Australian Government

Australian Maritime Safety Authority

Marine Incident Annual Report

2024

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Overview

Purpose of this report

This report provides an analysis of marine incidents reported in the 2024 calendar year, along with trends from 2020-2024, for domestic commercial vessels (DCV)[1], foreign-flagged vessels and regulated Australian vessels.

Marine incident data from this report combined with other safety data from inspections, investigations and further supporting research are used to inform the National Compliance Plan. The National Compliance Plan will set out targeted compliance activities for the 2025-2026 financial year that address safety issues identified.

Marine incident and safety concern reporting

Reporting marine incidents is important to maritime safety as it helps provide a more holistic picture of the risks affecting the industry. Information on marine incident reporting is available on the AMSA website[2].

In addition to marine incident reports, AMSA receives notifications of marine safety concerns. Marine safety concerns can be reported by anyone who observes an event or practice that may endanger, or if not corrected could endanger, the safety of a commercial vessel or persons on board a commercial vessel.

In 2024, AMSA received 394 reports of marine safety concern representing a 7.9% decrease on the number received in 2023 (428 reports).

Classification of marine incident reports and follow up investigations

AMSA classifies all reported marine incidents into one or more *occurrence types*[3] to consistently describe what happened and help identify patterns and areas for further analyses. The focus of this report is on *consequence*, *technical* and *operational* occurrence-types, and their sub-types as these comprise the highest frequency.

In addition to classifying types of incidents based on what happened, AMSA reviews and classifies some DCV investigation reports to describe *how* and *why* the incident occurred using a safety framework. Marine incidents are a result of many factors and underlying safety issues that often are not directly linked to the incident outcome – such as organisational issues. To capture underlying safety factors, AMSA applies a maritime safety framework (which is based on research and data) to classify investigation findings.

A list of acronyms and definitions as well as other information on the classification used in marine incidents is available on the AMSA website.

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[1] AMSA publishes monthly updates of very serious and serious incidents for DCVs - Monthly domestic incident reports

[2] Marine incident reporting | Australian Maritime Safety Authority

[3] Note that multiple occurrence types can apply to the same marine incident. For example, a marine incident may include more than one consequence (i.e., collision and injuries)

Summary of reporting in 2024

Trends in reporting

In 2024, AMSA received a total of 5625 marine incident reports from foreign-flagged vessels (FFVs), regulated Australian vessels (RAVs) and DCVs and 394 marine safety concerns. This is a 2.8% increase from marine incidents reported in 2023 (5472 reports).

Figure 1 shows the total marine incidents reported by FFVs, RAVs and DCVs operating within Australia's maritime jurisdiction, or in preparation to enter Australia's maritime jurisdiction, between 2020 and 2024.

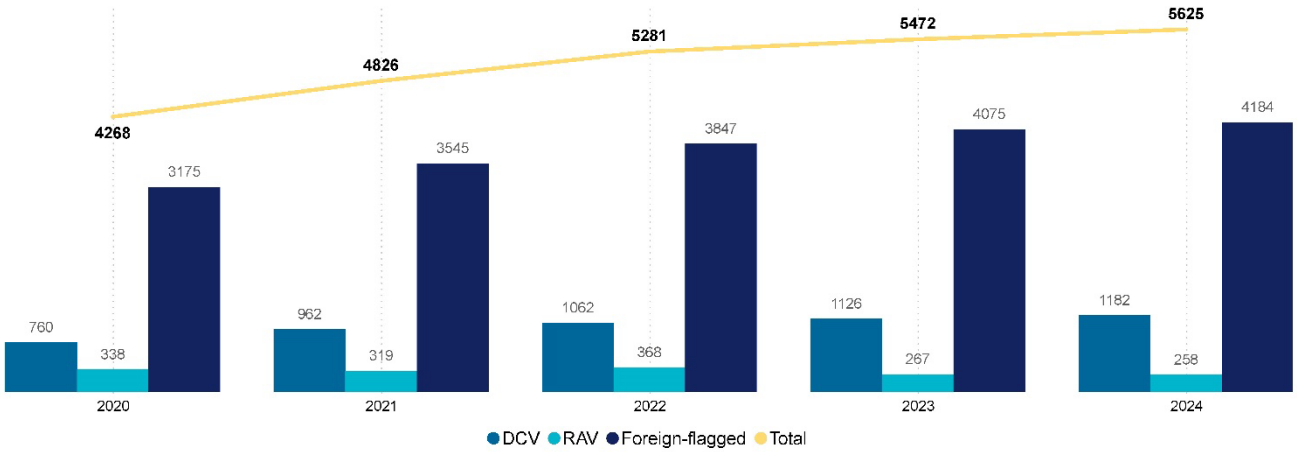

Figure 1: All reported marine incidents, FFVs, RAVs and DCVs, by year (2020-2024)

Domestic Commercial Vessels

Marine incident trends

In 2024, AMSA received a total of 1182 reports of marine incidents involving DCVs. This represents an increase of 5.0% from 2023 (1126 reports) and a 55.5% increase in the number of marine incident reports from DCVs since 2020 (760 reports).

In 2024 (Figure 2),

- very serious[4] marine incidents decreased from 7 in 2023 to 6 in 2024
- serious marine incidents decreased by 17.6% (52 reports) compared to 2023
- less serious marine incidents increased by 13.2% (108 reports) compared to 2023

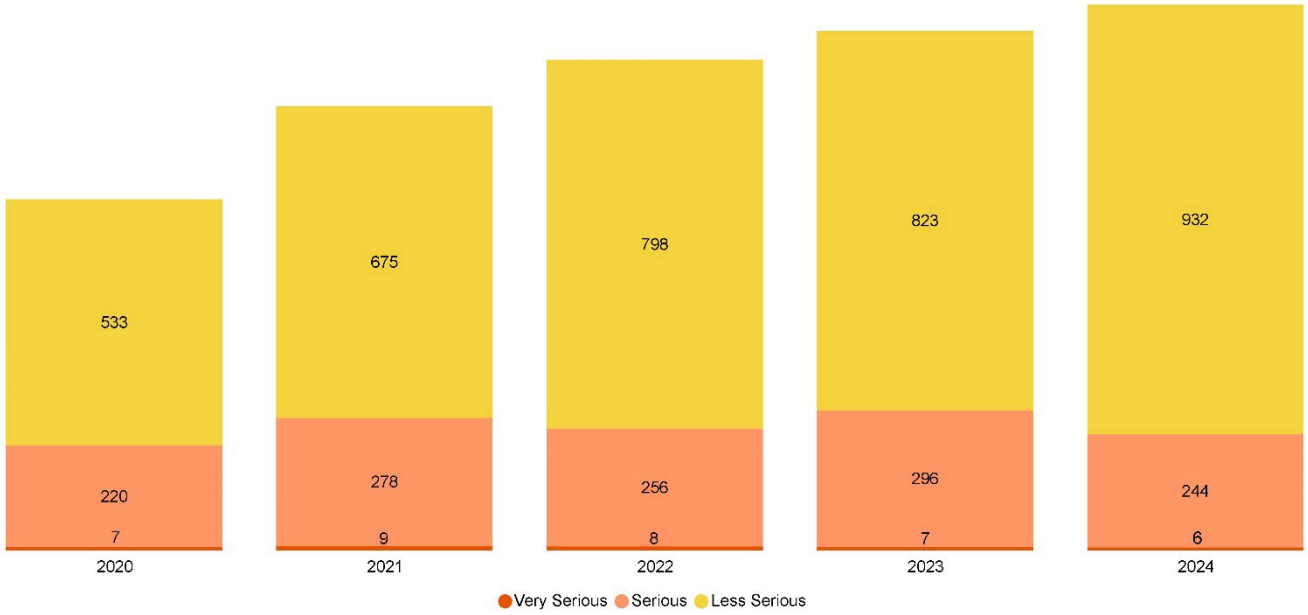

Figure 2: DCV marine incidents by severity (2020 - 2024)

When considering marine incident reports by vessel class, Figure 3 and 4 shows:

- passenger vessels continue to demonstrate a good reporting culture in relation to all other classes of vessels. Passenger vessels which account for a relatively small proportion (8.9%) of the DCV fleet reported almost half (46.6%) of all reported DCV marine incidents in 2024.
- non-passenger vessels which account for 51.3% of the DCV fleet reported 38.2% of all marine incidents in 2024. This is slightly higher when compared to 2023 where non-passenger vessels reported 37.2% of all marine incidents.

[4] Very serious incidents include loss of vessel, loss of life (fatalities) due to the operation of the vessel and serious pollution. Serious incidents include serious injuries (operational), fire, explosion, critical equipment failure, severe structural damage, loss of stability and breakdown necessitating towage or shore assistance. Less serious incidents include minor injuries, illness, minor vessel contact and near misses.

- fishing vessels which account for 26.3% of the DCV fleet reported 9.9% of all marine incidents in 2024. This is slightly lower when compared to 2023 data where fishing vessels reported 11.2% of all marine incidents.
- hire & drive vessels which account for 13.5% of the DCV fleet reported 5.3% of all marine incidents in 2024. This outcome is a slight decrease compared to 2023 data where hire & drive vessels reported 6.42% of all marine incidents.

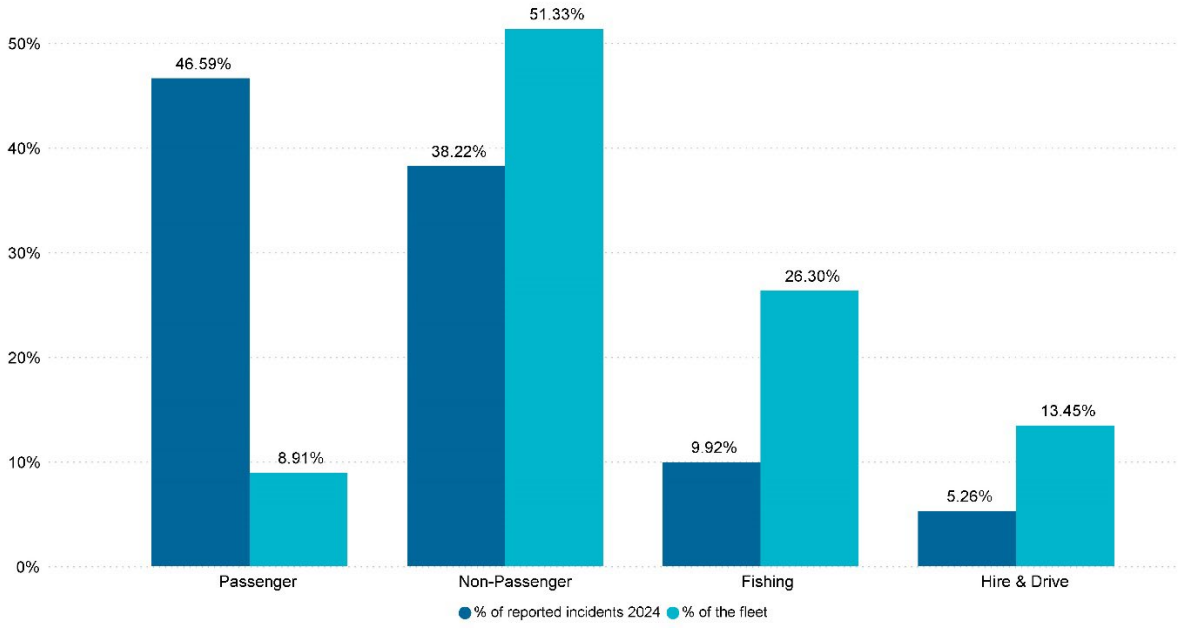

Figure 3: Proportion of marine incidents reported and vessels by class[5] (2024)

Figure 4 shows a significant variation in the reporting of marine incidents across different vessel length categories when compared to their representation in the overall fleet.

The majority (59%) of DCVs are less than 7.5 metres in length, and yet these vessels only comprise 12.1% of reported marine incidents. Vessels between 7.5-12 metres closely match proportion of reporting of marine incidents (18.4%) to their fleet size (18.0%). Vessels over 12 metres in length which comprise 20.6% of the fleet continue to report the majority (69.5%) of marine incidents.

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[5] NSCV Part B contains the system for categorisation of vessels.

- Passenger vessels means a vessel that carries or is certified to carry more than 12 passengers and are called Class 1.
- Non-passenger vessels may carry up to 12 passengers and are not either fishing or hire and drive vessels are called Class 2.
- Fishing vessels are used for fishing operations and called Class 3.
- Hire and Drive vessels are let for hire, reward, or any other consideration and are called Class 4.

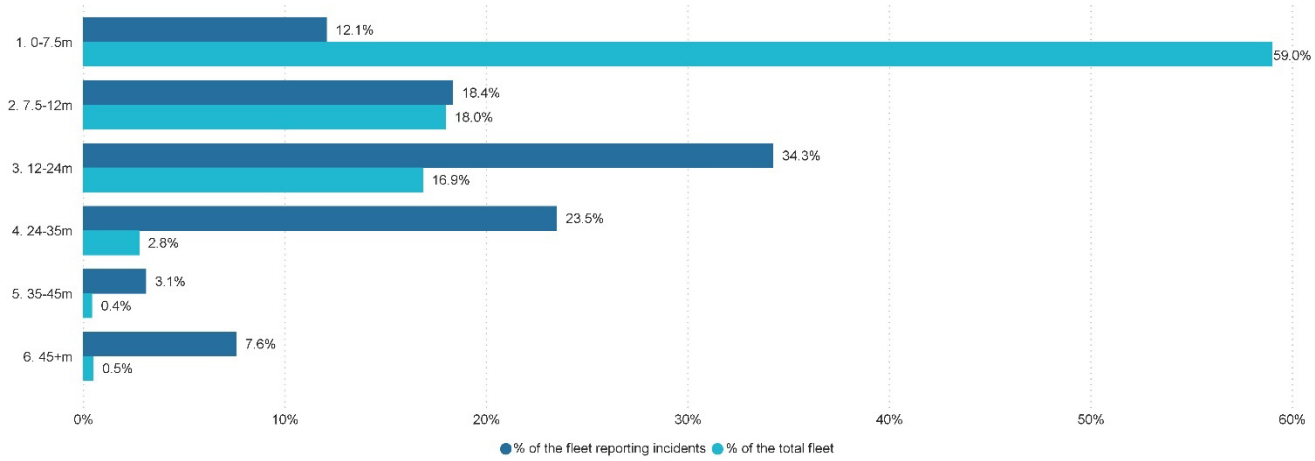

Figure 4: Proportion of marine incidents reported and vessels by length (2024)

Consequences to people

Fatalities

In 2024, there were three fatal DCV marine incidents which resulted in four operational-related fatalities. This includes:

- A passenger fatality that involved a truck rolling off a ferry-in-chains after the vessel broke off its moorings. The truck rolled back into the river and submerged with the truck driver inside.
- Two crew fatalities that involved an aluminium fishing dinghy which capsized. The two crew were subsequently located in the water near the vessel. The crew members were not wearing lifejackets.
- A crew fatality that occurred after a crew member of a yacht was struck by the boom while competing in the Rolex Sydney to Hobart Yacht Race.[6]

Table 1: Fatal marine incidents and operational-related fatalities involving a DCV (2020-2024)

DCVs	2020	2021	2022	2023	2024
Fatal marine incidents	4	3	0	3	3
Fatalities	4	3	0	3	4

Of the four operational-related fatalities, two occurred in South Australia and two in New South Wales (Figure 5).

[6] A second fatality during the Rolex Sydney to Hobart Yacht Race did not involve a DCV.

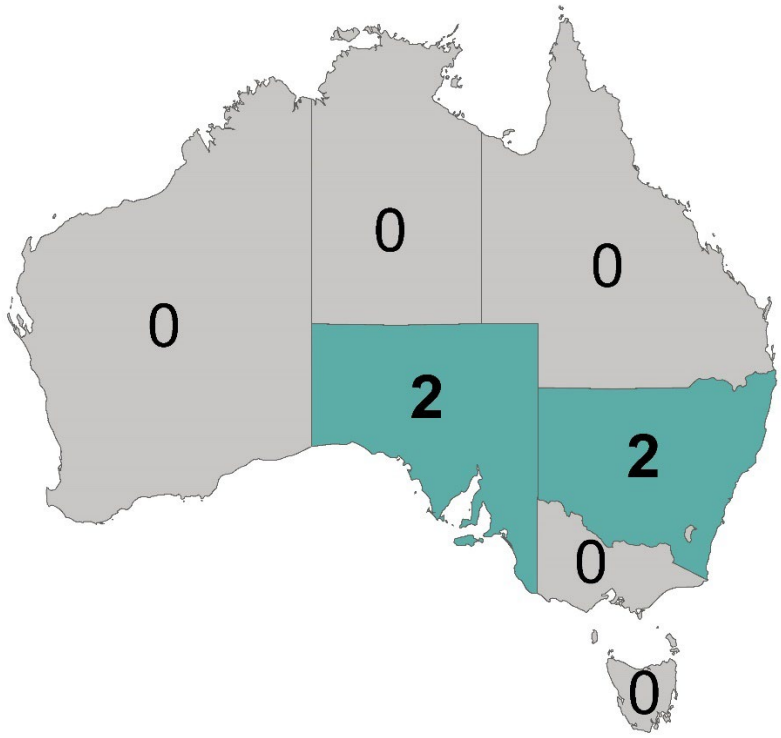

Figure 5: Number of fatalities by state (2024)

The number of fatalities varied across vessel classes over the five-year period from 2020 to 2024, with fishing vessels associated with the highest number of fatalities. Between 2020 and 2024, there were 14 operational-related fatalities on DCVs (10 crew and 4 passengers). Seven (50%) of these occurred on fishing vessels (Figure 7).

