



Anchoring losses on a negative trend – how to improve?

A joint webinar from DNV, Gard, and The Swedish Club

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The webinar presenters



**Marit
Norheim**

VP, Materials
Specialist, DNV



**Ioannis
Tsarouchas**

Principal Engineer,
DNV



**Jarle
Fosen**

Sr. Loss Prevention
Executive, Gard



**Joakim
Enström**

Loss Prevention Officer,
The Swedish Club



Simon Adams

Sr. Communications
Manager, DNV

Webinar host

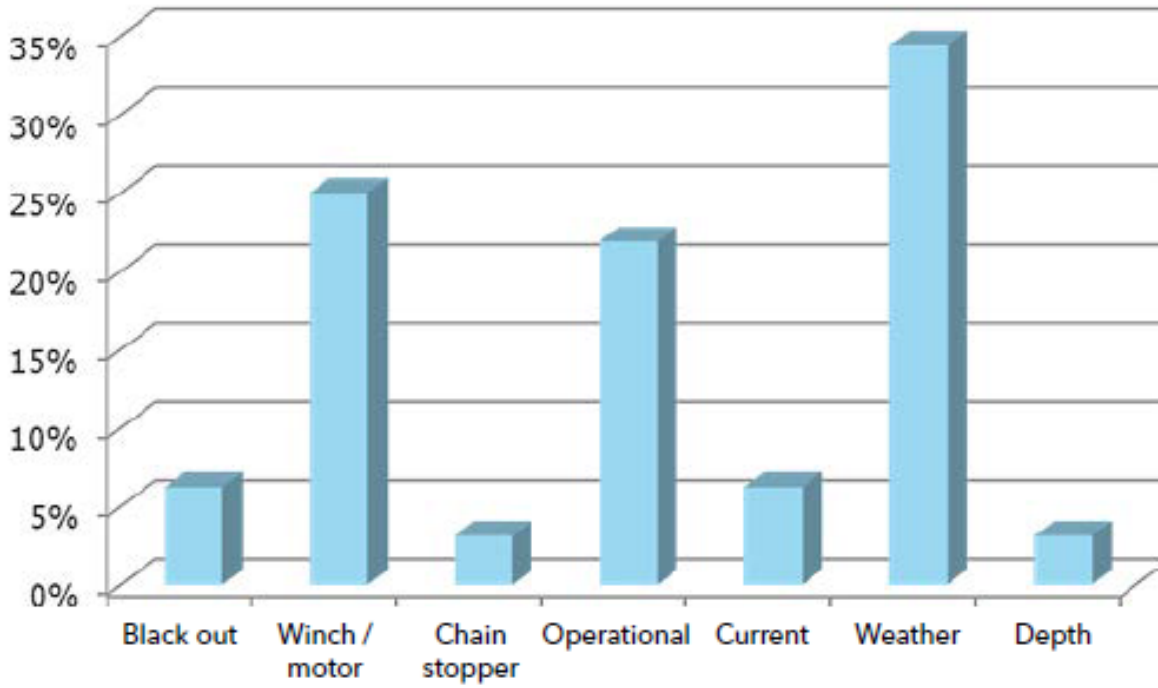
AGENDA

- Risks and what goes wrong during anchoring?
- Rules & regulations, awareness of design limitations
- Anchor losses/ damage cases, lessons learned
- Lessons learned, recommendations

- Q & A

Background – Anchor losses/damages

Statistics from last awareness campaign 2016:



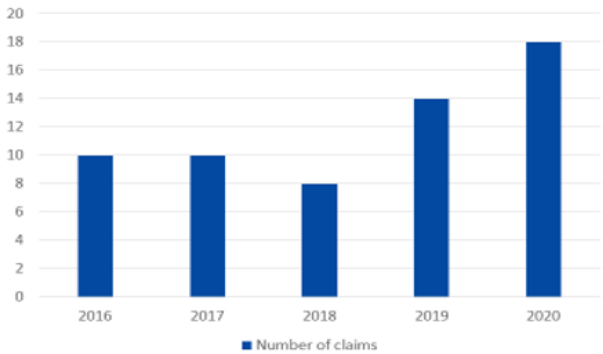
Events causing loss of anchor (Source: The Swedish Club)



