



IMRRA's 2021 Wet Cargo Vessel Risk Ratings Annual Report

23,905 Chemical/Oil Product Tankers, Gas Carriers, and Oil Tankers Risk Rated

Vessel Types ranked according to risk, and highest movers during 2021

Find out your risk of chartering a red risk rated vessel without any pre-chartering screening checks



Discover the Wet Cargo vessel risk rating trends during 2021:

- **23,905** Wet Cargo vessels risk rated Red/Amber/Green
- Vessel types include Chemical/Oil Product Tankers, Oil Tankers, and Gas Carriers
- 76% Red – the highest risk rated vessel
- 23% Green - the safest Wet Cargo vessel trading in 2021
- Top-five Green technical operators/managers
- Top-five-and-bottom-five Amber Risk Rated Operators
- Bottom-five Red technical operators/managers
- Benchmarked average risk rating for Wet Cargo vessel types
- Which vessel type has the highest annual risk rating increase?
- 2021's Vessel Risk Trends Table, Vessel Class & Type

IMRRA's 2021 Vessel Risk Ratings



2021 Vessel Risk Aggregated Data Rating Summary

1. Introduction: IMRRA's provides comprehensive business intelligence for Charterers, Ports & Terminals, and other marine professionals on a vessels operating performance.

During 2021 IMRRA's analysts risk assessed the following:

Wet Cargo Vessels	23,905
DWT Safety Risk Rated	1,249,929,187
Red Risk Rated Vessels	328
Green Risk Rated Vessels	17,762

1.1 **23,905** vessel risk rating reports were linked to:

Vessel Casualty Incidents	283
Vessels Risk Assessed with poor PSC - five-or-more deficiencies	606
Total Deficiencies Recorded	5,022
Detentions Assessed	86

IMRRA's risk rating reports also inform clients of the vessel risk for potential:

- Illegal immigration
- Drug trafficking
- Risk of radioactive contamination
- USA sanctions risk information
- Terrorist threats to marine Terminals & Operations

2. IMRRA's Risk Rating Report Methodology:

Traffic Light Vessel Risk Ratings Explained. Upon request a vessel is risk rated by IMRRA's analysts into the following traffic light risk warning ratings, with recommended risk rating warning strategies:

● **Red:** >51% Risk Rating: Immediate action to control the vessel hazard. High risk for severe incidents/casualties.

● **Amber:** 36-50% Risk Rating: A planned approach to vessel risk management, apply temporary risk management as required.

● **Green:** <35% Risk Rating: Acceptable risk – no further action is recommended due to high standard of vessel operation. Green risk rated vessels are less likely to harm your company’s reputation.

2.1 How are the Risk Rating Reports compiled? The risk ratings are awarded utilising the following risk rating research criteria:

2.11 Static Risk Factors: are vessel criteria that do not significantly vary over time and are associated with longer-term vessel safety performance.

2.12 Dynamic Risk Factors: arise from safety risk events, their frequency, and severity.

2.13 Verified Risk Factors: come from the results of physical vessel inspections, which are recommended to be incorporated into the vessel risk assessment. Verified high standards of vessel management and operation improve the vessels safety risk rating.

The multi-methods (qualitative, quantitative) methodology for collecting and analyzing allows each key risk factor to be comprehensively evaluated and given a numerical weighting. Using Fractal Theory, the vessel risk classification is generated.

