Channel. From 15th January to the end of February, 25 satellite images were acquired via CleanSeaNet to assist the UK authorities in monitoring the Ice Prince wreck site.

In one of the strangest accidents of the year, the 42,500 gt vehicle carrier ***Repubblica di Genova*** capsized while berthed at the port of Antwerp, Belgium, on 8th March. The huge ship is reported to have first listed away from the quayside and then fully capsized towards it while the crew tried to override the ballast control system to correct the situation manually. Deck cargo was thrown onto the quayside and into the water, while internal cargo was put in significant disarray, and it remained in the same position until it was righted at the end of the summer.

3.2 GROUNDINGS

3.2.1 Overview

The EMSA research shows that there were 197 groundings in and around EU waters in 2007 (as compared with 117 in 2006), and that these ac-

CARGO OVERBOARD: DANGER AT SEA AND ASHORE

A large number of ships lose their deck cargo overboard each year in bad weather. The losses can include everything from containers to heavy goods vehicles, and from timber to wind turbine blades. More and more, such events are hitting the news and the public are becoming more concerned. Probably the best publicised example of container losses was the break up and grounding of the MSC Napoli on a southern UK beach, at which time the deck containers were lost overboard and beach scavengers arrived in their thousands to loot everything from motor bikes to people's personal effects in transit. With respect to timber, the citizens of southern England again witnessed the best example at first hand when general cargo ship Ice Prince sank and lost over 2000 tonnes off the Isles of Scilly and large amount washed up on English Channel beaches for several months afterwards. In addition to these and many others, the general cargo ship lost 33 heavy goods vehicles off Ushant Island, northern France, and the general cargo ship Elegance lost most of its cargo of wind turbine blades off Denmark. At a time when the contents of an individual container can be millions of euros, the economic cost is sometimes substantial. With respect to safety, large amounts of cargo on or just below the surface of the sea can represent a significant navigation hazard and containers with hazardous materials inside can be a significant danger to people on the coast.

Groundings by Ship Type	2007
General Cargo Ships	94
Bulk Carriers	14
Tankers	23
Container Ships	10
Cruise Ships	3
Ferries	21
Fishing Vessels	14
Other Vessel Types	18
Total	**197**

counted for almost 26% of the total number of accidents. Almost half of these were general cargo ships and the remainder were widely spread across the vessel categories, with tankers and ferries in second and third positions respectively.

There are several places around the coast where groundings are more predominant, and these include: a number of different locations along the west coast of Norway; the approaches to the Baltic Sea at the south-eastern end (the Danish Straits); the Kiel Canal and the estuary of the river Schelde between the Netherlands and Belgium.

3.2.2 Most Significant Accidents

The largest ship to run aground in and around EU waters in 2007 was the 101,350 gt cruise ship ***Costa Fortuna***, which grounded off a beach while carrying out berthing manoeuvres in bad weather at Albissola Marina, north-western Italy, on 23rd September. However, the vessel sustained only minor damage to its hull and was re-floated several hours later.

While the beaching of the MSC Napoli was being dealt with on the south coast of the UK, the French authorities had their own container ship to deal with on the other side of the channel, after the 33,000 gt container ship ***Rokia Delmas*** lost power and ran hard aground near La Rochelle, western France, in October 2006. Difficult weather conditions again ensured that the vessel would never leave in one piece, and after being cut up, the last parts were being removed from the beach in late 2007.

The winter of 2007 was harsh and saw the grounding of the 20,000 gt bulk carrier ***Server*** off the south coast of Norway on 12th January, with accompanying serious pollution in the surrounding areas. Although it was possible to break the vessel in two and tow away the forward section, the aft section still lies at the grounding site awaiting final removal.

