

Accidents and Incidents Reported to MACI (2020)

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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.

This report examines the accident and incidents reported to MACI during 2020.

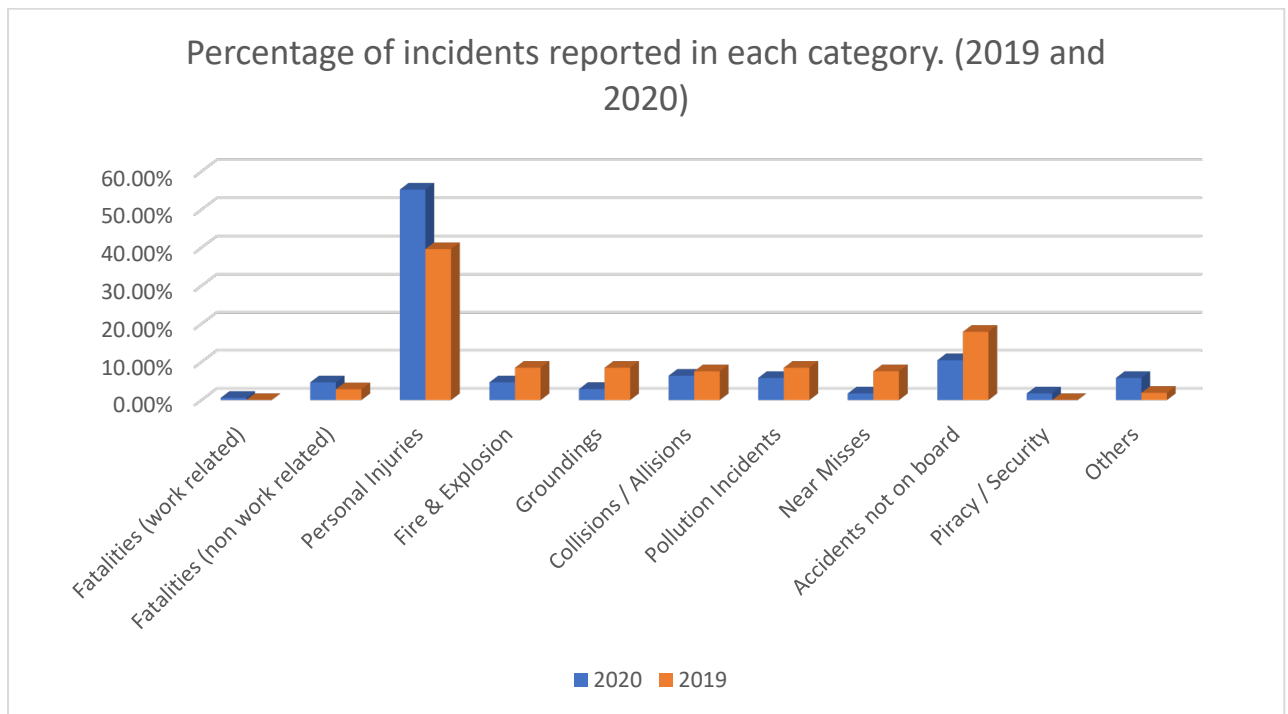
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Reported accidents and incidents in 2020¹

Overview:

A total of **172** accidents and other incidents were reported to MACI during 2020. This is an increase of **41** incidents when compared to 2019. These can be broken down as follows –