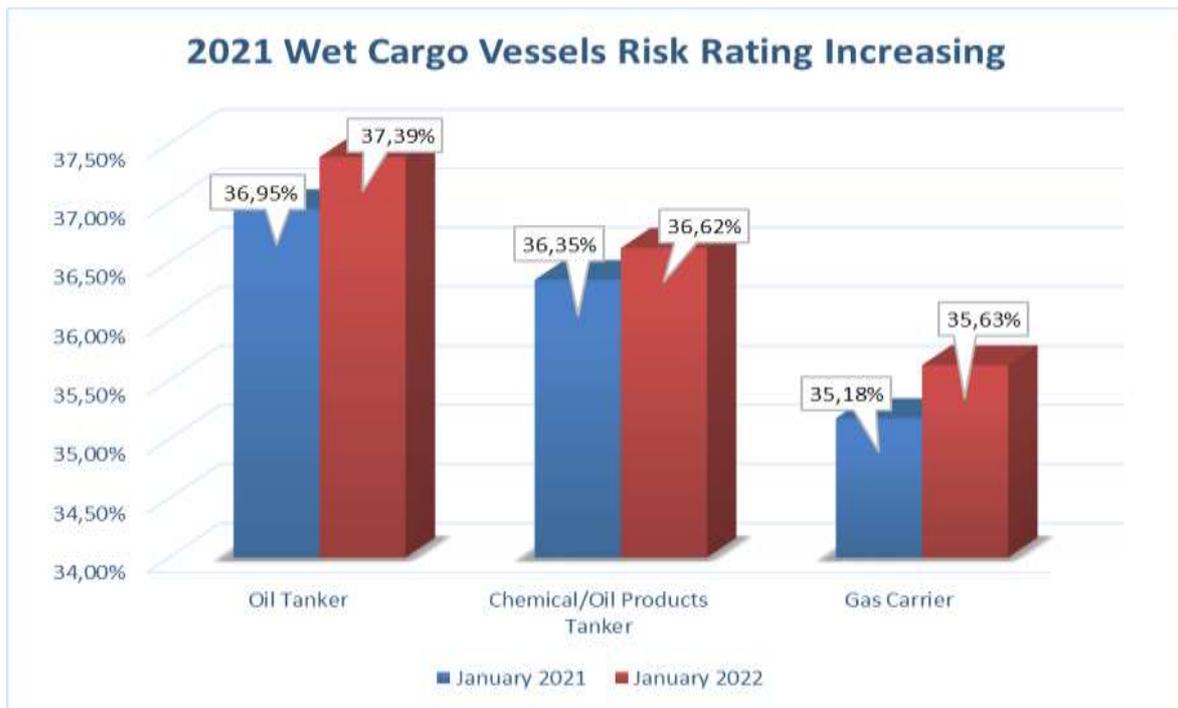
3. Oil Tanker, Chemical/Oil Products Tanker and Gas Carrier Average Vessel Risk 2021

The table shows the average Wet Cargo vessel risk rating did not increase significantly throughout 2021.