Yet another victim in an exceptionally busy month was the 16,000 gt bulk carrier ***Golden Sky***, which ran aground off Ventspils, Latvia, on 15th January. The bulker was holed near

Repubblica di Genova against the dock at Antwerp

The Rokia Delmas being removed piece by piece

Segesta Jet after being hit

the engine room and again polluted the surrounding waters with its bunker fuel. After significant doubts over its future, it was eventually re-floated after several weeks and towed to a repair yard in Latvia.

3.3 COLLISIONS/CONTACTS

3.3.1 Overview

The EMSA data reveals that 304 vessels were involved in collisions and contacts in and around EU waters during 2007 (as compared with 217 for 2006), and that these accounted for almost 40% of vessel accidents. However, the great majority of these involved ships hitting infrastructure, causing minor-medium damage, and there were relatively few which warrant a particular mention here. General cargo ships were by far the most significant category, with around 38% of the total, followed by ferries (20%) and container ships (14%).

3.3.2 Most Significant Accidents

In safety terms, the most serious collision (which also led to the most serious fire) happened when the 6,700gt container ship ***Susan Borchard*** hit the fast ferry ***Segesta Jet*** in fair weather in the Straits of Messina between southern Italy and Sicily on 15th January. The bow of the container ship hit the side of the fast ferry and the impact completely destroyed the bridge, following which a serious fire broke out and many of the commuters on board were forced to jump into the sea to escape the flames. 6 people died in the blaze and around 100 were injured. The death toll could have been far higher if the ferry had been hit in the passenger areas just a few metres closer to the bow or the stern, and if the emergency services had not been able to respond quickly.

Collisions/Contacts by Ship Type	2007
General Cargo Ships	115
Bulk Carriers	17
Tankers	23
Container Ships	42
Cruise Ships	12
Ferries	61
Fishing Vessels	17
Other Vessel Types	17
Total	**304**

The partial sinking of the fast ferry ***Sea Express 1*** after a collision with the 13,900 gt bulk carrier ***Alaska Rainbow*** in fog on the River Mersey near the port of Liverpool, UK, on 3rd February could also have had much more disastrous consequences. Fortunately, although the starboard hull of the ferry was holed in the collision, the vessel retained enough integrity to sink slowly, thus allowing all passengers to be evacuated with only minor injuries.

Another significant collision was between the 26,800 gt bulk carrier ***New Flame*** and the 30,000 gt chemical/oil products tanker ***Torm Gertrud*** off Gibraltar on 12th August. The accident happened only one kilometre off the coast, following which the bow of the bulker sank to the sea bed. At the time this review went to print, the removal operations were still underway.

3.4 FIRES/EXPLOSIONS

3.4.1 Overview

According to the survey, there were 91 ship fires in and around EU waters during 2007, and these represented almost 12% of the total number of accidents recorded. General cargo ships accounted for over 30% of the total, with container ships, cruise ships and bulk carriers only accounting for less than 8% between them.

New Flame nose down off Gibraltar

Fires/Explosions by Ship Type	2007
General Cargo Ships	28
Bulk Carriers	1
Tankers	11
Container Ships	3
Cruise Ships	3
Ferries	14
Fishing Vessels	16
Other Vessel Types	15
Total	**91**

3.4.2 Most Significant Accidents

While the most serious fire in 2007 occurred on the fast ferry ***Segesta Jet*** (see sub-section 3.3.2), amongst the recorded total of 91, there were also others worth noting. For example, although nobody was injured, another significant fire happened on the Dutch fishing trawler ***Willem van der Zwan***. The five day blaze broke out while it was under repair near Ymuiden, Netherlands, on 30th January, and as a result, the smoke and fumes caused the closure of part of the A9 motorway and two runways at Schiphol airport, while residents within an area of one kilometre were evacuated.

Another Dutch vessel, the 5,100 gt general cargo ship ***Ostedijk*** had a fire and a toxic gas incident onboard while sailing off La Coruña, north-west Spain, on 17th February. The fire began in an unknown place within its cargo of

Ostedijk smoldering

fertiliser, and as a result, a cloud of toxic gas began to rise from the hold. After initially dying down, the fire flared up again, and it eventually became a high profile incident and a test case for the future, with decisions on appropriate actions being taken by a crisis committee of key organisations at different levels within Spain.