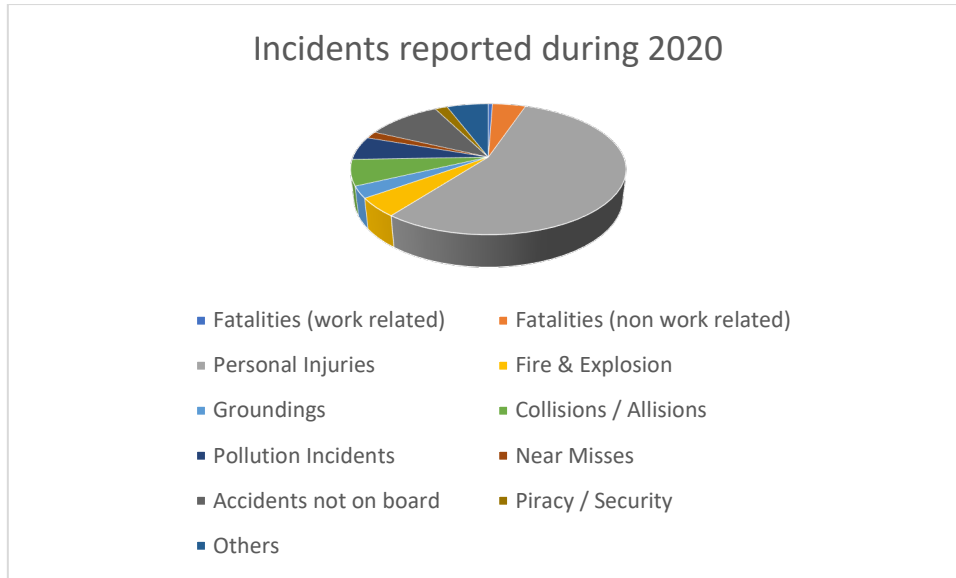
| | 2020 | | 2019 | | Change |
|--------------------------------------|------|--------|------|--------|--------|
| | Num | % | Num | % | |
| Fatal (Occupational Accident) | 1 | 0.58% | 0 | 0% | +1 |
| Fatalities not work related | 8 | 4.65% | 3 | 2.83% | +5 |
| Personal Injuries | 95 | 55.23% | 42 | 39.62% | +53 |
| Fire & Explosion | 8 | 4.65% | 9 | 8.49% | -1 |
| Groundings | 5 | 2.90% | 9 | 8.49% | -4 |
| Collisions / Allisions | 11 | 6.39% | 8 | 7.55% | +3 |
| Pollution Incidents | 10 | 5.81% | 9 | 8.49% | +1 |
| Near Miss | 3 | 1.74% | 8 | 7.55% | -5 |
| Accidents not on board | 18 | 10.46% | 19 | 17.92% | -1 |
| Piracy / Other Security ² | 3 | 1.74% | - | - | - |
| Other | 10 | 5.81% | 2 | 1.89% | +8 |



¹ An individual “incident” reported may involve more than 1 vessel (e.g. collisions) and can fall into more than one “category” (e.g. “Fire & Personal injury” or “Not on board & Personal injury”, etc)

² Not recorded as a distinct category in 2019.

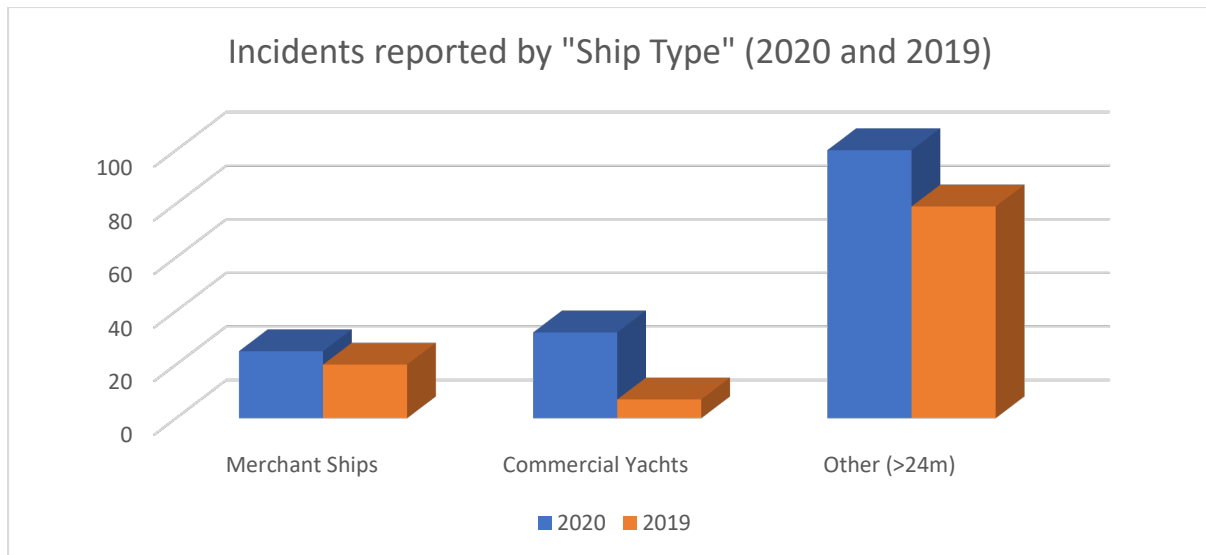
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By vessel type:

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

| | 2020 Reports | 2019 Reports | Change |
|--|-------------------------|-----------------|--------|
| Merchant Ships: | 25 | 20 | +5 |
| Commercial Yachts: | 32 | 7 | +25 |
| Other (Pleasure vessels, etc) ³ | 100 | 79 | +31 |



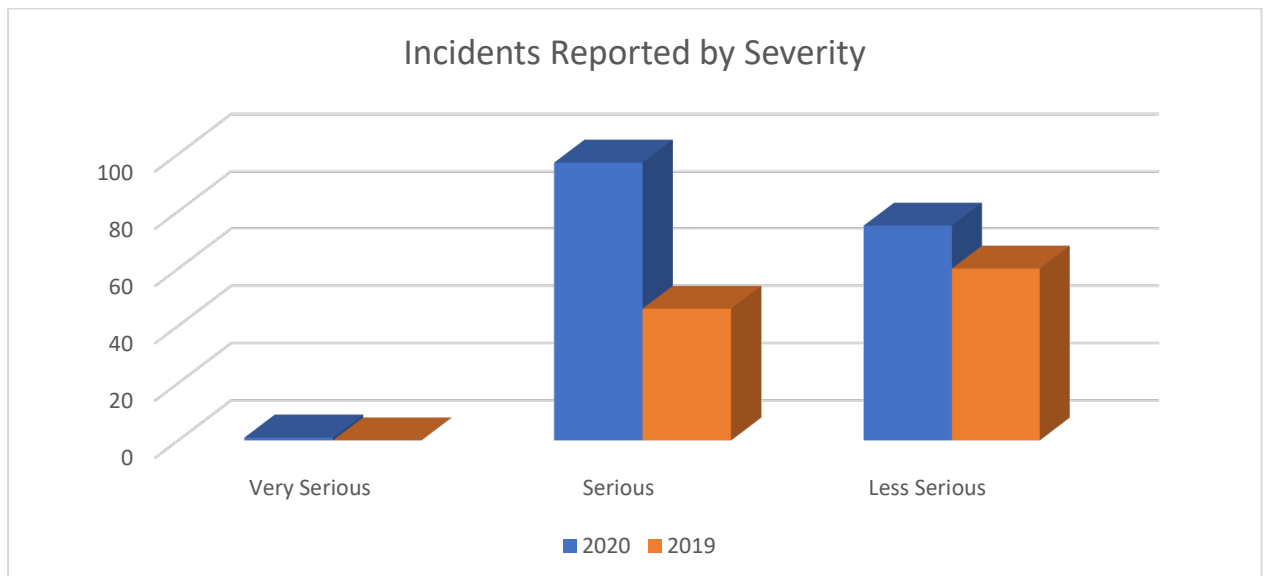
³ This category is restricted to vessels over 24m in length.

