

MAIB SAFETY BULLETIN 1/2007

Capsize of Haitian sloop, while under tow by
Turks and Caicos Islands' Police Launch *Sea Quest*
on 4 May 2007
with the loss of 59 lives

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This document, containing safety lessons, has been produced for marine safety purposes only, on the basis of information available to date.

The Merchant Shipping (Accident Reporting and Investigation) Regulations 2005 provide for the Chief Inspector of Marine Accidents to make recommendations at any time during the course of an investigation if, in his opinion, it is necessary or desirable to do so.

The Marine Accident Investigation Branch (MAIB) is carrying out an investigation into the capsizing of a Haitian sloop, while under tow by the Turks and Caicos Islands' police launch *Sea Quest*, on 4 May 2007. The MAIB will publish a full report on completion of the investigation.



Stephen Meyer
Chief Inspector of Marine Accidents

NOTE

This bulletin is not written with litigation in mind and, pursuant to Regulation 13(9) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2005, shall not be admissible in any judicial proceedings whose purpose, or one of whose purposes, is to apportion liability or blame.

This bulletin is also available on our website: www.maib.gov.uk

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BACKGROUND

Late on the evening of Thursday 3 May 2007, an 11m wooden sailing sloop carrying approximately 150 economic migrants from Haiti commenced a covert approach to the south side of Providenciales Island, Turks and Caicos.

The sloop was intercepted early the following morning and taken in tow by the Turks and Caicos Islands' police launch *Sea Quest*. A short while into the tow, the sloop capsized.

During the night, *Sea Quest* rescued 66 survivors from the water, and at first light a further 11 survivors were rescued from the capsized hull of the sloop by one of the islands' Fishery Patrol launches. A total of 78 passengers were rescued, and 59 bodies were recovered, 11 from the hold of the sloop. An unknown number of bodies remains unaccounted for.

ANALYSIS

The cause of the sloop's capsize has yet to be determined and is subject to ongoing investigation. It is apparent, however, that the sloop would have suffered a major reduction in stability as the passengers moved from the hold onto the deck following the intercept. There is evidence to suggest that no more than 25 passengers were in the hold at the time of the capsize, indicating around 125 were then on deck; an increase of about 100 passengers since the initial intercept.

Using measurements and weights taken from the wreck an estimate of the sloop's stability performance has been made (**Figure 1**). This indicates that, with most of the passengers in the hold, the sloop would have been reasonably stable. However, the movement of 100 passengers from the hold to the deck would have caused its stability to progressively diminish to almost zero. In this condition, it would have taken only the smallest of movements of the passengers towards one side, or another stimulus, to cause the vessel to capsize.

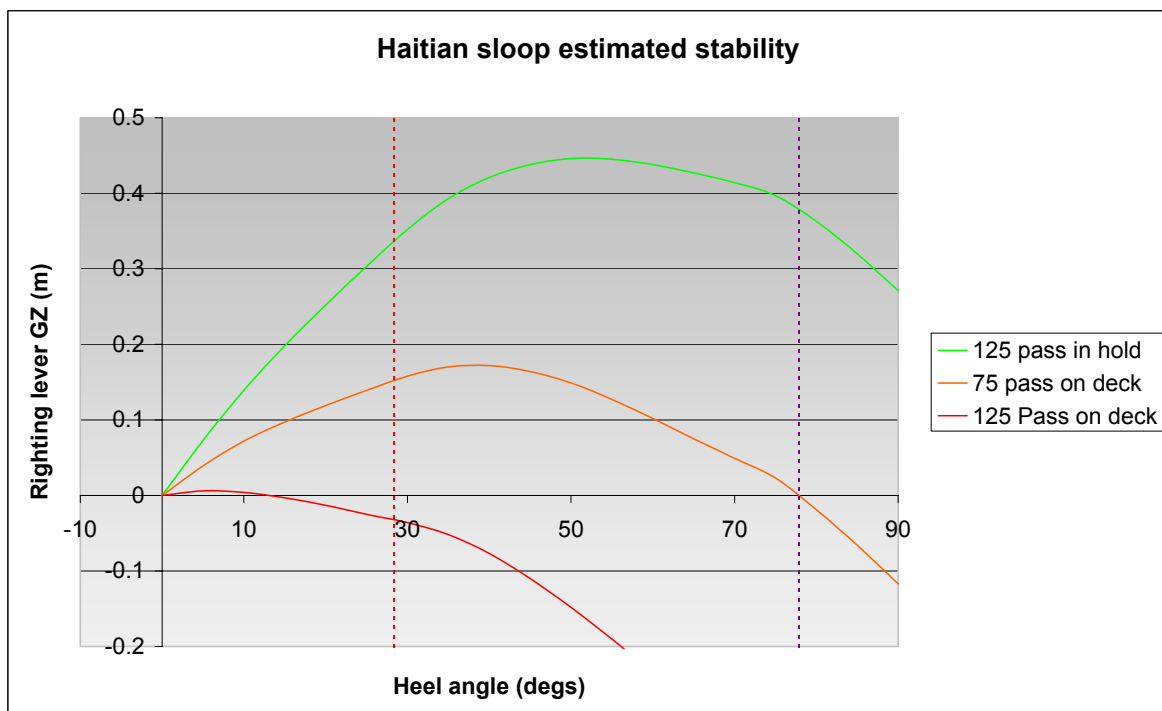


Figure 1

Note: The righting lever (GZ) is a measure of a vessel's ability to return to the upright when heeled by an external force. The area under the curve bounded between zero and the heeled angle is directly proportional to the moment righting the vessel. It is evident from the curves above that as the number of passengers on the deck of the sloop increases, the area under the GZ curve reduces to virtually nothing, demonstrating that only a small external force would be required to capsize the vessel.

The sloop involved in this accident was representative of other sloops (**Figure 2**) used to run economic migrants from Haiti to the Turks and Caicos Islands, and similar sloops attempting to land migrants into the USA have been intercepted by the US Coastguard. While only a few previous cases of capsizing have occurred, the sloops are known to be unstable when the majority of the passengers are on deck. This movement of passengers starts as the sloops near their destinations, but is also triggered when they are intercepted by the authorities.



Figure 2 - Photograph courtesy of the Turks and Caicos Islands Marine Police Unit

Once the sloop had capsized, *Sea Quest* was the only vessel conducting rescue operations until first light, some 3 hours later. Although the launch rescued 66 people from the water, had the launch been equipped with better rescue equipment it is possible that more lives could have been saved.

CONCLUSIONS

This type of sloop with this number of passengers is inherently unsafe. While it might be reasonably stable while people are in the hold, as significant numbers of passengers move from the hold to the deck the stability of the vessels will diminish; in a few cases to a dangerous level. Once the sloops are intercepted by the authorities, measures need to be taken to minimize their loss of stability, and actions that might precipitate a capsizing must be avoided.

Any marine emergency resulting in large numbers of people in the water is likely to require significant quantities of lifesaving equipment; it would be a reasonable precaution for marine police unit launches to carry high capacity liferafts.

RECOMMENDATIONS

Fuller recommendation can only be generated when the investigation has been completed. However, the findings to date have been of sufficient importance to warrant the MAIB issuing the following urgent safety recommendation:

The Turks and Caicos Islands' Marine Police Unit is recommended to:

- Improve the ability of police launch crews to convey instructions to sloop crews and passengers, with the specific aim of warning them of the dangers of passengers crowding on deck.
- Avoid taking sloops laden with passengers in tow, or any other action, such as going alongside, that could precipitate a loss of stability.
- Equip its police launches with high capacity liferafts for use in marine emergencies.