Before this review went to print, the 26,500 gt heavy goods vehicle ferry ***UND Adriyatik*** had a major fire on board while sailing in the Adriatic Sea off Rovinj, Croatia, on 6th February 2008. The vessel completely burned out while it was held off the coast for several days with salvors on board, and it was finally taken to Trieste after two weeks.

3.5 OTHER TYPES OF ACCIDENT

This section includes all significant accidents which do not fall into the previous four categories. These include such things as crew members lost overboard, significant cargo loss, heavy weather damage, structural failure, infrastructure (eg crane) collapse and many other different types of accident. One of the most common accidents on board general cargo ships is the loss of part or all of the deck cargo overboard and/or the development of a serious list, while container ships lose significant numbers of containers each year. All types of vessels have the potential to sustain significant heavy weather damage if they are in the wrong place at the wrong time.

As stated previously, the figures do not include machinery failures, minor cargo losses, anchor losses, etc. Although machinery failure frequently leads to groundings and collisions, and occasionally to sinkings around the world (eg the ***Selandang Ayu*** grounding, break-up and major oil spill off Alaska in December 2004), EU waters are relatively well monitored and, with very few exceptions, the hundreds of breakdowns which happen each year are normally handled without incident.

Other Accidents by Ship Type	2007
General Cargo Ships	44
Bulk Carriers	6
Tankers	6
Container Ships	9
Cruise Ships	14
Ferries	17
Fishing Vessels	4
Other Vessel Types	15
Total	**115**

CHAPTER 4

CONSEQUENCES OF ACCIDENTS

4.1 LIVES LOST

4.1.1 Overview

As stated previously, the recorded figures show 82 lives to have been lost on commercial vessels in and around EU waters in 2007 (as compared with 76 in 2006). 38% of these were in fishing vessel accidents, around 25% were on general cargo ships and 22% were in the 'Other Vessel Types' category.

On fishing vessels, 31 lives were recorded as lost in 2007 (as compared with 42 in 2006). On general cargo ships, there were 20 deaths recorded in 2007 (14 in 2006), and in the 'Other Vessel Types' category, 18 lives were recorded as lost in 2007 (7 in 2006). In the latter case, the ***Bourbon Dolphin*** accident had a significant effect on the large difference in the figures.

4.1.2 Most Significant Accidents

When the container ship ***Susan Borchard*** hit the fast ferry ***Segesta Jet*** in the Straits of Messina on 15th January (see section 3.3.2), and the ferry caught on fire, 6 people died and around 100 were injured. The accident became the subject of a major safety enquiry in Italy.

As a result of the rapid sinking of the anchor handling support vessel ***Bourbon Dolphin*** (see section 3.1), all 8 crew member lost their lives in one of the worst North Sea oil industry accidents in recent years.

In another similar oil industry accident, 3 out of 12 crew members lost their lives while attempting to secure an anchor on the offshore tug/supply ship ***Viking Islay*** in the North Sea on 23rd September.

Following the capsize and grounding of the 1,500 gt general cargo ship ***Omer N*** between Germany and Denmark on 28th October, 8 of the 11 crew members on board lost their lives. The vessel went over on its side, and 7 of the 8 men were trapped inside.

The worst of the 27 recorded fishing vessel sinkings recorded by EMSA in and around EU waters during 2007 was that of the ***La P'tite Julie*** off Brittany on 7th January, with the loss of 6 of its (French/Portuguese) crew members.

This was followed closely by the sinking of the ***Pere Charles***, when 5 crew members lost their lives when it went down off the south-east coast of Ireland on 11th January down in up to 130 km winds.