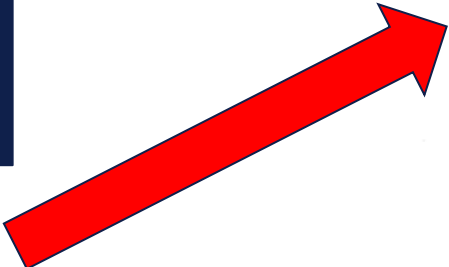
Background – anchor incidents



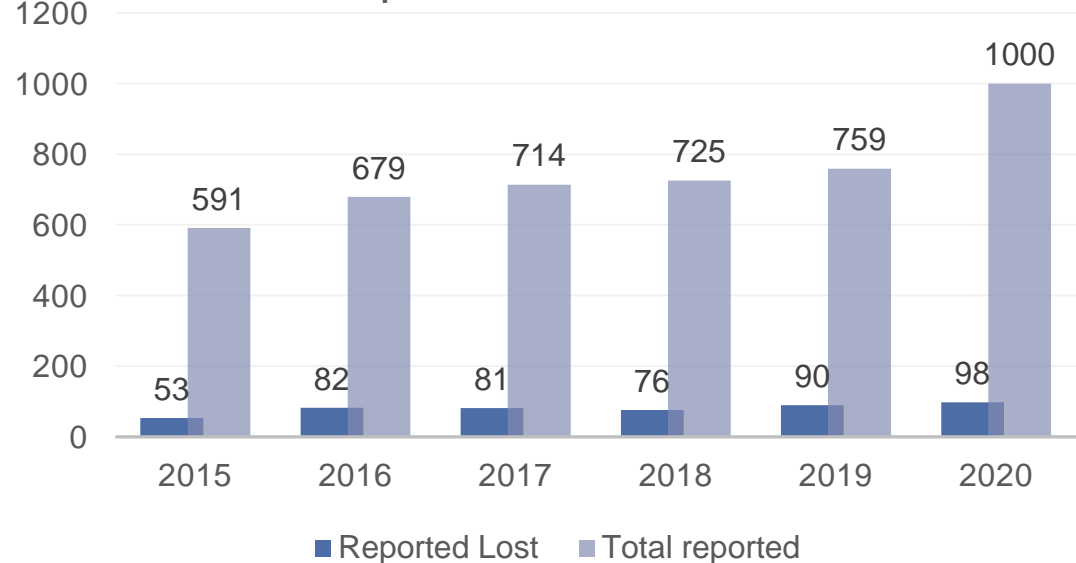
The Swedish Club 2016-2020



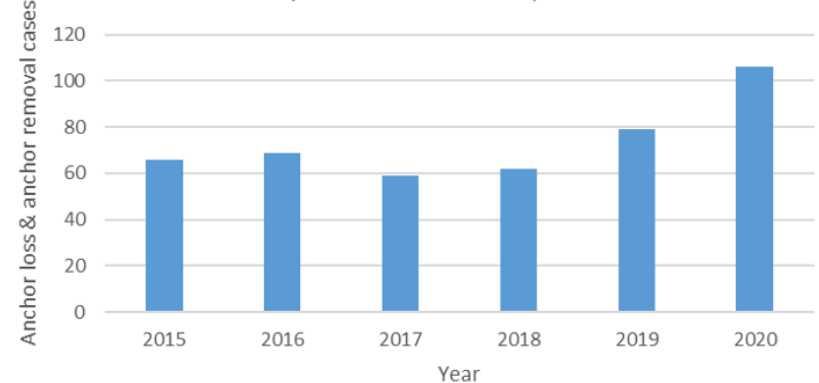
The trend is increasing, especially the last 3 years. How to explain?



