

# **REPUBLIC OF THE MARSHALL ISLANDS**

Maritime Administrator

## **ANNUAL REPORT ON MARINE SAFETY INVESTIGATIONS 2020**

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## Message from the Republic of the Marshall Islands Maritime Administrator

**Hans Molver**

*Deputy Commissioner of Maritime Affairs*



It was a busy and unique year due to the ongoing challenges and restrictions put in place due to the Coronavirus disease (COVID-19) pandemic. The Republic of the Marshall Islands (RMI) Maritime Administrator (the “Administrator”) had to adapt and adjust how investigations were carried out. The availability of global resources, through a network of worldwide offices, allowed us to continue to thoroughly investigate all reported incidents while leveraging technology whenever necessary. The Administrator remains dedicated to the improvement of marine safety through the continued output of marine safety investigations reports, marine guidelines, and marine safety advisories published as a result of our findings. The purpose of this report is to provide owners, managers, and crewmembers with information pertaining to marine safety investigations which may be useful to promote marine safety and environmental protection.

During 2020, the Administrator investigated 726 reports of very serious marine casualties, marine casualties, marine incidents, and occurrences, compared to 806 reported incidents during 2019. Tragically, 13 of the 16 very serious marine casualties reported during the year resulted in loss of life. The continual reduction in the severity of incidents reported to the Administrator is a testament to everyone’s dedication and, especially, the seafarer’s perseverance during these unusual times. We thank the owners, managers, and crewmembers of RMI-registered vessels for their continued dedication to promoting crew welfare, marine safety, security, and the protection of the marine environment.

## Principles of Marine Safety Investigations

Marine safety investigations are conducted in accordance with the *RMI Maritime Act* (MI-107), *RMI Maritime Regulations* (MI-108) (Chapter 6), *RMI Rules for Marine Investigations* (MI-260), and the *Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident* (the “Casualty Investigation Code”).

Under the Casualty Investigation Code, marine safety investigations are conducted to determine the causal factors of the casualty, with the objective of preventing similar casualties or incidents in the future, and to make safety recommendations, as necessary. Marine safety investigations do not seek to apportion blame or determine liability.

All reports to the Administrator are classified in accordance with the following:<sup>1</sup>

1. **Very serious marine casualties** are those involving loss of life, total loss of the vessel, or significant environmental damage.
2. **Marine casualties** are events, or a sequence of events, directly in connection with the operation of the vessel, that have resulted in serious injury, loss or material damage to the vessel, grounding or disabling of the vessel, collision or allision, and severe damage to marine infrastructure or to the environment.
3. **Marine incidents** are events, or a sequence of events, other than a marine casualty, which have occurred directly in connection with the operation of the vessel, that endangered, or if not corrected, would endanger the safety of the vessel, its occupants, or the environment.
4. **Occurrences** are other conditions and events which are not marine casualties or marine incidents but require investigation by the Administrator.

Additionally, all reports are assigned a primary incident type based on information obtained during the marine safety investigation. The primary incident type details the nature of the incident which resulted in the very serious marine casualty, marine casualty, marine incident, or occurrence.

This report excludes data pertaining to the investigation of reports of misconduct and other intentional acts by RMI-documented seafarers.

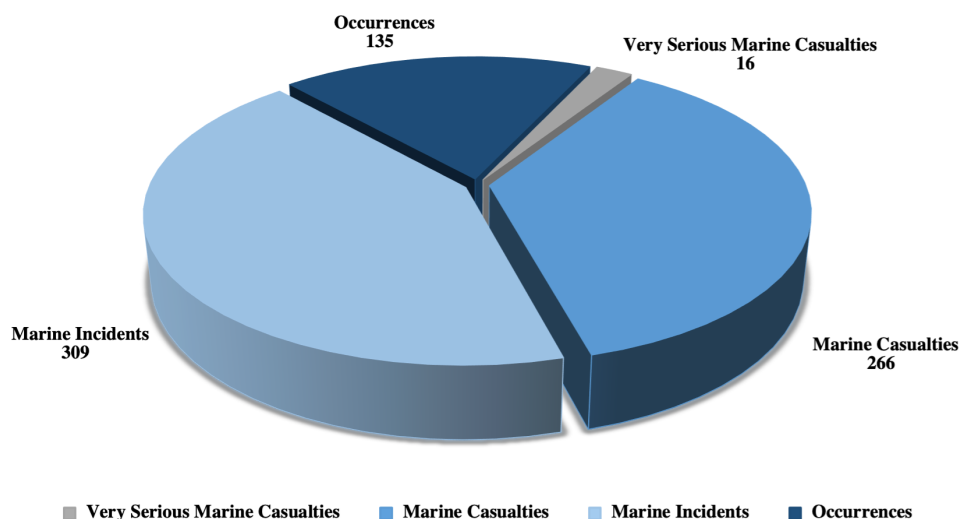
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<sup>1</sup> For complete definitions, refer to MI-108 §6.35.

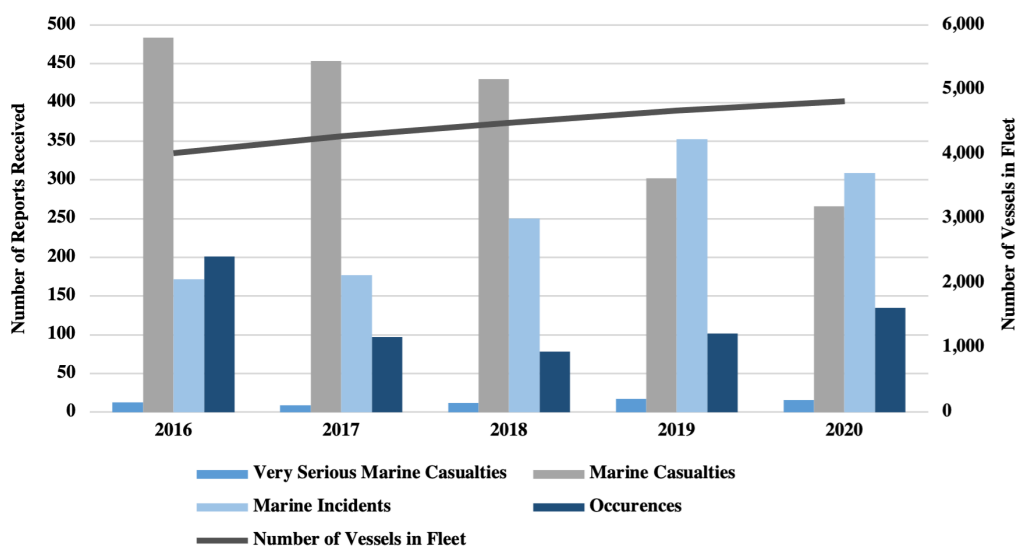
## Section 1: 2020 Year in Review

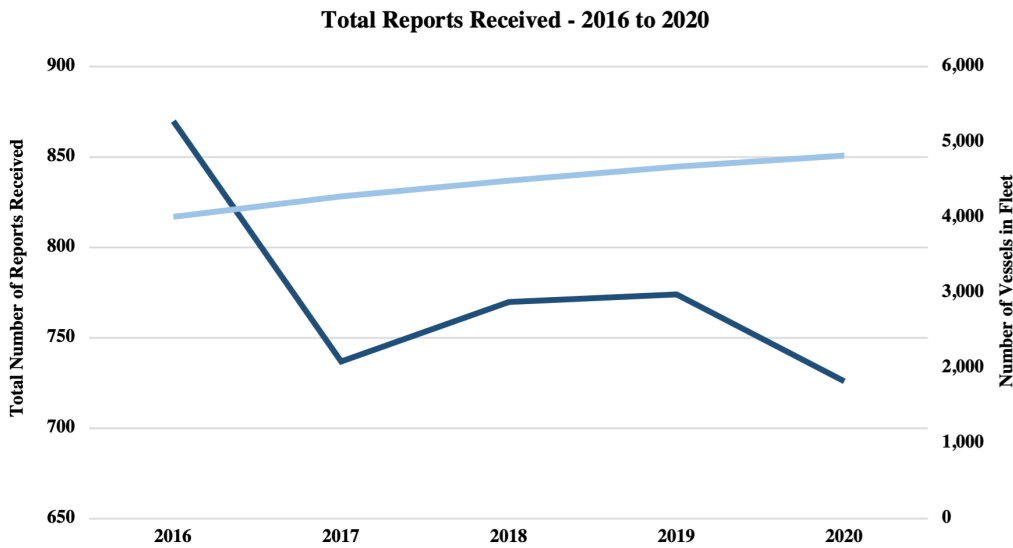
During 2020, there were 726 very serious marine casualties, marine casualties, marine incidents, and occurrences reported to the Administrator, 80 less than reported during 2019.