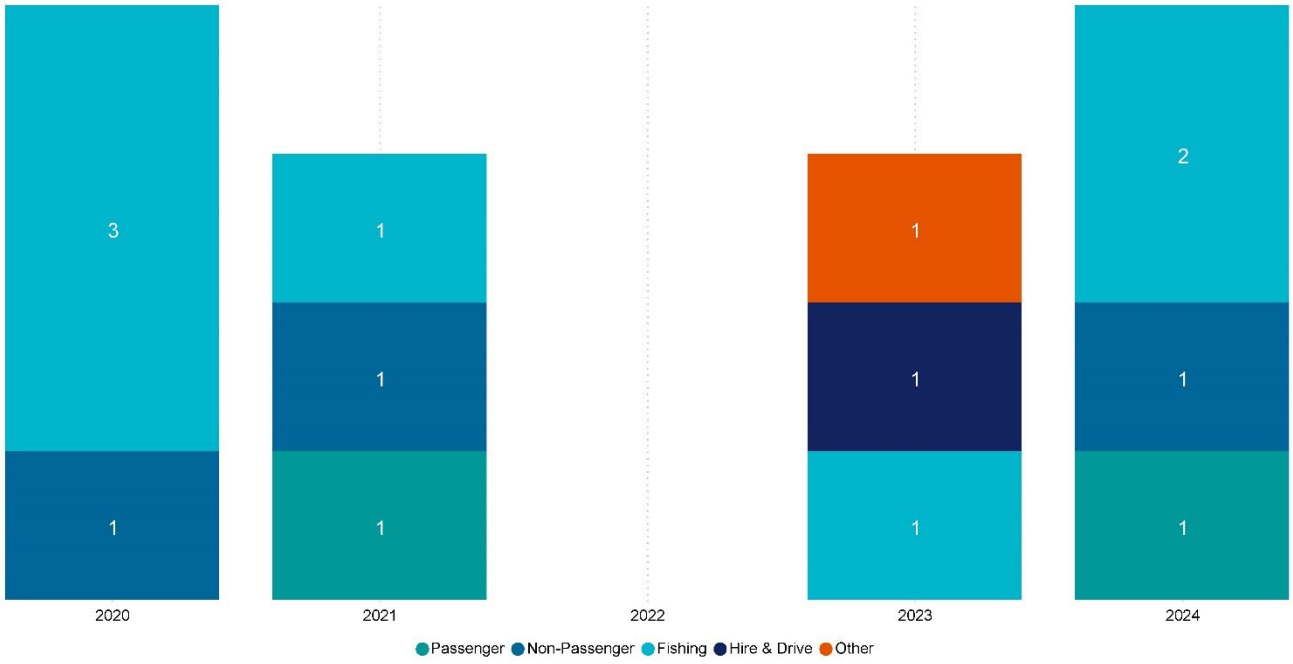

Figure 6: Fatalities by year and vessel class (2020-2024)

In 2024, the fatality rate (the number of fatalities per 100,000 crew employed on DCVs) was 4.5. This remains lower than the fatality rate for Agriculture, forestry & fishing and Transport, postal & warehousing reported in 2023[7] (Table 2).

Table 2: Fatality rate per 100,000 crew employed on DCVs compared to similar industries

Year of incident	Number of operational-related crew fatalities on DCV fatalities	DCV fatality rate per 100,000 crew[8]	Agriculture, forestry & fishing fatality rate per 100,000 workers	Transport, postal & warehousing fatality rate per 100,000 workers
2020	4	6.1	13.1	7.8
2021	2	3	10.4	7.9
2022	0	0	14.7	9.5
2023	1	1.5	9.2	7.0
2024	3	4.5	No data available as of yet[9]	No data available as of yet
Five-year average (2019-2023)	1.8	3.0	11.6	8.3
Five-year average (2020-2024)	**2.0**	**3.0**	**Not available as of yet**	**Not available as of yet**

Injuries

In 2024, 19.2% of marine incident reports involving DCVs included an injury to a crew member or passenger (Table 3). Of these, 32.1% resulted in at least one serious injury to a person (Figure 7).

Table 3 provides a summary of reported injuries to crew and passengers from 2020 to 2024. In 2024, 10.7% of reported marine incidents involved a crew injury and 8.4% a passenger injury.

Table 3: Reported injuries to crew and passenger as a proportion of all reported marine incidents (2020-2024)

Year	2020		2021		2022		2023		2024	
Reported Injuries	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**
Crew	78	10.3%	110	11.5%	113	10.8%	108	9.7%	125	10.7%
Passenger	52	6.9%	72	7.6%	84	8.0%	114	10.2%	98	8.4%
Total	**130**	**17.2%**	**182**	**19.1%**	**197**	**18.8%**	**222**	**19.9%**	**223**	**19.2%**

[7] The actual number of fatalities must be considered when interpreting the fatality rates for this data due to the difference the size of the respective workforces. As noted on Work-related fatalities | Safe Work Australia by SafeWork Australia, fatality rates are sensitive to the number of people employed in the industry. In smaller industries that employ fewer employees (such as in the DCV fleet), a small variation in the number of fatalities produces an apparent larger variation in the fatality rate.

[8] Based on a calculated approximation of 66,000 crew engaged on domestic commercial vessels.

[9] 2024 statistics from SWA have not been published at the time of writing.

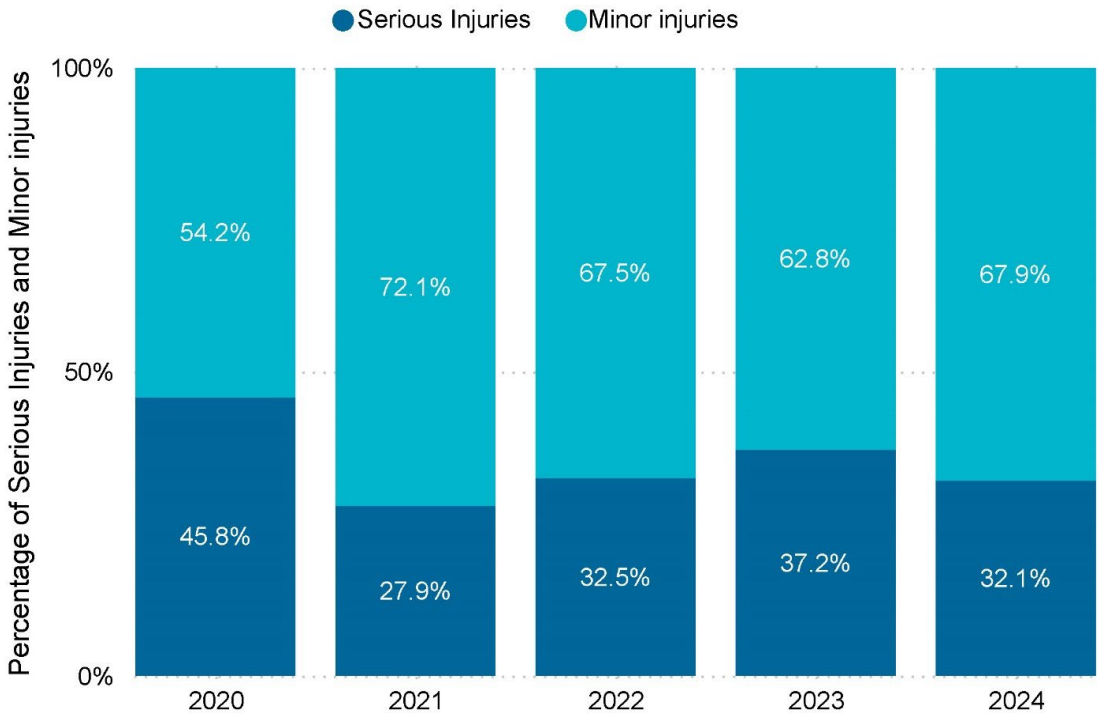

Figure 7: Percentage of reported serious and minor injuries by year (2020-2024)

In 2024, a total of 82 serious injuries were reported across the DCV fleet, comprising 49 crew and 33 passengers. This presents a decrease from 2023, with 96 serious injuries reported (Table 4).

Table 4: Number of serious crew and passenger injuries by year (2020-2024)

Serious Injuries	2020	2021	2022	2023	2024
Crew	41	40	59	52	49
Passenger	24	17	35	44	33
Total	**65**	**57**	**94**	**96**	**82**

When considering marine incident reports that involve serious injuries (crew and passengers) by class, Figure 8 and Table 5 shows:

- passenger vessels reported 46.2% (36) of serious injury incidents in 2024. This is comprised of 15 crew and 21 passenger injuries. This represents a slight increase from 2023 where passenger vessels accounted for 45.8% of all serious injuries.
- non-passenger vessels reported 30.8% of serious injury incidents in 2024. This represents a slight decrease from 2023 (36.2%).
- fishing vessels reported 11.5% of serious injury incidents in 2024. This is consistent with 2023 where fishing vessels reported 10.8%.
- hire & drive vessels reported 11.5% of serious injury incidents. This represents a slight decrease compared to 2023 data where hire & drive vessels reported 7.3% of all serious injuries.

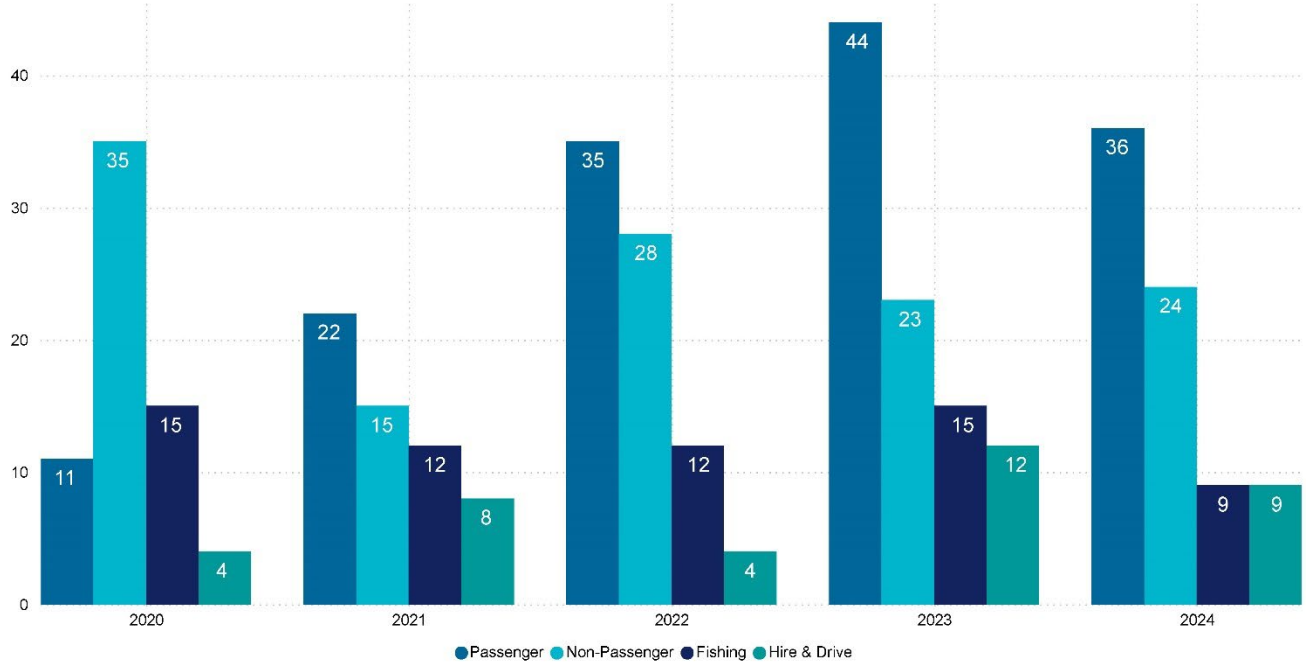

Figure 8: Marine incidents involving serious injuries (crew and passengers) by vessel class

Table 5: Serious injuries by vessel class in comparison to the fleet

2024			
Vessel Class	**Count**	**% of serious injuries reported**	**% of fleet**
Passenger	36 (15 crew; 21 passengers)	46.2% (19.2% crew; 27% passengers)	8.9%
Non-Passenger	24	30.8%	51.3%
Fishing	9	11.5%	26.3%
Hire & Drive	9	11.5%	13.5%

Most serious crew injuries reported in 2024 were associated with vessel control and navigation (24 marine incidents). Vessel control and navigation covers activities such as anchoring, towing, mooring, berthing/unberthing. This is followed by weather and water conditions (10) and cargo handling stores (6). (Figure 9).

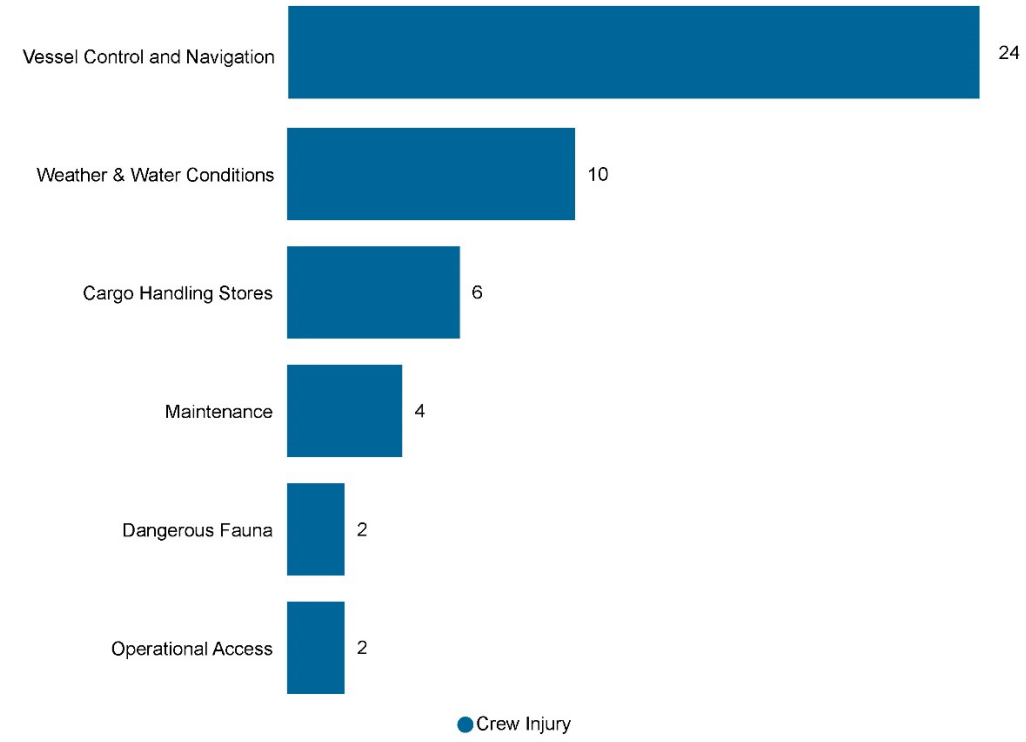

Figure 9: Some of the top occurrences associated with serious crew injury (2024)

Most serious passenger injuries were associated with vessel control and navigation (12) and operational access (11) (Figure 10).