DNV reported incidents



Total anchor loss & removal cases per year (H&M + P&I claims)



Source: Gard claims data



Causes for Lost/Damaged Anchoring equipment

1. In anchorage

- Bad weather, or
- Operational error in anchoring procedure

2. At sea, when chain/anchor is not properly secured, or the fastenings fail.

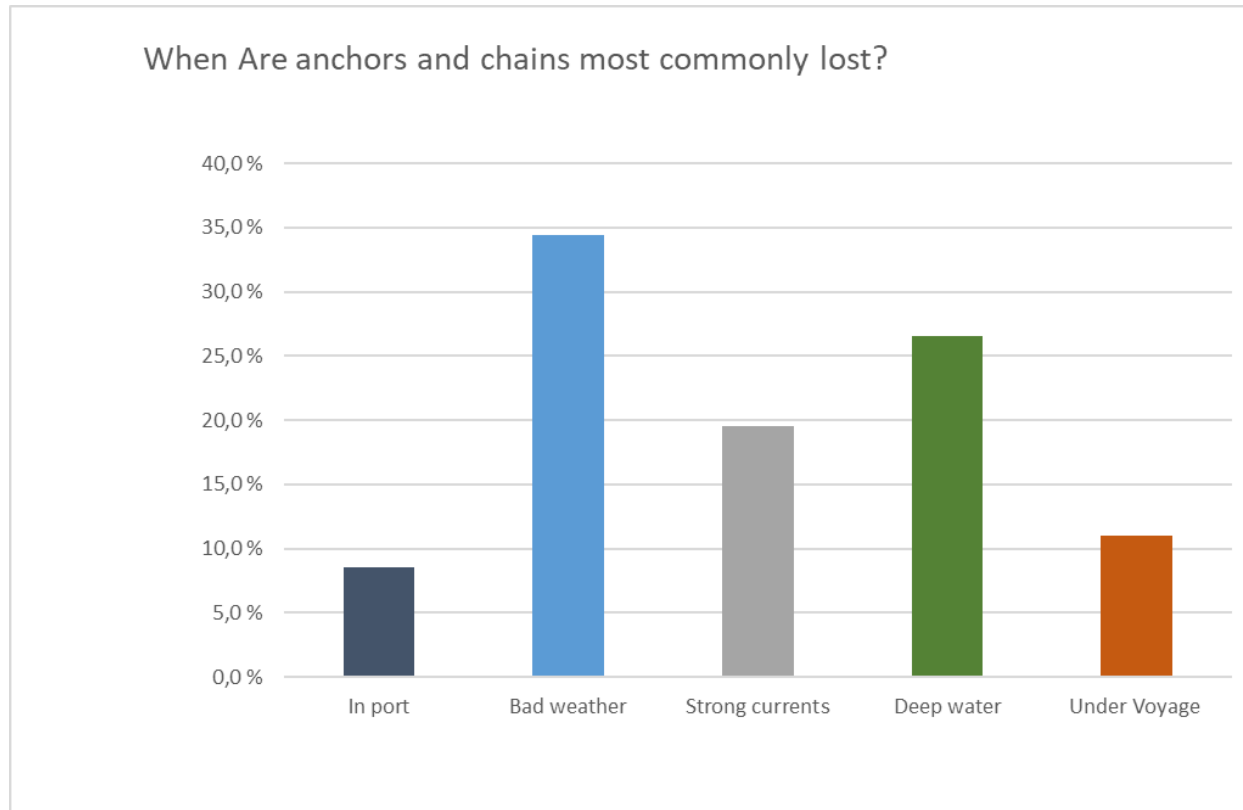
3. In connection with emergency anchoring to avoid grounding & collisions



Result from Survey

- Did you have damage in the anchor equipment in the last 3 years?
- When are anchors and chain most commonly lost?

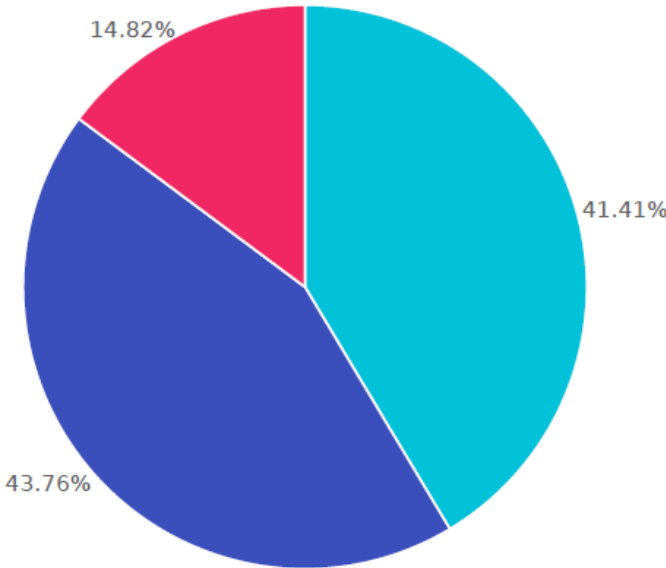
- a) During normal anchoring operations in port.
- b) During anchoring operations in bad weather.
- c) During anchoring operations in strong currents.
- d) During anchoring operations in deep water.
- e) During the voyage, if not properly secured.



