

Accidents and Incidents Reported to MACI. Summary Report (2021)



January 2022

Accidents and Incidents Reported to MACI (2021)

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Accidents and Incidents Reported to MACI (2021)

Introduction

Cayman Islands Shipping Notice 02/2015 and regulation 5 of the Merchant Shipping (Marine Casualty Reporting and Investigation) Regulations, 2018, require certain accidents and incidents to be reported to the Maritime Authority of the Cayman Islands (MACI). These reports are recorded, logged, and followed up as appropriate.

Some incidents require investigation, some simply require recording and others are passed to the Shipping Master who follows up on any seafarer welfare issues that may be related to the accident or incident. Initial reports of incidents that may have an impact on the survey and certification of ships are also passed to the Safety and Compliance section of Cayman Islands Shipping Registry.

This report examines the accident and incidents reported to MACI during 2021.

Where appropriate, comparisons are drawn to incidents reported in previous years.

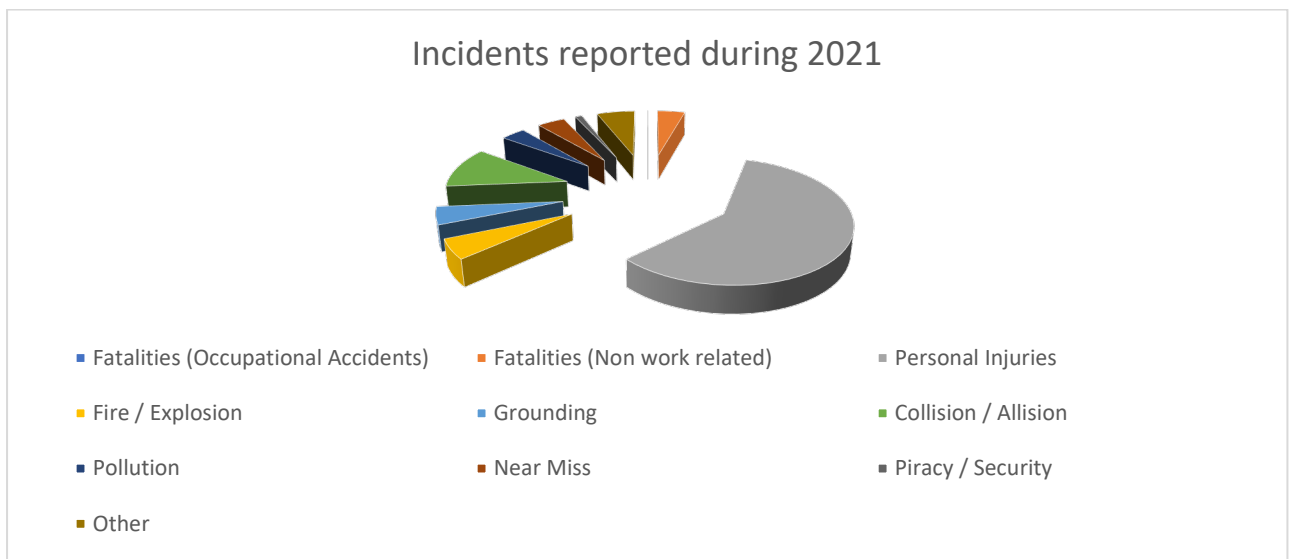
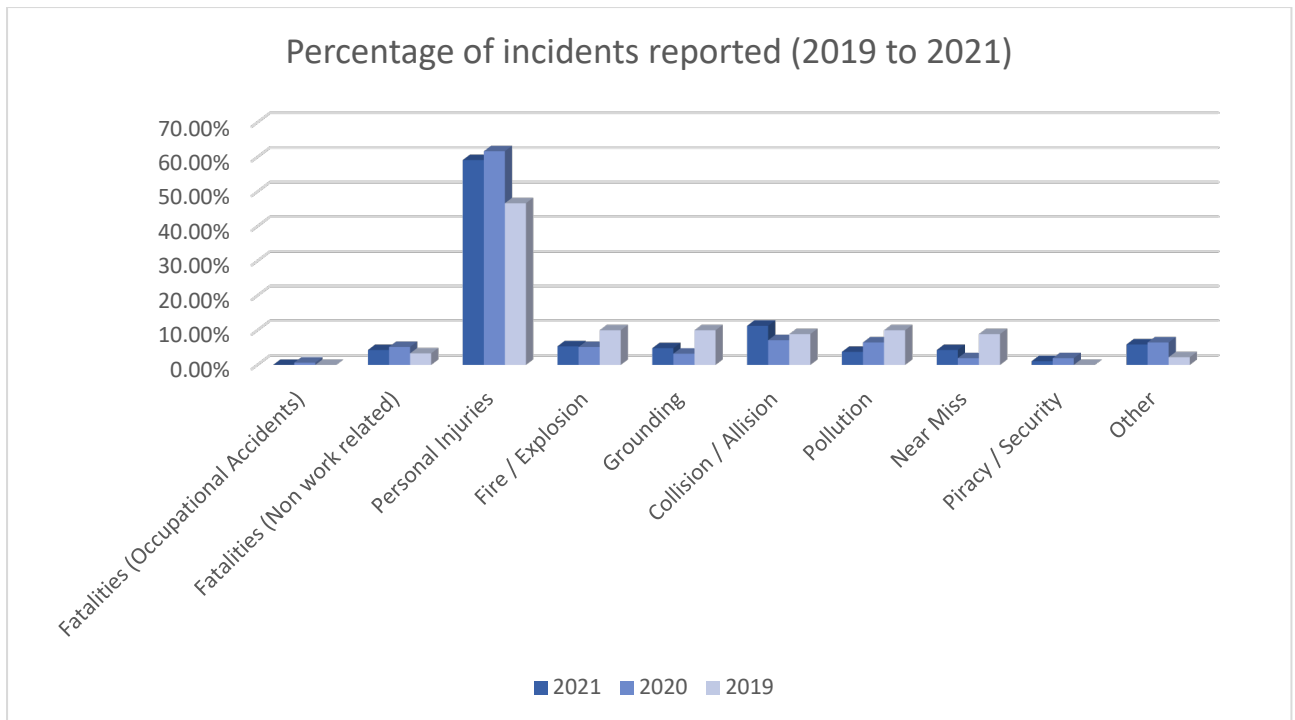
Reported accidents and incidents (2021)