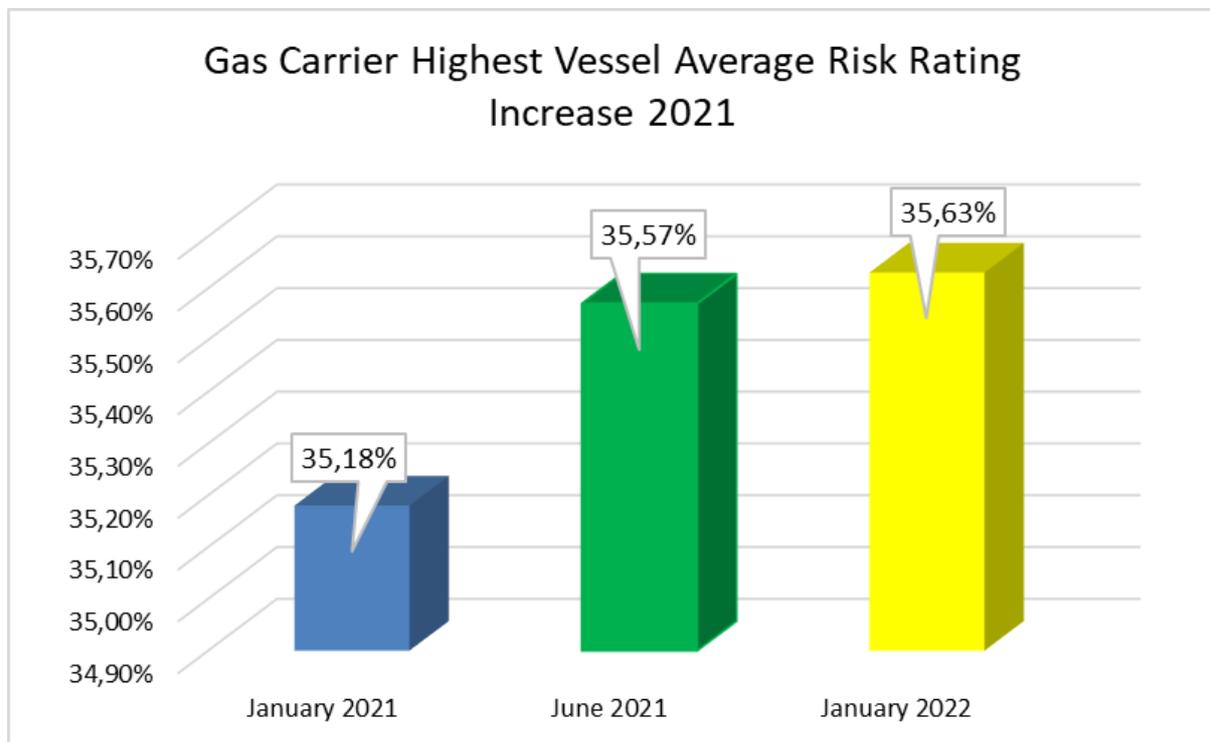


Risk Rating Table Source: marinerating.com

3.1. Breakdown of Vessel Type Risk Ratings Increase During 2021



3.2 Vessel Type Gas Carriers had the highest Vessel Type increase of 0.45% in 2021



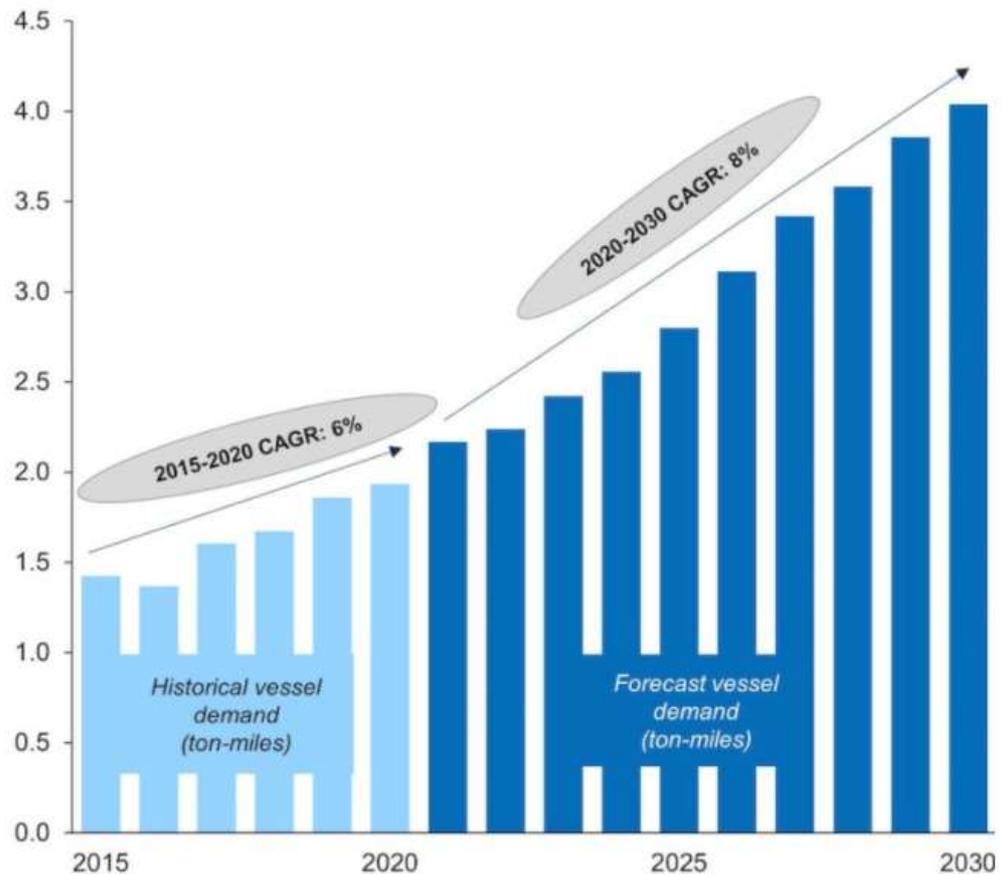
3.21 Why did Gas Carriers have the highest vessel type increase in 2021?

“Larger volumes and longer sailing distances have caused this increase in demand for LNG carriers in the current decade,” Rystad stated in a new report looking at LNG shipping emissions. (analysis from

Oslo-based Rystad Energy suggests.) Asia is key to this growth with the continent on track to constitute 75% of the global LNG market by the end of the decade.

