



Round Table "Shipping Safety"

-

Trilateral Stakeholder Analysis

WSF, December 2020



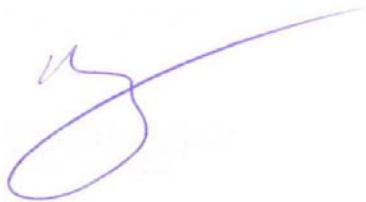
Foreword

The Forum for the trilateral Wadden Sea Region was assigned by the Lower Saxon Wadden Sea National Park Authority to conduct a trilateral stakeholder analysis with regard to the topic "shipping and ports". This report is a concise description of the relevant identified stakeholders and their expectations and interests.

Shipping and harbour developments are important businesses along the Wadden Sea coast and contribute to socio-economic welfare in the Wadden Sea Region. For a healthy future, these sectors should face necessary sustainable improvements, also to reach wide acceptance as growing economic branch.

Despite the considerable progress made in the improvement of shipping safety and the environmental protection measures to minimise maritime pollution, shipping will continue to be a potential source of risk for the Wadden Sea and the adjacent coastline. Recent incidents like accidents, near collisions and the loss of cargo as well as offshore developments, increasing vessel traffic but also the responsibility for the Wadden Sea World Heritage Site require new attention and awareness to the shipping sector.

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1 Executive Summary

The Forum for the trilateral Wadden Sea Region (WSF) was assigned to execute a comprehensive stakeholder investigation for the Lower Saxon Wadden Sea National Park Authority.

At present, the WSF with the support of the Wadden Sea Board (WSB) as political body of the Trilateral Wadden Sea Cooperation is going to establish a Round Table on shipping safety. It is envisaged to elaborate on advices about how shipping safety in the southern North Sea can be improved, considering the vulnerability of the Wadden Sea ecosystem, distinguished as World Heritage site.

On the one hand, this report is aiming at providing an almost complete overview on existing stakeholder groups and networks connected to the "shipping and ports" topics. On the other hand, provides insights in the stakes, motivations and expectations of the identified stakeholder groups in order to better prepare participative schemes.

The report is divided into two main parts: i) stakeholder compilation and ii) description of stakeholders' expectations. The first part concentrates to provide an overview of identified stakeholders in the Wadden Sea Region with a regard to "shipping and ports". The first section describes shortly the different types of stakeholders and their general interests. Afterwards, a long-list of stakeholders is provided. The second part describes an insight in the expectations stakeholders have expressed either during bilateral interviews or by filling-in the online survey. Based on these results the recommendations have been conducted, which are compiled in the last section of the second part.

Concluding, the report displays that more items have to be tackled than solely "shipping safety". The WSB mandate to the WSF focusses on "shipping safety". The variety of stakeholders (governmental and non-governmental) show a variety of expectations, interests and positions according to the broader topic of "shipping and ports". The report elaborated on those diverse aspects. It shows clearly that concentrating on "shipping safety" comes off second best. Further aspects have to be taken into account and to be dealt with in the TWSC sphere. Different approaches are "en route" (such as Single Integrated Management Plan (SIMP), Wadden Sea Team (WST) proposal), but a cohesive strategy is missing. Therefore, the WSF suggests that the Lower Saxon Wadden Sea National Park Authority lobbies for the establishment of a network "shipping and ports" based on existing structures and approaches.

2 Rationale

Shipping and harbour developments are important businesses along the Wadden Sea coast and contribute to socio-economic welfare in the Wadden Sea Region. For a healthy future, these sectors should face necessary sustainable improvements, also to reach wide acceptance as growing economic branch.

Despite the considerable progress made in the improvement of shipping safety and the environmental protection measures to minimise maritime pollution, shipping will continue to be a potential source of risk for the Wadden Sea and the adjacent coastline. Recent incidents like accidents, near collisions and the loss of cargo as well as offshore developments, increasing vessel traffic but also the responsibility for the Wadden Sea World Heritage Site require new attention and awareness from the shipping sector.

National and regional governments as well as the WSF with its stakeholders were made aware of increasing concerns of the society of the Wadden Sea Region about negative impacts by the shipping business. Also the members of the Wadden Sea Advisory Board in Lower Saxony (Beirat für den Nationalpark Niedersächsisches Wattenmeer) experienced in their sectors and municipalities an increasing concern and requested to take initiatives on improvements within the shipping business.

Therefore, the Wadden Sea Forum with the support of the Wadden Sea Board (WSB) as political body of the Trilateral Wadden Sea Cooperation is going to establish a Round Table on shipping. It is envisaged to elaborate on advices about how shipping safety in the southern North Sea can be improved, considering the vulnerability of the Wadden Sea ecosystem, distinguished as World Heritage Site.

The Lower Saxon Wadden Sea National Park Authority might be a participant of the proposed Round Table "Shipping Safety" and, therefore, assigned this report to the Forum of the trilateral Wadden Sea Region in order to develop recommendations for their participation and insights to the expectations and interests of further stakeholders. In order to be well prepared for the attendance of participative schemes of every description, the Lower Saxon Wadden Sea National Park Authority wants to unfold these expectations of other potential attendees.



3 Stakeholder Compilation

3.1 Introduction

A broad range of stakeholders and actors are linked to the topic of “shipping and ports” in the Wadden Sea Region. Moreover, different levels of administration ranging from International institutions such as International Maritime Organisation (IMO) down to regional and local government are also involved. In the Wadden Sea Region, three member states are working jointly on the protection of the Wadden Sea. Thus, these levels have to be included from all member states. International and national based Non-governmental organisations (NGO’s) play an important role for the stimulation and triggering on upcoming topics around “shipping and ports”. As mentioned before, both aspects are interconnected and should not be treated separately.

This section is a compilation of all identified stakeholders and actors, which are in any way linked to the topic of “shipping and ports”. First paragraph is a short description of the applied methodology. The second paragraph will concisely introduce the different types of stakeholders, which display a stake. Finally, the third paragraph provides a comprehensive overview of identified stakeholders and actors in the Wadden Sea Region linked to “shipping and ports”.

3.2 Methodology

The methodological approach taken is based on three steps:

1. Desktop investigation on available information, e.g. internet, existing literature and meeting minutes
2. In-depth interviews with selected stakeholders
3. Online survey across all identified potential stakeholders

First, the WSF secretariat produced a list of stakeholders based on a desktop research. Most of the institutions and organisations having a stake in the “shipping and ports” topic are orbiting around the TWSC. The list was extended based on participant lists of the former shipping working group at the WSF. The identification served to understand and to reveal superficial interests and positions.

Afterwards, bilateral interviews have been conducted. Those interviews are aiming at both getting a deeper understanding of what are urgent and relevant items to discuss and which further organisations and institutions should participate.

Finally, the WSF secretariat conducted an online survey to involve more potential stakeholders and to get a rough impression on the stake and the motivation of additionally denominated stakeholders.

3.3 Short overview on trilateral relevance on shipping safety

3.3.1 Relevant developments in the Wadden Sea protection

This table describes relevant stepping stones for the protection of the Wadden Sea area. Some description are concentrated on Lower Saxony.