Lives Lost by Ship Type	2007
General Cargo Ships	20
Bulk Carriers	0
Tankers	3
Container Ships	0
Cruise Ships	4
Ferries	6
Fishing Vessels	31
Other Vessel Types	18
Total	**82**

The ***Honeydew*** also sank in the same area in the same storm, following which 2 of its 4 crew members also lost their lives.

Finally, the hundreds of deaths associated with small vessels sinking when illegal immigrants try to reach the European Union by sea dwarf the rest of the figures and should not be forgotten, although they are not a part of commercial shipping, and are therefore outside the remit of this publication. Most of these try to access the EU via the Canary Islands, the Spanish mainland, Italy, Malta and Cyprus. Around 150 people lost their lives in just one accident between Senegal and the Canary Islands.

4.2 POLLUTION

4.2.1 Overview

The tanker industry kept its record in tact during 2007, with no oil pollution disasters and no major spills or other highly significant pollution events in and around EU waters. However, EMSA's daily research recorded around 30 accidental oil spills of different sizes in and around EU waters in 2007. 10 of these caused significant pollution problems, and these are described in sub-section 4.2.2.

When looking at the known figures for major accidents, and allowing for a number of minor spills, the reported figures suggest that the total amount of oil spilled in and around EU waters in 2007 was in the region of 7-8,000 tonnes. When comparing this figure with previous major individual spills such as the ***Haven*** (144,000 tonnes of Italy in 1991), the ***Sea Empress*** (72,000 tonnes off Wales in 1996), the ***Erika*** (20,000 tonnes off France in 1999 and the ***Prestige*** (63,000 tonnes off Spain in 2002), and bearing in mind that there have been no major spills since the Prestige, it can be seen that the situation has radically improved in recent years. The move towards ensuring that all oil tankers have double hulls is

Bourbon Dolphin before it sank

seen to be one of the more important drivers contributing to improvements in this area.

As illegal discharges are now believed to account for progressively greater volumes than accidental events, while continuing to improve vessel safety, greater emphasis is now being placed on controlling deliberate discharges via CleanSeaNet and associated systems.