Reports to the Administrator During 2020

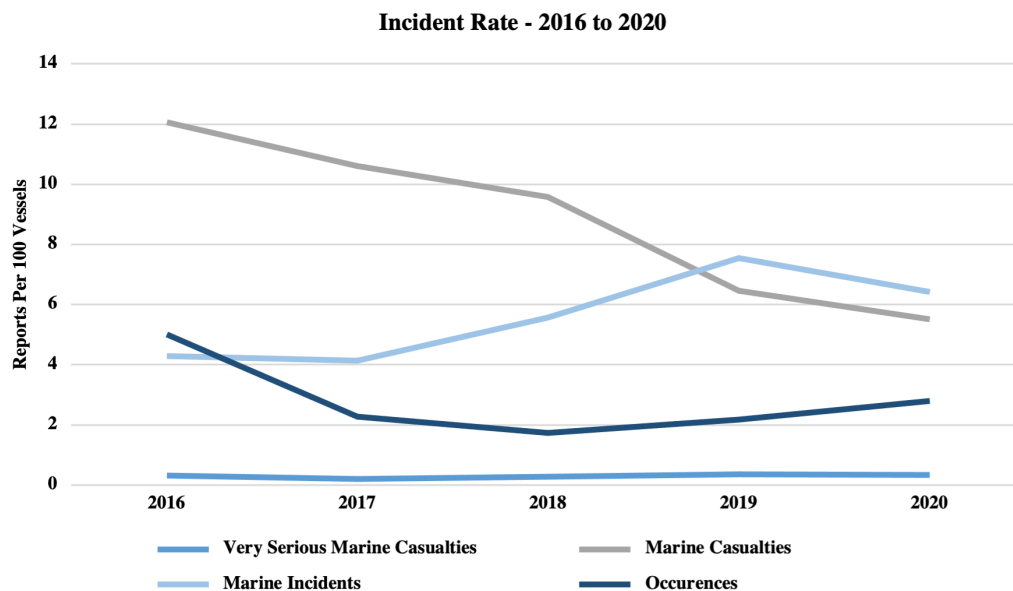


Reports to the Administrator - 2016 to 2020





Total reports of marine casualties have shown a steady decline over the past five years. Marine incidents have fluctuated over the same period but there was a reduction during 2020. The number of occurrences has also fluctuated over the period, with a slight increase during 2020. This downward trend in marine casualties is largely attributed to the reduction in severity of incidents occurring across the fleet. This is a direct reflection of improved training and safety awareness of vessels' crewmembers, as well as the dedication to safety and environmental protection by the owners and managers of vessels in the RMI fleet.

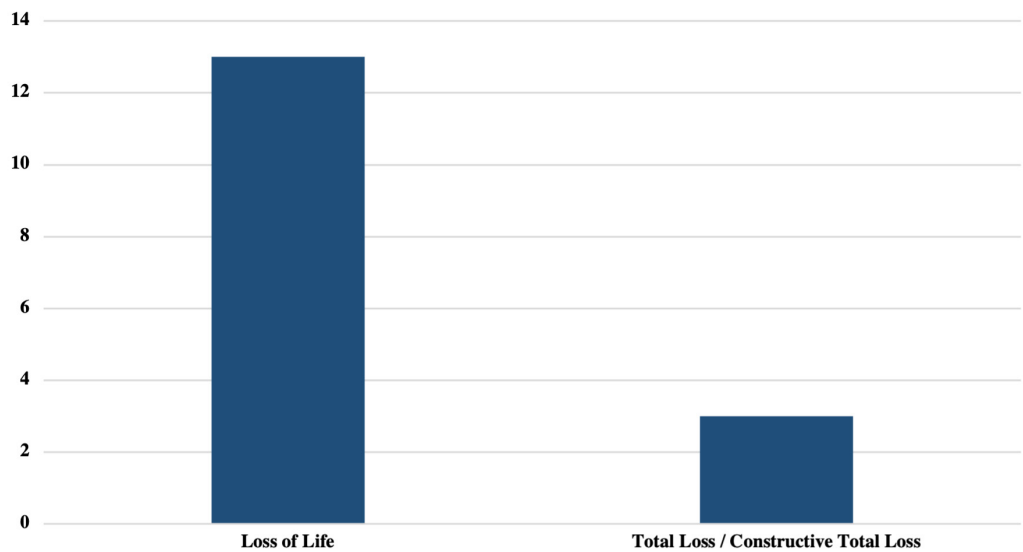


## Section 2: Reports by Incident Classification - 2020

### Very Serious Marine Casualties

During 2020, 16 very serious marine casualties were reported to the Administrator. They involved 14 merchant vessels and two yachts, with 13 of the very serious marine casualties resulting in loss of life. Falls (including from height, on stairs, and overboard) continue to be the leading causes of occupational fatalities.

Three of the very serious marine casualties resulted in the total loss or constructive total loss of the vessel. One bulk carrier was declared a constructive total loss after grounding, one yacht was declared a constructive total loss following a fire, and the other yacht sank. Additional data pertaining to very serious marine casualties can be found in Appendix 1.

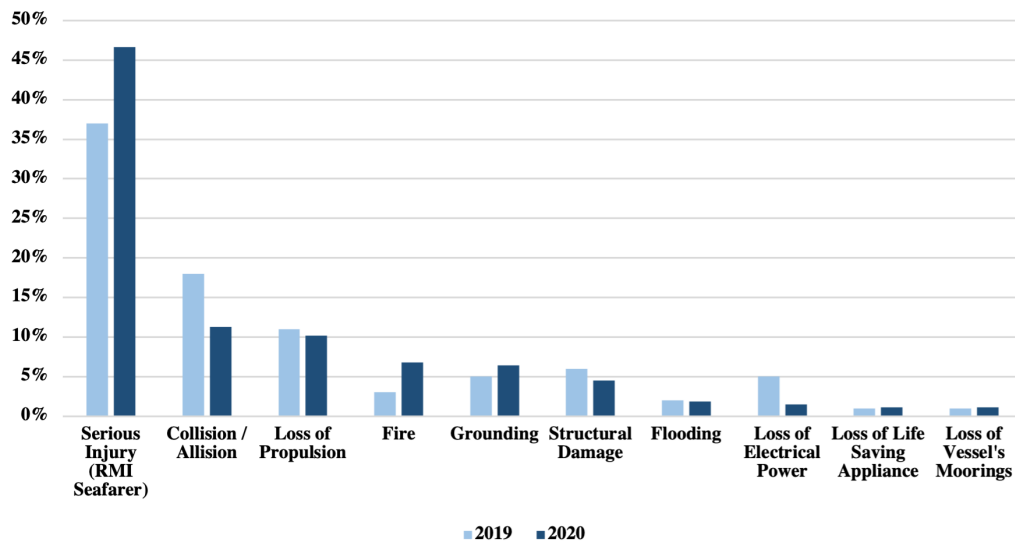


### Marine Casualties

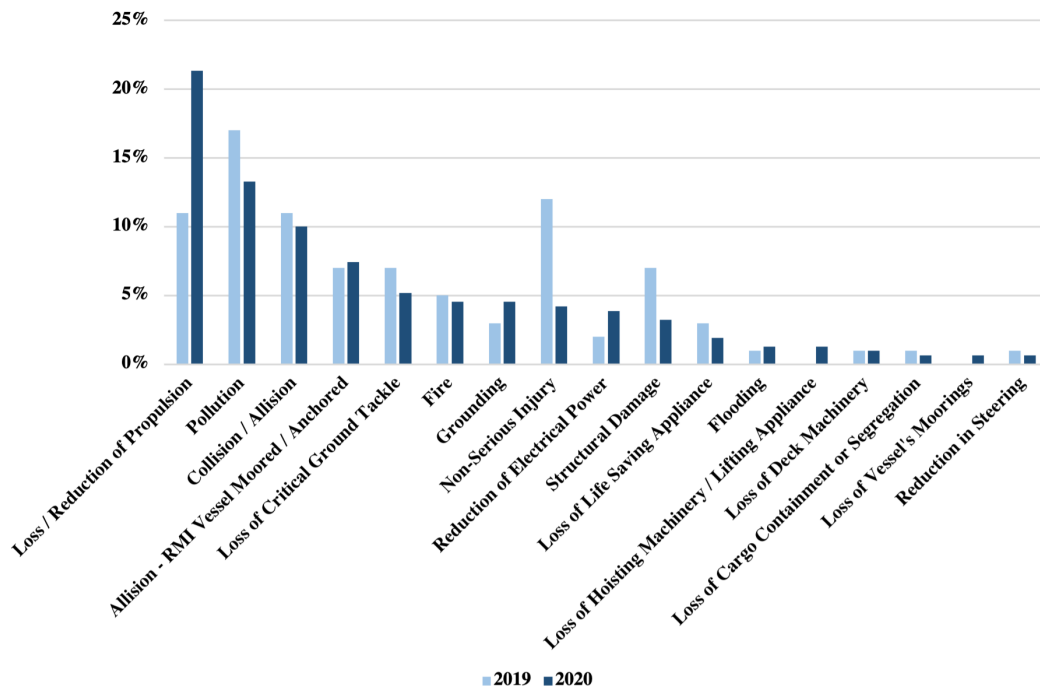
There were 266 marine casualties reported to the Administrator during 2020. These have been classified by the primary incident type and are shown on the below chart as a percentage of the total marine casualties reported during 2019 and 2020.<sup>2</sup> Additional details pertaining to marine casualties, marine incidents, and occurrences reported during the previous years can be found in Appendix 2.