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By severity:

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

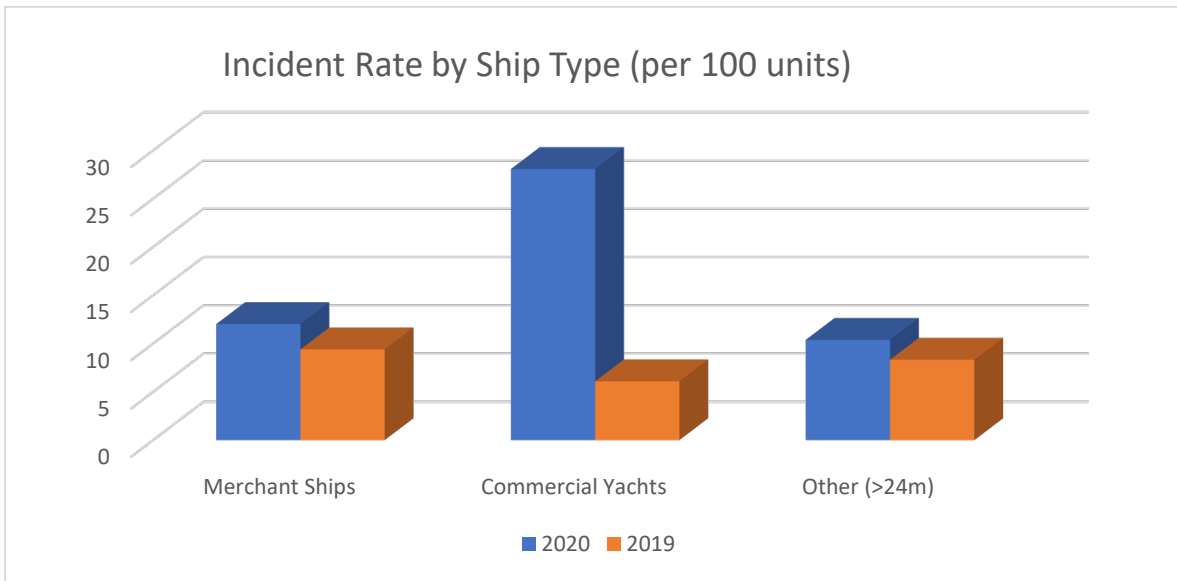
| | 2020 Incidents | 2019 Incidents | Change |
|---|----------------|----------------|--------|
| Whether the accident resulted in the loss of life on board, the total loss of the vessel or caused severe damage to the environment: | 1 | 0 | +1 |
| Incidents resulting in an injury resulting in incapacitation 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 | 97 | 46 | +51 |
| Less serious accidents and injuries: | 75 | 60 | +15 |



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Incident rate by vessel type:

| | Number of vessels | Number of reported incidents | Incident rate by vessel type (per 100 units) | 2019 Rate | Change |
|----------------------|-------------------|------------------------------|--|-----------|--------|
| Merchant Ships | 208 | 25 | 12.01 | 9.39 | +2.62 |
| Commercial Yachts | 114 | 32 | 28.07 | 6.09 | +21.98 |
| Other vessels (>24m) | 963 | 100 | 10.38 | 8.32 | +2.06 |



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Mortality and injury rates for seafarers serving on Cayman Islands ships:

Whenever a seafarer dies while serving on a Cayman Islands ship a report is made to the Shipping Master. These reports include deaths while on leave (but still “signed on”), deaths by natural causes, suicides, deaths due to misadventure and those killed as a result of an accident or incident on board.

During 2020, the deaths of **8 seafarers** and **1 other** were reported to MACI.

Of the reported **8** seafarer deaths, **1 seafarer died in a work related accident**.

Three (**3**) seafarer deaths were attributed to “accidents or misadventure” while ashore, and four (**4**) seafarers died from natural causes. (Including one (**1**) seafarer who died from the effects of COVID-19)

It is estimated that there are approximately 6,000 seafarers serving on Cayman Islands ships. This equates to a mortality rate of **1.33 deaths per 1,000 seafarers** a year serving on Cayman Islands ships (or one death per 752 seafarer man years). The United Nations has published the **World Mortality 2019: Data Booklet**⁴ which gives mortality rate for most countries around the world (in annual deaths per 1,000 of population). The following table compares the mortality rate in countries whose nationals typically serve on Cayman Islands ships and the mortality rate of seafarers serving on Cayman Islands ships.