Result from Survey

- Do you believe the Master and Crew are aware of the design limitation in the use of the anchor with respect to environmental conditions?

- a) Yes
- b) No
- c) Do not know

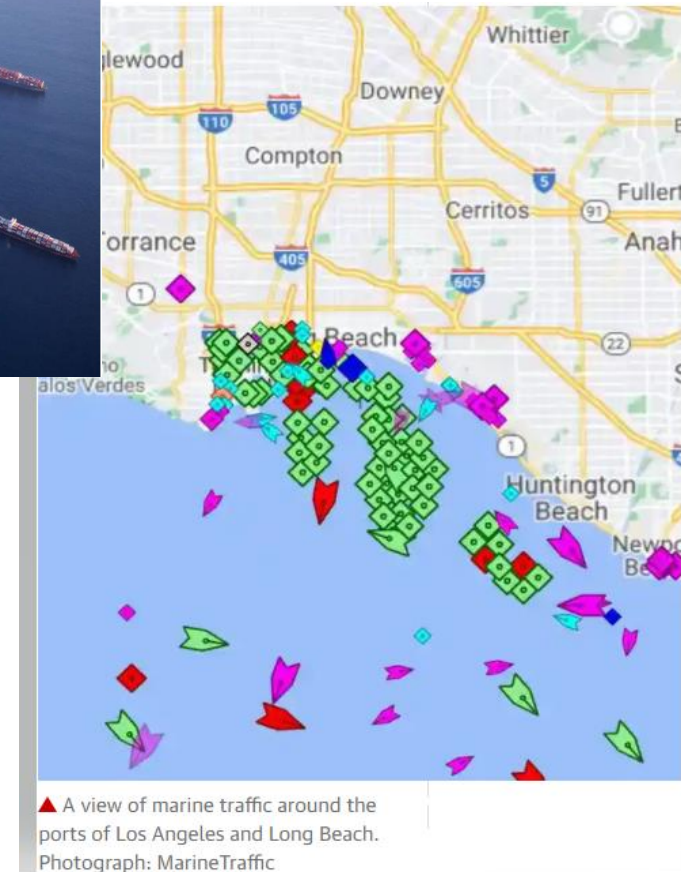
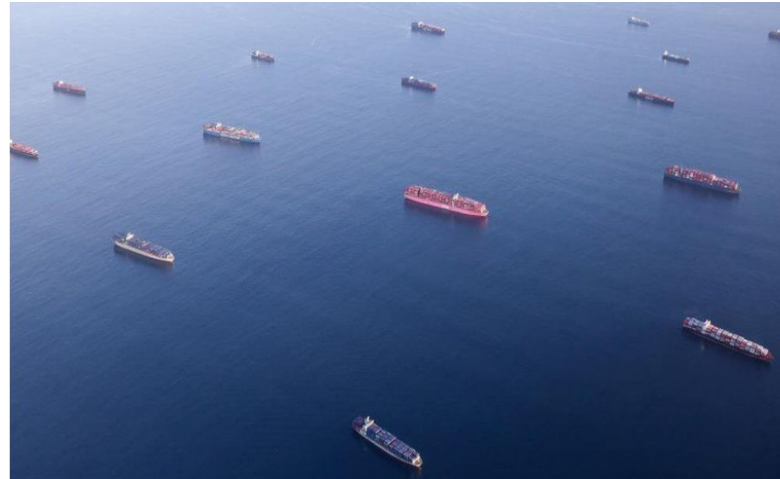


● Yes ● No ● Don't know

Global economy

What factors increase the risk of incidents with anchoring equipment?

- Busy ports have become even more busy after world economy re-start due to COVID 19 “shut down”. There are large “queues” outside cargo terminals due to back-log in supply chain
- Ship types that did not use often anchoring equipment, now they have to f. ex. containerships, car carriers
- High demand has put pressure on delivery times



Extreme climate

What factors increase the risk of incidents with anchoring equipment?