<sup>2</sup> Incident types which accounted for less than 1% of the reported marine casualties are excluded. Values are rounded to the nearest whole percent.



**Marine Casualty Primary Incident Types****Marine Incidents**

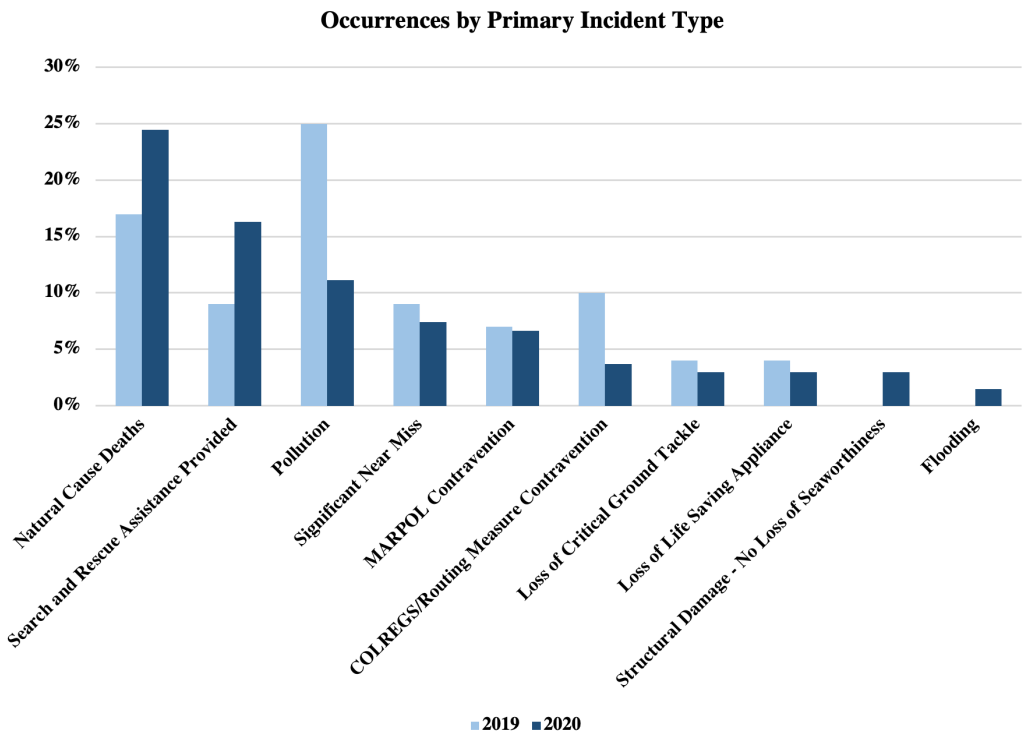
There were a total of 309 marine incidents reported to the Administrator during 2020. These have been classified by the primary incident type and are shown on the below chart as a percentage of the total marine incidents reported during 2019 and 2020.<sup>3</sup>

**Marine Incidents by Primary Incident Type**

<sup>3</sup> Incident types which accounted for less than 1% of the reported marine incidents are excluded. Values are rounded to the nearest whole percent.

Occurrences

There were 135 occurrences reported to the Administrator during 2020. These have been classified by the primary incident type and are shown on the below chart as a percentage of the total occurrences reported during 2019 and 2020.<sup>4</sup> These may include primary incident types which would normally be classified as marine casualties or marine incidents but have been classified as occurrences due to their specific nature and circumstances.



Section 3: Critical Issues

Accidental Falls

During 2020, falls accounted for almost 33% of all occupational fatalities and serious injuries that were reported to the Administrator. Falls (including from height, on stairs, and overboard) remain the leading cause of occupational fatalities and serious injuries on board RMI-registered vessels over the past five years.

RMI [Marine Safety Advisory \(MSA\) 36-20](#) provides additional information regarding common causal factors of falls from height (including overboard), falls on stairs and inclined ladders, and same-level falls. It also includes

<sup>4</sup> Incident types which accounted for less than 1% of the reported occurrences are excluded. Values are rounded to the nearest whole percent.

recommendations intended to assist owners and managers of RMI-registered vessels to prevent additional fatalities and serious injuries due to falls.

Seafarers can fall while either on or off duty and anywhere on board a vessel. Therefore, any effort to reduce the number of falls requires all officers and crew to be constantly vigilant and exercise care whenever they move about their vessel. It also requires that procedures for working from height or over the side are consistently followed.

### **Enclosed Space Entry Incidents**

During 2020, improper enclosed space entry and rescue incidents continued to be the second leading cause of occupational fatalities of seafarers on board RMI-registered vessels. This accounted for the death of two seafarers during two separate incidents. While the number of incidents resulting from improper entry into enclosed spaces has decreased over the past few years, continued vigilance is needed to ensure awareness is maintained across the fleet.

RMI [MSA 23-20](#), provides additional information about common causal factors of enclosed space entry incidents and recommendations aimed at increasing seafarer awareness. Additionally, RMI requirements related to enclosed space entry and rescue are in RMI [Marine Notice \(MN\) 7-041-1](#).

### **Seafarer Wellbeing**

Seafarers have always faced stress while serving aboard vessels; however, the ongoing COVID-19 pandemic has placed a burden on seafarers the likes of which has never been seen before. Seafarers are staying on board longer and facing increased coastal State restrictions which severely limit shore leave and repatriation. This can contribute to fatigue, stress, and a range of other impacts to the seafarer's wellbeing. While this is not directly captured in the data presented in this report, it is likely a causal factor in many of the incidents reported.

It is imperative that all crewmembers aboard RMI-registered vessels are able to identify possible issues relating to a seafarer's wellbeing and be aware of actions that can be taken to assist their fellow crewmember. Early recognition of seafarer distress is the first step in ensuring proper support is provided. Dedication to seafarer wellbeing is the responsibility of every level of an organization, from senior management to the junior most crewmembers on board.

If not already in place, it is recommended that managers of RMI-registered vessels ensure that crewmembers are trained to recognize the signs and symptoms of possible distress or other wellbeing issues and the actions that should be taken. Additionally, it is recommended that crewmembers are aware of resources available to them to assist in dealing with distress and hardships.