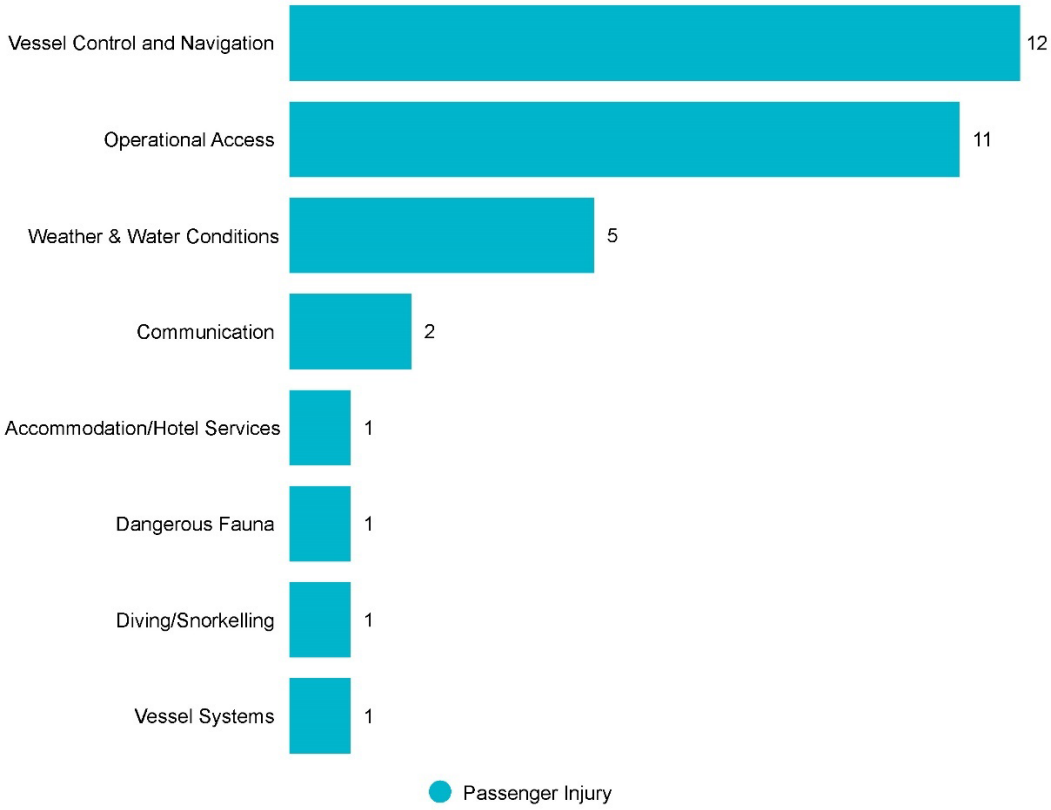

Figure 10: Some of the top occurrences associated with serious passenger injury (2024)

Persons overboard

In 2024, AMSA received 74 reports of marine incidents involving persons overboard from DCVs representing a decrease of 12.9% from 2023 (85). (Table 6).

Table 6: Number of marine incidents involving person overboard for crew and passengers (2020-2024)

Persons Overboard	2020	2021	2022	2023	2024
Crew	18	29	38	46	29
Passenger	27	45	54	39	45
Total	**45**	**74**	**92**	**85**	**74**

In 2024, 40.5% of persons overboard incidents were reported by passenger operations, 33.8% were reported by non-passenger operations, 16.2% were reported by hire and drive operations, and 9.5% were reported by fishing operations.

In 2024, AMSA received 540 marine incident reports from passenger vessels, of which 30 (5.6%) involved a person overboard. Non-passenger vessels reported 443 marine incidents with 25 (5.6%) persons overboard, fishing vessels reported 115 marine incidents with 7(6.1%) persons overboard and hire and drive vessels reported 61 marine incidents with 12 (19.7%) persons overboard. Figure 11 shows the number of persons overboard reported by class for 2024

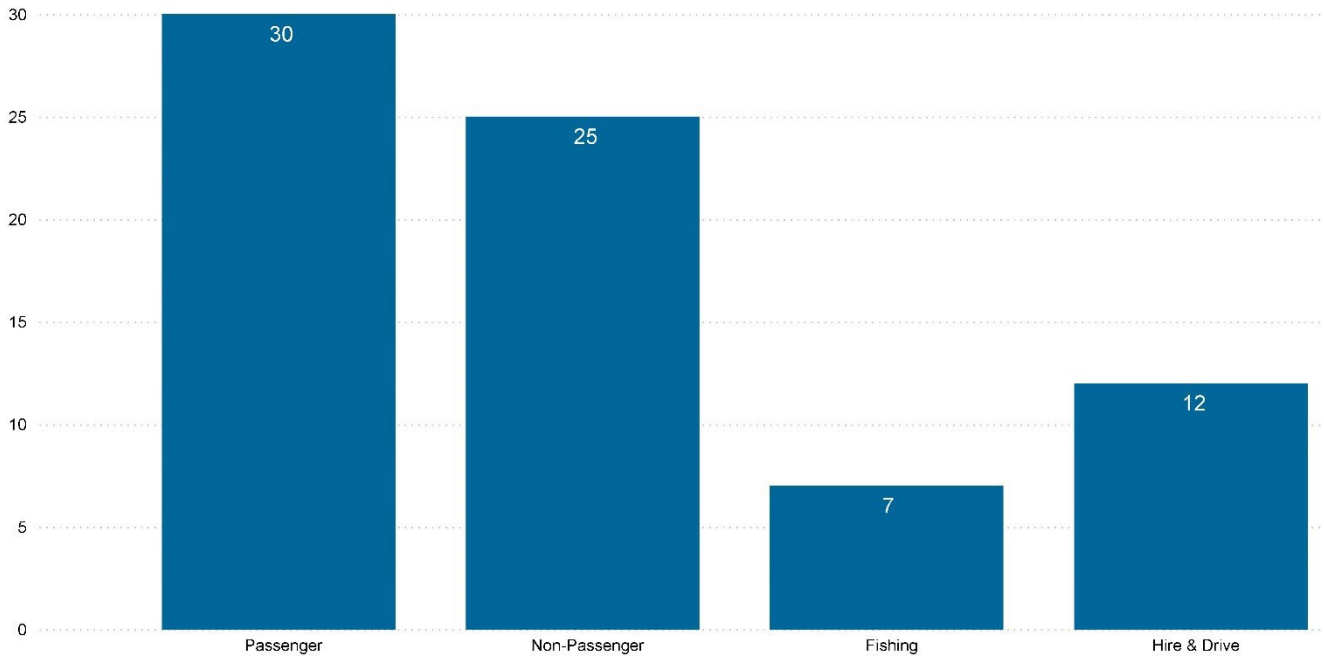

Figure 11: Marine incidents involving reported person overboard by vessel class (2024)

In 2024, there were 29 marine incidents involving crew overboard. Of these, 11 were not wearing a lifejacket, 11 confirmed as wearing one, and 7 where it was unknown whether a lifejacket was worn.

(Figure 12)

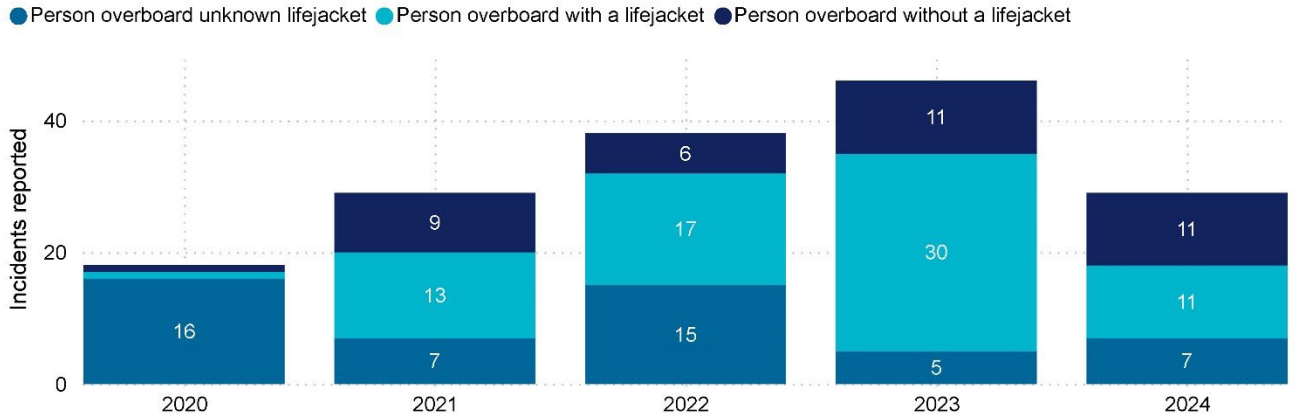

Figure 12: Crew overboard incidents showing life jacket wear status by year (2024)

Figure 13 shows the percentage of crew overboard incidents by vessel length, and as a percentage of the DCV fleet. Most reported marine incidents in which crew went overboard (80%) occurred on vessels less than 24 metres in length. This was proportionally high for vessels between 7.5 to 12 metres in length.

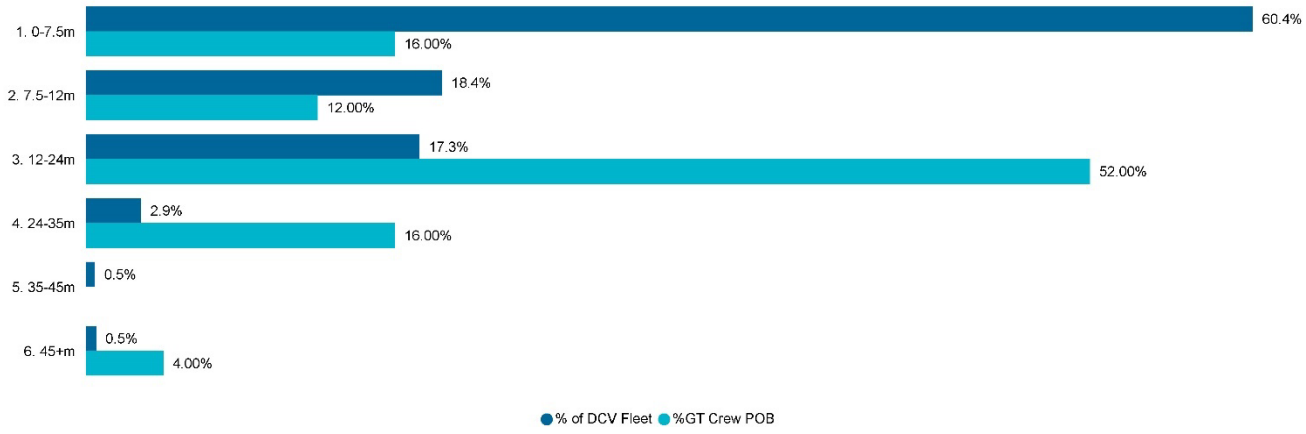

Figure 13: Proportion of DCV fleet and crew overboard incidents by vessel length (2024)

Consequences to vessels

The three most frequently occurring consequences to DCVs in 2024 were contact with something other than a vessel (177 marine incidents), collisions (151 marine incidents), and groundings (100 marine incidents) (Figure 14). The most frequently occurring consequences to DCVs categorised as very serious and serious included vessels becoming disabled; collisions and contacts (refer to Table A17).

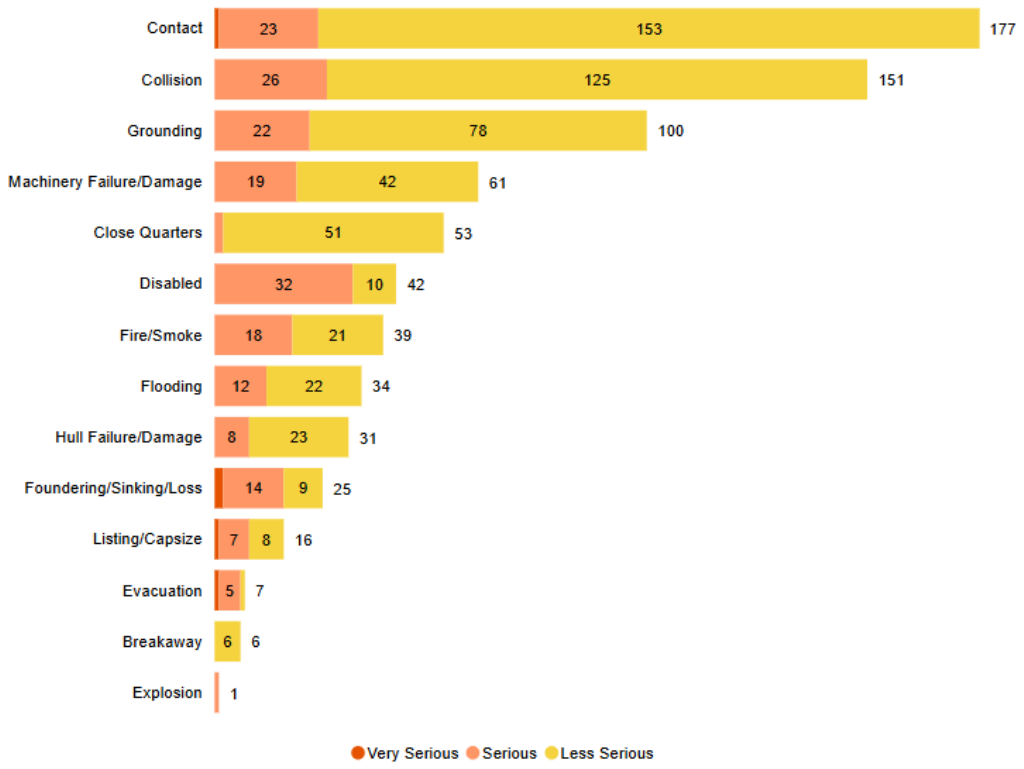

Figure 14: Vessel consequence categories by severity (2024)

Figure 15 shows the trends for the top 3 vessel consequences in the last 5-years (2020-2024). The number of groundings has continued to decrease, after reaching a peak in 2022. Collisions and contacts have increased slightly between 2023 (9.90%; 8.52%) and 2024 (10.36%; 9.56%

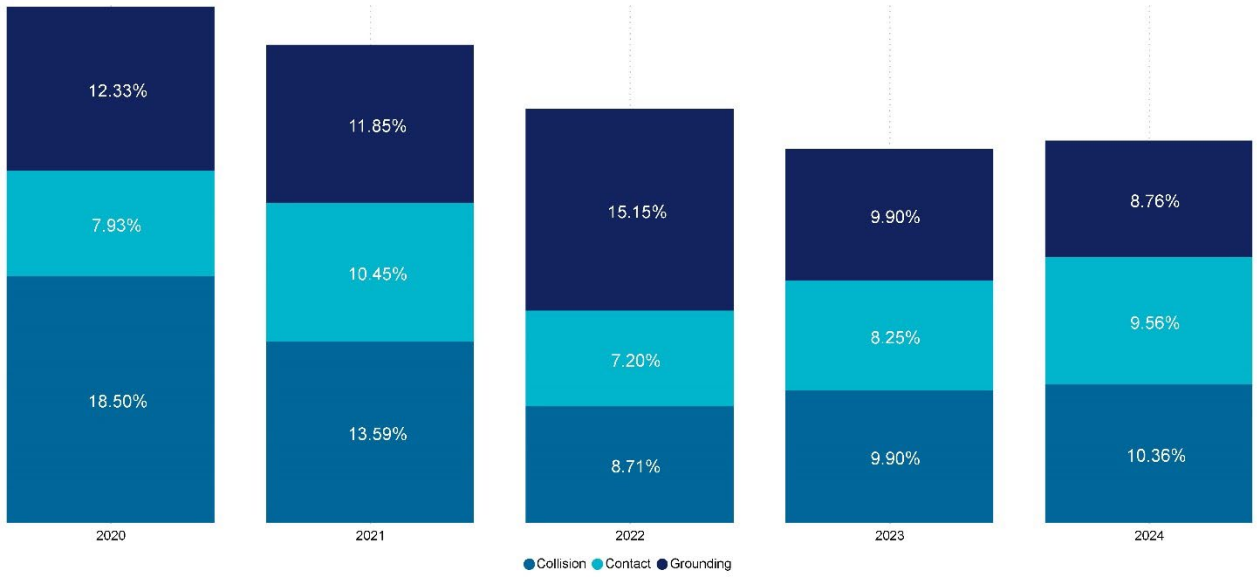

Figure 15: Five-year trend in top 3 vessel consequences (2020-2024)

Trends in operational occurrence types

In 2024, 72.2% (535 out of 741) of marine incidents which involved an operational shortfall were associated with vessel control and navigation (18.7% of these were categorised as serious). This is consistent with the 2020-2024 data, in which the 5 top operational issues for every vessel class included control and navigation operational failure at the top of the list (Table A17). There was some variance across vessel classes as to the second largest operational shortfall, being operational

access (passenger and non-passenger vessel classes), cargo handling (fishing vessels) and communication (hire and drive).