Table 1: Summary of important steps for the protection of the Wadden sea area

Year	Content
Before 1917	First areas are designated as protected areas for birds
1978	Start of the Trilateral Wadden Sea Cooperation
1983	Designation as European Protected Area for Birds
1985/1986/1990	Designation as National Parks in Lower Saxony, Schleswig-Holstein, Hamburg
2002	Wadden Sea area designated as Particular Sensitive Sea Area (PSSA) by IMO (MEPC, 101(48), 2002)
2007	Wadden Sea area designated as EU NATURA2000, Bird Directive and FFH Directive
2009/14	Designation as World Heritage site

For further information see chapter 1 "Protection and Management" of the Quality Status Report 2009 published as Wadden Sea Ecosystem No.25 (2009).

Within the Tønder Declaration of the 12th Trilateral Governmental Conference in 2014, the Annex 5 is crucial: PSSA Wadden Sea Operational Plans. The annex is divided into five sections dealing with specific items regarding shipping and ports: i) prevention of accidents, ii) operational pollution, iii) awareness and education, iv) preparedness and response and v) cooperation. Each of those section starts with a description of the objectives 2030 of the TWSC. This paragraph is followed by the explanation of current status and challenges 2030 as well as the enumeration of measures (see CWSS 2014, Tønder Declaration).

3.3.2 Relevant developments according to shipping

3.3.2.1 MARPOL

Relevant international regulations are SOLAS (International Convention for the Safety of Life at Sea) and the International Convention for the Prevention of Pollution (MARPOL). Hereunder, the table summarises the important developments according to MARPOL.

Table 2: MARPOL annexes, content and year of getting into force.

Year	Content
1973	MARPOL came into force
1983	Annex I: Regulations for the prevention of pollution by oil
1983	Annex II: Regulations for the control of pollution by noxious liquid substances and bulk
1988	Annex V: Prevention of pollution by garbage from ships
1992	Annex III: Prevention of pollution by harmful substances carried by sea in packaged form
2003	Annex IV: Prevention of pollution by sewage from ships
2005	Annex VI: Prevention of air pollution from ships

3.3.2.2 SOLAS

Figure 1 provides an overview on the relevant topics and chapters of the SOLAS convention. The abbreviation SOLAS full form is "Safety Of Life At Sea", an international maritime treaty, also known as SOLAS Convention or International Convention for the Safety of Life at Sea (SOLAS), which establishes the least safety measures in the construction, equipment and operation of merchant ships.

IMO SOLAS 74, the last adopted revised convention of 1974, includes a number of regulations under different SOLAS chapters, which deals with safety precautions and safety procedures starting from the construction of the ship to real emergency like – "Abandon Ship". The convention is updated to meet the safety norms in the modern shipping industry over time.

SOLAS CHAPTERS

<p>CHAPTER I General provisions</p>    <p>Survey Documentation PSC</p>	<p>CHAPTER VI Carriage of cargoes</p>    <p>MSDS Loading/ Unloading/ Stowing Grain Cargo</p>
<p>CHAPTER II-1 Construction - Subdivision and stability, machinery and electrical installations</p>    <p>Subdivision machine/ electrical Installation Stability</p>	<p>CHAPTER VII Carriage of dangerous cargoes</p>    <p>Packaged/ Bulk Dangerous Cargo Chemical in Bulk Gas in Bulk</p>
<p>CHAPTER II -2 Fire protection, fire detection and fire extinction</p>    <p>Protection Detection Extinction</p>	<p>CHAPTER VIII Nuclear ships</p>  <p>Nuclear Ship Requirement</p>
<p>CHAPTER III Life-saving appliances and arrangements</p>    <p>Survival Craft Personal LSA Muster Duty</p>	<p>CHAPTER IX Management for the safe operation of ships</p>    <p>ISM Code Certification Verification</p>
<p>CHAPTER IV Radiocommunications</p>    <p>GMDSS Other Radio Equipment Radio Personnel</p>	<p>CHAPTER X Safety measures for high-speed craft</p>  <p>International Code of Safety for High-Speed Craft</p>
<p>CHAPTER V Safety of navigation</p>    <p>Navigational Warning Pilot Transfer Arrangement Steering Gear</p>	<p>CHAPTER XI I & II Special measures to enhance maritime safety & security</p>   <p>ESP/ CSR/ ISPS</p>
<p>CHAPTER XII Additional safety measures for bulk carriers</p>    <p>Damage Stability/ Structural strength Survey Water ingress alarm</p>	

learn.marineinsight.com

Figure 1: Overview on the relevant chapters and content of SOLAS convention. Source: www.marineinsight.com

3.3.2.3 Bonn Agreement

The Bonn Agreement is the mechanism by which ten Governments, together with the European Union, cooperate in dealing with pollution of the North Sea by oil and other harmful substances. The signatories to the Agreement are the Governments of the Kingdom of Belgium, the Kingdom of Denmark, the French Republic, the Federal Republic of Germany, the Republic of Ireland, the Kingdom of the Netherlands, the Kingdom of Norway, the Kingdom of Sweden, the United Kingdom of Great Britain and Northern Ireland and the European Union. Spain was welcomed as a Bonn Agreement Contracting Party at a ministerial meeting in 2019.

The Bonn Agreement is the oldest regional agreement established by governments for responding to pollution incidents. For 50 years (since 1969), it has provided a mechanism by which the North Sea States and the European Union have successfully worked together in combating pollution from maritime disasters and pollution from ships and offshore installations. Under this mechanism, participating states have also carried out surveillance as an aid to detecting and combating pollution at sea in the North Sea Area.

3.3.2.4 PSSA und IMO

Specific regulations for the Wadden Sea, for example according to the Particular Sensitive Sea Area (PSSA) could be found in QSR (2009), Thematic Report No. 3.2, Harbours and Shipping (see Butt et al, 2009, pp. 4 to 5):

“A PSSA is an area that needs special protection through action by IMO because of its significance for recognized ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities” (Resolution A.982 (24)). The International Maritime Organisation’s (IMO) Marine Environment Protection Committee (MEPC) designated major parts of the Dutch, German and Danish Wadden Sea as a Particularly Sensitive Sea Area (PSSA) in October 2002. The PSSA consists of the marine area of the Wadden Sea Conservation Area, being the Wadden Sea National Parks in Germany and the Wadden Sea Nature Protection areas in Denmark and the Netherlands (Figure 2), which covers an area of approximately 12,000 km². The designation of the Wadden Sea PSSA was formally recognised at the Schiermonnikoog Conference in 2005, in which Ministers declared their determination to protect the Wadden Sea from negative impacts from shipping (§14 Schiermonnikoog Declaration). The purpose of a PSSA is to protect an area which has significance for recognized ecological, socio-economic, or scientific attributes and which may be vulnerable to damage by international shipping. Protection for the area is through adoption of IMO recognised Associated Protective Measures (APMs), which should address the vulnerability in such a way as to protect, reduce or eliminate the risk posed by international shipping (IMO Resolution A.982 (24)). The application for the Wadden Sea PSSA included two Associated Protective Measures (APMs), which were the German Bight Traffic Separation Scheme and the Deep Water Route, these are located outside but adjacent to the boundaries of the PSSA. The PSSA concept is not supposed to limit international shipping but

to increase awareness of the areas sensitivity and hence reduce the impact international shipping has on the area.”