## Section 4: MSAs Issued by the Administrator

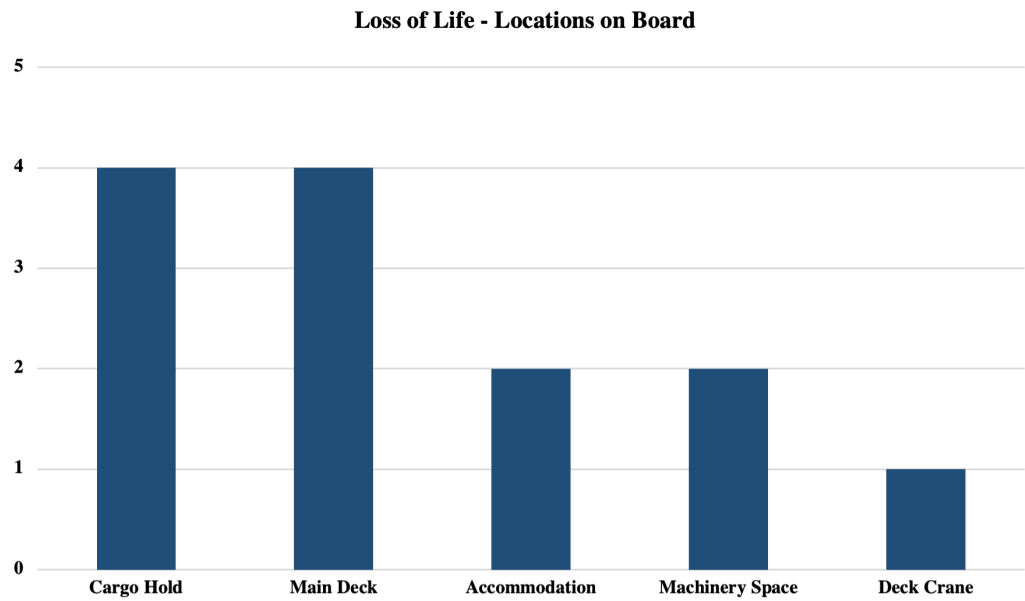
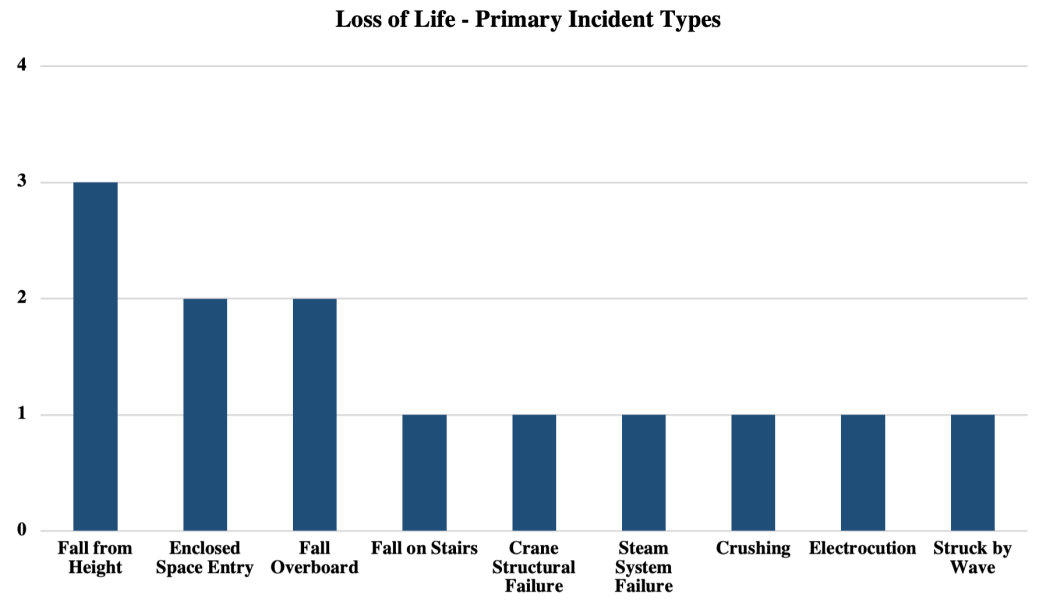
During 2020, the following MSAs were issued in response to incidents reported to the Administrator:

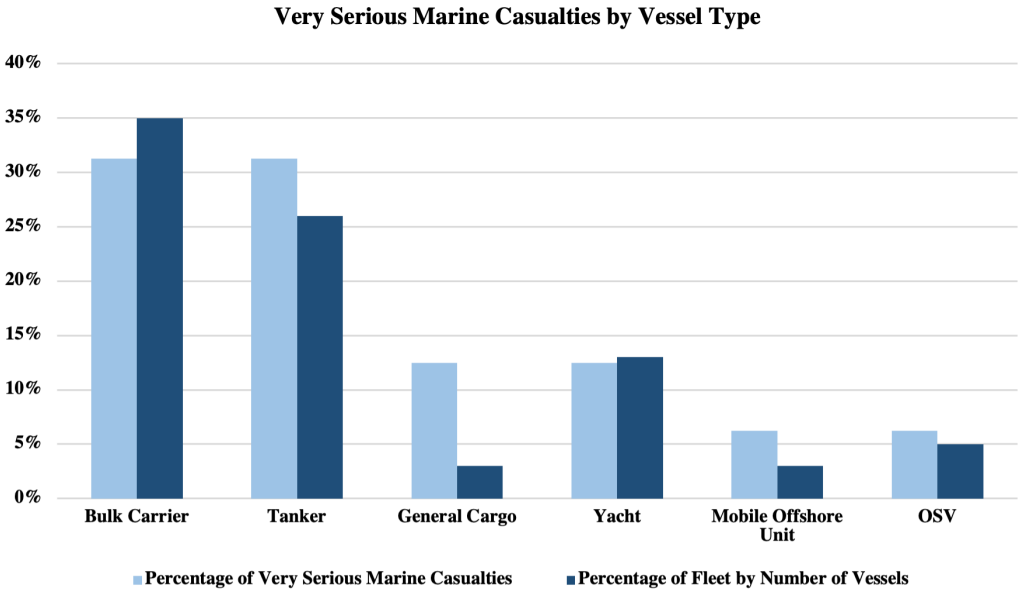
MSA No.	Subject
<a href="#"><u>16-20</u></a>	Loss of Propulsion in High-Density Traffic Areas in China
<a href="#"><u>19-20</u></a>	Freefall Lifeboat Sling Arrangements
<a href="#"><u>22-20</u></a>	Bunker Oil Spills in Singapore
<a href="#"><u>23-20</u></a>	Enclosed Space Entry Incidents
<a href="#"><u>29-20</u></a>	Maintaining Intact Stability – Reminder
<a href="#"><u>36-20</u></a>	Serious Injuries and Fatalities Due to Falls

## Section 5: Looking Forward

There is no doubt that the challenges faced during the past year will continue impacting the RMI fleet and the conduct of marine safety investigations for the foreseeable future. The Administrator remains dedicated to the thorough and timely investigation of all reports, leveraging global resources and available technology to the maximum extent possible.