LNG vessel demand from 2015 to 2030

Trillion ton-miles of transport



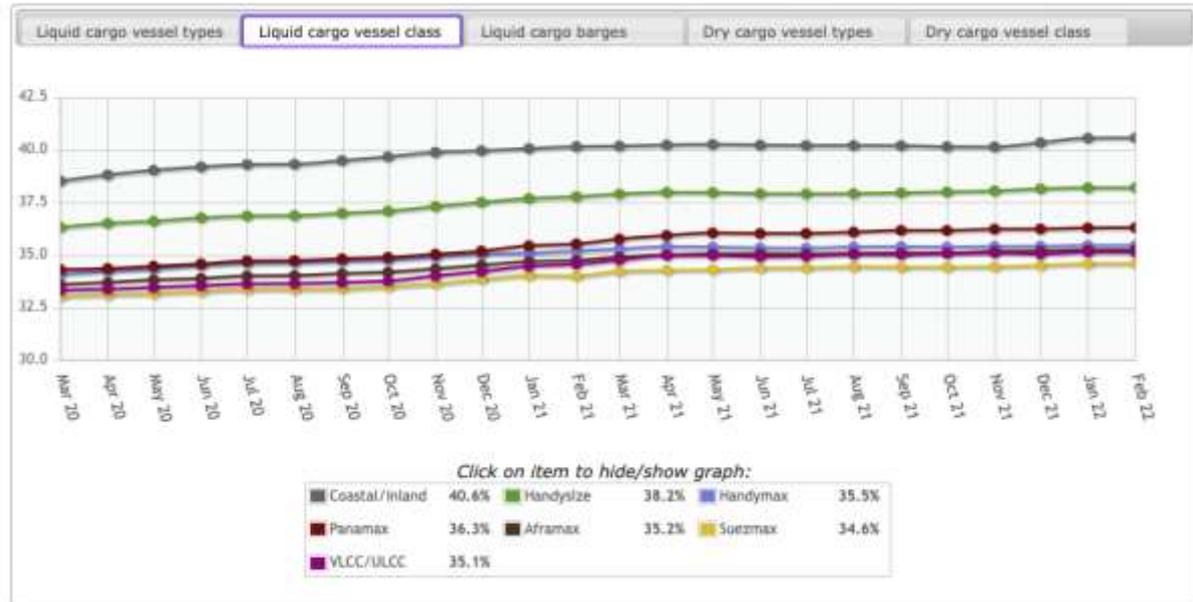
Source: Rystad Energy Vessel Analytics, research and analysis

The LNG business has long been a small piece of the global tanker market, but trade in natural gas is surging as the world looks for cleaner sources of power to replace oil and coal. Demand has grown sharply in Asia, in particular, while output has soared in the U.S. as improved hydraulic fracturing technology has made drilling for both shale oil and gas more cost effective.

The LNG market is driven by growing demand from Japan, China, India and Southeast Asia that has helped triple seaborne gas cargoes since 2000 to 308 million metric tons last year, according to Bloomberg New Energy Finance. Capacity for another 170 million metric tons is expected to be added by 2030, if planned projects for liquefying the gas for transport are completed.

3.3 Risk Trends Table: Wet Cargo Class Average Vessel Risk 2021 Rising

Last: 2 years year



Wet Cargo vessel risk ratings have been rising since the start of the Covid pandemic in 2020. From a vessel risk rating perspective, the pandemic increased the stress on crew members, already a critical component of the crew matrix, with a reduction in crew morale and performance.

The increased stress of the crews coincided with the reduction in special surveys, physical inspections due to the threat of Covid contamination, resulting in the overall risk for every vessel class. In addition to the more formal information sources, social media platforms corroborate the challenges and stresses of a modern day ship have significantly increased over the past 12-months.