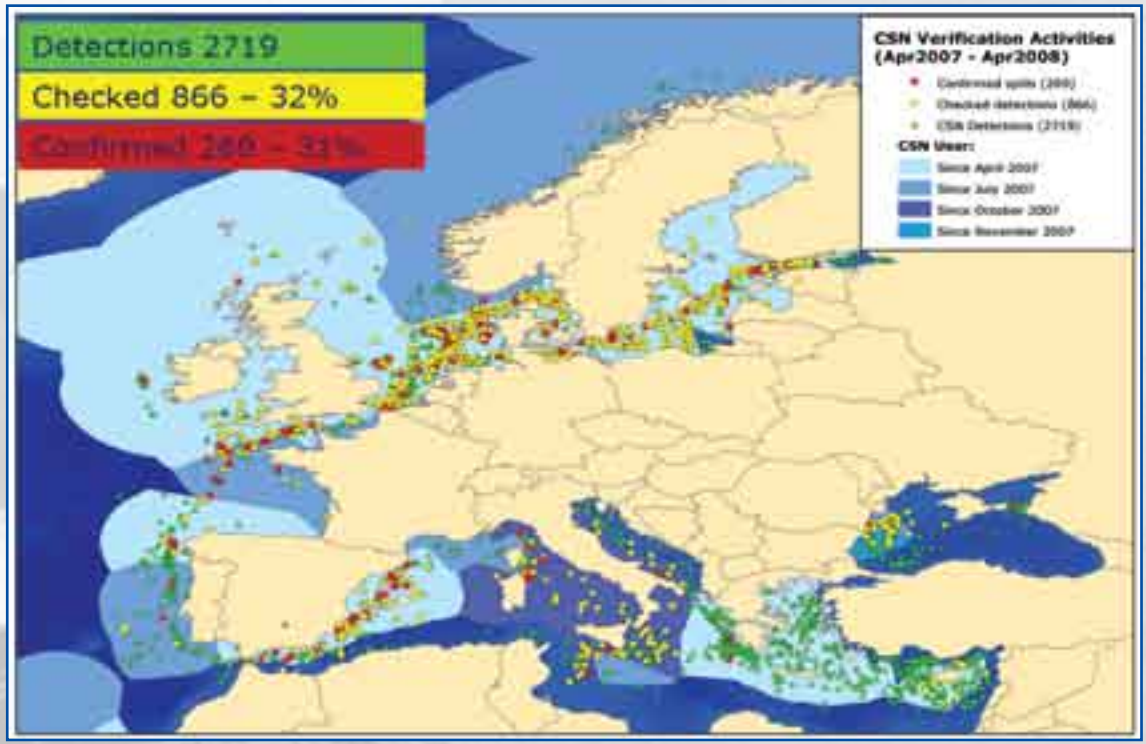
4.2.2 Most Significant Pollution Events

The first significant spill of the year happened after just two weeks, when the bulk carrier ***Server*** ran aground (see sub-section 3.2.3), split in two and spilled almost 400 tonnes of fuel in 10 metre waves and Force 10 winds (88 - 102kph) off the Norwegian island of Fedje on 12th January. A substantial amount reached the coast and caused serious pollution which took over 6 months to clean up.

The year's biggest spill did not happen until very late, when an estimated 3,840 tonnes of oil entered the sea as a result of an accident during the loading of the tanker ***Navion Britannia*** at a loading buoy at the ***Statfjord A*** oil platform 200 km west of Bergen, Norway, on 12th December. The figures show that this one accident accounted for around a half of the total volume of oil that escaped in significant accidental spills in and around EU waters in 2007. Luckily, strong currents and gale force winds swept the 23 sq km slick northwards, and it was closely monitored using aircraft and satellite imagery until it was naturally dispersed.

The year's second biggest spill happened when the 27,000 gt container ship ***Claudel*** hit a jetty at Rotterdam in high winds on 18th January and damaged pipes connected to the jetty, as a result of which up to 800 tonnes of crude oil spilled into the harbour. It was reported to be the biggest spill ever at Europe's biggest port.

The bulk carrier ***Golden Sky*** ran aground (see section 3.2.3) and was holed in hurricane force winds 900 metres off the coast near the port of Ventspils, Latvia, on 15th January. A 40 km oil slick soon formed and an unspecified amount of its 490 tonnes of fuel oil was



CleanSeaNet: Coastal States oil spill verifications

Sierra Nava aground near Algeciras

spilled, which led to substantial pollution on the coastline.

The refrigerated cargo ship ***Sierra Nava*** was blown from its anchorage and ran aground in bad weather near Algeciras, southern Spain, on 28th January, and as a result, up to 270 of its 350 tonnes of bunker fuel spilled into the sea just off the coast and much of this reached local beaches.

Also in the same area, following the collision between the oil products tanker ***Torm Gertrud*** and the bulk carrier ***New Flame*** off Gibraltar on 12th August, (see sub-section 3.3.2), some reports suggest that a substantial amount of oil reached the coastline, while others say that almost all the spilled oil has been contained.

Also in Spain, the ro-ro cargo ship ***Don Pedro*** sank off the island of Ibiza on 11th July, with around 220 tonnes of fuel and other oil on board, and the subsequent oil spill was estimated at up to a maximum of 150 tonnes. The slick fouled a nature reserve and several well known tourist beaches in the middle of the tourist season.

The sinking of the cruise ship ***Sea Diamond*** in the volcanic caldera off Santorini, Greece, with over 400 tonnes of bunker fuel on board on 5th April (see sub-section 3.1.2) is still posing a particularly difficult problem. Some estimates suggest that clean-up efforts resulted in up to 300 of the total of around 400 tonnes of the fuel being recovered. However, it is uncertain how much is left on board, and one of Europe's most beautiful tourist spots is now possibly under threat from future fuel escapes.