# Appendix 1: Very Serious Marine Casualties



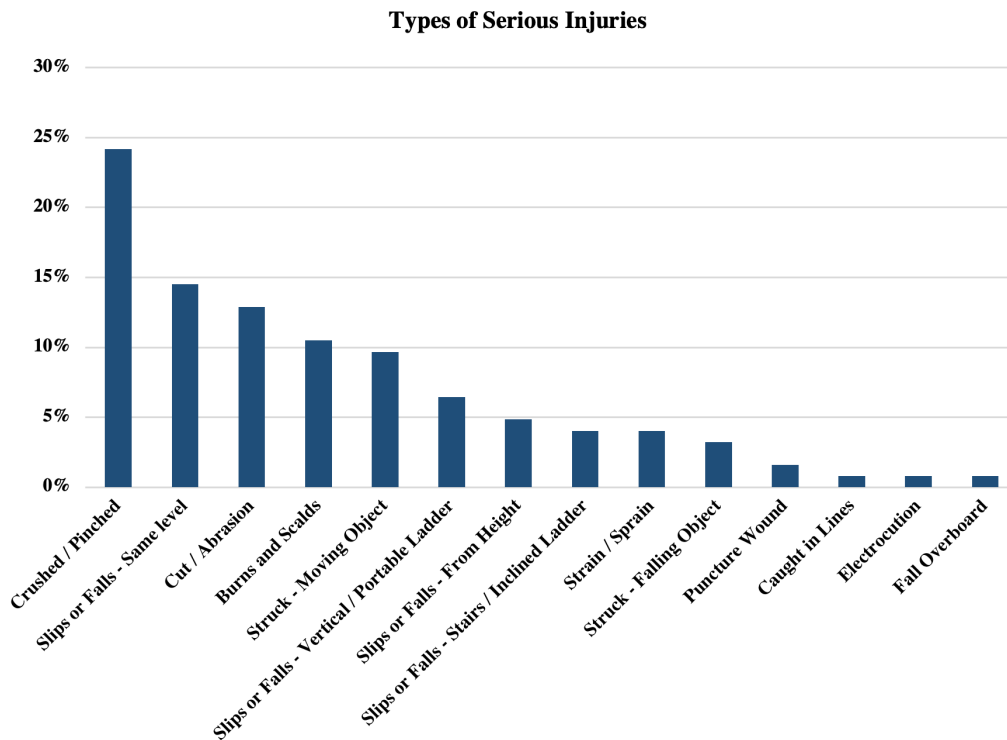


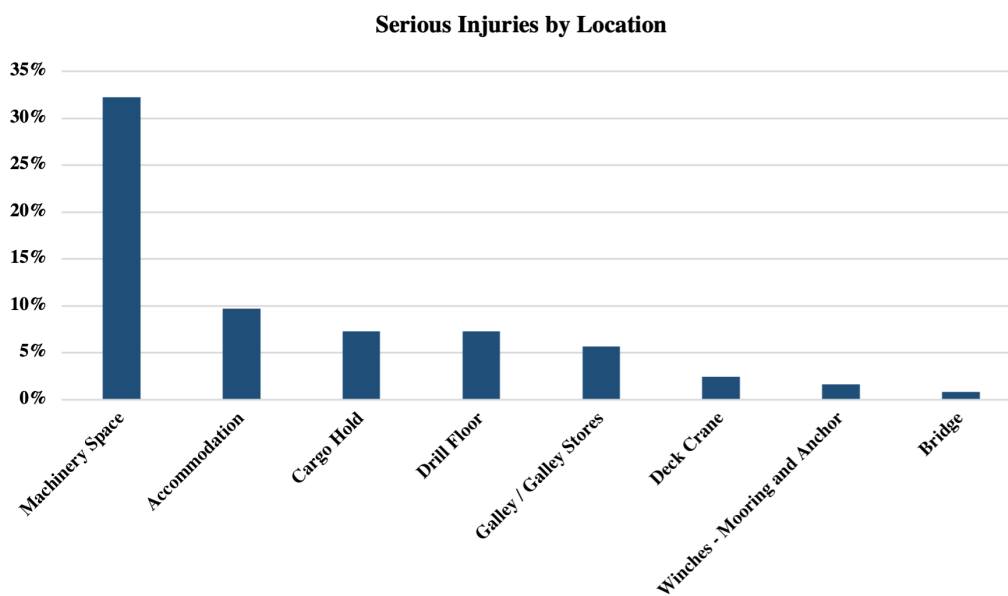
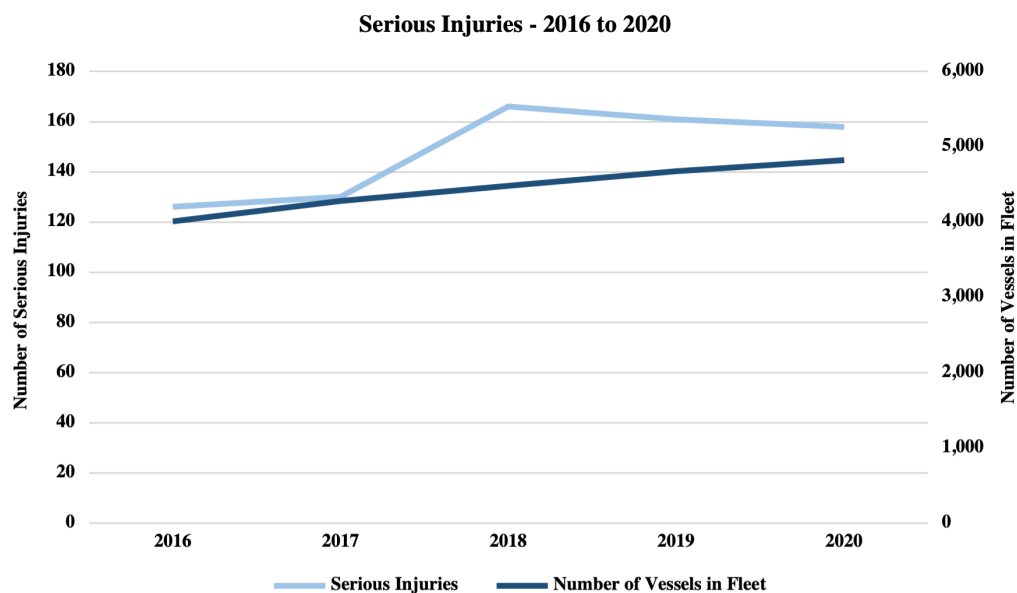
## Appendix 2: Marine Casualties, Marine Incidents, and Occurrences

The following information includes data obtained during 2020 for marine casualties, marine incidents, and occurrences.

### Serious Injuries

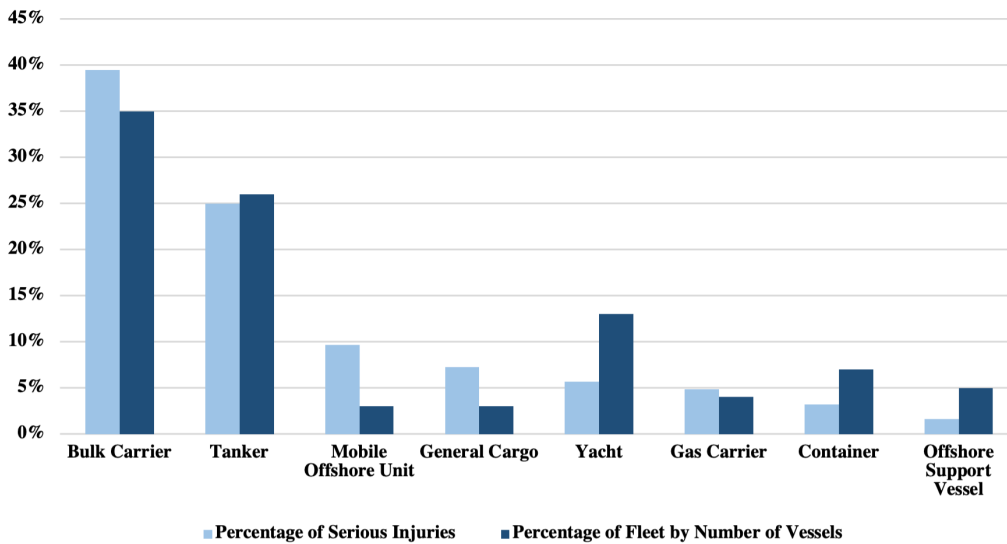
As in previous years, serious injuries (resulting in incapacitation for 72 hours or more) were again the most frequently reported incident type, accounting for 124 of the reports received by the Administrator during 2020.