3.3.2.5 EU activities

“Since the Wadden Sea PSSA designation in 2002, the International and European communities have introduced several important pieces of legislation aimed at protecting the environment from shipping activities. These policies have and will continue to improve both the standard and safety of shipping, thereby reducing their potential negative impact on the marine environment. For the Wadden Sea, amendments to existing legislation and the introduction of new legislation should also improve the quality of the marine environment. Furthermore the development of the EU Integrated Maritime Policy will assist with bringing countries coastal policies in line with each other, thus encouraging and enabling them to develop further policies together specifically aimed at protecting vulnerable areas such as the Wadden Sea” (Butt et al, 2009, p. 5).

The tanker "MV Erika" (1999) and the "MV Prestige" (2002) accidents encouraged the EU drastically to reform its existing regime and to adopt new rules and standards for preventing accidents at sea, particularly those involving oil tankers. The EU considerably reinforced its legislative arsenal to combat flags of convenience and give Europe better protection against the risks of accidental oil spills. With the Third Maritime Safety Package adopted in 2009, the EU expanded its legislative arsenal covering all chains of responsibility in the maritime sector. The focus now is on proper implementation and enforcement as well as continuous evaluation to ensure that this legislation is fit for purpose. The European Commission can rely on the technical and scientific assistance of the European Maritime Safety Agency (EMSA)“.

3.3.3 Potential threats by shipping

The potential threats, which might be imposed by shipping to the Wadden Sea can be divided into three categories: i) operational emissions, ii) accidental influences and iii) prohibited discharge.

The operational emissions could further be divided into emissions towards the air, water and sea floor. Thereunder, emissions such as CO₂, sulphur or nitrogen oxide are subsumed. The emissions into the water column could be e.g. the discharge of bilge, ballast water or the emission of noise. Waste and heavy metals can be introduced to the sea floor by shipping.

The accidental influences comprise the loss of load or containers such as, recently, the MSC Zoe, but also loss of oil like in the Duncan Island case. Prohibited discharge of lubricant, oil or waste are also reasons for pollution at sea. All these threats show potential harm to the endangered and special natural area of the Wadden Sea.

3.4 Types of Stakeholders and general interests

A rough division of stakeholders was made into governmental and non-governmental organisations and institutions. The governmental part divides further into different levels such as national and federal states respective provinces (NL) or Kommune (DK). For example, shipping lanes in Germany are designated as national waterways (Bundeswasserstraßen) the national Ministry for Transport and Digital Infrastructure with its subordinated authorities are responsible for the management. In The Netherlands and Denmark, national Ministries are responsible: In Denmark, the Danish Ministry of Industry, Business and Financial Affairs contracts the Danish Maritime Authority to conduct specific work in the field of shipping. In The Netherlands, the Ministry of Transport and Water Management assign the responsibility the Rijkswaterstaat, which is a sub-ordinated agency. According to nature conservation, the responsibility lays on federal state level is relevant for the areas of the National Parks Wadden Sea in Germany. The national level creates the basis with the National Law on Nature Conservation (Bundesnaturschutzgesetz).

Furthermore, the supra-national level is listed in section 3.5.3. Therein, the IMO is the important unit for all international shipping management aspects. Further organisations are associations of regions around the North Sea and monitoring and reporting units of the European Union.

Non-governmental organisations have been divided into four parts as follows:

1. Ports and harbours

In the southern North Sea and within the area of the Wadden Sea several ports and harbours are located. Bigger ports such as Wilhelmshaven, Bremerhaven, Cuxhaven, Esbjerg, Delfzijl and Eemshaven are located along the estuaries of the rivers Elbe, Weser, Ems and Jade. Smaller harbours are in the Wadden Sea area and serve as ports for cutters, ferries, logistics for the islands, offshore services or leisure boats. Mainly, the adequate accessibility is crucial for all ports and harbours. Accessibility means a sufficient timespan of the tidal window, navigational depth (draught) and adequate width of the waterway for safe approach of vessels and ships. Bigger harbours are suffering economic competitiveness if the accessibility and the approaching time is enhanced by different regulations. Smaller harbours within the Wadden Sea area are mainly suffering accessibility by sediment accretion and, thus, limited ability to conduct river conservancy or river engineering works. In contrast to ports located at the estuaries, further environmental regulations and, especially for Wadden Sea harbours, the designation of the Wadden Sea area as World Heritage site inflict further considerations.

2. Shipping related Organisations, Commercial shipping

Hereunder, organisations are listed, which are representing different aspects of shipping, e.g. pilots and ship owners. Ship owners are interested on the one hand in a safe and secure navigation to ports and harbours. On the other hand, they are also interested in efficient routing from the origin to the destination of container vessels, bulk carrier and feeder ships. In dangerous or congested waterways such as the southern North Sea, pilots are obligatory at a specific point of the route, especially for the approach to ports and harbours in the estuaries.

3. Organisations, associations with relation to the Wadden Sea

Several organisations and institutions are working in and at the Wadden Sea. These organisations and institutions represent either associations of municipalities or islands (communities) in the Wadden Sea area or nature and environmental protection organisations. In general, the main aims of these groups are the preservation and conservation of the natural status and environmental cohesion of the Wadden Sea but from out different perspectives including distinct purposes. One are interested and concentrating on a coherent and almost natural and undisturbed development of the geomorphological and biological inventory of the Wadden Sea. Others are also interested in a sustainable approach, i.e. attaining a cooperative way between economy and ecology. Further differentiations are made in later sections.

4. Leisure Boat Organisations

The Wadden Sea area is widely used by leisure and sailing boats. Safe and secure navigation is important within the Wadden Sea area, for example in the small creeks and tidal channels between the Wadden Sea islands. However, leisure and sailor boats as well as excursion boats are also using the national waterways and navigation lanes in order to reach their destinations.

Governmental Organisations and Institutions

The stake and responsibility of governmental organisations and institutions depends on their respective department. The environmental departments are responsible for the protection and preservation of the unique Wadden Sea and maritime area. The departments for waterways and shipping are responsible for the easiness and safety of navigation. Coast guards are sub-ordinated and operational units of those departments. The international organisations are responsible either to coordinate and to enable cohesive approaches or to develop and to implement binding regulations worldwide, on European or on Wadden Sea Region level.

3.5 Stakeholder Overview

3.5.1 Non-governmental Institutions and Organisations

3.5.1.1 Ports and harbours in the Wadden Sea

The headline might be confusing, therefore, a short explanation of the main differences between the terms "port" and "harbour": While a harbour and a port may look like similar structures along a coastline, they serve different purposes; a harbour is either natural or manmade; ports are mostly manmade and are bigger and have many facilities; harbours provide safe anchorage to ships in conditions of bad weather and ports are mainly used for loading and unloading of ships.

In this section, only a selection of ports are listed. The listed ports and harbours are more or less representing the bigger units. Furthermore, the most of the listed units are member of the "cooperation of Wadden Sea ports". Within the Wadden Sea there are approx. 40 smaller harbours existing, which show a variety of functions and dimension. Although, these harbours are a shelter or destination for many leisure boats, cutters and other types of boats, to handle the entire amount is ineffective. This does not mean to ignore the potential for incidents and (severe) consequences for the Wadden Sea area, because they are directly located within this endangered area. Many of these smaller harbours are owned and managed by municipalities or, for example, on Lower Saxony by Nports, which is already mentioned in the list.