Another spill of some significance was that following the grounding and capsize of the bulk carrier ***Wilson Muuga*** with the loss of a Danish crew member and injury to 6 others off Iceland on 19th December 2006, just before the beginning of the year. As a result of the accident, 50 tonnes of heavy fuel oil spilled into the sea and an unspecified amount reached the coastline.

Just outside EU waters, the sinking and grounding of numerous vessels on 11th November caused major pollution in the Kerch Strait area of the northern Black Sea. A substantial, but unknown amount of oil was spilled, and the area is still feeling the effects.

CHAPTER 5

REGIONAL BREAKDOWN

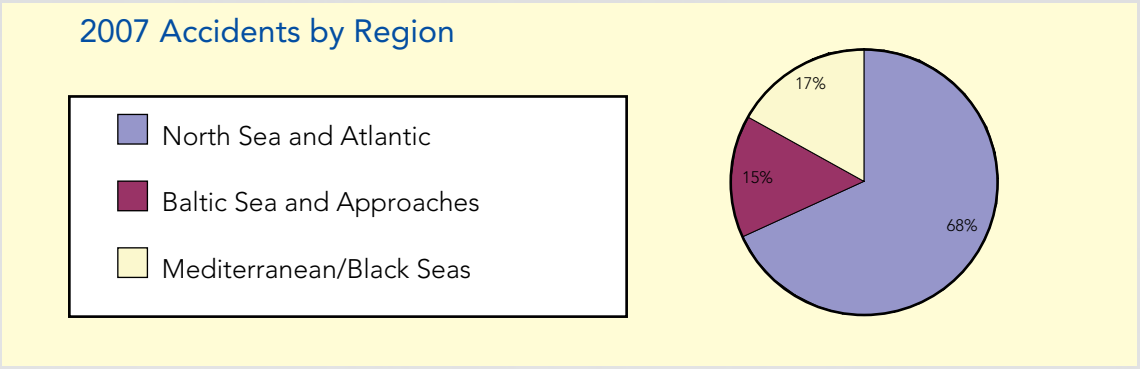
There are significant differences between the various parts of the EU coastline, and this has a significant effect on the number and types of accidents that occur, particularly when the combination of weather and physical features is taken into account. The following sections give an overview of these differences.

5.1 THE ATLANTIC COAST, NORTH SEA AND ENGLISH CHANNEL

5.1.1 Overview

These sea areas comprise the coasts of Norway, western Denmark, north-western Germany, the Netherlands, Belgium, the UK, Ireland, northern and western France, north-western and south-western Spain, Portugal and Iceland. They experience the effects of the weather coming from the North Atlantic Ocean, which is by far the most problematic to shipping in terms of EU related accidents. The weather effects are also complicated by physical restrictions on the huge volume of ships operating between the Atlantic Ocean and northern EU ports, and this is clearly reflected in the figures. The most heavily trafficked part of the region is the English Channel, which occasionally sees significant sinkings, collisions and groundings.

The extensive, complex EU coastline



5.1.2 Accident Analysis

According to the figures, 528 vessels were involved in accidents in the Atlantic sea areas during 2007 (as compared with 357 in 2006), which represents almost 70% of the total number in and around EU waters. Collisions/contacts were by far the most frequently occurring accident type, with over 40% of accidents attributed to this category, although most did not result in significant damage. Of the 55 sinkings recorded in 2007, almost 75% occurred in these sea areas off the north-western and western EU coastlines. The waters off Ireland, Spain and the UK accounted for almost 60% of the total number of sinkings in and around EU waters, with the majority of these being fishing vessels.

Of particular significance, in terms of accidents in general, are the waters around Germany and the UK, which account for almost 50% of the regional total, and for almost 35% of the European total. In the case of Germany, most of the accidents happened in confined channels (see Section 5.1.3).