| Country | Mortality Rate ⁵ |
|--------------------------|-----------------------------|
| Cayman Islands Seafarers | 1.3 |
| Philippines | 5.9 |
| Ireland | 6.1 |
| Korea | 6.2 |
| Vietnam | 6.4 |
| Australia | 6.6 |
| New Zealand | 7.0 |
| India | 7.3 |
| China | 7.3 |
| Norway | 7.9 |
| United States | 8.8 |
| United Kingdom | 9.4 |
| France | 9.4 |
| South Africa | 9.4 |
| Greece | 11.0 |
| Russian Federation | 12.7 |
| Croatia | 13.2 |
| Latvia | 14.7 |
| Ukraine | 15.2 |

⁴<https://www.un.org/en/development/desa/population/publications/pdf/mortality/WMR2019/WorldMortality2019DataBooklet.pdf>

⁵ Please note that these mortality rates are for 2019 and do not include any excess deaths due to the COVID-19 pandemic.

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Although the overall mortality rate for seafarers serving on Cayman Islands ships considerably below those cited above for general populations, it should be borne in mind that seafarers are generally aged between 20 and 59 years of age and so conditions affecting the very young and the elderly are not a factor.

In addition, all seafarers undergo a medical examination every two years, and many chronic conditions and illnesses prevent serving at sea.

There is insufficient data to make a comparison with other industries in relation to work related fatalities.

As a result of the **172** incidents reported in 2020, a total of **95** seafarers suffered injuries and were unable to function normally for more than 72 hours. This equates to **15.83** injuries per 1,000 seafarer man years. (or **1.58%** of Seafarers sustained reportable injuries during 2020) Although most injuries were sustained on board, **17** seafarers were injured or died whilst ashore. This represents **16.5%** of all injuries and deaths reported in 2020.

Accidents and incidents by type:

Personal injury location –

As in 2019, most personal injuries on board were sustained in the accommodation of vessels. While injuries were sustained to seafarers while working in “hotel services”, the majority of these incidents were sustained either while off duty or simply “moving about the ship”. Injuries sustained while working in machinery spaces and on deck/cargo operations were similar in number. Personal injuries sustained while involved in mooring operations and working over side / at height represented a lower percentage of personal injuries sustained when compared to 2019.

| | 2020 | 2019 | Change |
|-------------------------------|-------------|------|--------|
| Accommodation Spaces | 34 | 14 | +30 |
| Deck / Cargo Operations | 20 | 13 | +7 |
| Machinery & Technical Spaces | 17 | 4 | +13 |
| Mooring Operations | 5 | 4 | +1 |
| Working Over side / At height | 1 | 2 | -1 |

Types of injury –

For incidents of personal injury reported during 2020, the area(s) of the body sustaining the injury were recorded⁶. The criteria used were –

| | |
|----------------------|--------------------|
| Head; | 17 injuries |
| Body; | 6 injuries |
| Eye; | 1 injury |
| Back; | 14 injuries |
| Arm (inc. shoulder); | 9 Injuries |
| Hand (inc. wrist); | 19 injuries |

⁶ Please note that a single incident may result in injuries to more than one part of the body.

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| | |
|--------------------|--------------------|
| Leg; | 18 injuries |
| Foot (inc. ankle); | 15 injuries |

From the reports of injuries sustained in 2020, ten (10) seafarers were injured where alcohol, or other substance impairment, was likely to have been a contributing factor. One (1) seafarer died from the injuries sustained and “alcohol intoxication” was stated as a contributing factor on the death certificate.

Fifteen (15) seafarers were injured while engaged in leisure or exercise activities. Injuries sustained included –

Six (6) seafarers injured on water “toys” (Jet Ski, E-Foil, “Skurfing”, “towed toys”, etc);

Three (3) seafarers injured playing football;

Three (3) seafarers injured on skateboards / snowboards; and

Three (3) seafarers injured while exercising in either the vessel gym or in cabins.

Fire & Explosion:

Two private yachts were lost to fire during 2020. One fire occurred while the yacht was left unattended overnight and the other resulted in the evacuation of 17 persons and the eventual sinking of the yacht.