3.5.1.2 Ports and Harbours

Nation	Information
GER	Brunsbüttel Ports GmbH Glückstadt Port GmbH & Co. KG Elbehafen D - 25541 Brunsbüttel
	Bremenports GmbH & Co. KG Am Strom 2 D - 27568 Bremerhaven
	JadeWeserPort Pazifik 1 D - 26388 Wilhelmshaven
	Niedersachsen Ports GmbH & Co. KG Hindenburgstraße 26 – 30 26122 Oldenburg
	Hamburg Port Authority Leiterin Umwelt- und Naturschutz Neuer Wandrahm 4 D – 20457 Hamburg
NL	Groningen Seaports Postbus 20004 NL - 9930 PA Delfzijl
	Port of Harlingen Waddenpromenade 9-3 NL – 8860 AE Harlingen
	Port of Den Helder Het Nieuwe Diep 33-3 NL – 1781 AD Den helder
	Port Lauwersoog Havens 2 NL – 9976 VN Lauwersoog
	Port of Den Oever Haventerrein 3a NL – 1779 GS Den Oever
DK	Port Rømø Havn Havnekontoret Flyndervej 4 DK-6792 Rømø
	Port of Esbjerg Hulvevejen 1 DK – 6700 Esbjerg

3.5.1.3 Shipping related Organisations

Nation	Information
GER	<p>VDR – Verband Deutscher Reeder Burchardtstr. 24 D – 20095 Hamburg</p>
	<p>Bundesverband der See- und Hafenslotsen Georgstraße 10 D - 27570 Bremerhaven</p>
	<p>Maritimes Cluster Norddeutschland (MCN) e. V. Central Clustermanagement Wexstraße 7 D - 20355 Hamburg</p> <p>Remark: MCN is a German cluster consisting of a diverse bunch of consultancies, companies, organisations and shipyards and many more, which are all related either to shipping or to harbours/ports. With regard to the composition MCN is a relevant stakeholder in the broader field of “shipping and ports”, but not for the Round Table “Shipping Safety”. Although, this topic is touched in their network.</p>
	<p>Maritimes Kompetenzzentrum (MARIKO) gGmbH Bergmannstraße 36 D - 26789 Leer</p> <p>Remark: MARIKO is a competence centre for maritime topics, but focussed on training, conducting projects and event management as a service for the maritime network. Therefore, MARIKO is a valuable and relevant knowledge delivering stakeholder, but not for the Round Table “Shipping Safety”.</p>
DK	<p>Danish Shipping Security, Environment & Maritime Research Amaliegade 33 DK – 1256 Copenhagen</p>
	<p>DanPilot Havnepladsen 3a DK-5700 Svendborg</p>

3.5.1.4 Harbours/Ports related Organisations

Nation	Information
GER	WHV Hafenwirtschafts Vereinigung e.V. Luisenstrasse 5 D – 26382 Wilhelmshaven
	Zentralverband der Seehäfen Am Sandtorkai 2 D – 20457 Hamburg Members: all German Sea Ports at North and Baltic Sea
	Gesamtverband Schleswig-Holsteinischer Häfen e.V. (address see Port of Brunsbüttel) Members: are all ports and harbours of Schleswig-Holstein
	Seaports of Niedersachsen Hindenburgstr. 28 D – 26122 Oldenburg
NL	Waddenzeehavens Kaardebol 8 NL – 9413 DT Beilen
Trilateral/International	Wadden Sea Ports www.waddenseaports.com
	EcoPorts Treurenberg 6 B – 1000 Brussels Members in the Wadden Sea area: Dutch and Lower Saxon seaports, Brunsbüttel



3.5.1.5 Organisations related to Wadden Sea protection

Nation	Information
NL	Waddenvereniging Postbus 90 NL-8860 AB Harlingen
	Samwerkingsverband De Wadden Eilanden Waddenpromenade 1 Postbus 203 NL – 8860 AE Harlingen
	KIMO – NL/B Stationsplein 48B NL – 1948 LC Beverwijk
GER	Schutzgemeinschaft Deutsche Nordseeküste (SDN) (Member of KIMO GER) Windallee 4 D – 26316 varel
	National Park Advisory Board Lower Saxony Virchowstr. 1 D - 26382 Wilhelmshaven
	National Park Kuratorium Nordfriesland
	National Park Kuratorium Dithmarschen
	Insel- und Halligkonferenz e.V. (Member of KIMO GER) Hafenstr. 23 D - 25938 Wyk auf Föhr
	WWF-Wattenmeerbüro Hafenstraße 3 D - 25813 Husum
	BUND Am Dobben 44 D - 28203 Bremen
	NABU Alleestr. 36 D – 30167 Hannover
Jordsand Bornkampsweg 35 D – 22926 Ahrensburg	

	Schutzstation Wattenmeer e.V. Hafenstr. 3 D – 25813 Husum
DK	KIMO DK Bytoften 2 DK – 6800 Varde
	Counceling Board of Danish Wadden Sea c/o The Danish Wadden Sea Secretariat Torvegade 74 DK-6700 Esbjerg <i>Represents the 4 Danish Wadden Sea municipalities and 19 various stakeholders</i>



3.5.1.6 Leisure Boat Organisations

Nation	Information
Trilateral	Soltwaters Wattseglervereinigung e.V. Fleethstrasse 3 D – 27804 Berne
GER	Deutscher Segler-Verband Gründgensstr. 18 D – 22309 Hamburg
DK	Vadehavets Bådclubber <i>(Part of Counseling Board of Danish Wadden Sea)</i> c/o Esbjerg Søsport Fiskerihavnsgade 2A DK – 6700 Esbjerg
NL	Watersportverbond Regiovertegenwoordiger Wadden
	Vereniging Wadvaarders Postbus 6139 NL - 9702 HC Groningen



3.5.2 Governmental Units

3.5.2.1 Coast Guards

Nation	Information
NL	Dutch Coast Guard MHKC Building Rijkszee- en Marinehaven 1 NL – 1781 ZZ Den Helder
DK	Danish Naval Command Herningvej 30 DK-7470 Karup
GER	Havariekommando Gemeinsame Einrichtung des Bundes und der Küstenländer Am Alten Hafen 2 D - 27472 Cuxhaven
	Maritimes Sicherheitszentrum (MSZ) Gemeinsame Einrichtung des Bundes und der Küstenländer Am Alten Hafen 2 D - 27472 Cuxhaven