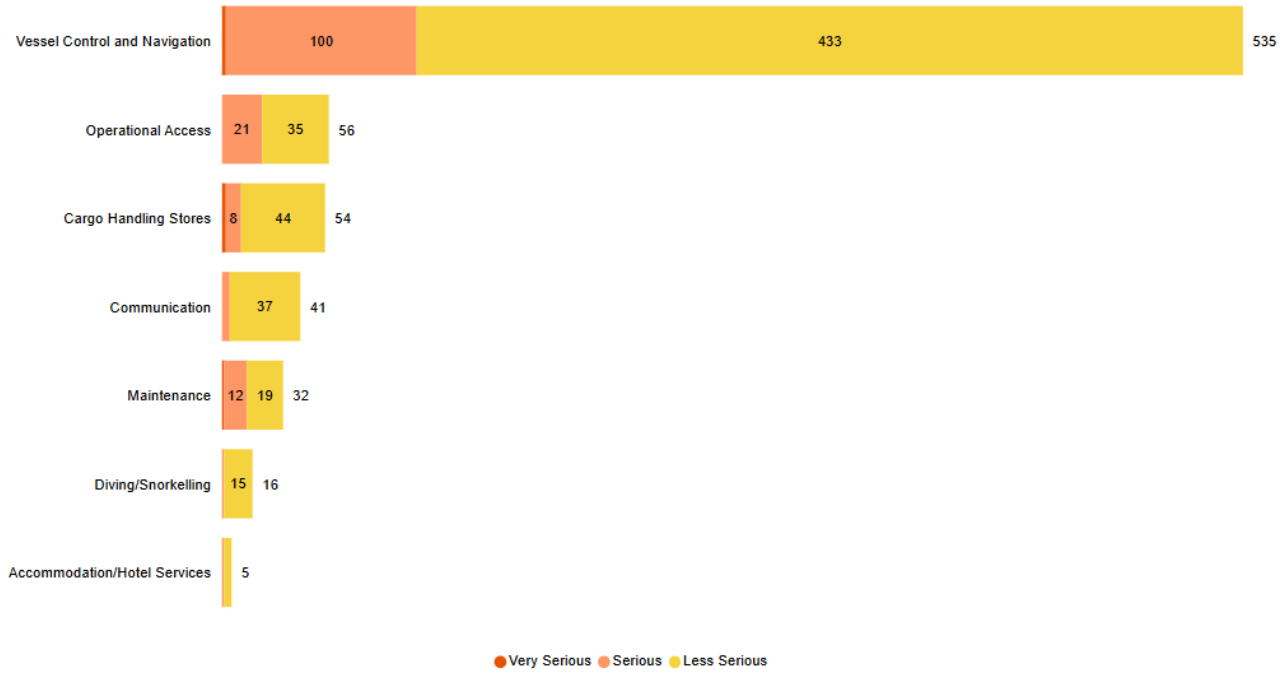

Figure 16: Operational occurrence type by incident severity (2024)

Figure 17 shows that between 2020-2024, lookout and collision avoidance is the most frequently occurring issue under the vessel control and navigation category. Lookout and collision avoidance comprised 639 (31.8%) of the vessel control and navigation occurrences between 2020-2024 (2007) followed with vessel handling and loss of control comprising 515 (25.7%) and berthing/unberthing comprising 265 (13.2%) (Figure 17).

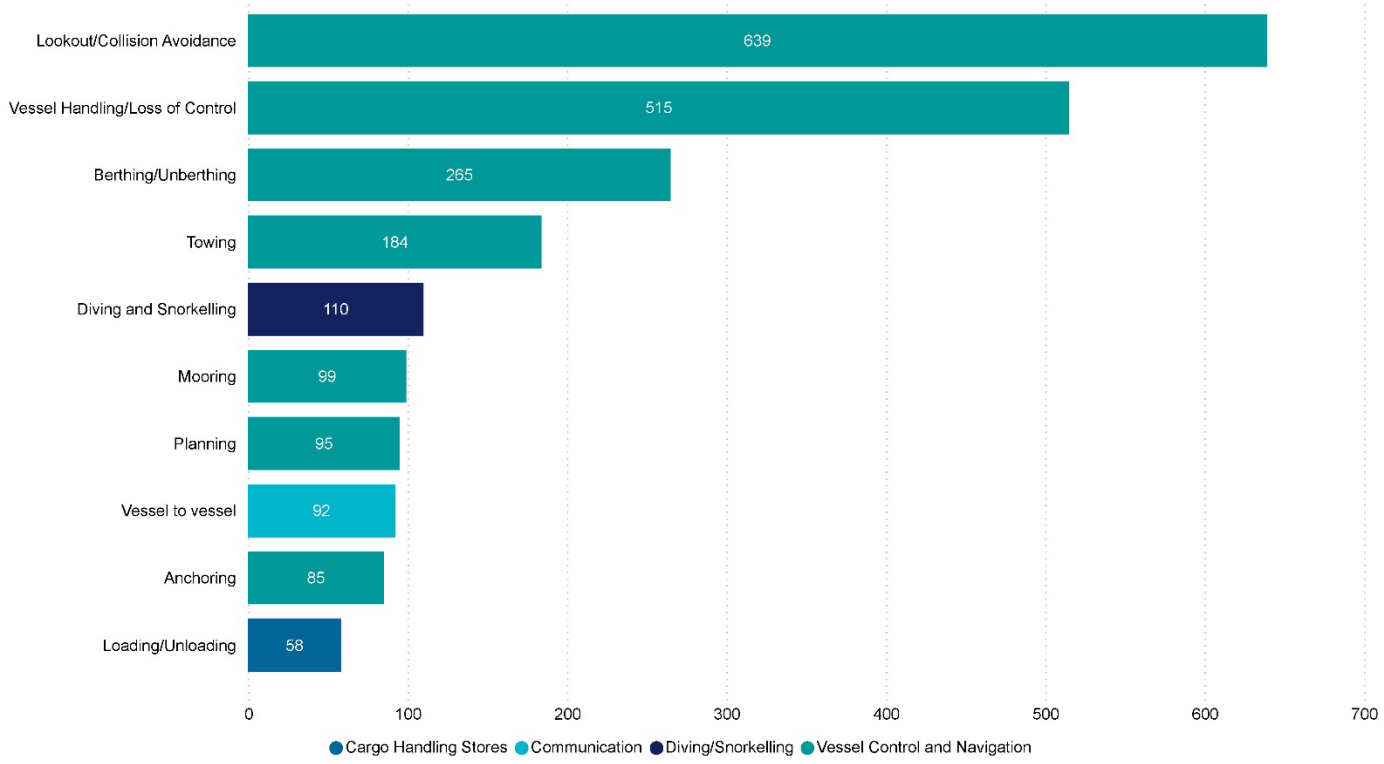

Figure 17: Top 10 operational occurrence types including sub-elements (2020-2024)

Trends in technical occurrence types

Figure 18 shows the trends in technical occurrence types between 2020-2024. In 2024, there was a 27.5% (102) increase in engineering system failures from 2023 (80). Power, propulsion and steering failures are consistently the most frequent occurrence type in the last five years. In 2024 there was a noticeable increase to 141 from 119 in 2023.

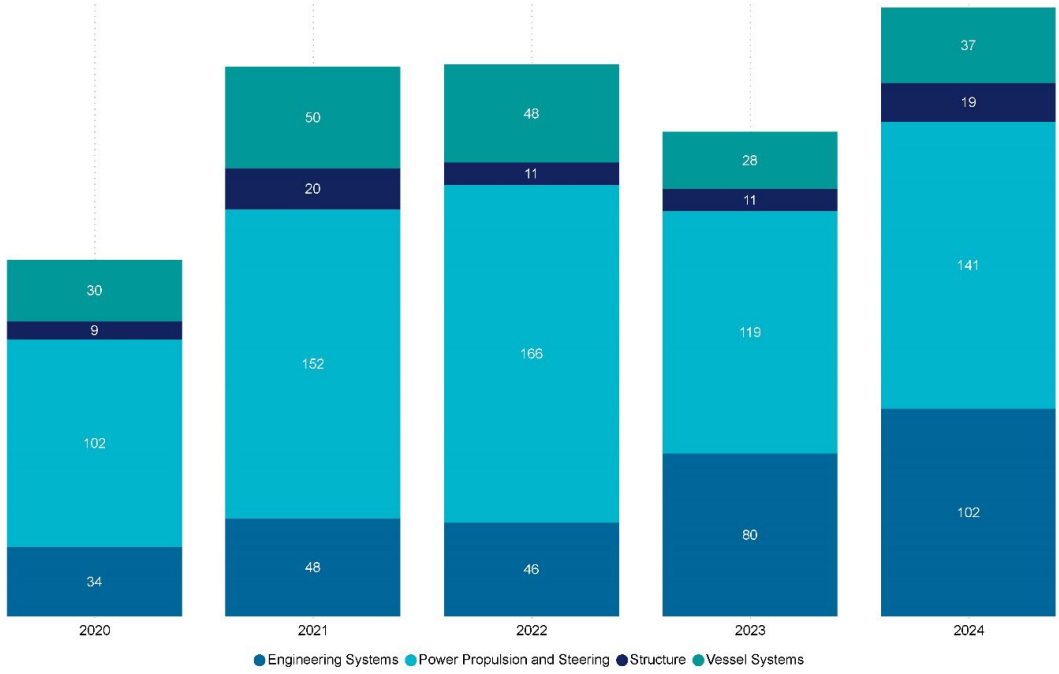

Figure 18: Technical occurrence level 2 types (2020-2024)

The majority of power, propulsion and steering failures in 2024 were associated with main engine/gearing failures (49.6% (70 out of 141), followed by steering gear failure at 19.1% (27) (Figure 19).

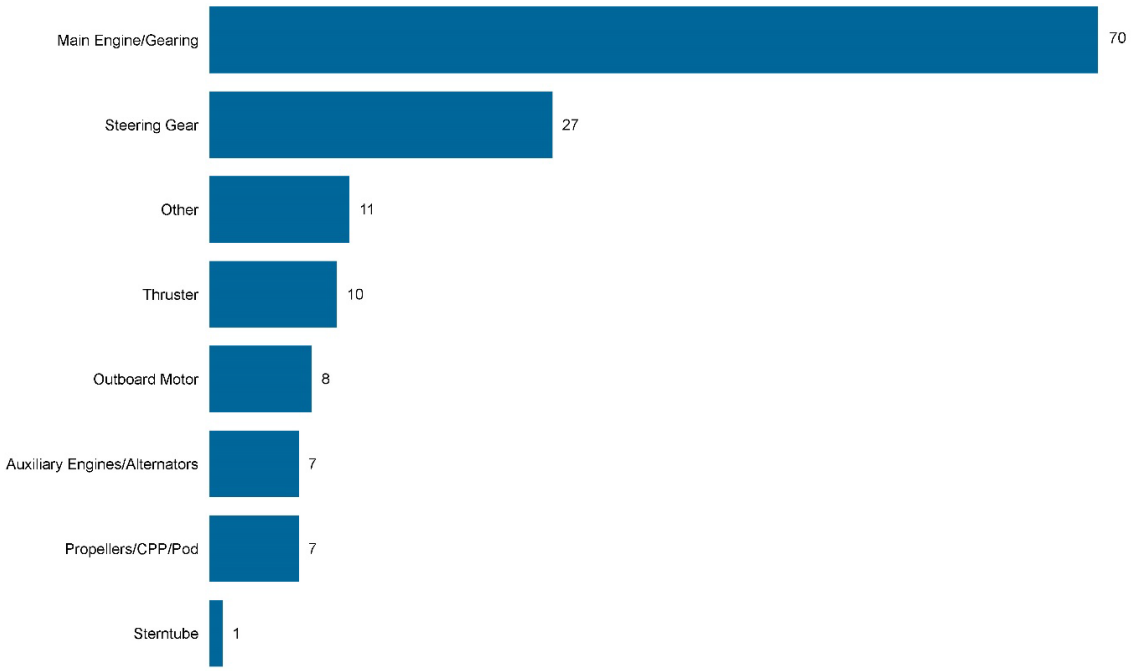

Figure 19: Power, propulsion, and steering failure occurrence types (2024)

Safety framework coding analysis

This section presents the findings from the safety framework coding of DCV investigation reports. The findings provide an understanding of safety issues and identifies if, and where, greater compliance focus needs to be applied.

Between 2020 and 2024, 331 DCV investigation reports were coded using the safety framework.

From the 331 investigations coded, the majority of consequences to vessel and people were associated with crew injuries (21.5% (71)) followed by contacts (16.0% (53)), passenger injuries (14.2% (47)) and grounding (13.3% (44) (Figure 20).

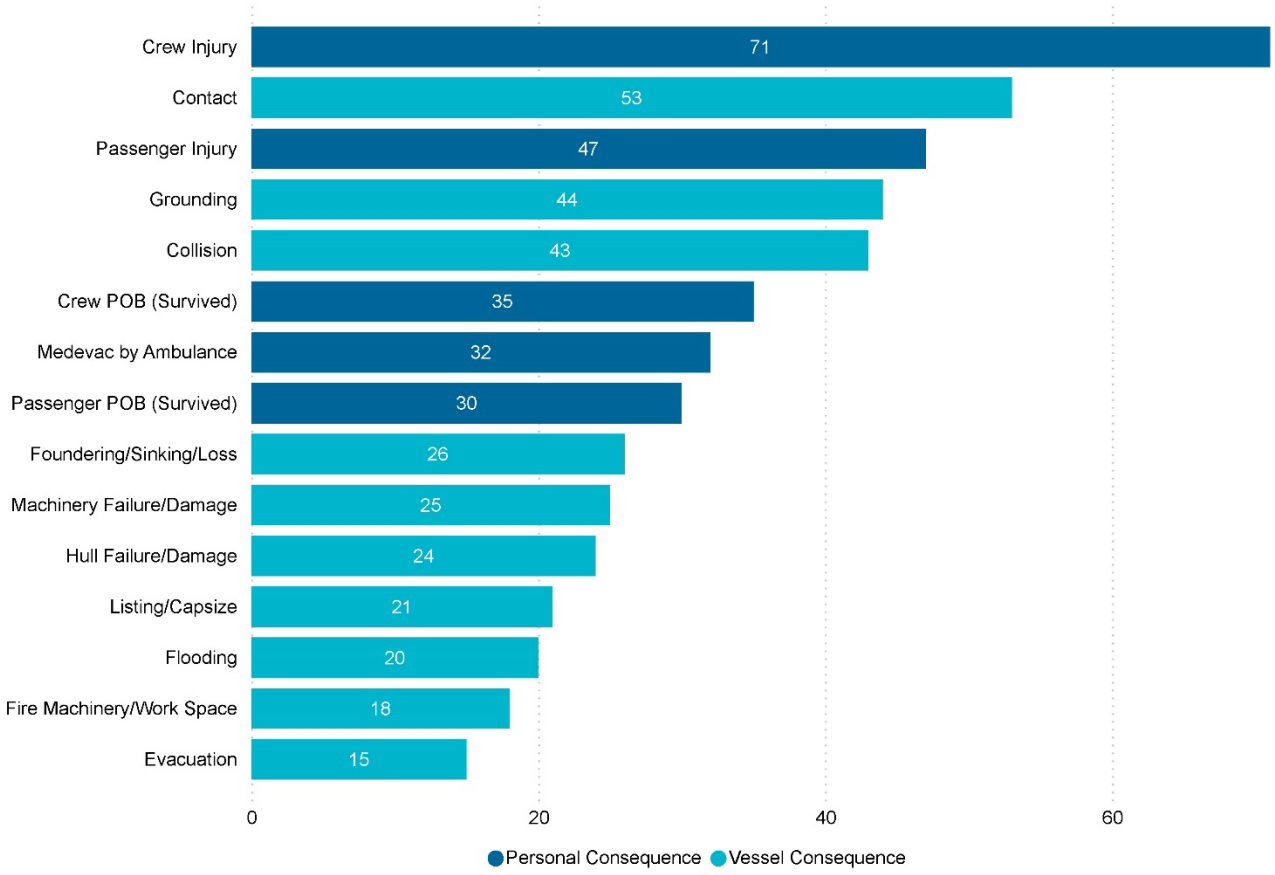

Figure 20: Most frequent consequence events from the 331 coded investigation reports (2020-2024)

Aspects related to *internal organisational influence* at 27.5% (227), and *people* at 24.8% (204) continue to form the majority of safety factors identified from the marine investigation reports (Figure 21).