Overview

A total of **186** accidents and other incidents were reported to MACI during 2021. This is an increase of **40** incidents when compared to 2020. These can be broken down as follows –

	2021		2020		2019		Change
	Num	%	Num	%	Num	%	
Fatal (Occupational Accident)	0	0.00%	1	0.65%	0	0.00%	-1
Fatalities not work related	8	4.30%	8	5.19%	3	3.33%	0
Personal Injuries	110	59.14%	95	61.69%	42	46.67%	+15
Fire & Explosion	10	5.38%	8	5.19%	9	10.00%	+2
Groundings	9	4.84%	5	3.25%	9	10.00%	+4
Collisions / Allisions	21	11.29%	11	7.14%	8	8.89%	+10
Pollution Incidents	7	3.76%	10	6.49%	9	10.00%	-3
Near Miss	8	4.30%	3	1.95%	8	8.89%	+5
Piracy / Other Security	2	1.08%	3	1.95%	-	-	-1
Other	11	5.91%	10	6.49%	2	2.22%	+1

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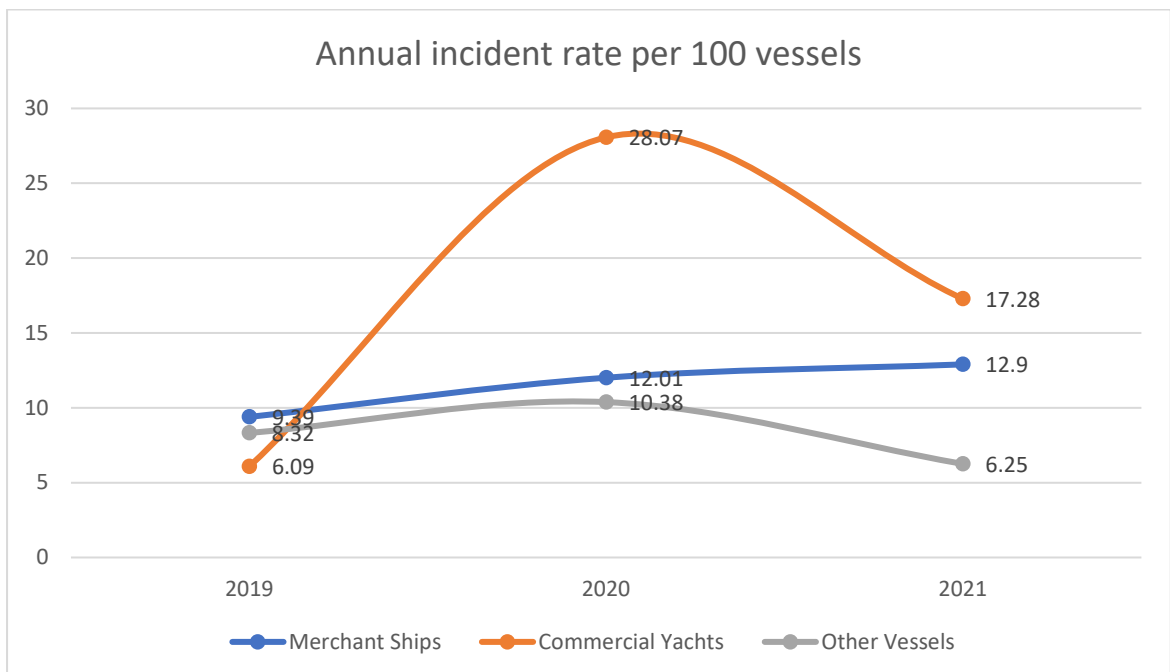
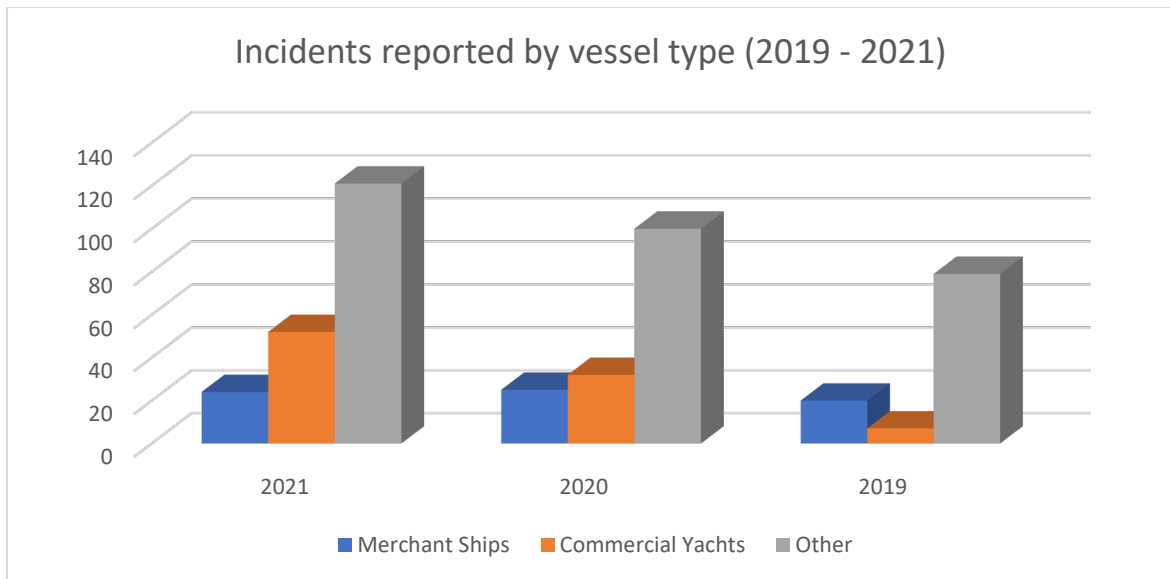
By Vessel Type

As well as recording incidents by “category”, the incidents were also recorded for each “ship type” as follows –

	2021 Reports	(Per 100 vessels)	2020 Reports	2019 Reports	Change
Merchant Ships:	24	(12.90)	25	20	-1
Commercial Yachts:	52	(17.28)	32	7	+20
Other (Pleasure vessels, etc) ¹	121	(8.32)	100	79	+21

¹ This category is restricted to vessels over 24m in length.

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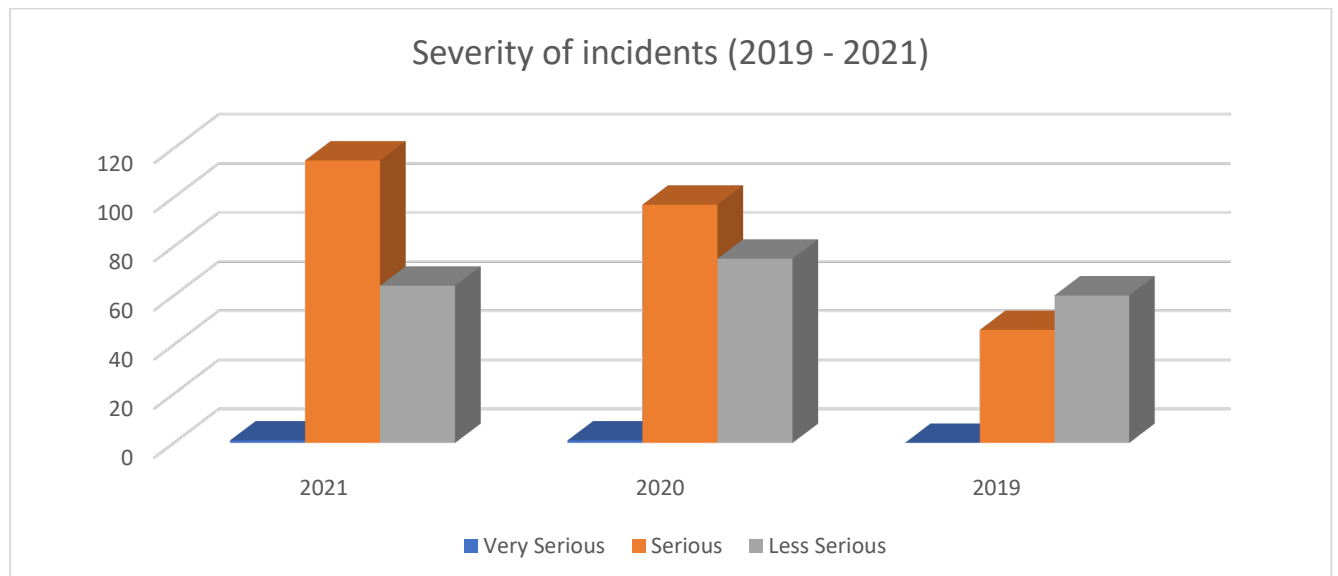