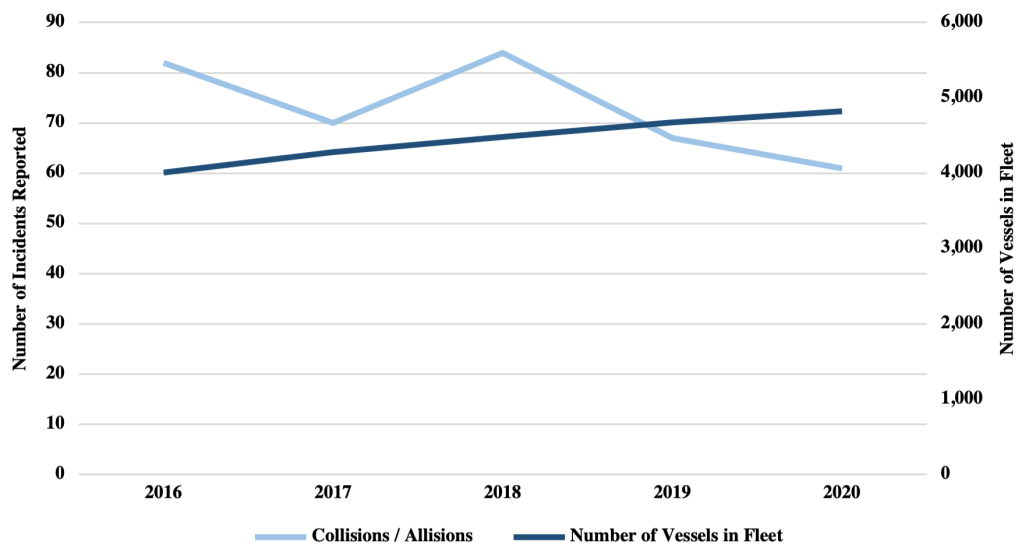
Serious Injuries by Vessel Type

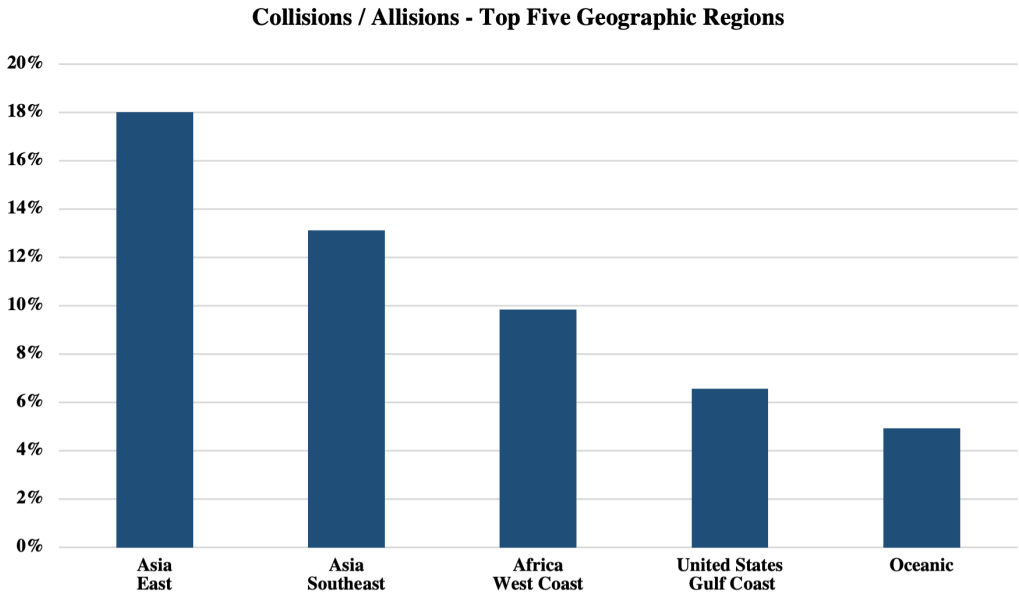
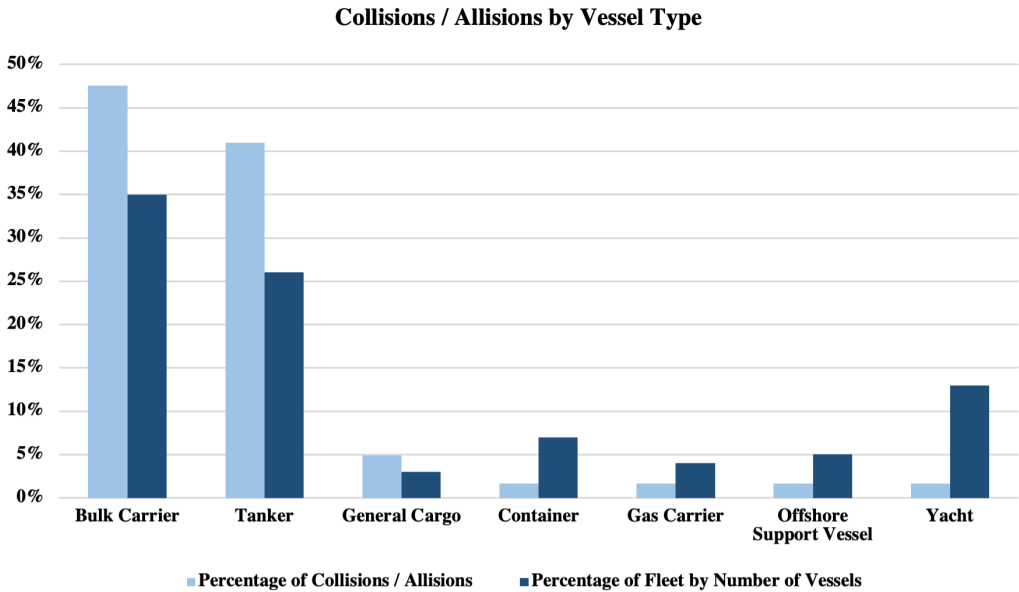


### Collisions and Allisions

During 2020, 61 collisions and allisions were reported. 32 of these incidents occurred with a pilot on board.

Collisions / Allisions - 2016 to 2020

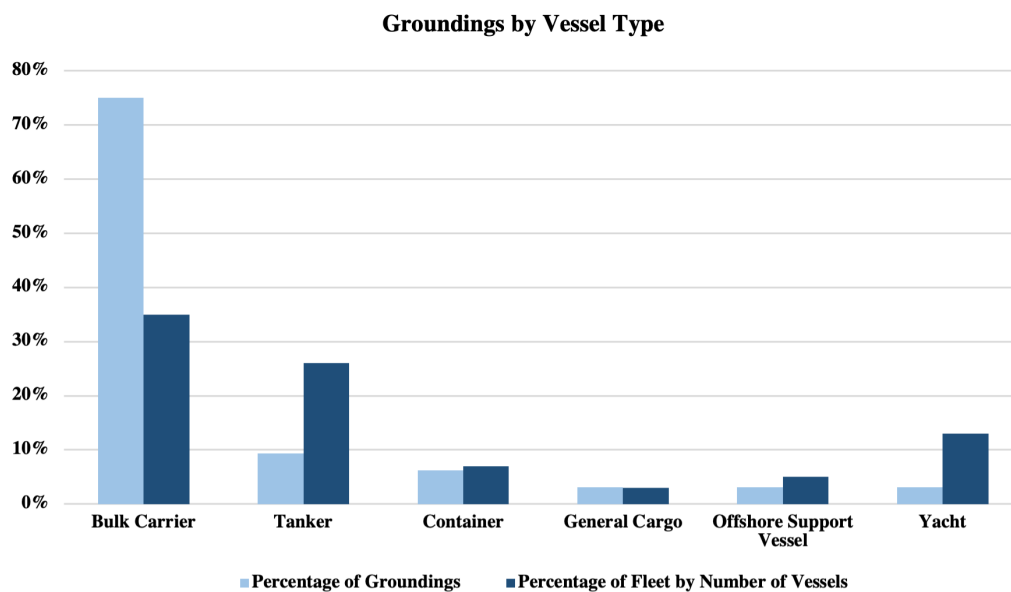
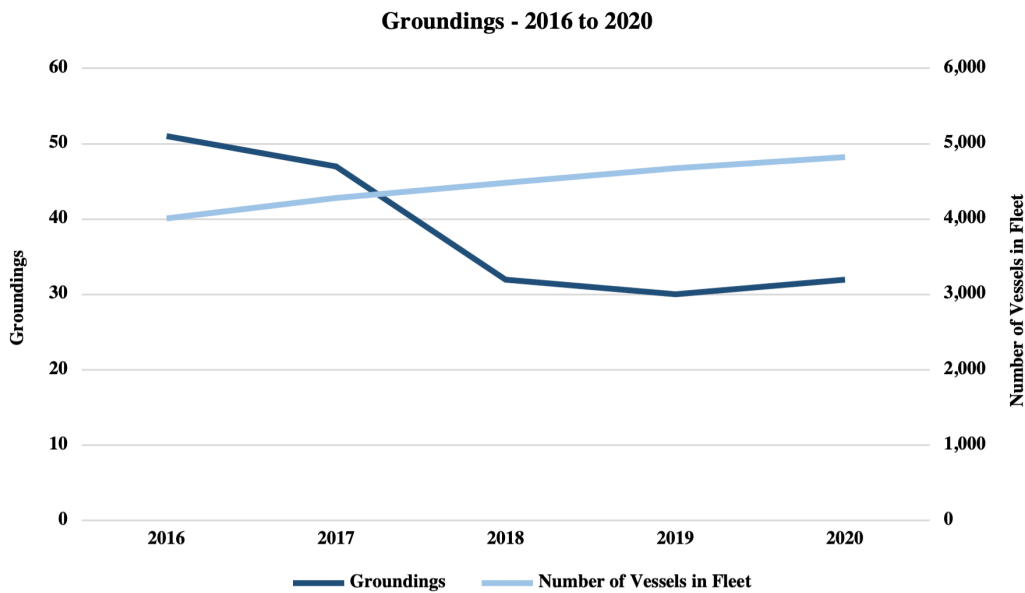




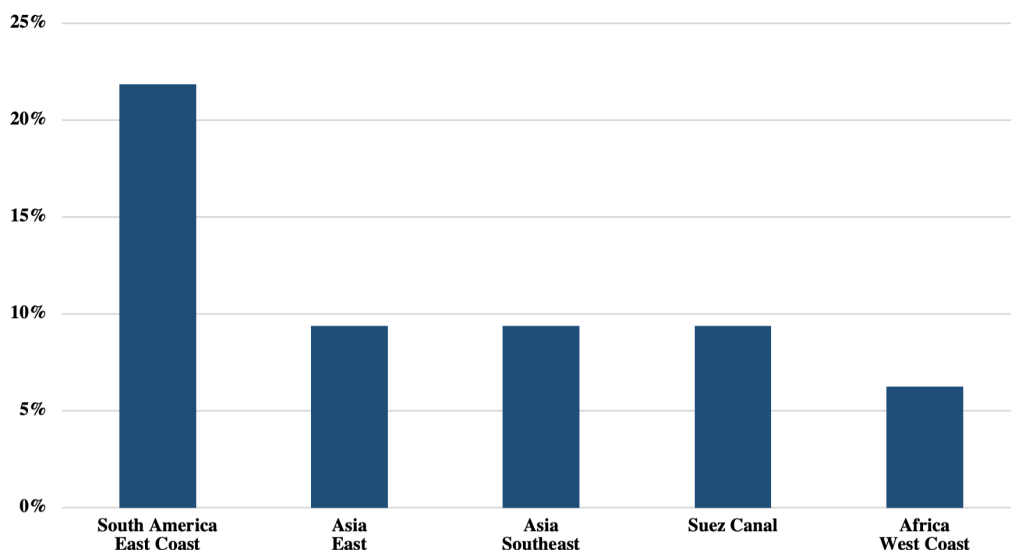
**East Asia:** includes the People’s Republic of China (PRC), Japan, Republic of Korea, Republic of China (Taiwan), and Hong Kong Special Administrator Region of the PRC. **Southeast Asia:** includes the Republic of Indonesia, Republic of the Philippines, Socialist Republic of Vietnam, and Republic of Singapore.