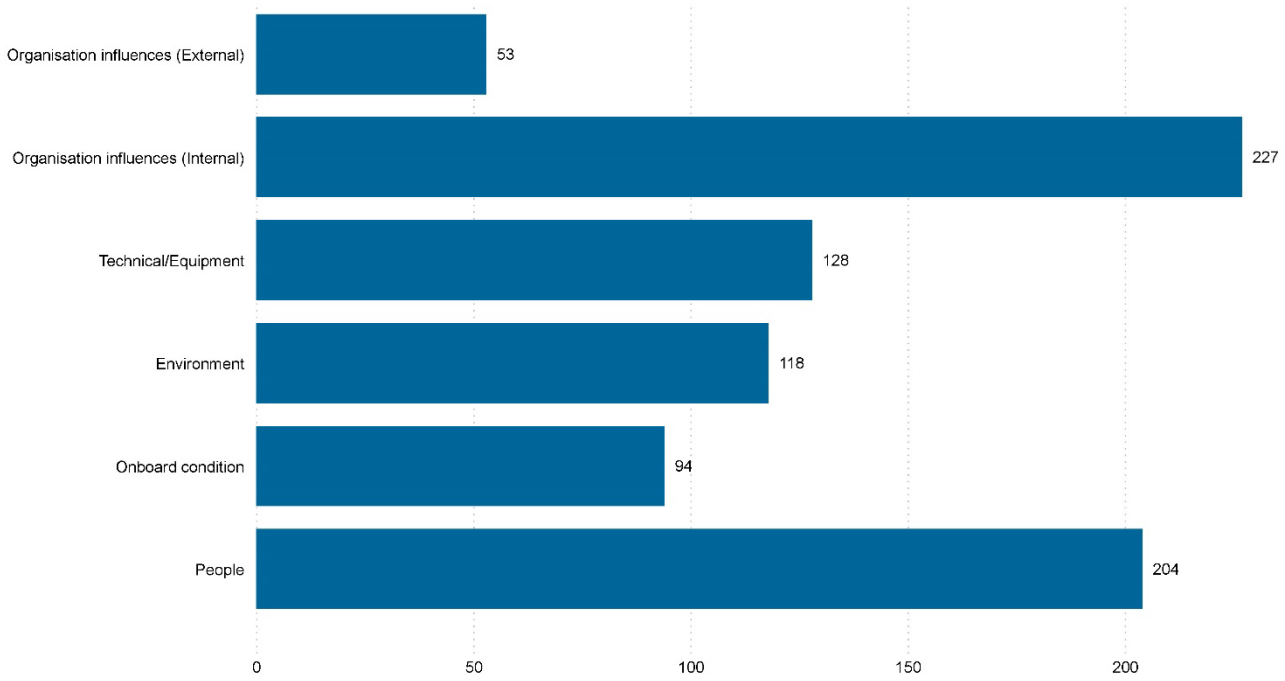

Figure 21: Categorisation of primary safety factors identified from investigation reports (2020-2024).

The analyses presented will focus on the primary safety factors of concern, *people, onboard condition, organisational influences (internal) and environment*.

People

People actions refer to observable behaviours such as decisions, actions and/or inaction by the crew that increase risk.

Of the *people* actions, 39.5% (126) were related to navigation action, followed by deck operation action at 38.2% (122) and maintenance actions at 12.5% (40) (Figure 22).

Navigation action comprised shortfalls in assessing and planning (26.2% (33)), monitoring/checking/documenting (21.4% (27)) and using equipment (19.8% (25)). These included shortfalls in actions associated with conducting briefings as part of passage planning and monitoring the status of navigation tasks through adherence to standing orders and use of paper or electronic charts and bridge systems such as radar, AIS, GPS and GMDSS. Examples of deck operation factors include shortfalls in using equipment such as cargo, mooring, lifting and other deck systems. Examples of maintenance actions include poor monitoring of the status of maintenance tasks associated with planned maintenance and survey records.

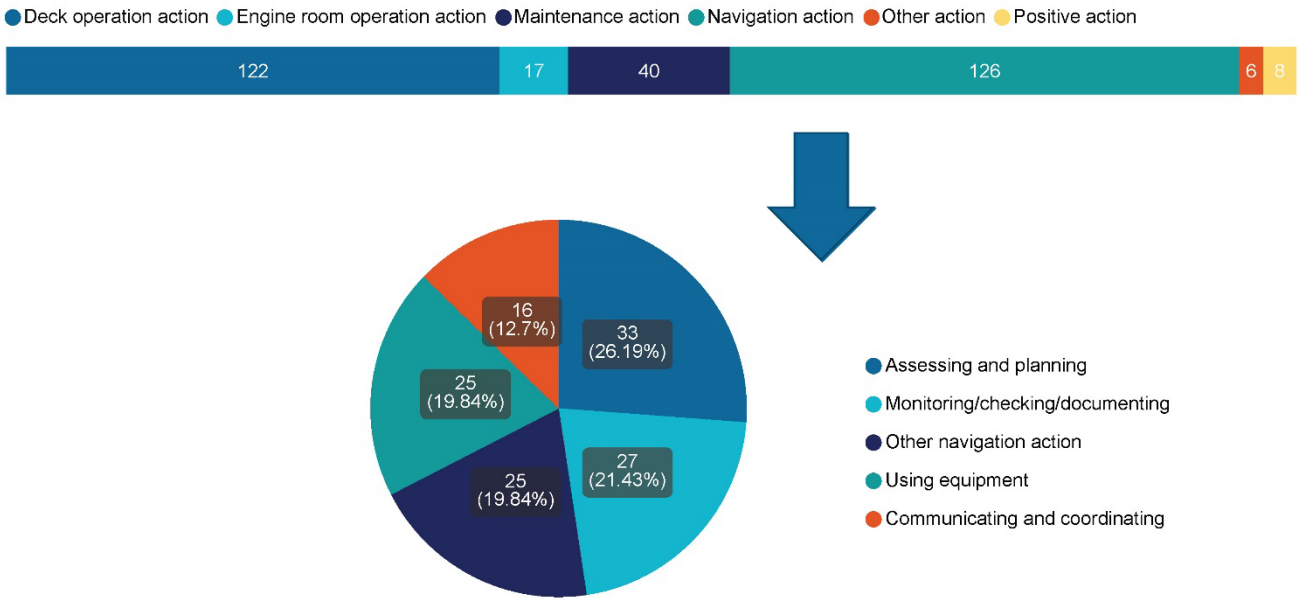

Figure 22: Breakdown of *People* categories (2020-2024)

Environment

Of the 145 environment safety factors identified, 68.3% (99) were related to weather conditions, 17.9% (26) related to workspace environment and 13.8% related to the physical environment.

Weather safety factors included aspects associated with sea, swell, wind or visibility conditions that influenced vessel, equipment and individual performance or the ability to control the vessel. Environmental issues were mainly related to sea/swell (40.4% (40)), followed by wind (27.3% (27)) and poor visibility (20.2% (20)) (Figure 23).

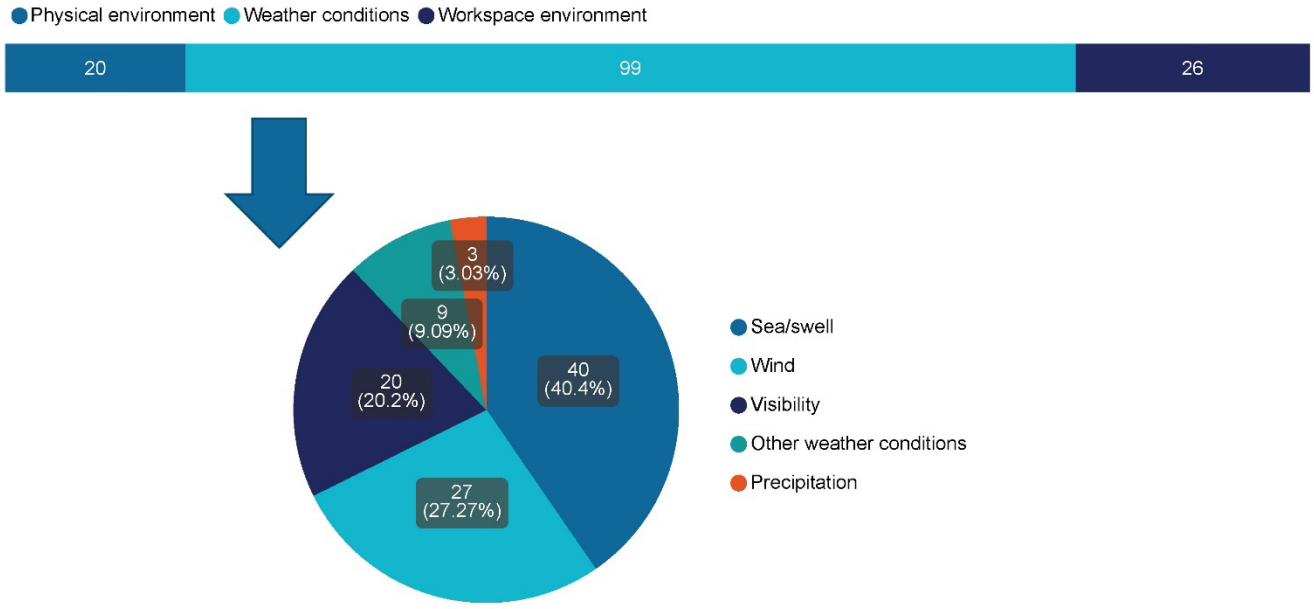

Figure 23: Breakdown of *Environment* categories (2020-2024)

Onboard conditions

Onboard conditions refer to aspect onboard the vessel such as knowledge skills and experience, internal and external factors that influence individual performance and well-being that increase risk.

Most safety factors identified related to *onboard conditions* included knowledge, skills and experience, (39.4% (50)). This is followed by personal factors (32.3% (41)), and task demands (26.6% (35) (Figure 24).

Knowledge skills and experience identified included gaps in knowledge in the operation of key machinery and safety systems onboard the vessel and in performing key tasks such as anchoring or responding to emergencies.

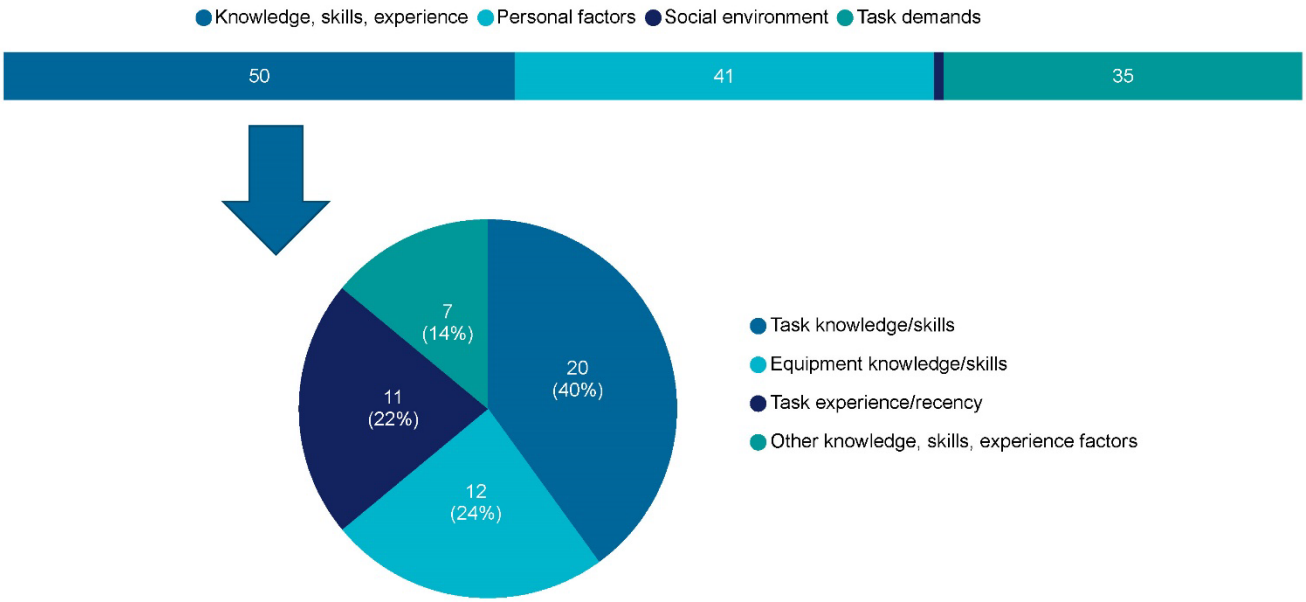

Figure 24: Breakdown of *Onboard conditions* categories (2020-2024)

Internal organisational influences

A significant portion of the risks to safety of vessels and crews reside at the organisational level.

Safety management system deficiencies comprised most of the internal organisational issues, at 65.1% (269), followed by people management at 19.6% (81).

Poor, lack of or ineffective risk assessments continue to present a major area of concern and remains a focus of AMSA's National Compliance Plan. Most safety management system issues are associated with shortfalls in the risk assessment (37.6% (101)) and safety procedures (36.1% (97)) (Figure 25).

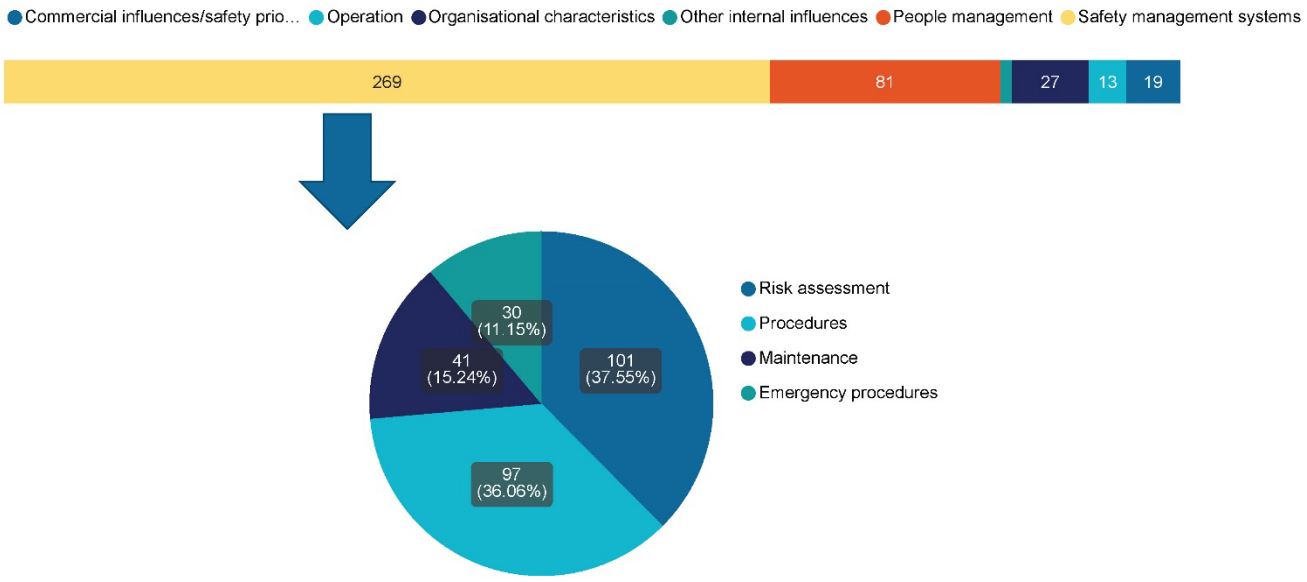

Figure 25: Breakdown of internal organisational categories with a safety management processes (2020-2024)

Foreign-flagged and regulated Australian vessels

Marine incident trends

In 2024, AMSA received a total of 258 reports of marine incidents involving RAVs. This represents a decrease of 3.4% from 2023 (267 reports).