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By severity of incident

Finally, the seriousness of every incident is recorded. Three criteria are evaluated² –

	2021 Incidents	2020 Incidents	2019 Incidents	Change
Where the accident resulted in the loss of life on board, the total loss of the vessel or caused severe damage to the environment:	1 ³	1	0	0
Incidents resulting in an injury resulting in incapacitation where the person is unable to function normally for more than 72 hours, or resulting in major damage to the vessel, or damage to the environment:	115	97	46	+18
Less serious accidents and injuries:	64	75	60	-11



Accidents and incidents by type

Personal Injuries

As in previous years, personal injuries are the largest category of accidents and incidents reported with **110** personal injuries reported to MACI in 2021. The place of occurrence on board as well as the nature of each personal injury was recorded.

Locations where personal injuries were sustained

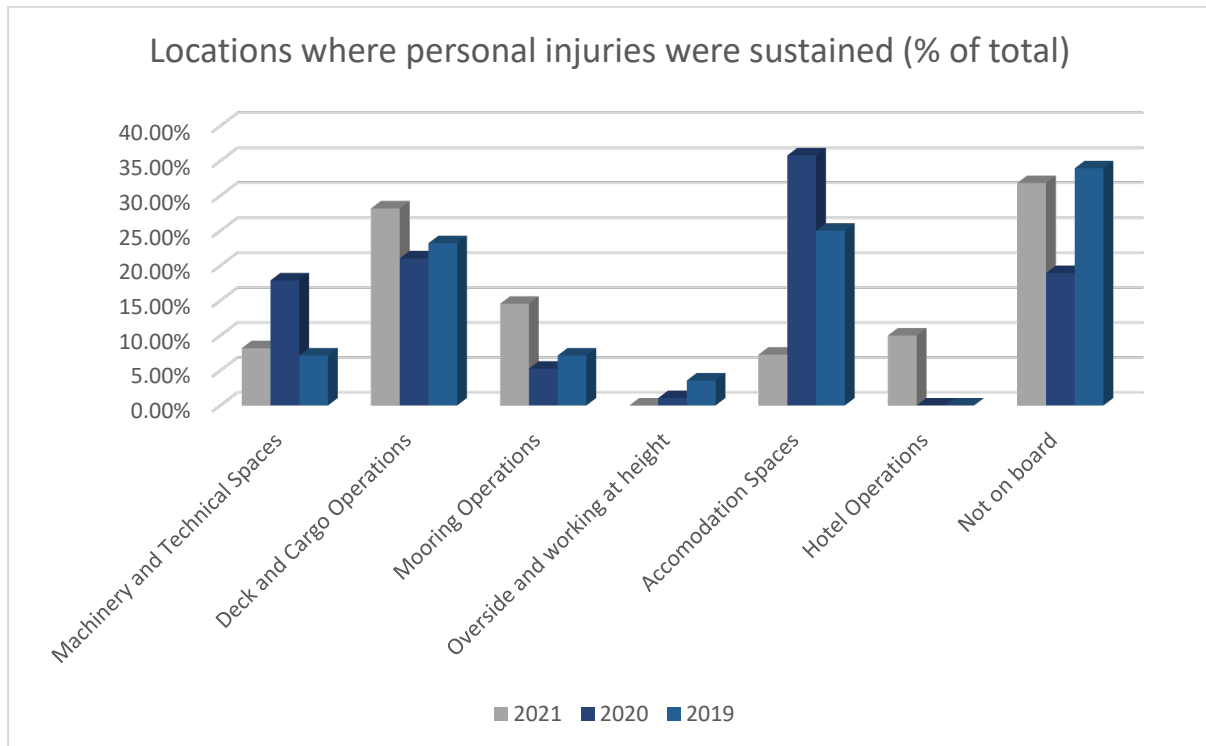
	2021	2020	2019
Machinery and Technical Spaces	9 (8.18%)	17 17.89%	4 7.14%
Deck and Cargo Operations	31 (28.18%)	20 21.05%	13 23.21%

² Based on the IMO Casualty Investigation Code definitions of "Very Serious Marine Accident", "Serious Marine Accident" and "Less Serious Marine Accident".