The sinking of the yacht is being investigated by the yacht’s insurers and the local coastguard and indications are that the fire was caused by a ruptured main engine fuel line.

Neither yacht was subject to the IMO Casualty Investigation Code.

Other reported fires were less severe and were dealt with by crew.

| | |
|----------------------|----------------------|
| Fire in engine rooms | - 2 incidents |
| Electrical fires | - 4 incidents |

Grounding:

No vessel suffered serious damage as a result of groundings in 2020. However, five (5) incidents were reported. Of note –

One yacht grounded due to poor survey data in an area remote from ports and shipping lanes;

One cargo ship grounded due to a miscalculation of under keel clearance at low tide; and

One yacht ran aground while berthing. The master had left the bridge controls to attend to an internet connection issue following a guest complaint. Propulsion was still engaged when the master left the controls.

Collision & Allision:

Collisions and allisions continue to occur in relation to Cayman Islands ships and yachts. In 2020, nine (9) collisions and two (2) allisions were reported. None of these incidents resulted in substantial damage to the vessels involved, with most damage being either minor in nature or purely cosmetic.

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No reportable injuries or pollution resulted from any of the collisions or allisions reported to MACI.

With the exception of two incidents that were related to machinery failure, all other incidents were attributable to human error and could have been avoided. One incident could be attributable to “pilot error” and in two incidents the Cayman Islands vessel involved in the collision was either alongside or at anchor.

Pollution incidents:

Ten (**10**) pollution incidents were reported to MACI during 2020. Eight (**8**) of the incidents were promptly reported to local authorities and cleaned up without lasting damage to the environment.

The remaining two (**2**) incidents relate to –

A discharge of sewage containing 210cfu/100ml which was above the limit specified in MEPC.159(55) of 100cfu/100 ml. The local Harbour Master had given permission for the discharge.

The long term leakage to the sea of methanol cargo due to a passing valve and missing pipe blank. Once discovered, the leakage was reported to the proper authorities.

Other incidents related to –

| | |
|------------------------------------|----------------------|
| Spills during bunkering | - 3 incidents |
| Spills during oily waste discharge | - 2 incidents |
| Stern tube leakage | - 2 incidents |
| “Operational spills” | - 1 incident |

Accidents not on board:

Hazards to seafarers exist when ashore as well as when on board the ship or yacht. Eighteen (**18**) seafarers were reported as injured when not on board during 2020. Sadly, three (**3**) of these seafarers died in these incidents.

One seafarer died in a car accident, one seafarer drowned after being swept into the sea while sightseeing and one seafarer died falling from height.

Eight (**8**) seafarers were injured while engaged in sporting activities ashore, while two (**2**) others were injured returning to the vessels after an evening ashore.

Security & Piracy Reports

Security and piracy incidents were recorded as a separate category in 2020. Three (**3**) such incidents were reported to MACI.

One yacht was subjected to a suspected “swarm attack” during a transit of the High Risk Area (HRA). The suspected attackers disengaged when the yacht’s security detail identified themselves. Incident reported to HSCHOA and the DfT Maritime Security Team;

Two stowaways were discovered on a cargo ship after departing West Africa; and

A yacht was subject to a suspicious approach by a Jet Ski with three people on board while 18 miles offshore. Local Vessel Traffic Services and MRCC informed of the approach.

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Near Miss Reports:

The reporting of “near misses” is strongly encouraged as the lessons learned from a “near miss” may prevent an accident occurring in the future. The following “near misses” were reported to MACI during 2020 –

On leaving the berth following a refit period a yacht lost main engine propulsion. The vessel was manoeuvred to a stern to position with the assistance of the local Pilot boat and no damage was incurred. A telegraph fault was identified as the cause.

A ship lost propulsion when approaching berth under pilotage. The ship berthed safely with tug assistance. No injuries, pollution or damage. Engine control found functioning properly when examined and tested.

A crewmember used the wrong chemicals to dilute to a cleaning solution. The crew member felt temporary feelings of nausea from the fumes generated but suffered no lasting effects.