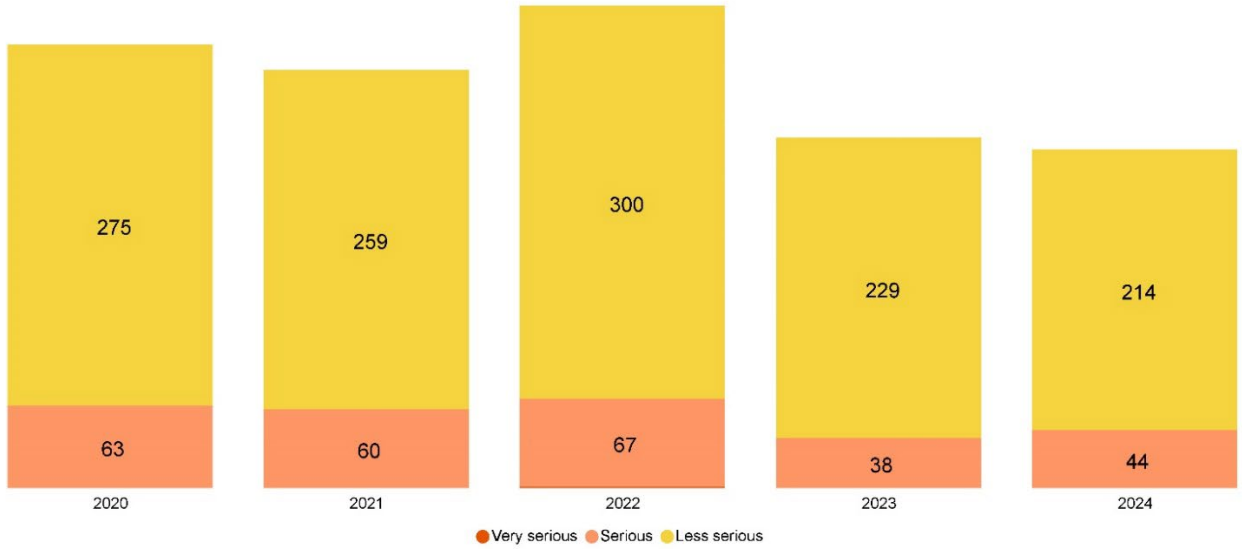

Figure 26: RAV reported marine incidents by severity (2020-2024)

Figure 27 shows the total number of reports of marine incidents[10] involving foreign flagged vessels (4184), which represents an increase of 2.7% from 2023 (4075 reports). Despite an overall increase in reporting, 6.1% (254) of marine incidents in 2024 were classified as very serious or serious, which is a decrease from 2023.

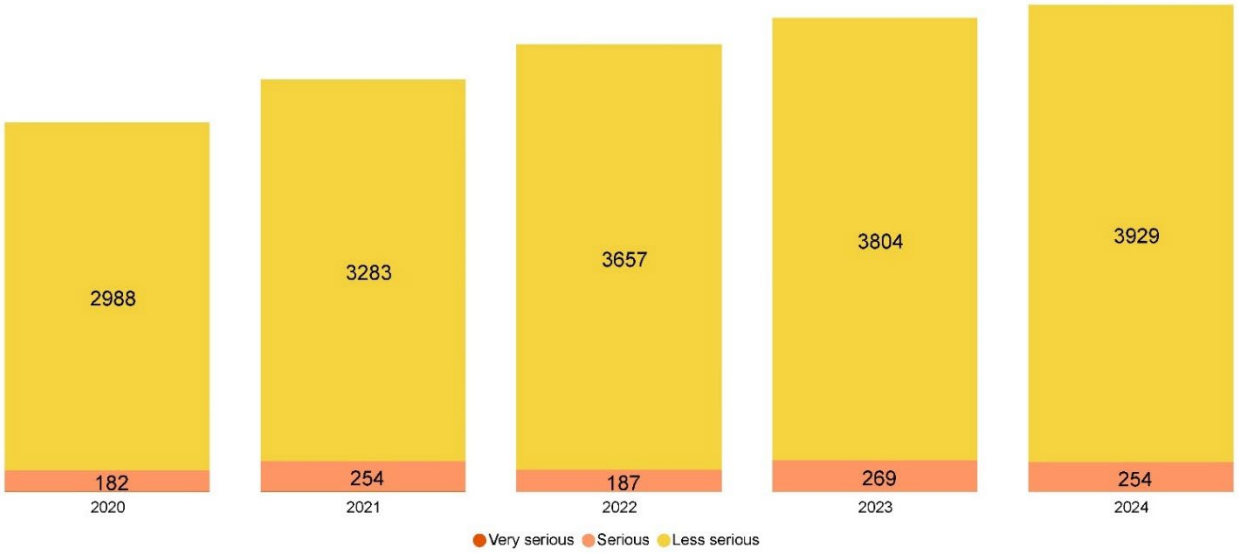

Figure 27: Foreign flagged vessel reported marine incidents by severity (2020 - 2024)

[10] The total number of marine incidents include defect reports.

Consistent with port arrivals data[11] most marine incident reports from foreign flagged vessels in 2024 were from bulk carriers. Bulk carriers, which account for 52.9% of foreign flag arrivals, reported 60.8% of marine incidents in 2024 (Figure 28). Container vessels, which account for 14.6% of foreign flag arrivals, reported 13.2% of marine incidents in 2024. Similarly, general cargo/multi-purpose vessels accounted for 5.6% of arrivals and reported 6.5% of marine incidents.

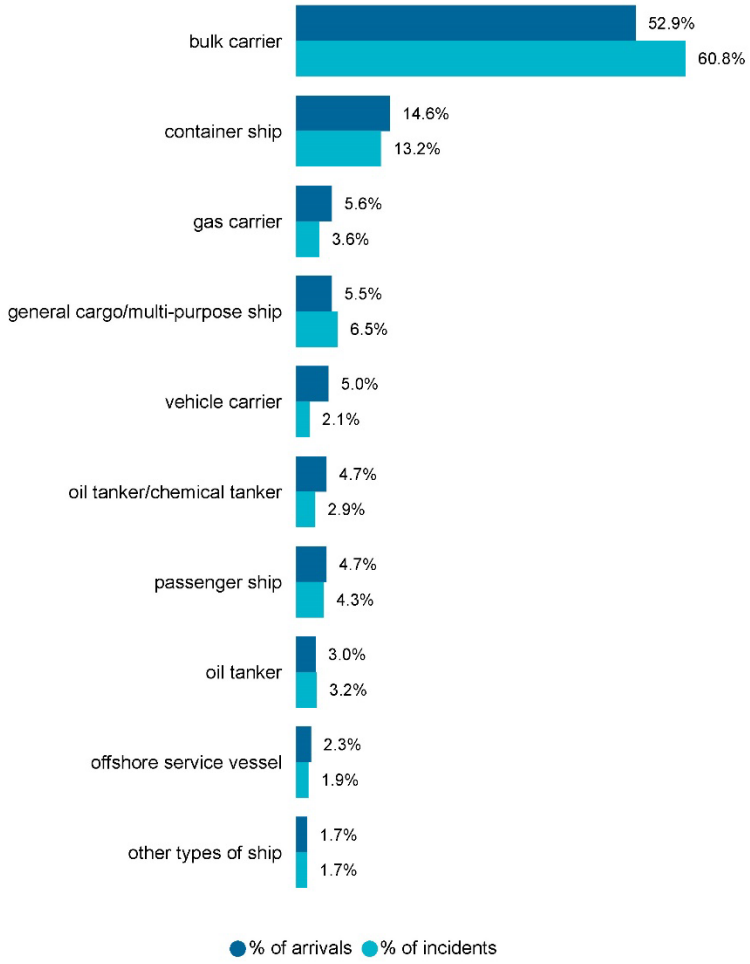

Figure 28: Proportion of foreign flag vessel marine incidents and vessel arrivals in 2024 by vessel type

[11] https://www.amsa.gov.au/inspections-annual-report-2024

Consequences to people

Consequence refers to the impact or outcome of a marine incident, and may include consequences to the vessel, persons on the vessel, the environment, or infrastructure. This section focuses on people consequences, including fatalities and injuries.

Fatalities

In 2024 there was one operational related seafarer fatality on a foreign flagged vessel. There were no passenger fatalities reported in 2024.

Detailed reporting on vessel crew fatalities is contained in the Maritime Labour Convention Annual Report 2024.[12]

Injuries

In 2024, a total of 298 injuries to crew and passengers were reported from RAVs (45) and foreign flag (253) vessels (Table 7). There were 87 passenger injuries on foreign flagged vessels, comprising 34.4% of injury related incidents. Reported passenger injuries were not related to the operation of the vessel and manly occurred from recreational activities onboard (such as sport and entertainment) and slips, trips and falls not attributable to access, operations or handling of the vessel.

Table 7: Marine Incidents that include a reported injury to a crew member or passenger, total and as a proportion of all incidents 2020-2024.

Year		2020		2021		2022		2023		2024	
Vessel	**Type**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**
RAV	Crew injury	68	20.1%	54	16.9 %	49	13.3%	32	12. 0%	40	15.5 %
	Passenger injury	1	0.3%	4	1.3%	1	0.3%	3	1.1 %	5	1.9 %
FF	Crew injury	135	4.3%	163	4.6%	130	3.4%	157	3.9 %	166	4.0 %
	Passenger injury	24	0.8%	1	0.0%	18	0.5%	94	2.3 %	87	2.1 %

In 2024, a total of 83 serious injuries were reported from foreign flagged and regulated Australian vessels, comprising 79 crew and 4 passenger injuries. (Table 8).

Table 8: Number of marine incidents that involved serious crew and passenger injuries by year (2020-2024)

Serious Injuries	2020	2021	2022	2023	2024
Crew	67	78	61	79	79

[12] The MLC Annual 2024 report contains a detailed breakdown of seafarer fatalities on RAVs and FF vessels in Australian waters including person overboard incidents. https://www.amsa.gov.au/maritime-labour-convention-annual-report-2024

Serious Injuries	2020	2021	2022	2023	2024
Passenger	7	1	3	6	4
Total	**74**	**79**	**64**	**85**	**83**

Most crew injuries were associated with maintenance activities (24.8% (51)) with 8.7% (18) of these being serious. Cargo and stores handling was the next largest source of injuries at 18.4% (38), with 14 of these being serious (Figure 29).

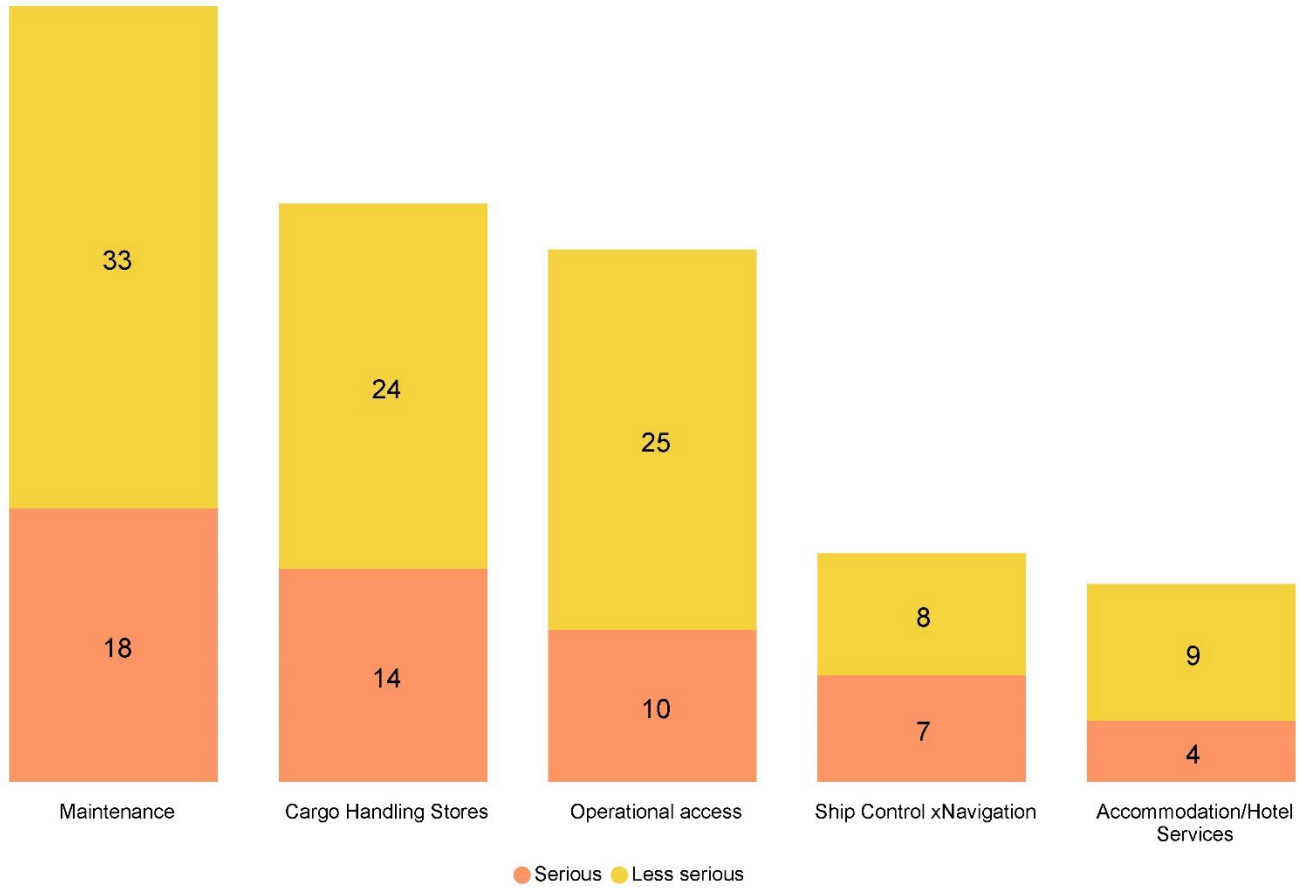

Figure 29: Activity associated with crew injury by incident severity, FF, and RAV (2024)

Consequences to vessels

Vessel consequences are the impacts or outcomes to the vessel itself resulting from a marine incident, such as damage, disablement, system impairment or loss. In 2024, 10.1% (423) of marine incidents reported involved a vessel consequence.

Out of the 423 reported vessel consequences in 2024, the most recorded consequences were:

Consequence	Percentage (number)
Machinery damage	17.5% (74)
Contact	4.7% (20)
Grounding	4.7% (20)
Smoke	3.7% (16)

Consequence	Percentage (number)
Hull damage	3.3% (14)
Collision	3.1% (13)
Fire machinery/workspace	2.6% (11)
Disabled	2.4% (10)

Figure 30 shows the most frequently occurring vessel consequences between 2020 and 2024 by year. Over the last five years, the top consequences are machinery damage, contact and disablement.

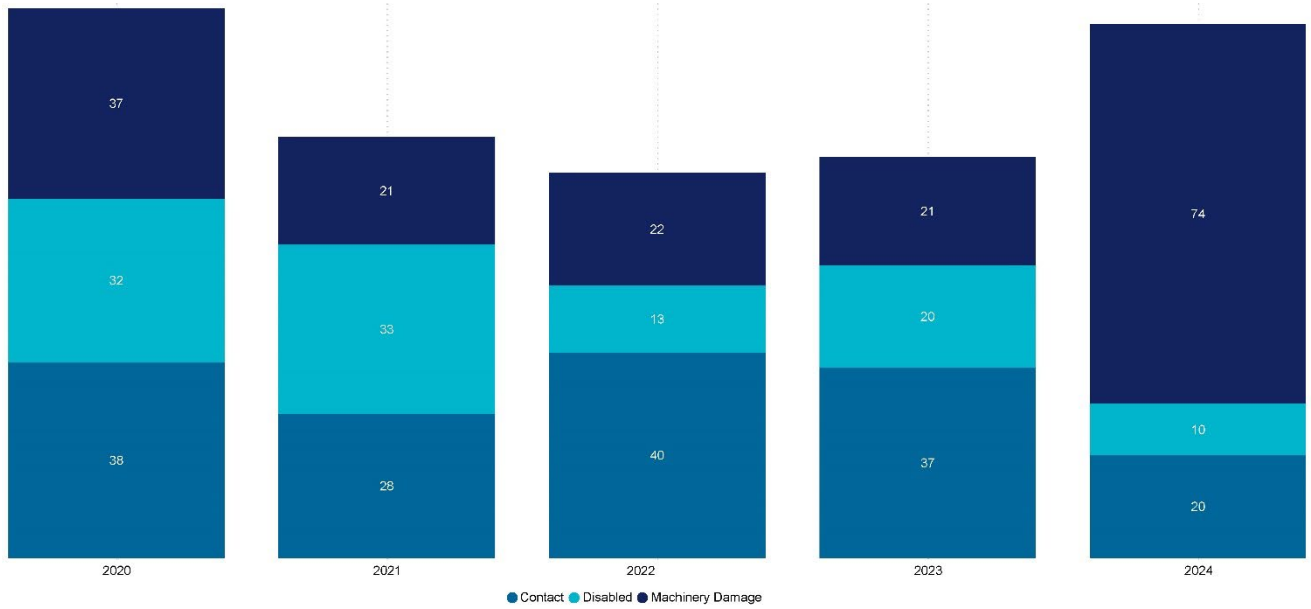

Figure 30: Top 3 vessel consequences, FF and RAV (2020-2024)

Figure 31 shows technical/operational failures associated with vessel consequence by severity, for 2024. Most failures attributable to vessel consequences were associated with cargo and stores handling (24.5% (143 out of 583)), with 25.2% (36) of these categorised as very serious/serious.