3.5.2.2 Governmental Bodies related to Shipping

Nation	Information	
GER	<p>Bundesministerium für Verkehr und Digitale Infrastruktur Referatsleiter WS23, Sicherheit in der Seeschifffahrt (representing GER at EMSA) Robert-Schuman-Platz 1 D - 53175 Bonn</p>	
	<p>Generaldirektion Wasserstraßen und Schifffahrt (GWDS)</p>	
	<p>Standort Kiel Kiellinie 247 D – 24106 Kiel</p>	<p>Hannover Am Waterlooplatz 5 D – 30169 Hannover</p>
	<p>Niedersächsisches Ministerium für Wirtschaft, Arbeit, Verkehr und Digitalisierung Friedrichswall 1 D - 30159 Hannover</p>	
	<p>Ministerium für Wirtschaft, Verkehr, Arbeit, Technologie und Tourismus Düsternbrooker Weg 94 D – 24105 Kiel</p>	
	<p>Bundesamt für Seeschifffahrt und Hydrgraphie (BSH) Bernhard-Nocht-Str. 78 D – 20359 Hamburg</p>	
<p>Bundesstelle Seeunfalluntersuchung Bernhard-Nocht-Str. 78 D – 20359 Hamburg</p>		
NL	<p>Ministry of Infrastructure and Water Management Head of Unit for Maritime Shipping (representing NL at EMSA) PO Box 20904 NL – 2500 EX The Hague</p>	
	<p>Regiecollege Waddengebied (Wadden Provinces) Huis voor de Wadden Ruiterskwartier 121A NL – 8911 BS Leeuwarden</p>	
	<p>Rijkswaterstaat Noord Nederland Zuidersingel 3 NL – 8911 AV Leeuwarden</p>	
DK	<p>Dorthe Weesgaard Asbæk Sørensen Specialkonsulent Søfartsstyrelsen Maritim regulering og Jura Carl Jacobsens Vej 31 DK - 2500 Valby</p>	
	<p>Danish Maritime Authority (DMA) Director Safety of Navigation, National Waters (representing DK at EMSA) Caspar Brands Plads 9 DK – 4220 Korsør</p>	

3.5.2.3 Governmental Bodies related to the Wadden Sea

Nation	Information
DK	<p>The Danish Wadden Sea National Park Havnebyvej 30, DK - 6792 Rømø</p>
	<p>Danish Ministry of Environment and Food of Denmark, Environmental Protection Agency Skovridervej 3, Arnum DK-6510 Gram</p>
GER	<p>Ministerium für Energiewende, Landwirtschaft, Umwelt und ländliche Räume des Landes Schleswig-Holstein Mercatorstraße 3 D – 24106 Kiel</p>
	<p>Landesamt für Küstenschutz, Nationalpark und Meeresschutz Schleswig-Holstein (LKN.SH) Schlossgarten 1 D - 25832 Tönning</p>
	<p>Behörde für Umwelt und Energie und NLPV Hamburgisches Wattenmeer Neuenfelder Str. 19 D – 21109 Hamburg</p>
	<p>Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit Referat N I 5 Robert-Schuman-Platz 3 D – 53175 Bonn</p>
	<p>Niedersächsisches Ministerium für Umwelt, Energie, bauen und Klimaschutz Abteilung 2 Naturschutz, Wasserwirtschaft, Bodenschutz Archivstr. 2 D – 30169 Hannover</p>
	<p>Nationalparkverwaltung Niedersächsisches Wattenmeer Virchowstr. 1 D - 26382 Wilhelmshaven</p>
NL	<p>Ministry of Agriculture, Nature and Food Quality Directorate-General Nature, Fisheries and Rural Area Postbus 20401 NL-2500 EK The Hague</p>
	<p>Omgevingsberaad Waddengebied Huis voor de Wadden Ruiterskwartier 121A NL – 8911 BS Leeuwarden</p>

3.5.3 International Organisations related to Shipping

Information
International Maritime Organization (IMO) 4, Albert Embankment London UK - SE1 7SR
European Maritime Safety Agency (EMSA) Head of Safety, Security & Surveillance Praca Europa 4 Cais do Sodre PT - 1249-206 Lisboa
North Sea Commission – Transport Working Group Region Västra Götaland Regionens hus S - 40544 Göteborg

Remark

The previous listing of identified stakeholders, which have a stake in the topic of “shipping and ports” are neither complete nor final. The tables have been compiled by desktop research and hints provided by the interviewees and the responders of the survey. Hence, it might be possible that stakeholder groups have been left, but this is purposeless.

4 Expectations

4.1 Introduction

The interviews and the survey revealed that a variety of items, issues and concerns are linked to the topic of “shipping and ports”. Figure 2 displays an aggregated overview of enumerated aspects. They are ranging from *accessibility* of the ports and harbours to the development and implementation of approaches to *green shipping* and *green ports*. Subsumed under these aspects are several further sub-items. On the one hand, the aspect of *accessibility* touches the point of navigational circumstances as well as adequate conditions within the waterways. It is strongly connected with the question on how to ensure a safe approach of ports and harbours considering environmental friendly engineering methods. On the other hand, the aspect of *green ports* touches the specific item such as providing land-based power supply and free waste disposal in order to avoid waste dumping at sea (see 3.3.2). Several interviewees show great expectations by dealing with the topic of “shipping and ports” at the sphere of the TWSC. Important for nature conservation organisations and authorities is the substantial fill-in of the existing legislation scheme on the PSSA Wadden Sea in order to get an effective legislative arsenal (e.g. adoption of Associated Protective Measures [APM]) for shipping safety.



Figure 2: First draft of a compilation of all mentioned items with regard to shipping and ports. Items mentioned by interviewees from all three Member States.

The short overview on enumerated expectations and interests of different stakeholders indicates that the installation and conduction of a Round Table focussing on shipping safety will come off second best.

4.2 Stakeholders' expectations

4.2.1 Concise summary of the in-depth Interviews

In total, ten in-depth interviews have been conducted. Interviewees ranging from environment to shipping authorities. Further interviewees came from green NGO's and shipping related organisations.

The answers and results of the in-depth interviews are not differing much from the answers of the survey. Important item was the re-vitalisation of the dialogue and the communication between the three member states of the TWSC. Some of the interviewees remembered that special working groups on shipping did exist in former times in the sphere of the TWSC. More or less similar items and topics have been discussed between representatives of the responsible authorities. Since then, the exchange and communication declined to a minimum. Therefore, the initiative of re-vitalising the shipping and ports topic in different ways was highly appreciated. Moreover, some interviewees suggested to treat more than the "shipping safety" issue. It was suggested not to focus solely on the safety issue, but to broaden the scope to more environmental friendlier shipping and the further improvement of sustainable approaches of the Wadden Sea ports and harbours. Furthermore, shipping was identified as a key topic within the Single Integrated Management Plan (SIMP) for the World Heritage site and, therefore, is likely to receive a new ignition. The interviewees provided several hints on further stakeholder groups or authorities as well as organisation, which should be considered in the treatment of the "shipping and ports" topic.

4.2.2 Concise Survey on Shipping and Ports

This section describes selected results of the online survey conducted in the end of 2020. Four questions have been asked in order to get a broader overview on three different aspects. One question was to investigate whether all relevant stakeholder groups have been identified and invited to answer.

More than 50 stakeholder groups have been identified which might show a stake in the topic of shipping and ports. Finally, the WSF received answers of 44% of the total amount of approached stakeholders. Three states are member of the TWSC, therefore, it might also be interesting where the participants of the survey are located: 13 participants are from Germany, six participants are from Denmark and three from The Netherlands. Three ports and two shipping related associations responded. Six green NGO's and three societies for leisure boats have filled-in the survey. Four governmental bodies responsible for shipping and four governmental bodies' responsible for nature conservation (one ministry shows a simultaneous responsibility).