Other Reports:

Other incidents reported to MACI during 2020, and which are not included elsewhere in this report, were –

While on passage, a yacht struck an unidentified object in the water. The impact caused a 25 cm X 3 cm crack in the hull resulting in water ingress. Temp repair by divers followed by perm repair in drydock.

While leaving the quay the wash from a yacht’s Schottel Drives caused an adjacent yacht to make contact with the quay damaging the swim platform.

A yacht struck by lightning while alongside in the Bahamas. No injuries or structural damage, however extensive damage caused to various electrical equipment on board (including navigational equipment, communications equipment and IT systems).

After dropping anchor, the anchor and chain of a yacht dragged onto the nearby coral reef causing damage to the reef. Once it was known that the anchor and chain were amongst the reef the anchor was retrieved and the yacht proceeded into deeper water to hold station underway for the next several hours.

A yacht suffered a partial capsize when being “hailed out” for maintenance. The master reported that the partial capsize was due to an error by the shipyard when calculating haul out parameters.

While being lowered onto the deck of a floating yacht transporter the hull of a yacht slipped off the bow block causing hull indentations. No puncture of hull.

Safety Lessons

Looking at the circumstances and surroundings of the accidents and incidents reported to MACI during 2020 there are a number of conclusions and safety lessons that are worth noting.

- Seafaring continues to be a more hazardous than many other occupations. Seafarers should continue to remain vigilant regarding their personal safety and the safety of others at all times.

Accidents and Incidents Reported to MACI (2020)

- The number of incidents reported to MACI during 2020 show a significant increase on the numbers reported during 2019. This may be partly due to an increase in reporting. However, it is likely that the restrictions imposed by the COVID-19 pandemic may be having an adverse effect on seafarer health and safety.
- Human error remains a contributing factor in the majority of collisions, allisions and groundings.
- While the percentage of foot and ankle injuries where inappropriate or no footwear was being worn has reduced slightly from 2019, it remains a contributing / aggravating factor in many of these injuries in the yachting sector. It is strongly recommended that all seafarers in the yachting sector are provided with suitable “interior / deck” footwear appropriate for their work. The provision of such footwear is a statutory requirement on yachts subject to the Maritime Labour Convention, 2006.
- Seafarers should be aware that many accidents occur on board when the seafarer is not on duty. As in 2019, ship movements and the “compact architecture” of accommodation spaces have been a factor in accidents.
- 2020 has seen an increase in the number of work related accidents in the hotel / interior department. As well as accidents in the galley, a significant number of these accidents involved lifting or slips and trips while carrying stores.
- There was a significant number of injuries reported that involved water sport equipment normally used by yacht guests during 2020. Two of these accidents resulted in serious injuries being sustained during “E-Foil” accidents. When using the more “extreme” water sports equipment such as “E-Foils” and “Skurf Boards” it is important that appropriate training is undertaken before use.
- Operations involving bunkering and discharging liquid waste present opportunities for the unintentional release of pollutants. Although these operations are considered routine, seafarers should remain vigilant to prevent equipment or operational failure leading to pollution incidents.
- The use of lithium ion batteries is becoming more common on ships and yachts as this battery technology becomes more widely utilised in equipment. These batteries are found in main ship systems, ancillary systems and personal equipment. These batteries can pose a significant fire risk if damaged or improperly used. Typical fault conditions that can lead to fire are mechanical damage, overcharging, over “rated current capacity” discharging, allowing to go undervoltage and internal charging imbalances leading to cells being reverse charged. It is vitally important that these batteries are charged, discharged, stored and handled in accordance with the manufacturer’s instructions.
- Near miss reporting is strongly encouraged and is a valuable tool in accident prevention.

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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 reports received for 2019 to 2020. With only two 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”.

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 9498831.

Any changes to these details will be published by an update of [Shipping Notice](#)⁸ 02/2015.

Maritime Authority of the Cayman Islands.

January 2021.

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

⁸ <https://www.cishipping.com/policy-advice/shipping-notice>