



Marine pollution in container shipping

the MSC Zoe-calamity (2019): 342 containers overboard
in the Wadden Sea, a UNESCO World Heritage Site

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Introduction

Dear Ladies and Gentlemen,

I am Frank DE BOER and I am a representative of FNP, the Frisian National Party from the Netherlands. In January 2019 a disaster took place with the megaship MSC Zoe near the Wadden Sea area, a UNESCO World Heritage Site. The Wadden Sea is the largest tidal flats system in the world, where natural processes proceed largely undisturbed. It extends along the coasts of Denmark, Germany and the Netherlands. Nowhere else in the world is there such a dynamic landscape with a multitude of habitats, shaped by wind and tides. Global biodiversity is reliant on the Wadden Sea.

Content of this presentation

In this presentation I will

- (1) go into the case of the MSC Zoe,
- (2) why it lost so many containers,
- (3) what has been done already and what more must be done

The Wadden Sea area, a UNESCO World Heritage Site

But before that, I will show you what the Wadden Sea looks like.

VIDEO Wadden Sea <https://www.youtube.com/watch?v=JuJH6SL9f3w>

What happened with the MSC Zoe?

Let us first look at what happened in the night from 3-4 January 2019 and the weeks and months afterwards. Next to the authorities and many volunteers, the Waddenvereniging, which is an NGO working for the protection of the Wadden Sea area, was involved in cleaning up the waste that came from the 342 containers that went overboard. They allowed me to share this video with you.

VIDEO CleanUpXL: https://www.youtube.com/watch?v=WOFKXWzrD_s

As you can see, the wide beaches of the Wadden Islands were covered with all sorts of waste, and so were parts of the mainland coast. The people in the northern part of the Netherlands are angry about the disaster and worried that this may happen again.

EUROPEAN CONFERENCE: '20 YEARS AFTER THE PRESTIGE ACCIDENT: ANALYSIS OF MARITIME SAFETY IN EUROPE', EUROPEAN PARLIAMENT, 16 NOVEMBER 2022: PRESENTATION FRANK DE BOER (FNP)



Many politicians in Fryslân, the Netherlands and in the EU stood up to ask for firm measures, including more port inspections, better stowage/locking measures for the containers, prescribing trackers/geolocators on containers, a better liability regime for the costs of cleaning up and closing of the southern shipping lane that is closest to the Wadden Sea area during storm conditions.

Causes of the accident

Picture ship size

Why did the MSC Zoe lose so many containers in the first place? And why did the crew notice only at a very late stage that containers had gone overboard? This has to do with the size of the modern megaships, which have grown enormously over the past decades.

The MSC Zoe was the largest container disaster in the Wadden Sea area, but every year several containers go missing here. The World Shipping Council estimated in 2017 that every year more than 1.500 containers were lost worldwide.

Here you see a map that shows the depth of the sea bed along the Wadden Sea coast. The shallowness is one of the main reasons for the accident.

Picture depth Wadden Sea area

A safety investigation was undertaken by the Dutch, German and Panamese authorities and many research reports were commissioned.

Model tests show that these megaships are extremely vulnerable to the wave conditions in the shallow area near the Wadden Sea. Wind, waves and the shallow waters create extreme movements and tensions on the ship, as is shown in model tests.

VIDEO Model test MARIN (<https://www.youtube.com/watch?v=6uZtjy2OY3E>, at 1:30)

There are four mechanisms at play that can lead to container loss: (1) Extreme movements of the ship; (2) Contact with the sea bed; (3) Direct wave impact on the ship and (4) Green water, which is the large quantity of water on a ship's deck as a result of massive waves during storm. Because the crew of the MSC Zoe had no good view on the ship as a whole during storm conditions, it noticed only very late that it had lost its containers.

What was already done and what more must be done?

The Dutch government closed an agreement with the shipowner MSC about the cleaning costs. New rules on the liability of shipowners in the open sea would be welcome to cover for the full costs of cleaning up the waste.

There is increased awareness of stowage practice and extra inspections take place by the Dutch port authorities. According to a report from 2019, the practice on 67% of ships in Rotterdam did not comply with the (international) regulations. Especially the weight distribution and the locking of the highest containers is problematic.



The EU should reconsider its block exemption for container shipping. The ongoing concentration of shipowners, increased size of ships, the rising costs of shipping for customers and rising profit for the shipowners, the public costs related to the scaling up of ports and waterways, the pressure on workers to ensure fast loading and the vulnerability of being dependent on only a few consortia merit a thorough reassessment of the existing rules.

There is a new active warning policy by the Dutch and German Coastguards, providing more detailed information to ship captains. The possibilities for more intense Vessel Traffic Service are being explored.

Extra rules on equipment on ships to increase safety are under way, such as mandatory inclinometers, that measure the rolling of the ship.

The IMO is already working on new rules on reporting lost containers, which may be adopted by the spring of 2023. Additional rules on the use of trackers/geolocators that allow for the relocation of containers should be adopted.

Closing off the southern shipping lane in storm conditions is only possible if there is consensus in the International Maritime Organisation (IMO), this seems not feasible. However, a better balance between shipping interests and the protection of the Wadden Sea, which is a UNESCO World Heritage site, a Natura2000-area and a Particular Sensitive Sea Area under maritime law, should be struck.

All of these measures that can increase the maritime safety of container shipping require close cooperation between the Member States and the EU, also within the International Maritime Organisation (IMO). The review of EU maritime law should take into account the lessons learnt from the MSC Zoe disaster.