4.2.2.1 What is your stake?

The answers to this question should display whether the stake is based on a legislative power or on the perspective of a user. In that respect, the approaches to deal with issues related to "shipping and ports" differ. Either stakeholders are forced to implement, to enforce and to monitor legal regulations or they perceive shortcomings from a user point of view with limited legal opportunities.

The answers are mirroring the different status of the participating institutions or organisations. Obviously, governmental bodies explain their stake as based on legal rights and regulations. Answers from NGO's and companies or their respective associations are focussing on their specific aims and goals, either nature and environmental protection or business development or maintenance. Furthermore, the answers also displayed the openness and willingness for cooperation at both cross-sectoral and transnational.

4.2.2.2 What is your motivation?

The answers to this question reveal interests and needs behind the official stake. The answers are ranging from, again, the fundamental aims of the organisations such as nature protection or conservation of the World Heritage site to develop and to find joint solutions on the improvement of shipping safety. On the one hand, some participants want to get in closer contact with the governmental bodies responsible for shipping issues in order to start cooperation. On the other hand, it was mentioned to (re-)establish cross-sectoral and transnational cooperation on ministerial level. Additionally, the reference to international organisations or cooperation's such as IMO or DENGERNETH indicates either review or assessment of the performance, efficiency and implementation of existing legal instruments. Concluding, the overall attitude of the answers indicates that cooperation and collaboration on the improvement of the protection of the endangered Wadden Sea is central. Some specific items have been mentioned such as "reducing loss of containers" and "improving waste management". Additionally, some responders stressed that working on ecological friendly and climate neutral shipping is crucial.

4.2.2.3 What is your aim?

The answers to this questions indicates a more detailed insight in the motivations of participants. Mostly, participants want to inform further participants about the own situation and circumstances they are working in. This concern indicates that exchange of information and, based on this, creating a mutual understanding is favoured and a very crucial point. Additionally, participants are interested in building up cross-sectoral and multi-stakeholder networks (as consequences of information exchange and the chance of creating mutual understanding). Some participants explicitly mentioned that they are keen to work on balancing ecology and economy jointly. Some responders mentioned that concrete activities should be taken for fostering the preservation of natural values in the Wadden Sea in cooperation with sound economic (sustainable) development.

4.2.3 Concluding remarks

On the one hand, all participants of the survey expressed their general willingness for cooperation with regard to the topic of "shipping and ports". The possibilities and abilities of participating and cooperating in this topic depends strongly on the legal status of the organisations and institutions. Taking the variety of these stakeholder groups and their different stakes into account the occurrence of frictions and tensions are indispensable. Especially, finding a viable balance between economic interests and ecological requirements will lead to serious discussions. Nevertheless, considering the overall atmosphere of the answers given starting the communication and cooperation is very reasonable.

On the other hand, no serious assumptions could be made on the aims, motivations and stakes of non-responders. Taking the governmental bodies into account, which have not answered the survey, it might be obvious. However, speculations on the reasons of not answering the survey might lead in the wrong direction. Although, not all approached stakeholders have answered the survey, they should, of course, be invited to further activities.

4.2.4 Organisational expectation

In the sphere of the TWSC different approaches and strands are currently active working on the topic "shipping and ports". The WSF is responsible for the organisation and conduction of the Round Table "Shipping Safety" as assigned by the Wadden Sea Board (WSB). The consolidated green NOG's (Wadden Sea Team) in the Wadden Sea area, drafted a proposal to adequately get involved in all different strands, to substantially contribute and to set-up a network dealing with selected items. Moreover, shipping is a key-topic of the Single Integrated Management Plan (SIMP) for the World Heritage site Wadden Sea. To substantiate the SIMP, the CWSS assigned a consultant on compiling current developments on the PSSA, existing legal regulations and the interconnection with the Outstanding Universal Value (OUV). Finally, the consultant delivers recommendations for items to be dealt with in the SIMP and to be discussed at the Round Table "Shipping Safety". The Task Group

Management (TG-M), which is supervising the progress and the implementation of the current valid declaration and connected activities. The Partnership Hub (PH) is somehow involved in the processing of the topic of "shipping and ports". Additionally, several networks are active in developing and implementing green approaches towards a sustainable development in the topic "shipping and ports"¹.

This short enumeration displays that a lot of strands and activities around the topic of "shipping and ports" are executed. The overall aim dealing with the topic "shipping and ports" is to increase the safety of shipping in the adjacent areas of the World Heritage site of the trilateral Wadden Sea and to enable further economic development.

4.2.5 Overall recommendations²

This section contains a draft list of overall recommendations for the Lower Saxon Wadden Sea National Park Authority according to the topic of "shipping and ports". This recommendations are divided into three items such as Communication, Content and Organisation:

- Communication:
 - Re-new communication and start building trust within the respective responsible institutions within sphere of the TWSC with regard to emergency and shipping incidents
 - Raise the awareness for the necessity of joint action with regard to shipping safety, e.g. development and implementation of operational items for PSSA
- Content:
 - Discuss the status and progress since the last joint declaration on shipping issues
 - Assess existing contracts and agreements on their efficiency and effectiveness, discuss on probable adjustments. Fundament has been prepared by the CWSS consulting assignment
 - Identify urgent and relevant topics to be discussed at the Round Table kick-off
 - Do not concentrate on shipping safety only; consider also related items such as noise, PSSA including the adoption of APM, green harbours, sediment management, education of masters and pilots etc.
 - Support the development of a risk management approach, which includes e.g. risk assessment, risk communication, and a "script for vessel accidents"

¹ See Maritime Cluster Northern Germany (MCN), MARIKO, Trilateral Cooperation of Wadden Sea Harbours

² This section is related to the item "recommendations to the Lower Saxon Wadden Sea National Park Authority" in the specification to the assignment with the WSF

- Compile best practice examples the NLPV appreciates in order to promote the progress in selected topics and to indicate opportunities for further development
- Indicate respective projects, plans, intentions linked to shipping issues in which the NLPV is involved
- Support the adjustment and update of the position paper of the Advisory Board of the Lower Saxon National Park on Shipping (which is not online available)
- Main focus in the first phase of the Round Table "Shipping Safety" might be:
 - (Improvement of) maritime navigation systems
 - Guiding and control systems for vessel traffic
 - PSSA: operational plans and management schemes
- Organisation:
 - If the PH is not able to implement or host the "shipping and ports" topic consider the re-establishment of a "Shipping and Ports Working Group" at the Wadden Sea Forum as the Forum for the trilateral Wadden Sea Region able to host and to manage a multi-stakeholder approach
 - Opt for the establishment of the Round Table based on a core team of selected representatives from each member state, which could be subordinated to the "Shipping and Ports Working Group"
 - Potentially support the installation of separate sub-groups or distinct working groups to discuss specific topics in more detail
 - Support the WST proposal in order to substantially deal and contribute to the topical sub-groups linked to the "Shipping and Ports Working Group"

4.3 Concluding remarks on challenges and solution options

In section 3.3.3 existing threats imposed by shipping to the Wadden Sea area have been shortly described. The reasons why these threats are going to happen may differ. Either the discharge of prohibited substances is done on purpose or the loss of containers is a consequence of severe weather conditions and navigation.

An overview of incidents from the 2000's onwards in the southern North Sea shows that many incidents happened. Most of these incidents were collisions with no severe consequences.