Storms have become more frequent than before, with gust winds, turbulence in current and steep waves - not acting in same direction.

Large flow of water after rainfalls/floods, results in high current speed and water level fluctuations, f. ex. river deltas (Mississippi, Amazonas, Rio del Plata)

Staying in anchorage may not be the safest choice



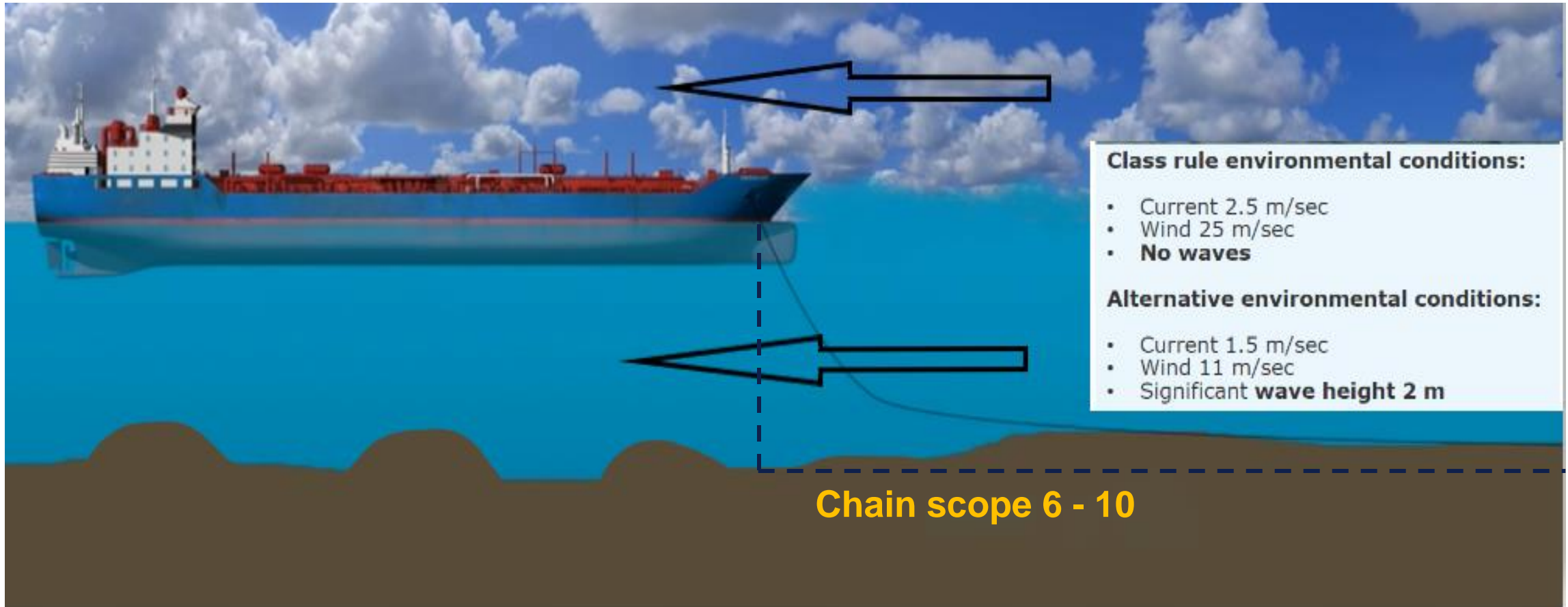
Ship grounding/collision after anchor dragging