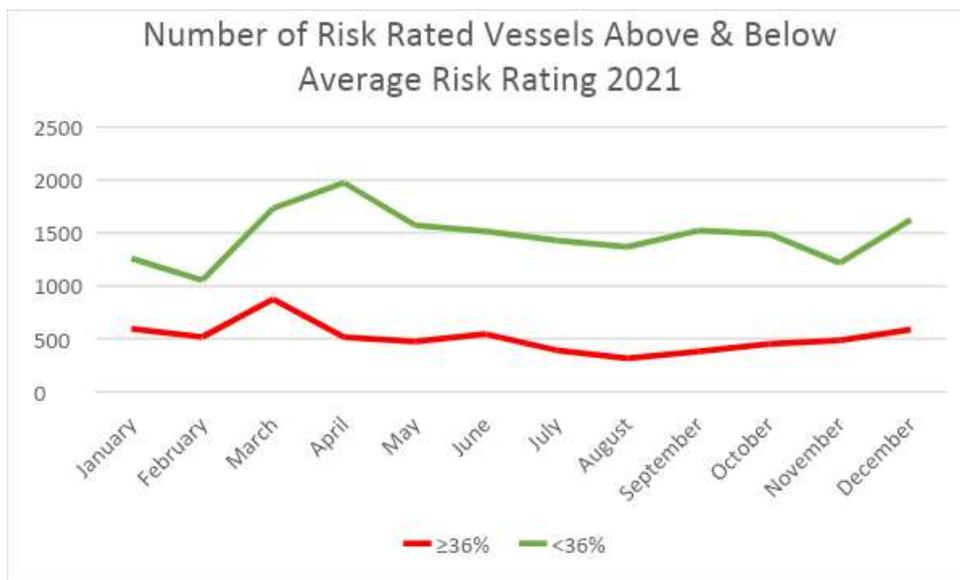
4. Red/Amber/Green vessels risk rated by IMRRA 2021

It's a high risk strategy not to have market intelligence on the risk to your business for your vessel of interest. There is, according to IMRRA aggregated data, a 1.4% chance of chartering a red risk rated vessel, or a 74.3% opportunity of securing a green risk rated vessel.

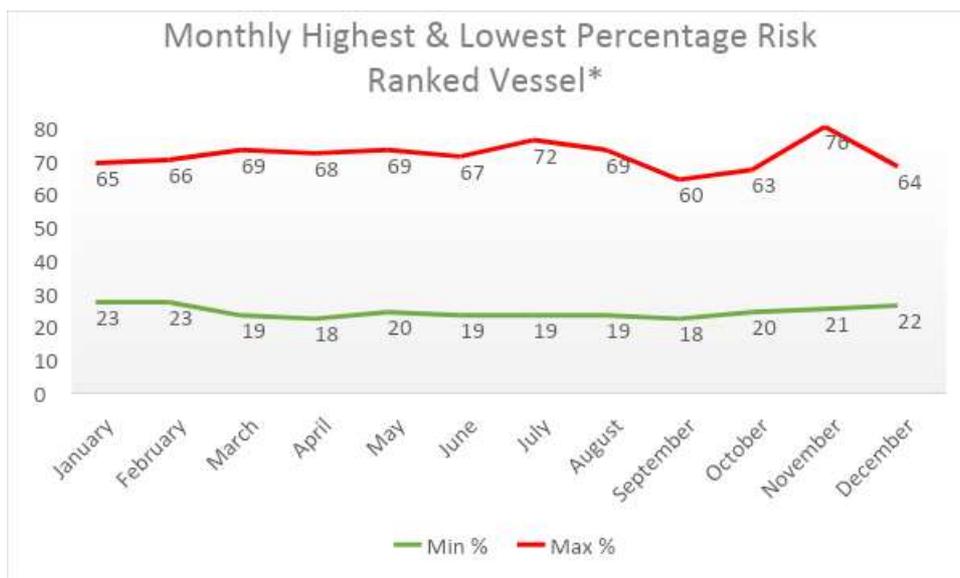
Table: Comparative Chartering Risk of a Red Rated vessel

Risk Rating	Vessels Rated	Percentage of Fleet
Red	328	1.4%
Amber	5,815	24.3%
Green	17,762	74.3%
Total	23,905	

4.1 Monthly Trend of Risk Rated Vessels Above and Below Average Risk Rating in 2021



4.2 Individual Highest (Red0 & Lowest (Green) Vessel Risk Ratings Vary month-to-month.



* The smallest risk vessels are Chemical, Gas Carrier Barge and Oil Barges.

4.21 IMRRA Analysis Reader Feedback – Why do Oil Barges Feature in the listed risk ratings?

A barge is a flat-bottomed vessel primarily tasked with the transportation of freight. Barges operate primarily in shallow or freshwater environments, including ports, harbours, rivers, and so on.

Some of the most common accidents, however, include the following:

- Hazardous environment accidents
- Slips and Falls
- Fire
- Heavy machinery-related accidents

Technology and safety protocols have improved in recent years. The records of vessel grounding, allision/collision, hull failure, and other casualties of different types of barges are descended.