5.1.3 Accident Blackspots

With respect to accident blackspots, in addition to high profile sinkings, groundings and collisions occurring in the English Channel from time to time, and the other problems mentioned in section 5.1.1, the physically constrained conditions found in port approaches and channels deserve a separate mention, because a disproportionately high number of accidents happen in such places, although these are seldom in the most serious category.

There are a significant number of major ports around the EU coastline, such as Rotterdam (Netherlands), Antwerp (Belgium), Hamburg (Germany) and many others. However, whereas many offer navigational challenges when entering, the combination of frequent bad weather, locks, shallow waters and other obstacles in the approaches to the port of Antwerp via the River Scheldt appear to be the most challenging. This reflects in the accident figures recorded for Belgium and the Netherlands, which show that the waters around

Types of Accident	2007
Sinkings	41
Groundings	128
Collisions/Contacts	218
Fires/Explosions	55
Other Types	86
Total	**528**

THE DANGER OF ROGUE WAVES

A new phenomenon has recently appeared in EU waters, or perhaps it is an old one which has been given better media coverage than before. Rogue waves are those which are much bigger and much more dangerous than others, and they can cause significant damage. The largest of these have been reported by oil rig workers in the North Sea at up to 20 metres high, although smaller ones have inflicted significant damage. On 11th November 2006, two seafarers were killed and another seriously injured while they were working on the main bridge of the tanker Venture after it was hit by a 7 metre wave. A week earlier, on 4th November, the LPG tanker Gitta Kosan was hit by an 8 metre wave off the Norwegian coast, as a result of which an electrical installation was damaged and the ship suffered a complete loss of power. On the night of 21st May 2006, a 13 metre high wave hit the ro-ro ferry Pont-Aven at night. As a result, six passengers received minor injuries, cabins were flooded, windows were smashed, passengers were moved to the upper decks and the ferry was diverted from its initial Plymouth-Santander route to Roscoff. Rogue waves can kill, and while they do not hit very often, they continue to be observed from time to time.

these two countries account for around 12% of the total EU vessel accidents. However, although around 80% of the accidents reported for the two countries during 2007 were contacts, collisions or groundings, it should be noted that the damage caused is usually not serious.

Of all of the canals and other narrow channels around the EU which are navigable by sea going vessels, the one which stands out in the accident statistics recorded by EMSA is the Kiel Canal in Germany, although again the accidents generally do not have serious consequences. The combination of difficult weather conditions, a narrow two stream channel and multiple locks, together with occasional equipment failure and human error in confined spaces, led to a significant number of ship contacts, collisions and groundings in 2007. The great majority of these involved vessels contacting lock and other infrastructure.

5.2 THE BALTIC SEA AND APPROACHES

5.2.1 Overview

The EU coast of the Baltic Sea and its approaches includes the coastlines of Sweden, Finland, Estonia, Latvia, Lithuania, north-eastern Germany and eastern Denmark. The southern and central parts of the Baltic Sea have significantly more shipping traffic than the northern part, and both ship voyages and cargo volumes are increasing, not least due to the transport of crude oil from Russia. The most heavily trafficked areas of the Baltic are the south-western approaches between Denmark and Sweden and the Gulf of Finland. For several months of the year, northern parts of the Baltic are usualy frozen over, and ice-breakers are needed.

Types of Accident	2007
Sinkings	3
Groundings	49
Collisions/Contacts	23
Fires/Explosions	16
Other Types	15
Total	**106**

5.2.2 Accident Analysis and Blackspots

The review sources reported that 106 commercial vessels were involved in accidents in the region in 2007 (as compared to 68 in 2006), and this represents around 15% of the European total for the year. Groundings were by far the most common occurrence, accounting for over 45% of the regional total, but only 3 sinkings were recorded, which is by far the least among the three regions studied. The largest proportion of accidents happened in the south-western approaches off the Danish and Swedish coasts, with these accounting for around 70% of the regional total. Groundings off the Danish and Swedish coasts accounted for around 80% of the total Baltic region groundings in 2007.