³ Excludes deaths by natural causes and deaths of non-seafarers not on board.

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Mooring Operations	16	(14.55%)	5	5.26%	4	7.14%
Overside and working at height	0	(0.00%)	1	1.05%	2	3.57%
Accommodation Spaces	8	(7.27%)	34	35.79%	14	25.00%
Hotel Operations	11	(10.00%)	(not recorded)		(not recorded)	
Not on board	35	(31.82%)	18	18.95%	19	33.93%
Total	110	(100.00%)	95	100.00%	56	100.00%



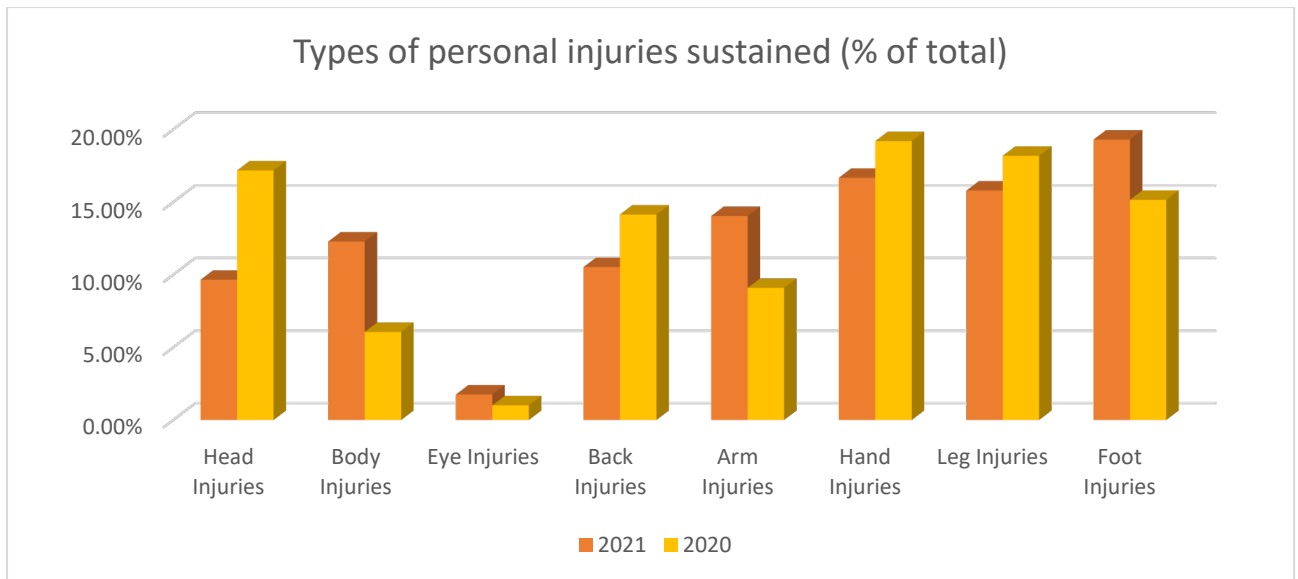
(In 2021, personal injuries sustained while delivering “hotel services” were separated from those that were sustained elsewhere in accommodation spaces.)

Types of personal injuries sustained

	2021		2020	
Head Injuries	11	(9.65%)	17	(17.17%)
Body Injuries	14	(12.28%)	6	(6.06%)
Eye Injuries	2	(1.75%)	1	(1.01%)
Back Injuries	12	(10.53%)	14	(14.14%)
Arm Injuries	16	(14.04%)	9	(9.09%)
Hand Injuries	19	(16.67%)	19	(19.19%)
Leg Injuries	18	(15.79%)	18	(18.18%)
Foot Injuries	22	(19.30%)	15	(15.15%)
Total⁴	114	100.00%	99	100.00%

⁴ A single accident or incident may result in multiple injuries.

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Accidents not on board

When considering the locations where personal injuries were sustained during 2021, the highest number of injuries (**35**) were sustained while the seafarer was not on board the ship or yacht. Of these incidents resulting in injuries–

Only **2 incidents** were directly related to work activities;

Sporting accidents accounted for **6 incidents**. Football and tennis accounted for just under half of these incidents;

Water sport activities accounted for **7 incidents**, with surfing and jet ski accident accounting for more than half of these;

Seafarers were injured in **2 incidents** involving road traffic accidents. Although both seafarers were injured, neither sustained life changing injuries;

Alcohol intoxication is suspected as being a direct cause of **8 incidents**; and

Four seafarers were injured in **3 incidents** involving the use of E-Scooters.