Table 3: Incidents between 2005 and 2019 in the southern North Sea, data based on the reports published by the Bundesstelle für Seeunfalluntersuchung³ (BSU), www.bsu-bund.de (access: November 2020).

Year	Name of Vessel	Type	Where?	What?
2005	Liliana Dimitrova	Bulk carrier	Weser/Brake	Explosion
2007	Duncan Island	Container vessel	NL coastal waters	Loss of load
2008	JRS Canis	Container vessel	Elbe, Nordergründe	Loss of load
2008	Hope Bay/ Oceanic	Freighter / Tug	Neuwerk Reede	Collision
2009	Hoegh London/ Maersk Racer/ Maersk Newark	Container vessel	Bremerhaven	Collision
2009	Hoegh London	Container vessel	Weser	Collision
2010	Alexander von Humboldt/ Andrea	Traditional Sailor/ Cutter	Vlieland	Collision
2010	Bertina/ Berend Cornelius	Chemistry Tanker/ Cutter	Helgoland	Collision
2011	Zapadnyy / Rhonesten	Tank Ship/ Chemistry Tanker	Weser	Collision
2011	Hafina Seaways	RoRo-Cargo	Spiekerooog	Fire
2012	Katja	Tanker	Jade	Grounding
2013	Coral Ace/ Lisa Schulte	Bulker/ Container vessel	Neue Weser Reede	Collision
2013	Norfolk Express	Freighter	Outer Weser / Bremerhaven	Grounding
2013	Conmar Avenue/ Maersk Kalmar	Container vessel	Outer Weser	Collision
2013	Merweborg/ Caroline Russ	Freighter	Cuxhaven	Collision
2014	Leonie	Transport ship	Ems Estuary	Stranding

³ Federal Bureau of Maritime Casualty Investigation

2014	P&O Nedloyd Juliana	Container vessel	Pier Bremerhaven	Collision
2014	Stenberg/ Wes Janine	Chemistry Tanker/ Container vessel	Elbe	Collision
2014	Maersk Laberinto/ Maersk Missouri	Container vessel	Port of Bremerhaven	Collision
2014	Wilson Fedje/ Jade	Container vessel / river boat	Port of Bremerhaven	Collision
2014	Pacific Orca/ Jurie van den Berg	Offshore service boat/ Cutter	Borkum	Collision
2015	Bimi/ Barent Zanen	Bagger/ Transport ship	Medem Reede	Collision
2015	Klaus Groth	Cutter	Amrum	Explosion
2015	Sirius	Tanker	Jade	Collision with buoy
2015	Purple Beach	Freighter	German Bight	Fire (chem. reaction of load)
2015	MSC Katrina	Container vessel	Outer Elbe	Fire of load
2016	Weichselstern	Tanker	German Bight	Explosion
2017	Glory Amsterdam	Transport ship	Langeoog	Stranding
2018	Baltic Breeze	RoRo Cargo	Helgoland	Explosion
2019	MSC Zoe	Container vessel	NL Wadden Sea islands	Loss of load

Table 3 is only an excerpt of all incidents that happened in the respective time period. Only incidents with container vessels and bigger ships were extracted. Many other incidents happened with ferries between the islands in the Wadden Sea and with regard to cutters and leisure boats. The table also refers only to incidents in German coastal waters or the German EEZ. Incidents, which happened in Dutch or Danish coastal waters or their respective EEZ have not been retrieved.

Nevertheless, this overview clearly indicates the necessity and importance of the topic "shipping and ports", especially shipping safety, with relation to the preservation of the World Heritage site Wadden Sea and its prevention to severe consequences of such incidents.

Considering this list of incidents in Table 3, it additionally displays that not only international shipping traffic and vessels impose a threat to the endangered Wadden Sea. That means, that concentrating on international shipping traffic and big vessels might also come off second best.

In 2013, the WSF working group "Shipping & Harbour" provided the following (still partly valid) recommendations:

"Recognizing the present and future developments with envisaged increasing risks to the Wadden Sea, the working group "Shipping & Harbour" of the Wadden Sea Forum recommends addressing the further needs in shipping safety to the Trilateral Wadden Sea Cooperation.

It is recommended that the 12th Trilateral Governmental Conference on the Protection of the Wadden Sea on 5 February 2014 in Tønder adopts the document. The working group recommends developing a trilateral system for vessel-traffic monitoring in the German Bight with the aims of: ensuring strict compliance with existing rules; preventing dangerous situations; immediate intervention when a dangerous situation develops despite all efforts to prevent it; and, overall contributing to the implementation of § 36 Sylt Declaration.

This system will build on best practices of vessel management in estuaries and harbour approaches for further voluntary use in the main shipping routes, to support safe and efficient vessel handling. A close cooperation between shipping and port authorities, coast guard and ship owners will contribute to the enhancement of the system. An enhanced vessel monitoring system will enable the coastguards or any other competent administration, to monitor safety of navigation and adherence to the international rules and it will provide safety information to shipping, particularly in crossings of the Deep Water and TE route of the TSS and in harbour approaches.

In particular, it recommends:

- A more comprehensive monitoring of ship traffic using and crossing the traffic separation schemes;
- Implementation of an area-covering AIS and VTS from Northern Denmark to the South of The Netherlands;
- Combining cooperative and non-cooperative monitoring systems at best technique standards to increase the control system;
- Establishing reporting or calling in points (CIP) at places where ships are leaving or entering a vessel traffic scheme;
- Establishing a north to south lane (v/v) between the Deep Water Route and the TE Route (v/v), which vessels have to use when leaving the Deep Water Route destined for, or leaving from ports in the Wadden Sea Region;

- Ensuring there will be ample room between wind farms, traffic separation schemes and anchorage areas;
- Management and monitoring of the tidal windows in the Wadden Sea area and agreement on a protocol between the relevant authorities for the admittance of approaching vessels.
- Expansion of emergency towing capacity in the Wadden Sea Region;
- Introduction of a trilateral vessel traffic management system (VTM) in the Wadden Sea Region as a pilot initiative for regional seas;
- Establishment of a transnational maritime operation centre for monitoring and control.

Besides monitoring and management in shipping safety, additional measures will increase environmental friendly shipping standards. Therefore, it is also recommended to actively strive for/support

- Application of the Bonn Agreement;
- Application of the EU Maritime Transport Policy (according to goals and recommendations of Commission);
- Application of the Ballast Water Convention;
- The Convention on anti-fouling systems, IMO regulations;
- An action plan to deal with micro plastic pollution."

Further solution options are provided on the in-depth investigation of the MSC Zoe and can be found in the report "Veilig containertransport ten noorden van de Waddeneilanden. Lessen na het containerverlies van de MSC Zoe", published by the Onderzoeksraad voor Veiligheid in 2020.