Anchoring equipment

Design Limits

Environmental design limits in Class (IACS) rules



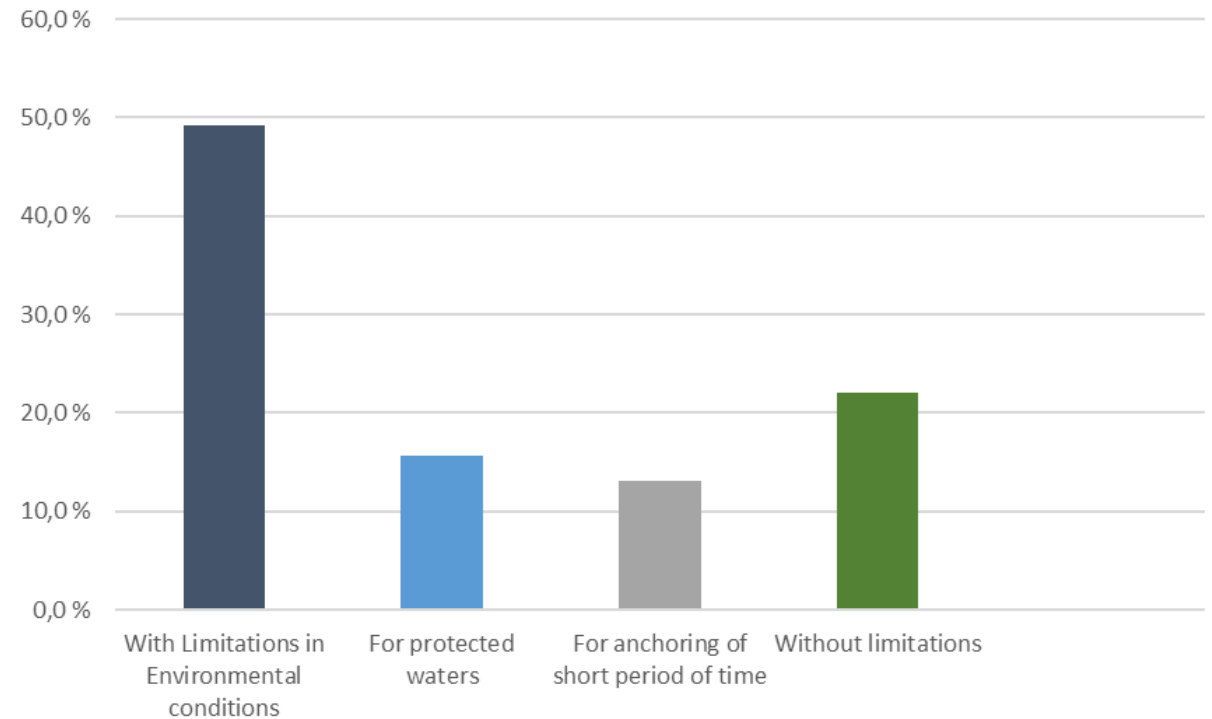
Exceedance of the above limits, increases significantly the risk of dragging

Response from survey – Design limitations

There is large amount of uncertainty in the shipping community regarding the design limitations in the anchoring equipment.

There is a lack of reference to the design limits in the action plan.

The design of anchoring equipment in DNV rules follows IACS UR A and Rec. no 10. According to the rules, the anchor equipment is designed:

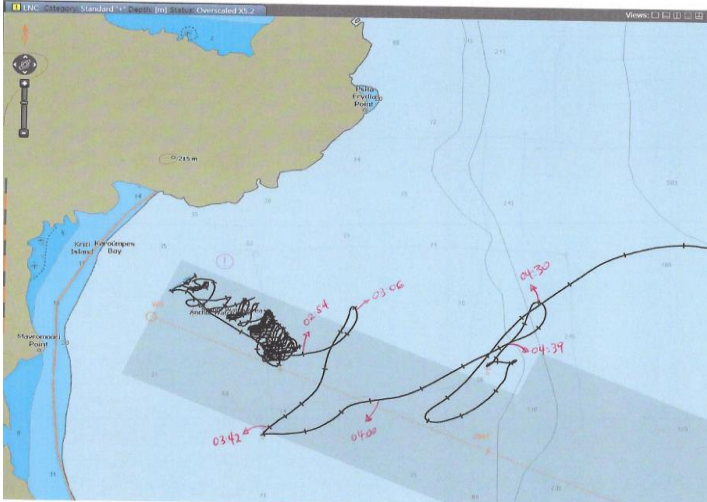
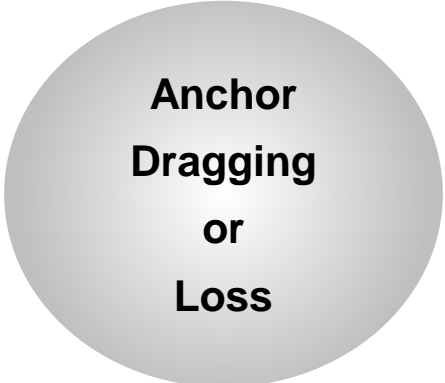


