TRAINING FOR SAIL CARGO

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DISCLOSURE

The presentation you are about to endure are my personal opinions and do not reflect those of:

- The Federal Government
- Department of Transportation
- Maritime Administration
- Sea School
- This presentation focuses on the training of mariners for ocean going sailing cargo vessels.

CURRENT STATE

- Tall ships are utilized in a variety of capacities
- You can find tall ships at museums as stationary attractions
- They can be found entertaining passengers on day cruises
- Many naval schools worldwide have tall ships as their training platform
- Finally tall ships can be used to carry both cargo and trainees, who pay for the experience

A RETURN TO TRADITION

With an increasing awareness of the fragility of our environment coupled with IMO 202 rules a handful of vessel owners have ventured into our past to make way for the future.

THE BUSINESS

- Currently sailing cargo vessels are transiting parts of Europe, the Caribbean, Mediterranean, as well as trans-Atlantic.
- Cargoes include coffee, tea, wine, rum, spices, and other non-perishable items traditionally carried on board these types of vessels.
- Sailing vessels do not have the considerations of liner vessels with a specific timetable, but still do have to turn a profit in order to remain in business.

THE BUSINESS MODEL

- For these vessels the business model is reliant upon two sources of income: Cargo and Trainees.
- While the Cargo is fairly self explanatory, the concept of trainees is not.
- A trainee can be any person who is interested in taking the voyage. Some may have a seafaring background, some may not. All must be willing to work to the best of their ability. However, trainees are not part of the crew.
- In past accident investigations it was found that the line between trainee and passenger has become blurred.

LACK OF INTERNATIONAL REQUIREMENTS

- STCW and SOLAS have very slim oversight on vessels of traditional build.
- STCW is marginal in applicability and does not mandate any training specific to vessels of traditional build
- STCW mandates training in cargo operations, vessel maintenance, and hull preservation. This training is focused on steel hull, machine propelled, cargo vessels.
- Vessels of Traditional Build and vessels under 500Gt are generally exempt from much of SOLAS.

THE PROBLEM

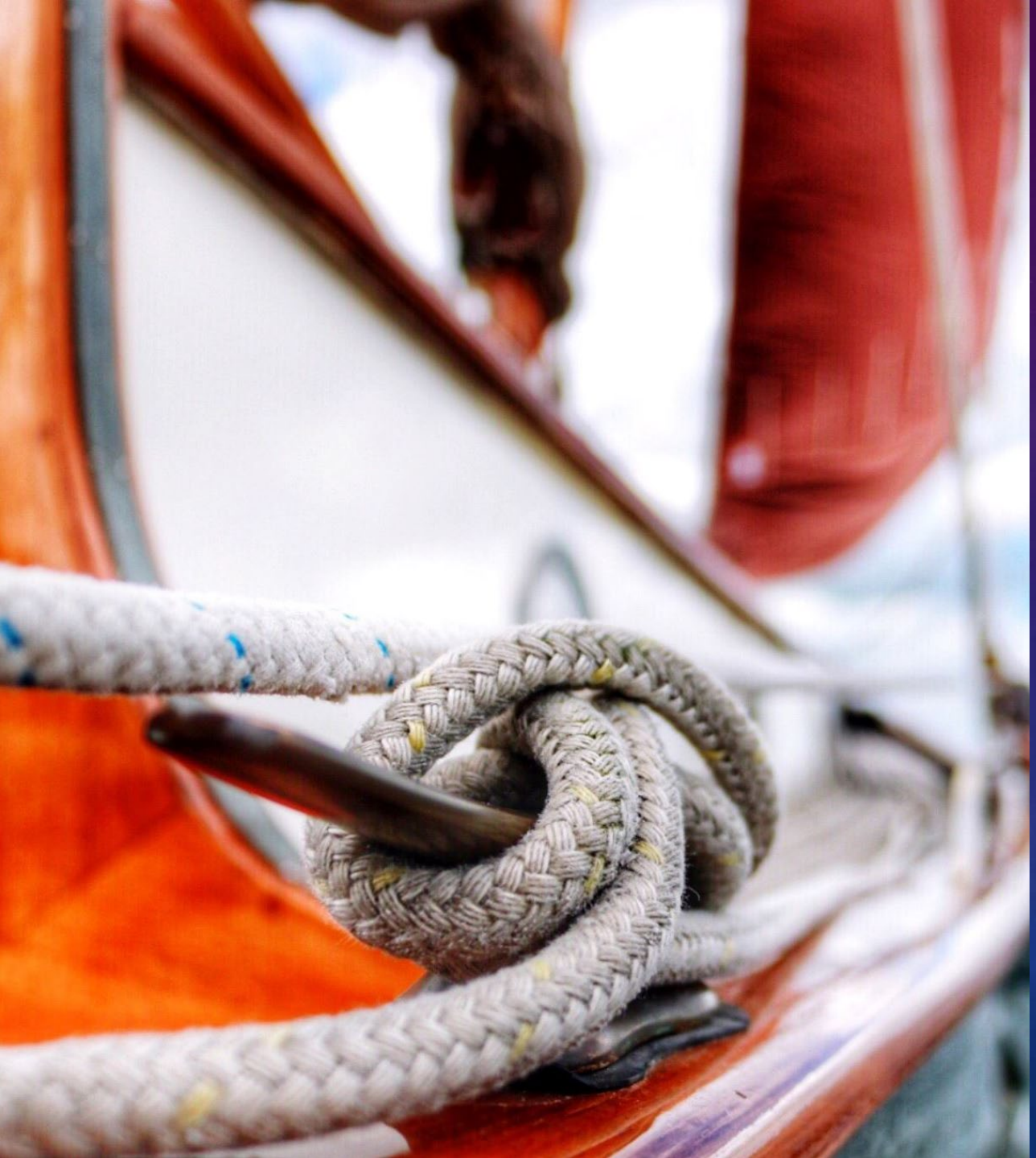
- Around 1953 the last known sailing cargo vessel, the Pamir, was lost at sea.
- There is a gap of knowledge sharing from the last known generation of experienced sailing cargo officers and crew to today's entrepreneurs and officers and crew.