4.3 **Risk Rating 76% BLACK FUEL IMO 8407632 - The Worst performing vessel of 2021!**

The stand out, highest risk rated vessel last year (Analysis Date 04-NOV-21), was the Chemical Tanker BLACK FUEL, it was over twice the KPI fleet type average of 36% for this vessel type.

The factors leading to the vessel's 76% risk ratings were as follows:

- Flag Tanzania - blacklisted by Paris MoU
- P&I Club - Unknown
- Not covered by an ITF agreement
- Multiple PSC detentions
- Arrest for human smuggling
- Detention for illegal Oil transfer

The Technical Manager/Operator was listed as Fenix Oil LLC (Nationality of Registration - Ukraine), risk rated at 71% (IMRRA Red Zone), with a total of two vessels risk rated.

4.4 **Risk Rating 23% ENERGY CENTURION IMO 9387970 - The Top performing Vessel of 2021**

Over 13% below the fleet type average of 37% for this type of vessel, the Oil Tanker ENERGY CENTURION (Analysis Date 05-MAY-21), managed by Enterprises Shipping & Trading SA was the safest risk rated vessel. Overall the Enterprises Shipping & Trading SA had a risk rating of 27% from 11 vessels risk rated by IMRRA.

5.1 **Top-5 Green Technical Operators/Managers - Green Operator risk ratings are more likely to increase your profits**

Ranking	Technical Manager/Operator	Risk Rating	Vessels Assessed
1	Intrepid Ship Management Incorporated	28%	23
2	Aegean Shipping Management SA	28%	5
3	Polembros Shipping Ltd	31%	13
4	Hmm Ocean Service Co Ltd	32%	27
5	Zodiac Maritime Agencies Ltd	32%	48

5.2 **Top-5 Green Technical Operators/Managers (fleet size - 10 vessels and more) - Green Operator risk ratings are more likely to increase your profits**

Ranking	Technical Manager/Operator	Risk Rating	Vessels Assessed
1	Rederij Somtrans Nv	25%	26
2	Zenith Gemi Isletmeciligi A.S.	28%	34

3	Oman Ship Management Company	29%	33
4	Tankmatch B.v.	29%	32
5	Associated Maritime Company Hong Kong Limited	29%	36

Note: The technical operator Fleet Management Ltd-HKG with RR of 35% in IMRRA database (based on 207 risk assessed tankers in 2021) - shows signs of high standard operational performance.

5.3 Bottom-5 Green Technical Operators/Managers (fleet size - 10 vessels and more) - Green Operator risk ratings are more likely to increase your profits.

Ranking	Technical Manager/Operator	Risk Rating	Vessels Assessed
1	Thome Ship Management Pte Ltd	35%	81
2	V Ships Ltd	35%	43
3	Thome Croatia Doo	35%	33
4	Mm Marine Inc	35%	17
5	Armona Denizcilik AS	35%	13

5.4 Top-5 Amber Technical Operators/Managers (fleet size - 10 vessels and more) - Green Operator risk ratings are more likely to increase your profits.

Ranking	Technical Manager/Operator	Risk Rating	Vessels Assessed
1	Synergy Maritime Private Limited	36%	86
2	Maersk Tankers A/S	36%	48
3	Synergy Denmark A/S	36%	29
4	Bw Epic Kosan Maritime - Sng	36%	28
5	Bernhard Schulte Shipmanagement Singapore Pte Ltd	37%	75

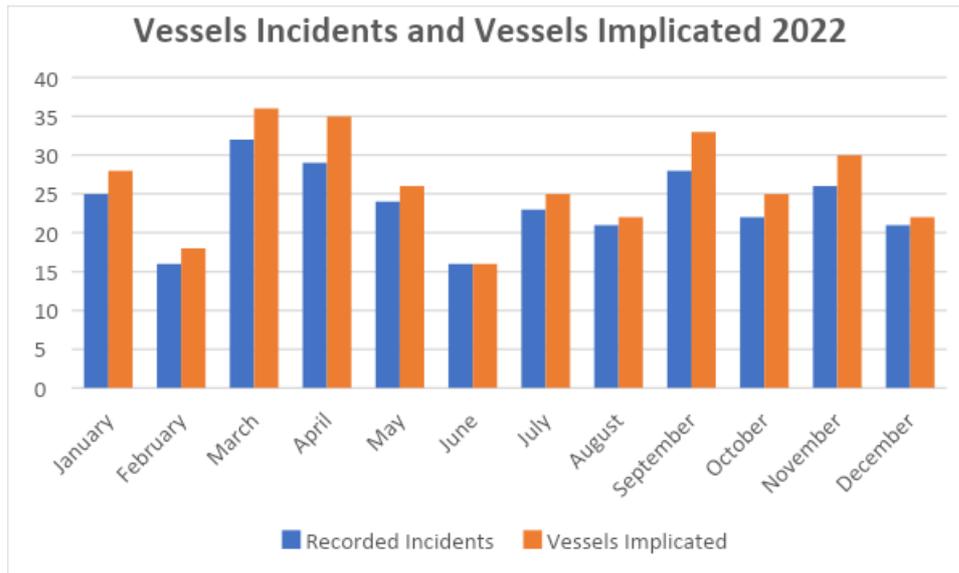
5.5 Bottom-5 Amber Technical Operators/Managers (fleet size - 10 vessels and more) - A planned approach to vessel risk management, apply temporary risk management as required. Odessa to Provide - done

