

MARPOL Annex V-related deficiencies recorded in the Paris MoU Mediterranean ports



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Mediterranean:

- Covers 0.7% of the world's ocean area**
- Little semi-closed sea, rich in islands and underwater beds and also a major area of wintering, reproduction and migration**
- One of the major reservoirs of marine and coastal biodiversity:**
 - 28% of endemic species**
 - 7.5% of the world's marine fauna and 18% of its marine flora**

Source: <https://www.rac-spa.org/biodiversity>

Degradation of biodiversity due to:

- Uncontrolled and intensive urbanization
- The overexploitation of resources
- The proliferation of introduced species
- Maritime transport
- Pollution

Source: <https://www.rac-spa.org/biodiversity>

Among 1912 species of amphibians, birds, cartilaginous fishes, endemic freshwater fishes, crabs and crayfish, mammals, dragonflies and reptiles in the Mediterranean region evaluated by the International Union for Conservation of Nature:

about 19% of these species are threatened with extinction: 5% Critically Endangered, 7% Endangered and 7% Vulnerable.

Source: <https://www.rac-spa.org/biodiversity>

One of the main challenges: marine litter (particularly plastic)

-the Mediterranean holds only 1% of the world's waters and 7% of global microplastics

-plastic pollution can impact key economic sectors in the Mediterranean, especially fisheries and tourism

-In the Mediterranean Sea, 134 species (fish, sea turtles, mammals and seabirds) are victims of plastic ingestion

-All the sea turtle species living in the Mediterranean have ingested plastics. Up to 150 plastic fragments have been found in some specimens

Source: <https://wwf.panda.org/?328836/out-of-the-plastic-trap>

Environmental effects of maritime transport have been addressed by numerous measures, which can be categorized into five types:

**regulations and enforcement,
technological solutions,
regional and international initiatives,
incentive and awarding
awareness**

Source: Walker, T.R., Adebambo, O., Del Aguila Feijoo, M.C., Elhaimer, E., Hossain, T., Edwards, S.J., Morrison, C.E., Romo, J., Sharma, N., Taylor, S., Zomorodi, S., 2019. Chapter 27 - Environmental Effects of Marine Transportation, in: Sheppard, C. (Ed.), World Seas: An Environmental Evaluation (Second Edition). Academic Press, pp. 505–530.

MARPOL Annex V seeks to eliminate and reduce the amount of garbage being discharged into the sea from ships

The Mediterranean Sea area is the special area under Annex V

Compliance with environmental regulations is still an issue in maritime transport

Compliance area: garbage

Job conditions perceived to be harmful in environmental compliance

- Heavy workload**
- Poor communication (shore-side of management and across line management on board the company's ships)**
- Lack of support from colleagues**
- Lack of support from managers**
- Criminalisation**
- Job insecurity**
- Exposure to offensive smell and pathogens**

Akamangwa, N., 2016. Working for the environment and against safety: How compliance affects health and safety on board ships. *Safety Science* 87, 131–143.



The role of the Port State control (PSC) is to ensure that foreign-flagged ships are in compliance with the requirements of the international conventions

-the PSC officers collect information, scrutinise documents and through visual observation ascertain whether there is a risk of pollution of the sea

the Paris MoU Database THETIS

- 1 July 2016 until 30 June 2019
- 17614 inspections of 11419 ships were executed in Mediterranean Paris MoU ports (Croatia, Cyprus, France, Greece, Italy, Malta, Slovenia, Spain)
- during 8884 inspections of 6185 ships deficiencies were observed (54,2% of ships had deficiencies)
- during 1741 inspections (19,6%) of 1535 ships deficiencies related to pollution prevention including MARPOL, anti fouling and ballast water were observed
- during 600 inspections of 561 ships deficiencies related to the MARPOL ANNEX V were recorded (6,7% of all inspections with deficiencies and 34,5% of inspections with deficiencies related to pollution prevention)

- during examined period 697 detentions occurred**
- 290 detained ships had deficiencies related to pollution prevention including MARPOL, anti fouling and ballast water**
- in 92 occasions ships that were detained had deficiencies related to the Annex V (13,2% of all detentions)**
- during 19 inspections 20 deficiencies related to the pollution prevention were marked as a ground for a detention**
- there were not detentions based solely on the MARPOL V-related deficiencies**

Deficiency area		Total number of deficiencies with remarks	Number of deficiencies marked as a ground for detention with remarks
145-Pollution Prevention-MARPOL Annex V			
14501	Garbage shipboard handling	37 Lack of familiarity (12) Not as required (25)	14 Not as required (11) Lack of familiarity (3)
14502	Placards	9 Not as required (2) Missing (5) Incorrect (2)	-
14503	Garbage management plan	39 Not as required (30) Missing (7) Incorrect (2)	1 Not as required
14599	Other (MARPOL Annex V)	11	4

+1
Garbage
Record
Book

missing

Targeting?

Ship type	Number of detained ships
General cargo	42
Bulk carrier	16
Container	4
Refrigerated cargo	1
Ro-Ro passenger	4
Oil tanker	9
Other special activities	2
Livestock carrier	5
Ro-Ro cargo	1
Offshore supply	2
Gas carrier	1
Commercial yacht	5

-the most prominent are general cargo ships and bulk carriers, in accordance with the general view that substandard ships are concentrated in these sectors

Ship`s age (years)	Number of detained ships
0-10	6
11-20	27
21-30	28
31-40	19
>40	12

-in accordance with findings that the age of a ship is one of the most important factor in predicting ship quality

Flag State	No of detentions
White list	
United Kingdom	1
Cyprus	3
Antigua	2
Liberia	3
Malta	4
Panama	23
Russian Federation	1
Turkey	2
Portugal	3
Marshall Islands	1
Italy	2
Gibraltar	1
Barbados	2
	48

Grey list	
Vanuatu	2
Tunisia	1
Samoa	1
Egypt	1
Saint Vincent and the Grenadines	1
	6

Non-listed	
Guinea	1
Bahrain	1
	2

Black list	
Albania	2
Togo	10
Palau	2
Belize	4
Sierra Leone	6
Comoros	4
Cook Islands	1
Tanzania	3
Moldova	2
	34

-it seems that ships detained or with many deficiencies change flag in order to avoid future inspections

53% of detained ships fly a white listed flag

A harmonised approach is desirable

Port State	No of detentions	No of detentions /No of inspections (%)
Croatia	1	0,099
Cyprus	3	0,847
France	0	0
Greece	30	0,990
Italy	33	0,770
Malta	3	0,488
Slovenia	1	0,245
Spain	21	0,451
	Total 92	Average 0,522

It is important to implement other measures, like raising awareness about impact of marine litter:

-maritime stakeholders are faced with a challenge to communicate environmental information in a way that will affect on-board practices

-It is important to tailor messages to the existing attitudes, values, and perceptions and make them understandable, relevant, and personally important

-for example, messages focusing on public health consequences resonate more than messages focusing on environmental problems



Thank you for your attention