TALL SHIPS DOWN

- In this excellent book by Daniel Parrott several one recurring theme amongst all of the disasters is that of training.
- The original source for this book stems from governmental accident investigations, such as the NTSB.

PROPOSED TRAINING REQUIREMENTS

It would be very easy to simply mimic the requirements of STCW. That would be a far cry from beneficial for this environment. Vessels of this nature demand their own special attention, that understand the special nature of their operation and personnel all the while upholding the sprit of safety as is the focus of STCW.



A CLOSER LOOK AT STABILITY

- Consistently mentioned among the accident reports in *Tall Ships Down* is a supposed lack in the knowledge of vessel stability, especially those forces acting upon the sails ad rigging.
- The effects of stability while under sail versus bare poles is a topic that bears closer training.
- Additionally an understanding of down flooding and the calculation of the down flooding angle.

SAILS AS A MEANS OF PROPULSION

- According to STCW deck officers must have basic familiarization of different types of ship board power plants.
- As there is no internationally recognized sailing officer license, the training in sails as the primary means of propulsion with an engine as a backup (on some, but not all) has no standardized training, and is done more in On the Job fashion.
- While here is a practical value to training on the job, there needs to be a baseline of knowledge that all learners must acquire in order a management position. As such there is not that in the sailing industry.

MAINTENANCE AND REPAIR

- Able bodied seafarers sailing in the Deck department of commercial vessels must have a basic knowledge of steel preservation and deck maintenance.
- There is no baseline training for those looking to put to sea on wooden hull ships. On the Job training is relied upon.
- The tragedy of the *Marine Electric* should be forefront in our minds when we place hull preservation into a lower priority.

CARGO AND STOWAGE

- Techniques such as dunnaging and stowage of break bulk cargo have largely fallen into disuse in favor of bulk cargo shipping and containerization.
- These techniques are not necessarily taught as practical exercises, but merely as academic subjects.
- For vessels that do not have forced ventilation such as sailing vessels dunnaging is an important skill.

THE EFFECTS OF SAIL ON STABILITY

- All deck officers receive an education in vessel stability. This is crucial knowledge in order to safely handle a vessel.
- Handling a vessel under sail is a different experience than a power driven vessel.
- Wind heeling effect on sailing vessels is different from that on a commercial vessel of modern build
- Wind heeling moments will also be a concern on modern cargo vessels utilizing auxiliary sails.


drax
drax
ULTRABULK

CARGO AND THE EFFECTS ON STABILITY

- Stability for the ship's officer is a balance between safety and profit.
- This was the case with the El Faro.
- This was also the case with the Pamir, who loaded barley in their ballast tanks, leaving no ability to ballast down in rough weather.
- Unlike modern cargo vessels with many decks, sailing vessels have less cargo space, which requires better planning if that vessel is going to traverse open waters.

EMERGENCY SITUATIONS

- Professional mariners on modern cargo vessels train regularly while afloat, and refresh ashore their skills.
- There is no regulation for sailing cargo vessels of traditional build unless laid out by the flag state.
- Fire pumps do not necessarily meet SOLAS requirements as the vessel does not have to.

EMERGENCY SITUATIONS

- Crowd Control – are trainees who are paying to be on board really up to the task of an emergency?
- Dismasting, unintentional – What to do
- Dismasting, intentional – when is it recommended
- Cutting away sails – when is it necessary?

MANNING CONSIDERATIONS

- Crew is one of the largest expenses on a ship owners balance sheet
- It is tempting to reduce crew size whenever possible.
  - Case in point, a former customer wanted to rely on the provision of STCW allowing for a single person bridge officer/watchstander as permitted in clear conditions and no traffic. Relying on a contingent situation for manning is dangerous. What would happen when fog rolls in, or a storm? More hands makes for lighter work.
- Without at least one trained duty engineer even a sailing vessel is at risk of losing necessary emergency and communications equipment.

CASE OF THE BOUNTY REPLICA

- On October 29, 2012 the tall ship Bounty sank off Cape Hatteras, North Carolina, while attempting to transit through the forecasted path of Hurricane Sandy. Three of the 16 people on board were seriously injured, one crewmember died, and the captain was never found. The vessel's estimated value was $4 million.
- The National Transportation Safety Board determines that the probable cause of the sinking of tall ship Bounty was the captain's reckless decision to sail the vessel into the well-forecasted path of Hurricane Sandy, which subjected the aging vessel and the inexperienced crew to conditions from which the vessel could not recover.

SCARY TREND

- Along with the Bounty, all of the cases mentioned in Parrott's book have one thing in common. Mostly inexperienced captains who did not have the benefit of formal sail training under experienced officers for more than a short period of time

OPTIONS

- Currently vessel officers are vetted by checking references. Although standard it may not be the most efficient
- There are two schools that focus on sailing vessels of traditional build. The *Picton Castle* and *Enkhuizer Zeevaartschool*.
- Although the programs between the two vary, their programs both provide a great foundation in what it means to be an officer on a sailing vessel carrying cargo and trainees.

CONCLUSION

- Traditional build sailing vessels are still a viable shipping option.
- There is a comeback in and around Europe, and as far was as the U.S.
- Should we wish to meet environmental goals the industry needs to support these endeavors with supplying proper training for the crew and officers.
- This training need not be government regulated, merely industry standardized and regulated.