## Groundings

A total of 32 groundings were reported to the Administrator during 2020, with 18 of these occurring with a pilot on board. One grounding resulted in the constructive total loss of the vessel. Groundings were most frequently reported while transiting the rivers of the east coast of South America, where constantly shifting shoals and fluctuating water levels are common.



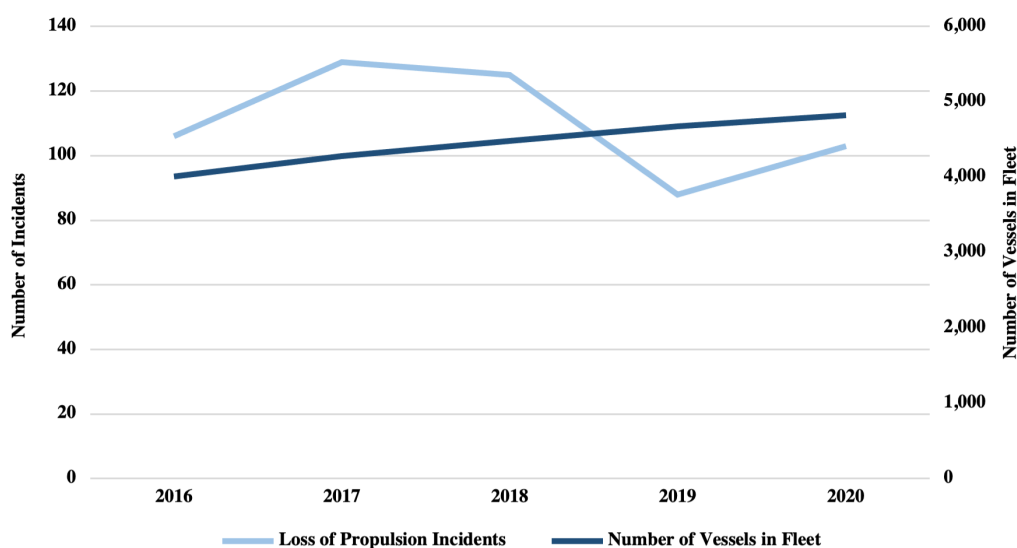
Groundings - Top Five Geographic Region



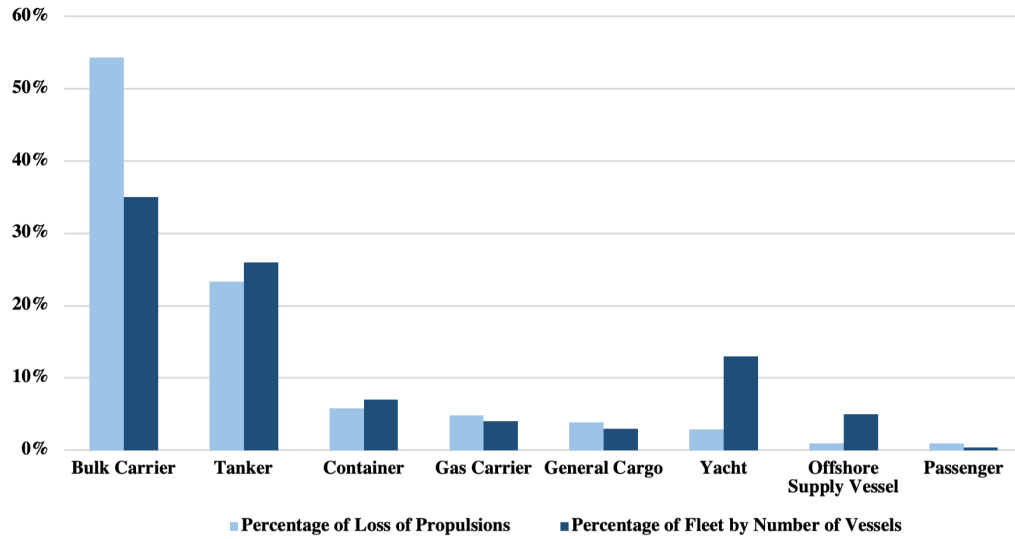
### Loss of Propulsion

Of the 103 loss of propulsion incidents reported to the Administrator during 2020, 33 occurred while a pilot was on board. Three of the 33 incidents which occurred with a pilot on board subsequently resulted in the grounding of the vessel while one resulted in a collision with another vessel.

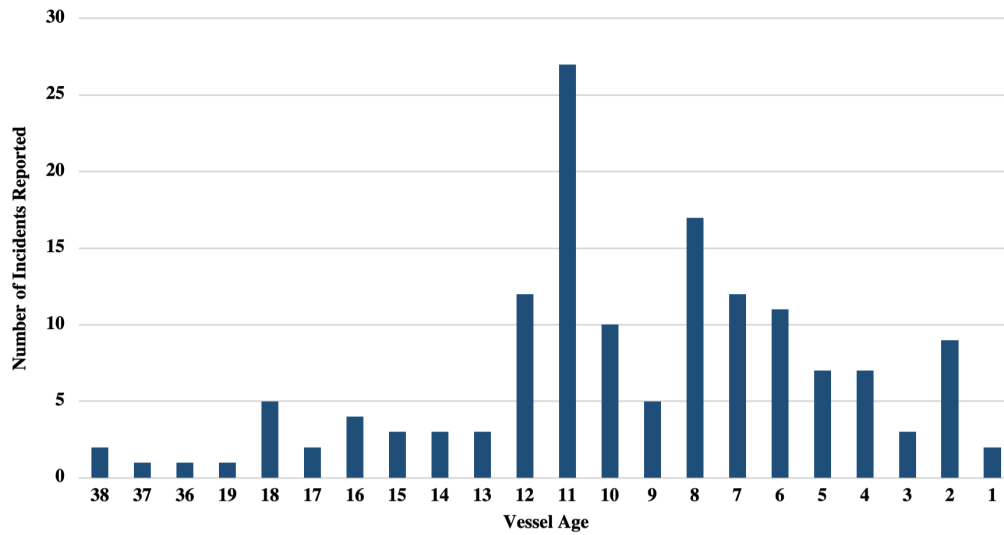
Loss of Propulsion Incidents - 2016 to 2020



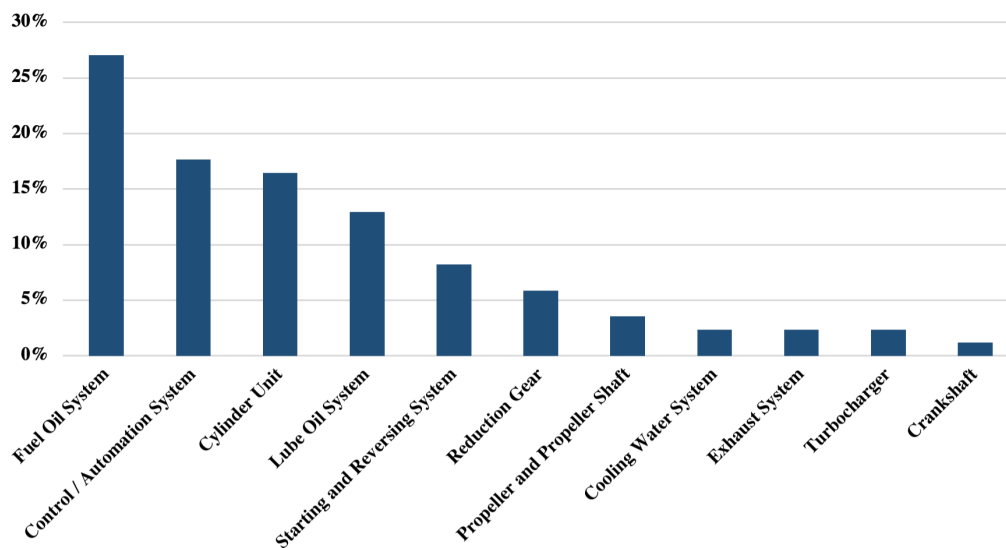
Loss of Propulsion Incidents by Vessel Type