With respect to blackspots, a large proportion of the accidents in the Baltic Sea region (groundings in particular) occurred in the heavily trafficked approaches around eastern Denmark. These approaches can be more difficult to navigate than many other areas, particularly when proceeding without a pilot, in bad weather and/or with limited experience of the area. To improve safety, the Danish authorities recommend that ships navigating through the area should comply with IMO Resolution MSC.138(76) when determining pilot requirements.

The EU sector of the Gulf of Finland also has a significant proportion of the accidents in the region. Historically, this has been frozen for much of the winter, but at present, it is seeing much less ice than is normal.

5.3 THE MEDITERRANEAN AND BLACK SEAS

5.3.1 Overview

The EU coastline of the Mediterranean Sea comprises the coasts of Greece, Cyprus, Malta, Slovenia, Italy, southern France and eastern Spain, while the Black Sea comprises the coasts of Romania and Bulgaria. As with the Baltic Sea, the Mediterranean and Black Seas are both enclosed bodies of water. The sea conditions are generally calmer than in more northerly waters, but both are susceptible to violent storms and heavy seas from time to time. A large amount of traffic passes through the Mediterranean Sea, and this goes in two directions. Firstly, the main east-west lanes between the Indian and Atlantic Oceans pass between the Suez Canal and the Straits of Gibraltar. Secondly, the main north-south lanes from the Black Sea pass through the Aegean Sea between Greece and Turkey. There is significant tanker traffic, due to the need to move oil westwards from both the Black Sea and Gulf regions.

Types of Accident	2007
Sinkings	11
Groundings	20
Collisions/Contacts	63
Fires/Explosions	20
Other Types	14
Total	**128**

5.3.2 Accident Analysis and Blackspots

The figures show that 128 commercial vessels were involved in accidents in the Mediterranean area during 2007 (as compared to 110 in 2006), which represents over 17% of the EU total. The majority of EU Mediterranean accidents happened around the extensive Greek and Italian coastlines (around 90%). By far the largest Mediterranean accident category was collisions/contacts, which accounted for around 50% of the regional accident total in 2007 (as compared to around 43% in 2006). A significant proportion of these involved passenger/ro-ro ferries contacting infrastructure while plying the routes between the Greek mainland and its many islands, although most of these did not result in serious damage.

Very few accidents happen in the heavily trafficked east-west shipping lanes between the Straits of Gibraltar and the Suez Canal. The high volumes of traffic entering and leaving the Black Sea via the Turkish Straits results in regular accidents in and around the Bosphorus, but there are relatively few accidents reported in the Aegean area as a result of this traffic.

Accidents in EU Black Sea waters are relatively insignificant, with very few recorded in 2007. It is believed that this probably relates to relatively low traffic volumes off Bulgaria and Romania, rather than to under-reporting. However, the nearby Kerch Strait and Sea of Azov were accident black spots during the year, when a single major storm caused multiple accidents.

Further Information

The EMSA website contains further information on this and all the other activities of the Agency, and it can be accessed at: **http://www.emsa.europa.eu**

Although the information comes from a large variety of sources, EMSA would, in particular, like to thank the following information providers for their input to this review:
European Commission Joint Research Centre
Equasis
Lloyds List/Lloyds MIU
Tradewinds
Fairplay

Photo Credits:
- ***French Navy: 3, 9 (right), 14 (right)***
- ***European Community Shipowners' Association – ECSA: 8***
- ***CMA-CGM: 9 (left)***
- ***Port of Marseilles Authority: 10***
- ***UK Maritime and Coastguard Agency: 13***
- ***CargoLaw: 14 (left)***
- ***Sasemar: 16, 22***
- ***Bourbon: 20***

Statistics/tables/graphs/charts generated by EMSA

Published 2008

European Maritime Safety Agency (EMSA)
website: http://www.emsa.europa.eu