Fire and explosion

Fires were reported as occurring on **10 Cayman Islands vessels** during 2021. Of these **10 incidents** –

Fires originating in alternators windings accounted for **3 incidents**. Two of these incidents were minor and dealt with by vessel crew members. One alternator fire quickly spread throughout an uncertified pleasure yacht resulting in the total loss of the yacht. No one was injured in the loss of the yacht and the resulting pollution was minimal.

Fires relating to batteries accounted for **2 incidents**. One fire was in a sealed lead acid UPS, and the second occurred in the Li-Ion battery for a water sport E-Foil.

Other fires reported were minor in nature and quickly dealt with by crew members.

Groundings

Groundings were reported by **9 Cayman Islands vessels** during 2021. **One** grounding involved a merchant ship with the other **eight** involving yachts (either in private or commercial use).

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Poor passage planning and voyage monitoring was a factor in most groundings.

Most groundings occurred in the waters around The Bahamas.

Collisions and allisions

Collisions and allisions were reported by **21 Cayman Islands vessels** during 2021. **Five** collisions and allisions involved merchant ships with the other **16** involving yachts (either in private or commercial use).

Most allisions and collisions occurred during berthing and unberthing operations with the cause being attributed to a loss of steering and / or propulsion control.

Damage sustained was generally minor in both collisions and allisions reported.

One yacht tender was lost while being towed by the parent vessel when it was struck by a crossing ferry passing close astern of the parent yacht.

Pollution incidents

A total of **7 pollution incidents** were reported to MACI during 2021. All of these were fairly minor, with the most severe involving 20 litres of gear oil being lost while underway when an oil cooler failed. All incidents were properly reported to the appropriate authorities and no enforcement actions were instigated.

Security and piracy reports

Only **2 security incidents** were reported to MACI during 2021. One concerned an intruder (described as under the influence of drugs or alcohol) on board a yacht who was quickly apprehended by the crew. The second incident related to a suspicious approach made to a yacht transiting the High Risk Area. The approach was aborted when the embarked security team made their presence visible.

Near miss reports

Eight near miss reports were received during 2021. Of these 8 reports, **5 reports** were of black outs while on passage.

Other reports

Eleven reports of incidents were received that do not fall into any of the above categories. These incidents included –

Three yachts being struck by lightning. None resulted in injury or structural damage. All caused significant damage to communication, navigation and other electrical equipment on board;

Two instances where life saving equipment (a rescue boat stored on the bow and a liferaft) were lost during heavy weather;

One instance where a towed tender was lost in heavy weather; and

Five instances where mechanical failure led to a loss of propulsion.

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Deaths associated with Cayman Islands ships

During 2021, **eight** deaths were reported as being associated with a Cayman Islands ship. Of these deaths, none were as a result of an occupational accident, and **three** deaths were of non-seafarers.

Of the five seafarer deaths recorded –

Two deaths resulted from seafarers contracting COVID-19⁵;

One seafarer died due to an undiagnosed underlying heart condition (Cardiac Tamponade);
and

Two seafarers died from sudden brain haemorrhages.

Of the three non-seafarer deaths recorded –

One death ashore followed the on board collapse of a cargo surveyor attending the ship;
and

Two deaths were of yacht guests and both occurred during water sports activities while not on board the yacht.

As the non-seafarer deaths did not occur on board a Cayman Islands ship, they fell under the jurisdiction of the appropriate coastal state where the death occurred. However, these deaths are considered in this summary report because they are representative of the inherent dangers associated with some water sports.

Mortality for seafarers

During 2021, the death of any seafarer serving on a Cayman Islands ship was recorded as either –

Acute Natural Causes: whereby the death was caused by contracting a disease, infection, or sudden medical event that led to death shortly after contraction;

Chronic Natural Causes: whereby a long term condition led to the death of a seafarer, whether previously diagnosed or undiagnosed before death;

Lost at Sea, Presumed Deceased: whereby a seafarer was lost overboard from a ship and not subsequently recovered;

Occupational Accident: whereby the death of a seafarer was directly attributable to an accident on board;

Suspected Suicide: where there is evidence to suspect that the seafarer may have taken their own life (Please note that “suicide” can only be determined by a coroner or a court)

Death Ashore: whereby the death did not occur on the ship or in a ship’s boat and was not directly attributable to an incident classified elsewhere;

Other: where the death does not correspond to any of the above categories; and

Unknown: where the cause of death remains subject to a Death Inquiry under the Merchant Shipping Act (2021 Revision).