Ranking	Technical Manager/Operator	Risk Rating	Vessels Assessed
1	Pilatus Marine Co Ltd	49%	12
2	Safe Seas Ship Management Fze	46%	15
3	Azerbaijan State Caspian Shipping Company	46%	14
4	Glory International Fz-lhc	45%	10
5	Winson Shipping Taiwan	45%	10

5.6 Bottom-five Red Technical Operators/and Managers 2021- Immediate action to control the vessel hazard. High risk for severe incidents/casualties.

Ranking	Technical Manager/Operator	Risk Rating	Vessels Assessed
1	Fenix Oil Llc	71%	2
2	Metropolitan Maritime Services	69%	1
3	Delta Jsc	68%	1
4	Korea Unpha Shipping & Trading	68%	2
5	Adovelin Raharja Pt	66%	1

6. Recorded Incidents and Vessels Implicated



*Vessels Incident and Vessels Implicated 2021

Quite often, vessels involved in incidents or casualties are not always the cause of these incidents, but are indirect participants. Nevertheless, these vessels are also the subject of risk assessment due to possible damage, malfunctions, and any faults.

Some examples:

- 1) General cargo Kelly C. (IMO: 9558024, 4151 gt, built 2010) / Product tanker Pacific Cobalt (IMO: 9788617, 29500 gt, built 2020): It was reported by the Portuguese maritime safety office that on Feb 6, while manoeuvring to berth at the port of Ghent, Belgium, with a pilot embarked, the vessel came in contact with the moored PC. The impact did not result in any injuries or pollution.
- 2) Vessel type (unspecified) Danzig (LLI: 9832212, gt, built), while servicing on the Kiel Canal in Ostermoor, had reported to Kiel Canal that it was ceasing operations because of the storm "Eunice", at around 1949 hrs, Feb 18. Shortly later, the vessel drifted away from the Ostermoor ferry terminal on the north side of the waterway and drifted into the canal, came in contact with the passing fully cellular containership Arnarfell (IMO: 9306005, 8890 gt, built 2005), which was en route from Cuxhaven, Germany to Aarhus, Denmark, and then Danzig allided with the dolphin no.3 at the total bunker pier as well with the adjacent moored asphalt tanker San Bacco (IMO: 9753818, 4703 gt, built 2016), which was en route from London, United Kingdom to Brunsbuttel, Germany.

- 3) Bulk carrier Julietta D (IMO: 9590618, 24196 gt, built 2013) with 18 people onboard reportedly collided with combined chemical and oil tanker Pechora Star (IMO: 9488322, 8581 gt, built 2011) and started sinking off the coast of Yumiden, Netherlands. Julietta D lost control of movement and collided into the anchored Pechora Star.

Summary:

The importance of vessel risk assessments: The risk rating data in this document proves the importance of thorough due diligence for Charterers and Terminal Operators when considering chartering a vessel.

There is a chance of fixing a red risk rated vessel unless a thorough, if somewhat time consuming investigation and risk assessment is conducted. Often, this is very late in the negotiating process.

Amber vessels have a role to play in Wet Cargo shipping, slightly above the average required a planned approach to working with the vessel, with temporary risk management applied as required. Charterers will have leverage in negotiations and will be able to insist any potential deficiencies be corrected. For shipping, the past is very much a key to the future operation of a ship.

If you have any questions regarding the data in this document, you are welcome to contact me for more information.

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