Vessel control and navigation was the second highest occurrence comprising 21.1% (123) of vessel consequences, with 17.1% of these categorised as serious.

While engineering system failures comprised 14.6% (85) of vessel consequences, this issue continues to present a major concern to vessel safety with 37.1% classified as serious.

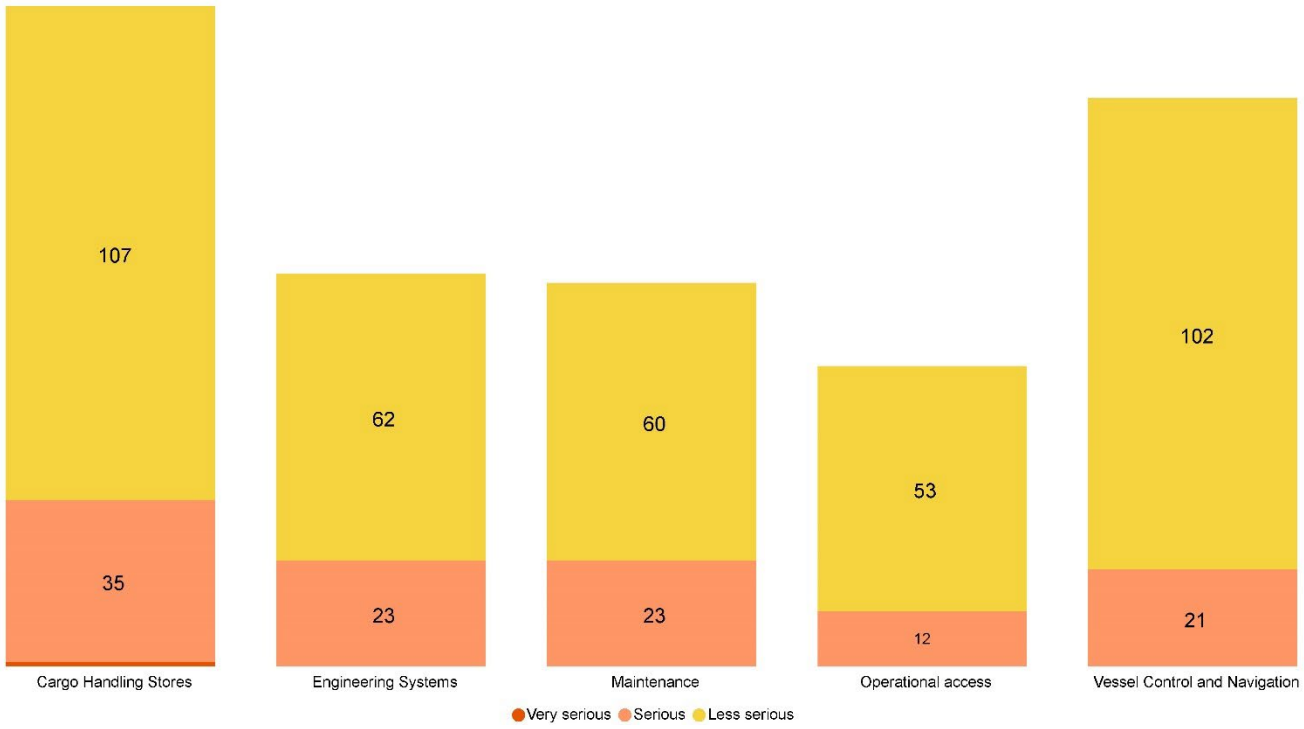

Figure 31: Technical/Operational failures associated with vessel consequence incidents by severity, FF and RAV (2024)

Trends in operational occurrence types

Figure 32 shows the most frequently occurring operational occurrence types in 2024, with cargo handling/stores (183) comprising the most frequently occurring operational type. Cargo and stores handling occurrences decreased by 12.4% in 2024 when compared to 2023 (209 in 2023 to 183 in 2024).

Vessel control and navigation was the second most frequent operational occurrence type, increasing by 40.3% in 2024 from 2023 (129 in 2023 to 181 in 2024). This was followed by maintenance being third largest operational occurrence (106) in 2024.

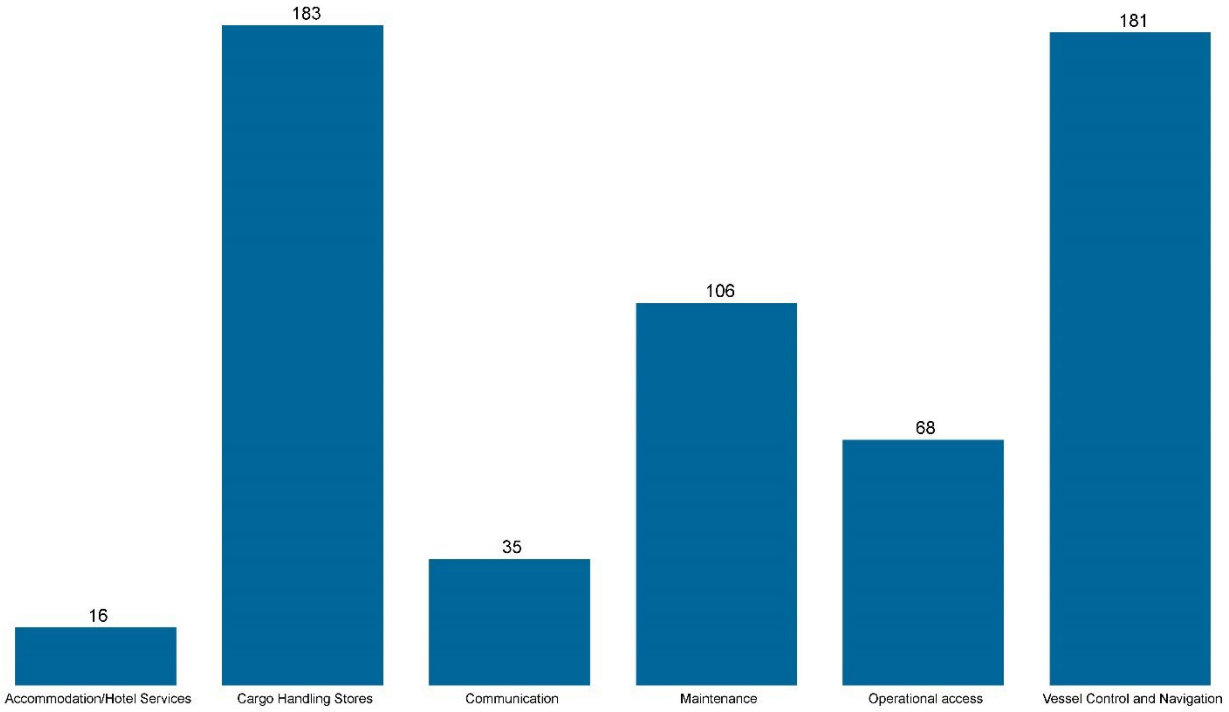

Figure 32: Top 6 operational occurrence types, FF and RAV (2024)

Figure 33 shows the most frequent very serious and serious sub elements associated with operational occurrences for 2024.

The most frequent occurring cargo handling stores operational occurrences categorised as very serious/serious was related to loading/unloading (22 (24.4%) of 90). This was followed by berthing/unberthing (also categorised as serious) which comprised 11 (15.9%) from the 69-ship control and navigation occurrences.

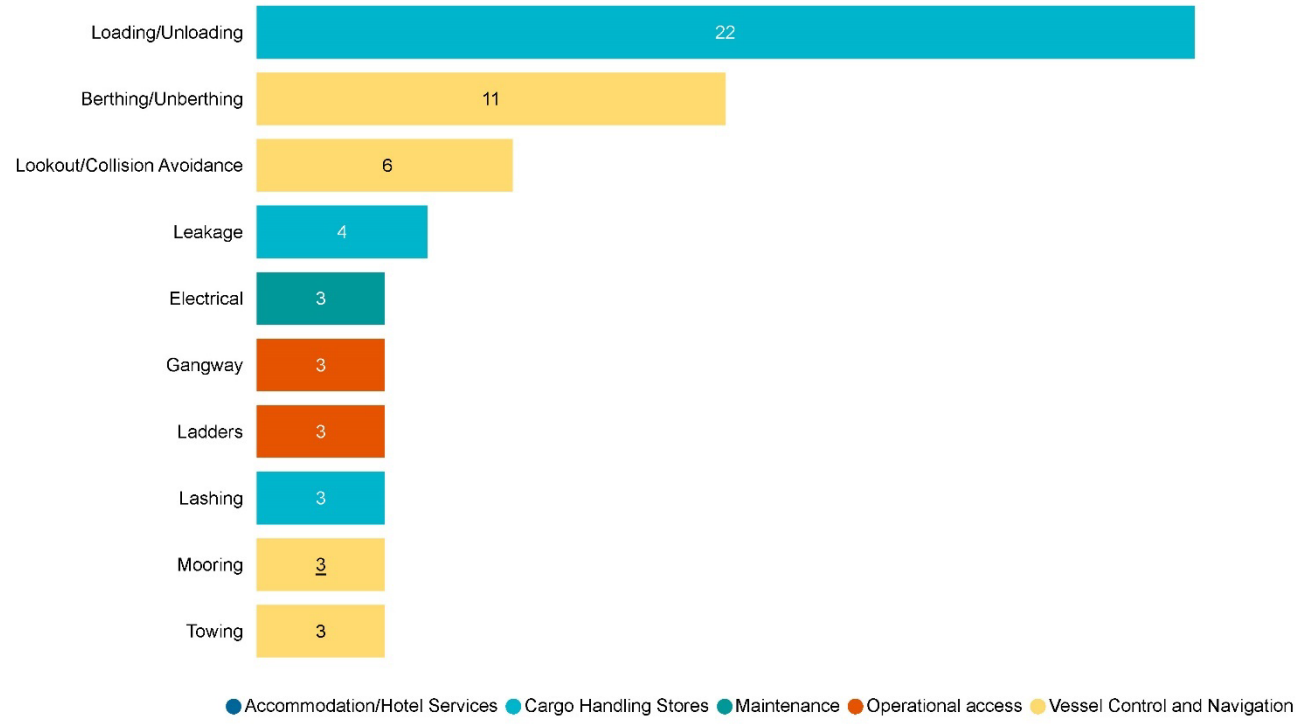

Figure 33: Top 10 operational occurrence types categorised as very serious/serious, FF and RAV (2024)

Trends in technical occurrence types

Figure 34 shows the most frequent technical occurrence types for 2024. Engineering system failures (759) comprised the majority of technical occurrence types in 2024, increasing by 16.1% from 2023 (654).

This is followed by vessel systems which comprised 680 technical occurrence type in 2024, representing a slight decrease from 2023 (693). Power propulsion and steering included the third most frequent occurring technical occurrence types in 2024 (632), decreasing by 2.2% from 2023 (646).

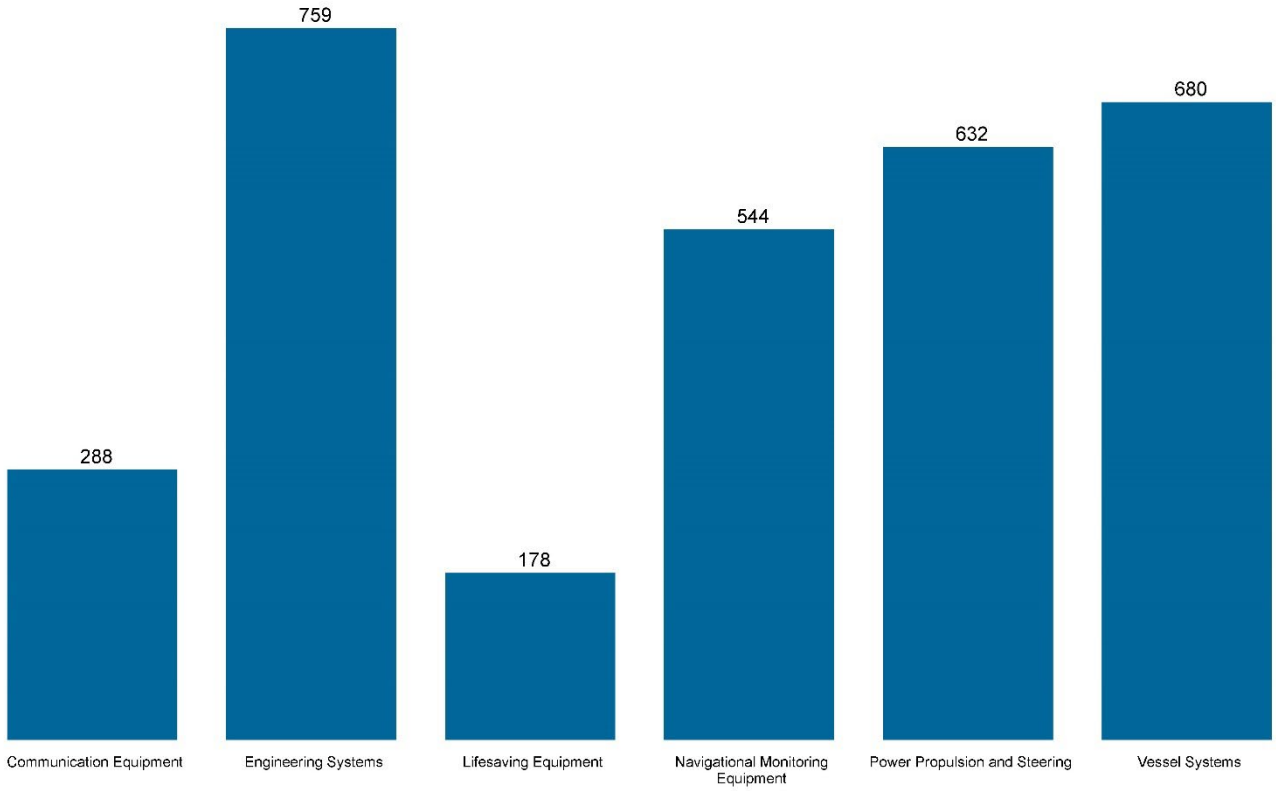

Figure 34: Top 6 technical occurrence types, FF and RAV (2024)

Figure 35 shows the top 10 technical occurrence sub-element types categorised as very serious/serious in 2024, with main engine/gearing related failures being the most frequent occurrences (77), followed by auxiliary engines/alternators (20) and electrical (14).