Break-down of Incidents Investigation



- Late response to heave the anchor,
- Forced an error in anchoring procedure

- Exceedance of environmental limitations
- Anchor holding compromised



Consequences of anchor equipment loss/damage

Direct consequences:

- Replacement and recovery cost
- Off-hire and service delays

Indirect consequences:

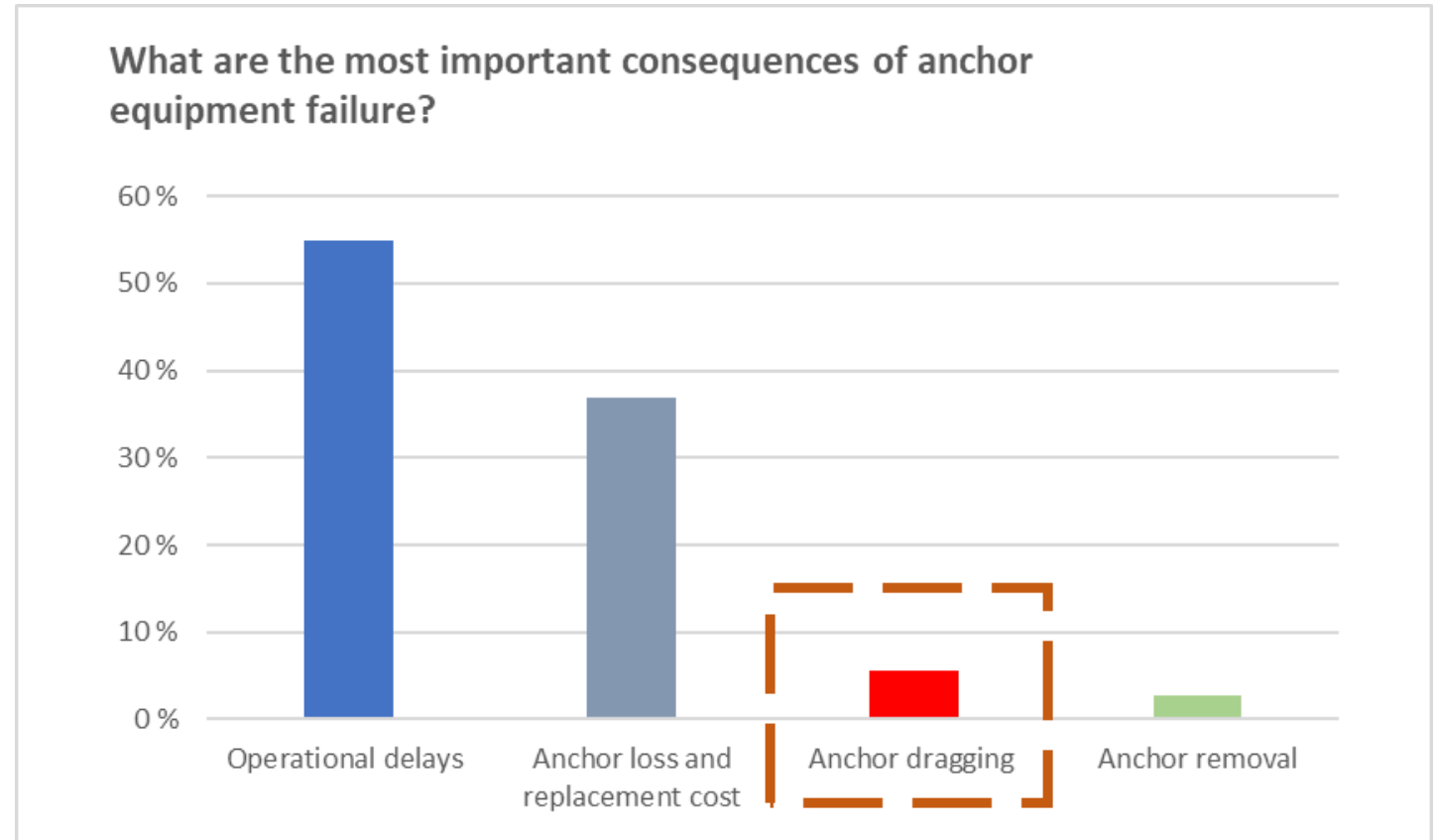
- Grounding, collision, dragging:
 - Damage to ship/other ship, subsea equipment, pipelines, cables etc.
 - Pollution

The most serious and high impact cases occur when a ship's anchor is dragging or loses the anchor under bad weather conditions!