Loss of Propulsion Incidents by Vessel Age

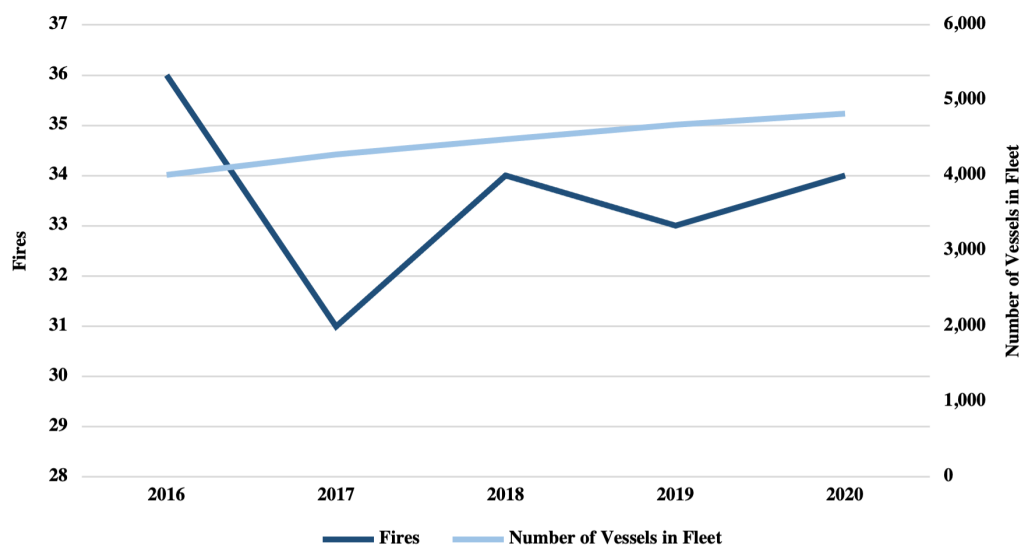


Loss of Propulsion Causes by System

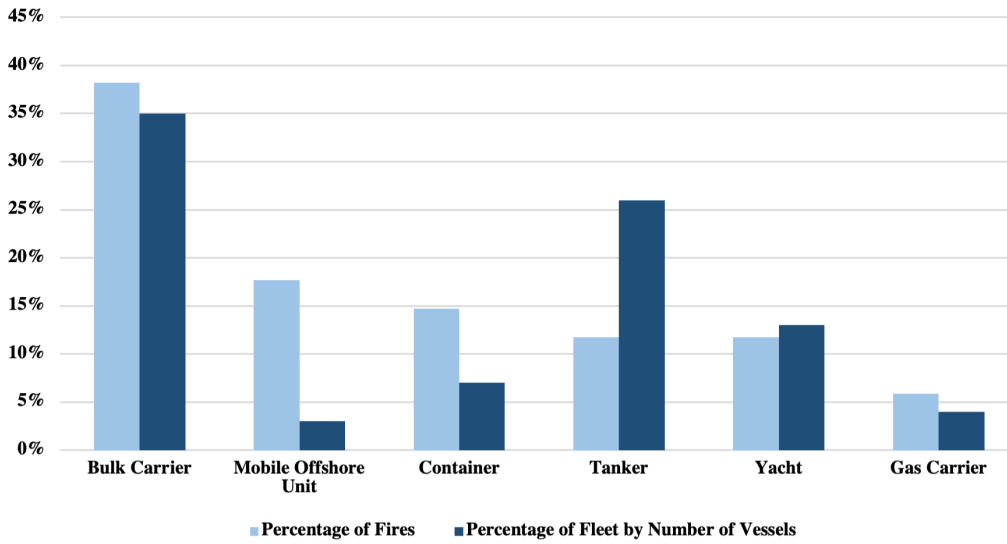


## Fires

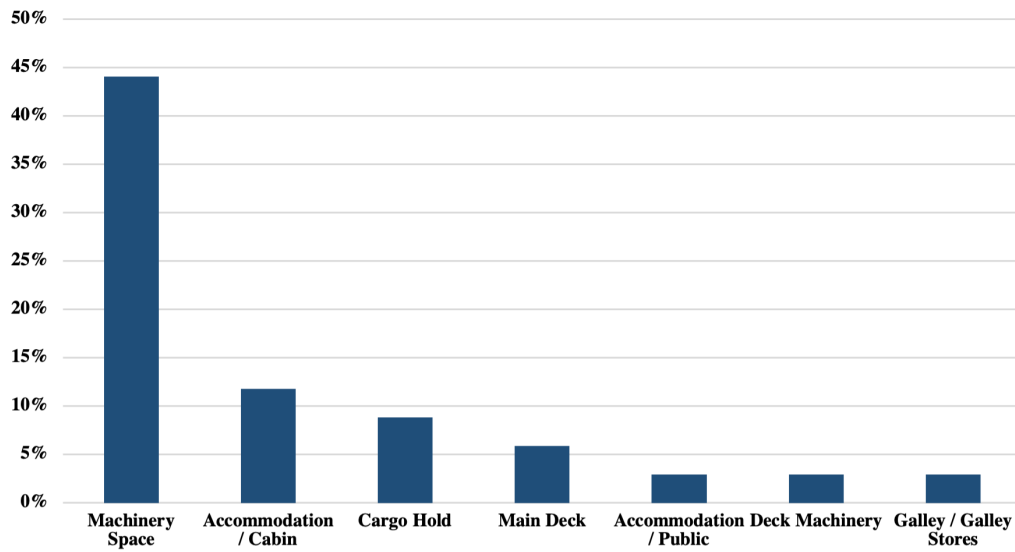
Fires - 2016 to 2020



**Fires by Vessel Type**

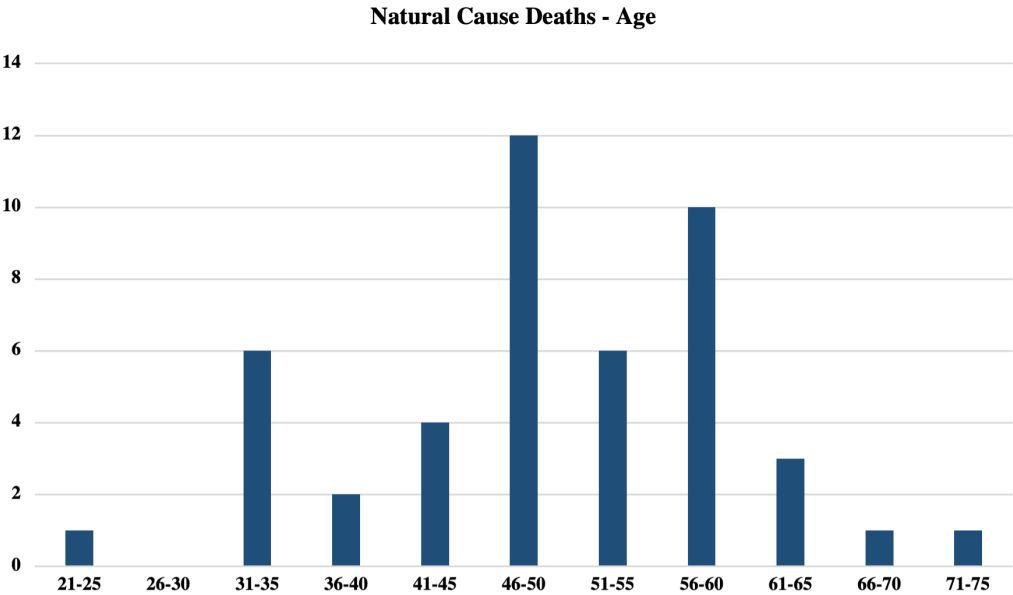


**Fires by Location on Board**



Natural Cause Deaths

Cardiovascular diseases (such as coronary artery disease, cardiac arrest, congestive heart failure, etc.) were the leading cause of natural cause deaths on board RMI-registered vessels in 2020.





## Appendix 3: Most Common Incidents by Vessel Type

This table lists, by vessel type, the three most common incident types for all reports made to the Administrator in 2020.

Vessel Type	First	Second	Third
Bulk Carrier	Serious Injury	Collision or Allision	Loss of Propulsion
Tanker	Serious Injury	Collision or Allision	Loss of Propulsion
Mobile Offshore Unit	Serious Injury	Pollution	Fire
Container	Serious Injury	Loss of Propulsion	Fire
General Cargo	Serious Injury	Collision or Allision	Loss of Propulsion
Yacht	Serious Injury	Fire	Loss of Propulsion
Gas Carrier	Serious Injury	Loss of Propulsion	Loss of Electrical Power
Passenger	Serious Injury	Loss of Propulsion	Non-serious Injury
Miscellaneous	Pollution	Serious Injury	N/A
Offshore Support Vessel	Serious Injury	Grounding	Loss of Propulsion