The report "Loss of containers overboard from MSC Zoe, 1-2January 2019" published by Panama Maritime Authority, Dutch Safety Board and Bundesstelle für Seeunfalluntersuchung (2020) publishes on pages 94 to 96 several recommendations in order to improve the shipping safety:

1. The Merchant Marine General Directorate, Panama, the Dutch Safety Board, Netherlands, and the Bundesstelle für Seeunfalluntersuchung, Germany make the following recommendation to **their responsible administrations** in their capacity as representative of the flag states in the various committees of the IMO:

1.1. Revise the existing technical and legal regulations for container ships regarding the design limits of cargo securing equipment, approved loading and stability conditions and the consideration of shallow water effects and speed on ship motions and resulting accelerations and forces. In doing so, especially the following provisions and aspects are to be taken into account:

- IS-Code (Off-design stability conditions for very large containerships and Second Generation Intact Stability started in May 2020)
- Code of Safe Practice for Cargo Stowage and Securing for very large containerships
- Container safety convention (CSC) and ISO 1496-1 Freight containers - Specification and testing respectively
- IMO Circular MSC.1/Circ. 1228 dated 11 January 2007, Revised guidance to the master for avoiding dangerous situations in adverse weather and sea conditions whether it works at all sea conditions.
- Stability booklet, include that all loading conditions should be checked on high accelerations/forces.
- Cargo securing manual, include design limits of the cargo securing equipment in accordance to the design accelerations.

In doing so, the aforementioned authorities should act in such a way that results attained by existing international working groups are incorporated.

1.2. Generate an obligation on all container ships

- 1.2.1. to install electronic inclinometers or similar (inertia) systems to measure and display this information in real-time to the captain/crew, and
- 1.2.2. to install sensors on critical locations on the ship in order to measure accelerations and to provide this information in real-time to the captain/crew in order to allow them to monitor these;
- 1.2.3. and for ships with mandatory equipped VDR to record actual roll angle, roll period and accelerations for the purpose of safety investigations.

Figure 3: Recommendations of the Panama Maritime Authority, Dutch Safety Board and the Bundesstelle für Seeunfalluntersuchung (2020), p. 94.

1.3. Evaluate and assess possible technical solutions that can assist the captain/crew in the detection of the loss of containers and propose international standards for implementation of such solutions.

2. The Merchant Marine General Directorate, Panama, the Dutch Safety Board, the Netherlands, and the Bundesstelle für Seeunfalluntersuchung, Germany make the following recommendation to **the responsible administrations of The Netherlands and Germany**, in their capacity as responsible authorities for the conservation and protection of the Wadden Sea to, in cooperation with the Trilateral Wadden Sea Cooperation:

Ascertain whether the existing tracks of the German Bight Traffic Separation Schemes north of the Wadden Sea have to be adapted, or measures have to be taken particularly for large containerships to maximize the safety of the voyage on the sailing routes. In doing so, the following aspects and hydrodynamic phenomena have to be taken into account:

- Extreme ship motions and accelerations;
- Ships speed;
- Green water effects;
- Slamming;
- Possibility of contact with the seabed;
- Status of the Wadden Sea as Particularly Sensitive Sea Area (PSSA).

If determined that adaptation is necessary or measures have to be taken, the responsible administrations in their capacity as representative of the flag states in the various committees of the IMO, should propose an amendment and/or measures for the above mentioned existing tracks.

3. The Merchant Marine General Directorate, Panama, the Dutch Safety Board, Netherlands, and the Bundesstelle für Seeunfalluntersuchung, Germany make the following recommendation to **the shipowning company MSC**:

- In the construction and operation of ships, reduce high acceleration forces, which can cause damage to crew, passengers and cargo, by installing eg. bilge keels or anti-roll tanks or stabilizers or setting operational stability limits eg by limiting the operational GM.
- Raise awareness and develop guidelines to the Masters and Navigational Officers on sailing with a high stability and the hydrodynamic phenomena that may be encountered in the sailing routes north of the Wadden Sea.

Figure 4: Recommendations of the Panama Maritime Authority, Dutch Safety Board and the Bundesstelle für Seeunfalluntersuchung (2020), p. 95.

4. The Merchant Marine General Directorate, Panama, the Dutch Safety Board, Netherlands, and the Bundesstelle für Seeunfalluntersuchung, Germany make the following recommendation to **the World Shipping Council** and **the International Chamber of Shipping**:

- Communicate actively the lessons from this safety investigation;
- Propagate industry standards and principles that will increase the safety of container transport;
- Start an initiative for innovation in ship design, to work towards hull and/or lashing system designs that are better suited for the conditions as described in this report.

Figure 5: Recommendations of the Panama Maritime Authority, Dutch Safety Board and the Bundesstelle für Seeunfalluntersuchung (2020), p. 96.

5 Summary

The Forum for the trilateral Wadden Sea Region was assigned to execute a comprehensive stakeholder investigation for the Lower Saxon Wadden Sea National Park Authority.

Despite the considerable progress made in the improvement of shipping safety and the environmental protection measures to minimise maritime pollution, shipping will continue to be a potential source of risk for the Wadden Sea and the adjacent coastline. Recent incidents like accidents, near collisions and the loss of cargo as well as offshore developments, increasing vessel traffic but also the responsibility for the Wadden Sea World Heritage site require new attention and awareness from the shipping sector.

National and regional governments as well as the Wadden Sea Forum with its stakeholders were made aware of increasing concerns of the society of the Wadden Sea Region about negative impacts by the shipping business. Also the members of the Wadden Sea Advisory Board in Lower Saxony experienced in their sectors and municipalities an increasing concern and requested to take initiatives on improvements within the shipping business.

Therefore, the Forum for the trilateral Wadden Sea Region with the support of the Wadden Sea Board as political body of the Trilateral Wadden Sea Cooperation is going to establish a Round Table on shipping. It is envisaged to elaborate on advices about how shipping safety in the southern North Sea can be improved, considering the vulnerability of the Wadden Sea ecosystem, distinguished as World Heritage site. Many recommendations and activities have already been taken in the past years, now it is time take the next step for the improvement.

Taking the aim of this assignment into account, the report displays that more items have to be tackled than solely "shipping safety". The variety of stakeholders (governmental and non-governmental) show a variety of expectations, interests and positions according to "shipping and ports". The report elaborated on these aspects. It shows clearly that concentrating on "shipping safety" comes off second best. Further aspects have to be taken into account and to be dealt with in the TWSC sphere. Different approaches are "en route", but a cohesive strategy is missing. Therefore, the WSF suggests that the Lower Saxon Wadden Sea National Park Authority lobbies for the establishment of a network "shipping and ports" based on existing structures and approaches.

Finally, the participation of the Lower Saxon Wadden Sea National Park Authority at the Round Table "Shipping Safety" depends on the decision of the respective Ministry of Environment in Lower Saxony and its terms of reference. The installation of sub-groups will definitely offer the possibility to get adequately involved in the development of respective solution approaches for specific items.

6 Literature

Butt, N., Wright, P., Vigar, N. (2009): QSR 2009. Thematic Report No. 3.2. Harbours and Shipping. Wadden Sea Ecosystem No. 25.

CWSS (2009): Quality Status Report 2009 published as Wadden Sea Ecosystem No. 25

CWSS (2014): Tønder Declaration. Ministerial Council Declaration of the 12th Trilateral Governmental Conference, Annex 5: PSSA Wadden Sea Operational Plans.

Dutch Safety Board (2020): veilig containertransport ten noorden van de Waddeneilanden. Lessen na het containerverlies van de MSC Zoe.

Panama Maritime Authority, Dutch Safety Board, BSU (2020): Loss of containers overboard from MSC Zoe. 1-2 January 2019.