Response from Survey on Consequences

- Most responses related anchor damage/loss with operational issues and replacement cost.
- Surprisingly low is the perception that exceedance of design limitations can lead to anchor dragging and the potential high impact consequences



Case Studies by GARD/SWEDISH CLUB

Anchoring equipment

Safe Practise - Key points

Anchoring – safe practice guide

Be aware of equipment limitations	<ul style="list-style-type: none">• Environmental & functional
Set up action plan	<ul style="list-style-type: none">• Define easy-to-understand actions based on design limits
State alert	<ul style="list-style-type: none">• Recognize dangerous situation• Be ready to sail away
Trained crew	<ul style="list-style-type: none">• Perform under forced situations



Key take-aways

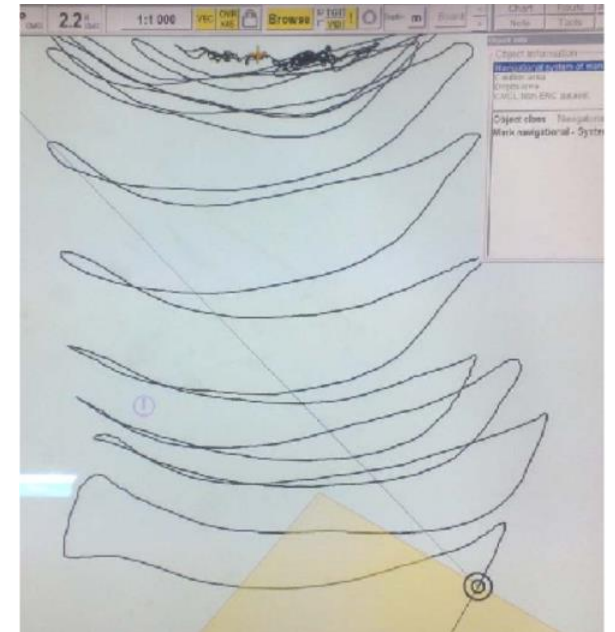
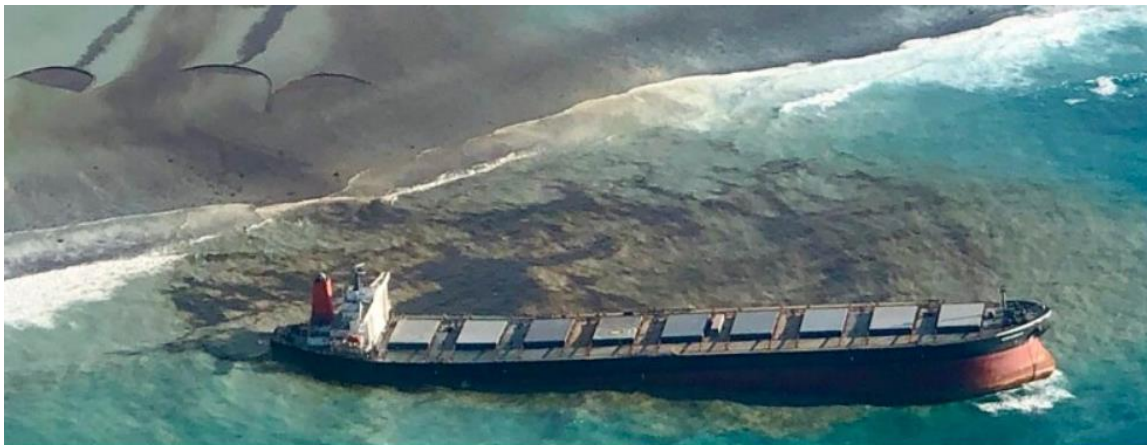
Many accidents can be prevented:

Under normal operation:

- Crew competence
- Anchoring procedure

Under bad weather conditions:

- Be on alert!
- Follow Action Plan!



Hesitation or late decision can easily lead to anchor dragging and eventually to grounding or collision

Q&A – please address your questions via the webinar chat function



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- **More information is available**

Webpage [Anchor loss prevention - DNV](#):

www.dnvgl.com

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