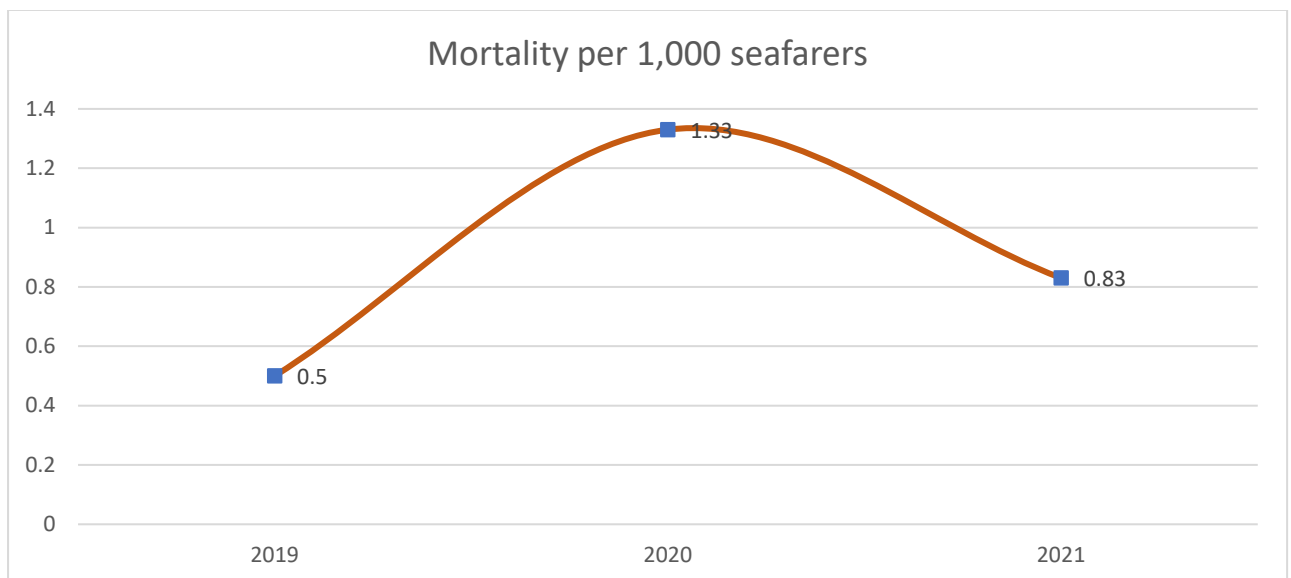
⁵ The 2021 Shipping Master’s Summary Report contains more details of the impact of the COVID-19 pandemic on seafarers serving on Cayman Islands ships during 2021.

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In 2021, the **five** seafarer deaths reported to MACI can be categorised as follows –

Acute Natural Causes	4
Chronic Natural Causes	1
Lost at Sea	0
Occupational Accident	0
Suspected Suicide	0
Death Ashore	0
Other	0
Unknown	0

With **5** seafarer deaths in 2021 and approximately **6,000** seafarers serving on Cayman Islands ships, this equates to a seafarer mortality rate of **0.83 deaths per 1,000 seafarers** serving on Cayman Islands ships. This represents a reduction from **1.33 deaths per 1,000 seafarers** in 2020.



The mortality rate of seafarers serving on Cayman Islands ships remains an order of magnitude below that found in the general population of the majority of seafarers' the home country.

Total Constructive Losses in 2021

Only **one** total constructive loss was reported to MACI in 2021. This was as a result of the alternator fire on the 216 GT uncertified pleasure yacht mentioned above. The accident happened while two guests were on board. All guests and crew managed to evacuate the yacht without injury. All were rescued by the US Coast Guard and returned safely to the Florida Keys.

The cause and spread of the fire is being investigated by both the US Coast Guard and the National Transportation Safety Board. The Cayman Islands remains a substantially interested state in the outcome of these investigations.

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Safety Lessons from 2021

Personal injuries while ashore

As in previous years, the largest percentage of personal injuries sustained, when the seafarer was not actively engaged in work activities, occurred when the seafarer was ashore.

Sport and Water Sport injuries. Opportunities for seafarers to engage in sporting and other recreational activities are to be strongly encouraged. They both offer benefits to the physical and mental health of the seafarer. Seafarers should bear in mind that a period of heightened physical activity may place unaccustomed strain on parts of the body not normally exercised during normal “ship board duties”.

As in previous years, there was a significant number of injuries reported that involved water sport equipment during 2021. Two of these accidents resulted in the deaths of yacht guests. When using the more “extreme” water sports equipment such as “E-Foils”, “Jet Skis” and “Skurf Boards” it is important that appropriate training is undertaken before use. Appropriate training and supervision is essential for both yacht guests and seafarers who may be taking part in these activities.

Alcohol and accidents ashore. Of the 35 seafarers who were injured ashore during 2021, alcohol (or other) intoxication was likely to be a major contributing factor in 8 of the incidents. This is a slight decrease from 2020 when alcohol intoxication was considered a contributing factor in 10 incidents.