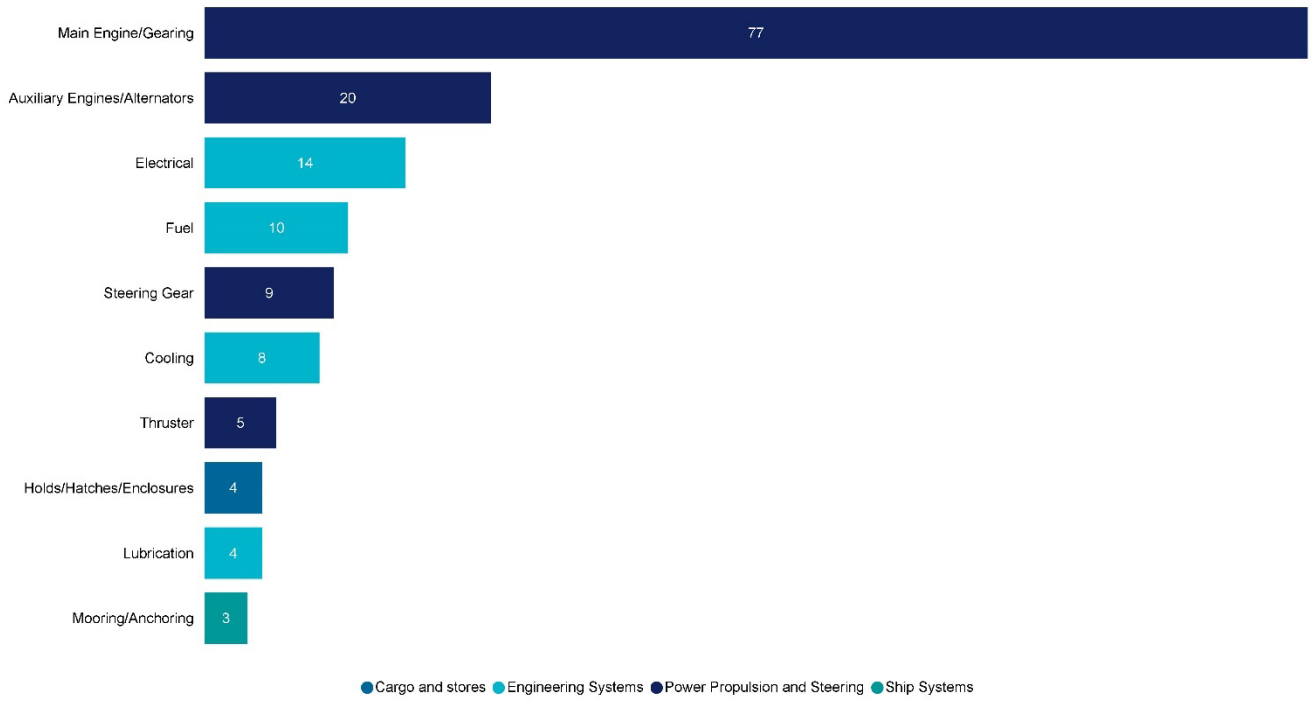

Figure 35: Top 10 technical occurrence type sub-element failures categorised as very serious/serious, FF and RAV 2024

Appendix – Further supporting data

Table A1 (supporting Figure 1)

Total number of marine incidents reported by FFVs, RAVs and DCVs (2020-2024)

Vessel type	2020	2021	2022	2023	2024
DCV	760	962	1062	1126	1181
FFV	3175	3545	3847	4075	4184
RAV	338	319	368	267	258
Total	**4268**	**4826**	**5281**	**5472**	**5625**

Table A2 (supporting Figure 2)

Number of DCV marine incidents by severity (2020-2024)

Severity	2020	2021	2022	2023	2024
Very serious	7	9	8	7	6
Serious	220	278	256	296	244
Less serious	533	675	798	823	932
Total	**760**	**962**	**1062**	**1126**	**1182**

Table A3 (supporting Figure 3)

Percentage of marine incidents reported compared to the percentage of the fleet by class showing 2023 and 2024 data

Class	% of marine incidents reported in 2024	% of marine incidents reported in 2023	% of the fleet
Passenger	46.59%	45.20%	8.91%
Non-passenger	38.22%	37.22%	51.33%
Fishing	9.92%	11.16%	26.30%
Hire & drive	5.26%	6.42%	13.45%

Table A4 (supporting Figure 3)

Number of reported marine incidents by class and year (2020 to 2024)

Class	2020	2021	2022	2023	2024
Passenger	268	412	500	510	540
Non-Passenger	312	374	370	418	443
Fishing	101	99	103	109	115

Class	2020	2021	2022	2023	2024
Hire & Drive	47	64	68	64	61

Table A5 (supporting Figure 4)

Proportion of marine incidents reported and vessels by length for 2024

Measured Length Groups	% of the fleet **reporting incidents**	% of the total fleet
1. 0-7.5m	12.1%	59.0%
2. 7.5-12m	18.4%	18.0%
3. 12-24m	34.3%	16.9%
4. 24-35m	23.5%	2.8%
5. 35-45m	3.1%	0.4%
6. 45+m	7.6%	0.5%

Table A6 (supporting Figure 5)

Number of fatalities by state for 2024

State	Number of fatalities
NSW	2
SA	2
WA	0
VIC	0
TAS	0
NT	0

Table A7 (supporting Figure 6)

Number of fatalities by year and vessel class (2020-2024)

Year	Fishing	Hire & Drive	Non-Passenger	Passenger	Other
2020	3	0	1	0	0
2021	1	0	1	1	0
2022	0	0	0	0	0
2023	1	1	0	0	1
2024	2	0	1	1	0

Table A8 (supporting Figure 7)

Percentage of serious and minor injuries by year (2020-2024)

Injuries	2020	2021	2022	2023	2024
Minor	54.2%	72.1%	67.5%	62.8%	67.9%
Serious	45.8%	27.9%	32.5%	37.2%	32.1%

Table A9 (supporting Figure 8)

Number of marine incidents involving serious injuries (crew and passengers) by vessel class

Year	Passenger	Non-Passenger	Fishing	Hire & Drive
2020	11	35	15	4
2021	22	15	12	8
2022	35	28	12	4
2023	44	23	15	12
2024	36	24	9	9

Table A10 (supporting Figure 9)

Top occurrence types associated with serious crew injuries for 2024

Occurrence type	Serious Crew Injury
Vessel Control & Navigation	24
Weather &Water Conditions	10
Cargo Handling Stores	6
Maintenance	4
Dangerous Fauna	2
Operational Access	2

Table A11 (supporting Figure 10)

Top occurrence types associated with serious passenger injuries for 2024

Occurrence	Serious Passenger Injury
Vessel Control & Navigation	12
Operational Access	11
Weather &Water Conditions	5
Communication	2

Occurrence	Serious Passenger Injury
Accommodation/Hotel Services	1
Dangerous Fauna	1
Diving Snorkelling	1
Vessel Systems	1

Table A12 (supporting Figure 11)

Marine incidents involving reported person overboard by vessel class and year (2020-2024)

Class	2020	2021	2022	2023	2024
Passenger	20	33	38	36	30
Non-Passenger	9	19	27	30	25
Fishing	8	9	9	8	7
Hire & Drive	8	13	14	7	12

Table A13 (supporting Figure 12)

Number of crew overboard incidents by lifejacket wear status (2020-2024)

Year	Unknown	Wearing	Without	Incidents Reported
2020	16	1	1	18
2021	7	13	9	29
2022	15	17	6	38
2023	5	30	11	46
2024	7	11	11	29

Table A14 (supporting Figure 13)

Proportion of DCV fleet and unintentional person overboard incidents by vessel length in 2024

Measured Length Groups	% **of Total UVIs**	% **of Crew POB**
1. 0-7.5m	60.4%	16.0%
2. 7.5-12m	18.4%	12.0%
3. 12-24m	17.3%	52.0%
4. 24-35m	2.9%	16.0%
5. 35-45m	0.5%	
6. 45+m	0.5%	4.0%

Table A15 (supporting Figure 14)

Top vessel consequences by severity for 2024

Consequence	Very Serious	Serious	Less Serious
Contact	1	23	153
Collision		26	125
Grounding		22	78
Machinery Failure/Damage		19	42
Close Quarters		2	51
Disabled		32	10
Fire/Smoke		18	21
Flooding		12	22
Hull Failure/Damage		8	23
Foundering/Sinking/Loss	2	14	9
Listing/Capsize	1	7	8
Evacuation	1	5	1
Breakaway			6
Explosion		1	

Table A16 (supporting Figure 15)

Proportion of collisions, contacts and groundings (2020 to 2024)

Year	Collision	Contact	Grounding
2020	18.50%	7.93%	12.33%
2021	13.59%	10.45%	11.85%
2022	8.71%	7.20%	15.15%
2023	9.90%	8.25%	9.90
2024	10.36%	9.56%	8.76%

Table A17

Vessel consequences categorised as serious and very serious incidents by vessel class for 2024

Consequence	Fishing	Hire & Drive	Non-Passenger	Passenger	Total
Disabled	11	1	8	12	32
Collision		7	6	13	26
Contact	6	3	7	8	24

Consequence	Fishing	Hire & Drive	Non-Passenger	Passenger	Total
Grounding	7	2	6	7	22
Machinery Failure/Damage	5	1	6	7	19
Foundering/Sinking/Loss	8		3	5	16
Flooding	4		5	3	12
Fire Machinery/Workspace	3		4	4	11
Hull Failure Damage	3	2	2	1	8
Listing/Capsize	3	2	2	1	8
Evacuation	4			2	6
Smoke			2	3	5
Close Quarters			2		2
Fire Other			2		2
Explosion			1		1

Table A18 (supporting Figure 16)

Top occurrence types categorised by severity for 2024

Occurrence	Very Serious	Serious	Less Serious
Vessel Control and Navigation	2	100	433
Operational Access		21	35
Cargo Handling Stores	2	8	44
Communication		4	37
Maintenance	1	12	19
Diving/Snorkelling		1	15
Accommodation/Hotel Services		1	4

Table A19 (supporting Figure 17)

Top 10 operational occurrences (2020-2024)

Level 3	Count of Incident ID	%	Level 2 (groups)
Lookout/Collision Avoidance	639	22.1%	Vessel Control and Navigation
Vessel Handling/Loss of Control	515	17.8%	Vessel Control and Navigation
Berthing/Unberthing	265	9.2%	Vessel Control and Navigation
Towing	184	6.4%	Vessel Control and Navigation

Level 3	Count of Incident ID	%	Level 2 (groups)
Diving and Snorkelling	110	3.8%	Diving/Snorkelling
Mooring	99	3.4%	Vessel Control and Navigation
Planning	95	3.3%	Vessel Control and Navigation
Vessel to vessel	92	3.2%	Communication
Anchoring	85	2.9%	Vessel Control and Navigation
Loading/Unloading	58	2.0%	Cargo Handling Stores

Table A20 (supporting Figure 18)

Top four technical occurrences (2020-2024)

Year	Engineering System	Power Propulsion Steering	Structure	Vessel Systems
2020	34	102	9	30
2021	48	152	20	50
2022	46	166	11	48
2023	80	119	11	28
2024	102	141	19	37

Table A21 (supporting Figure 19)

Top level 3 sub-elements under power, propulsion, and steering occurrence types (2024)

Level 3	Count of Incident ID
Main Engine/Gearing	70
Steering Gear	27
Other	11
Thruster	10
Outboard Motor	8
Auxiliary Engines/Alternators	7
Propellers/CPP/Pod	7
Stern tube	1

Table A22 (supporting Figure 20)

Most frequent level 1 and level 2 consequence types from the 331 coded investigation reports (2020-2024)

Level 2	Level 1	Count of Incident ID
Crew Injury	Personal Consequence	71
Contact	Vessel Consequence	53
Passenger Injury	Personal Consequence	47
Grounding	Vessel Consequence	44
Collision	Vessel Consequence	43
Crew POB (Survived)	Personal Consequence	35
Medevac by Ambulance	Personal Consequence	32
Passenger POB (Survived)	Personal Consequence	30
Foundering/Sinking/Loss	Vessel Consequence	26
Machinery Failure/Damage	Vessel Consequence	25
Hull Failure/Damage	Vessel Consequence	24
Listing/Capsize	Vessel Consequence	21
Flooding	Vessel Consequence	20
Fire Machinery/Work Space	Vessel Consequence	18
Evacuation	Vessel Consequence	15

Table A23 (supporting Figure 21)

Count of primary safety factors identified from investigation reports (2020-2024)

Level 1	Count of Incident ID
Organisation influences (External)	53
Organisation influences (Internal)	227
Technical/Equipment	128
Environment	118
Onboard condition	94
People	204

Tables A24 (supporting Figure 22)

i. Breakdown of People categories and navigation action (2020-2024)

Level 2	Count of Incident ID
Navigation action	126
Deck operation action	122
Maintenance action	40

Level 2	Count of Incident ID
Engine room operation action	17
Positive action	8
Other action	6

ii. Navigation action

Level 3	Count of Incident ID
Assessing and planning	33
Monitoring/checking/documenting	27
Other navigation action	25
Using equipment	25
Communicating and coordinating	16

Tables A25 (supporting Figure 23)

i. Breakdown of Environment categories and weather conditions (2020-2024)

Level 2	Count of Incident ID
Weather conditions	99
Workspace environment	26
Physical environment	20

ii. Weather conditions

Level 3	Count of Incident ID
Sea/swell	40
Wind	27
Visibility	20
Other weather conditions	9
Precipitation	3

Tables A26 (supporting Figure 24)

i. Breakdown of Onboard Conditions and knowledge, skills, experience (2020-2024)

Level 2	Count of Incident ID
Knowledge, skills, experience	50
Personal factors	41
Task demands	35
Social environment	1

ii. Knowledge, skills, experience

Level 3	Count of Incident ID
Task knowledge/skills	20
Equipment knowledge/skills	12
Task experience/recency	11
Other knowledge, skills, experience factors	7

Table A27 (supporting Figure 25)

i. Breakdown of internal organisational factors and safety management processes (2020-2024)

Level 2	Count of Incident ID
Safety management system/processes	269
People management	81
Organisational characteristics	27
Commercial influences/safety prioritisation	19
Operation	13
Other internal influences	4

ii. Safety management processes

Level 3	Count of Incident ID
Risk assessment	101
Procedures	97
Maintenance	41
Emergency procedures	30

Table A28 (supporting Figure 26)

Number of RAV marine incidents reported by severity (2020-2024)

Year	Very Serious	Serious	Less Serious
2020		63	275
2021		60	259
2022	1	67	300
2023		38	229
2024		44	214

Table A29 (supporting Figure 27)

Number of foreign flagged vessel marine incidents by severity (2020-2024)

Year	Very serious	Serious	Less serious
2020	5	182	2988
2021	8	254	3283
2022	3	187	3657
2023	2	269	3804
2024	1	254	3929

Table A30 (supporting Figure 28)

Proportion of foreign flag vessel reported marine incidents and vessel arrivals in 2024 by vessel type

Ship Type	%GT Count of CONTACT_ID	%GT Count of MARINE_INCIDENT_ID
Bulk carrier	52.9%	60.8%
Container ship	14.6%	13.2%
Gas carrier	5.6%	3.6%
General cargo/multi-purpose ship	5.5%	6.5%
Vehicle carrier	5.0%	2.1%
Oil tanker/chemical tanker	4.7%	2.9%
Passenger ship	4.7%	4.3%
Oil tanker	3.0%	3.2%
Offshore service vessel	2.3%	1.9%
Other types of ship	1.7%	1.7%

Table A31 (supporting Figure 29)

Activities associated with crew injury categorised by severity, FF, and RAV (2024)

Level 2	Serious	Less serious
Maintenance	18	33
Cargo Handling Stores	14	24
Operational Access	10	25
Ship Control Navigation	7	8
Accommodation/Hotel Services	4	9

Table A32 (supporting Figure 30)

Top 3 vessel consequences, FF and RAV (2020-2024)

Year	Contact	Disabled	Machinery Damage
2020	38	32	37
2021	28	33	21
2022	40	13	22
2023	37	20	21
2024	20	10	74

Table A33 (supporting Figure 31)

Top technical and operational occurrence types associated with vessel consequence categorised by severity, FF and RAV (2024)

Level 2 (groups)	Very serious	Serious	Less serious
Cargo Handling Stores	1	35	107
Engineering Systems		23	62
Maintenance		23	60
Operational access		12	53
Vessel Control and Navigation		21	102

Table A34 (supporting Figure 32)

Top 6 operational occurrence types, FF and RAV (2020–2024)

Year	Accommodation/ **Hotel Services**	Cargo Handling **Stores**	Communication	Maintenance	Operational Access	Vessel Control Navigation
2020	7	121	53	94	44	148
2021	13	86	50	74	86	98
2022	12	88	28	73	64	103
2023	9	209	93	114	97	129
2024	16	183	35	106	68	181

Table A35 (supporting Figure 33)

Top operational occurrence types categorised as very serious/serious, FF and RAV (2024)

Level 2 (groups)	Level 3 (groups)	Count of Incident ID
Cargo Handling Stores	Loading/Unloading	22

Level 2 (groups)	Level 3 (groups)	Count of Incident ID
Vessel Control and Navigation	Berthing/Unberthing	11
Vessel Control and Navigation	Lookout/Collision Avoidance	6
Cargo Handling Stores	Leakage	4
Maintenance	Electrical	3
Operational access	Gangway	3
Operational access	Ladders	3
Cargo Handling Stores	Lashing	3
Vessel Control and Navigation	Mooring	3
Vessel Control and Navigation	Towing	3
Operational access	Doors	2
Accommodation/Hotel Services	Galley	2
Maintenance	Hand/Power Tools	2
Communication	Shipboard Communication	2

Table A36 (supporting Figure 34)

Top 6 technical occurrence types, FF and RAV (2020–2024)

Year	Communication Equipment	Engineering Systems	Navigational Monitoring Equipment	Operational access	Power Propulsion and Steering	Vessel Systems
2020	302	473	539	275	574	398
2021	319	472	617	182	629	541
2022	375	508	650	251	663	667
2023	338	654	554	152	646	693
2024	288	759	544	167	632	680

Table A37 (supporting Figure 35)

Top 10 technical occurrence types associated with ship systems, propulsion, power & steering, engineering systems and cargo/stores categorised as very serious/serious, FF and RAV 2024:

Level 2	Level 3	Count of Incident ID
Power Propulsion and Steering	Main Engine/Gearing	77
Power Propulsion and Steering	Auxiliary Engines/Alternators	20
Engineering Systems	Electrical	14

Level 2	Level 3	Count of Incident ID
Engineering Systems	Fuel	10
Power Propulsion and Steering	Steering Gear	9
Engineering Systems	Cooling	8
Power Propulsion and Steering	Thruster	5
Cargo and stores	Holds/Hatches/Enclosures	4
Engineering Systems	Lubrication	4
Ship Systems	Mooring/Anchoring	3

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