E-Scooters. In 2021 a number of the personal injuries reported to MACI were connected with the use ashore of E-Scooters. E-Scooters are novel, gaining in popularity and can offer environmental benefits when compared to traditional urban transport. However, they also pose a risk of serious personal injury to their operators and pedestrians when used inappropriately. When using E-Scooters ashore, it is essential that all local regulations and restrictions are understood and complied with. Even when not mandated, the use of head and joint protection when operating E-Scooters is highly recommended. Never operate an E-Scooter with more than one person on board and never operate an E-Scooter after consuming any alcohol. Always remember that inappropriate operation of an E-Scooter not only endangers the operator, but also those around its use.

Foot injuries.

In 2021, 22 incidents were reported to MACI that involved a seafarer suffering foot or ankle injuries. This is an increase over those reported in 2020, both in terms of the number reported (2020 – 15 incidents, 2021 – 22 incidents) and as a percentage of all personal injuries reported (2020 – 15.8%, 2021 – 20.0%).

As in previous years, many of these injuries were sustained in the yachting sector when the seafarer was wearing inappropriate or no protective footwear. It is strongly recommended that all seafarers in the yachting sector are provided with suitable “interior / work” footwear appropriate for their duties. The provision and use of such footwear is a statutory requirement on yachts subject to the Maritime Labour Convention, 2006

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Li-Ion Batteries

Only one Li-Ion battery fire was reported to MACI during 2021. This was in a battery recently removed from and E-Foil used for water sports. As the use of lithium ion batteries continues to increase in marine applications, seafarers are urged to remain vigilant against the risk of fire when these batteries are being charged, discharged, stored and handled.

Alternator fires

It is important that all alternators are properly maintained such that all windings, bearings and other rotating parts remain clean and free from the build-up of grease and other debris. The risk of fire in an alternator greatly increases when ventilation is obstructed and grease and debris are allowed to build up in the alternator.

Passage planning and monitoring

A lack of effective passage planning and voyage monitoring was identified as a factor in many of the groundings reported to MACI during 2021. Whereas the widespread use of ECDIS for passage planning and voyage monitoring is a powerful tool, it does have limitations and does not reduce the need for careful consideration by those planning, executing and monitoring the progress of a voyage. All navigation officers are urged to familiarise themselves with the joint MAIB and DMAIB collaborative study on ECDIS use from the perspective of practitioners. A copy of the study can be download [HERE](#)⁶.

Effective passage planning and voyage monitoring are especially important in areas with low traffic density and when only poor or possibly outdated survey data is available.

Lightning

Three Cayman Islands yachts reported serious lightning strikes during 2021. Although there were no injuries or structural damage associated with these incidents, their impact on the operation of the yachts was severe. All three strikes resulted in extensive (and expensive) damage to communication equipment, navigation equipment and other electronic systems on board. Yacht owners and managers should be aware of the damage lightning strikes may cause and the suitable lightning protection mechanisms that are available.

If a risk of imminent and severe lightning has been identified, masters may wish to consider disconnecting antennae from sensitive electronic equipment (**if it is safe to do so**) until the risk of lightning strikes has passed.

Proper testing of steering and propulsion before berthing and unberthing.

A number of allisions resulted when steering and / or propulsion control was lost on the bridge. It is important that propulsion (both ahead and astern) and steering systems are properly tested and confirmed as satisfactory before every period of manoeuvring the ship or yacht where the risk of collision or allision exists.

Limitations

This report is a presentation of raw data with limited analysis. The sample sizes are small, variables are large, and no formal statistical analysis has been undertaken. Where limited analysis has been undertaken there is no evaluation of statistical significance. This report contains comparison of

⁶https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1014238/ECDIS_Application_and_Usability.pdf

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reports received for 2019 to 2021. With only three years to compare, inferring any trends should be treated with caution.

Where external sources have been cited, the veracity of the data cited has not been verified.

“What is reported” does not automatically correlate to “What has occurred”.

An increase in the number of incidents reported, does not automatically correlate to an increase in the number of incidents occurring. Reporting of all incidents is both encouraged and extremely valuable in determining potential safety lessons. “If in doubt, report it.”

Reporting Accidents and Incidents

Accidents, incidents and “Near Misses” occurring on Cayman Islands vessels should be reported to the Maritime Authority of the Cayman Islands –

By email: reporting@cishipping.com

Via the website: Please click [HERE](#)⁷

By telephone: +44 1489 799 203 or +1 345 949 8831.

Any changes to these details will be published by an update of Shipping Notice 02/2015.

Maritime Authority of the Cayman Islands

January 2022

⁷ <https://www.cishipping.com/policy-advice/casualty-investigations/report-incident>