Foundering of a recreational craft

Other accident: Death of a crew member after a privately used recreational craft foundered

What happened?

A privately used recreational craft sailing in from the sea capsized while passing through a tidal inlet level with the bar. All three crew members fell overboard and were initially able to cling to the inverted, floating boat. The boat foundered about 30 minutes later after a breaking wave had caused her and the water sports enthusiasts to spin out of control at least once in and under water. After the boat foundered, the skipper managed to send a distress call with a waterproof smartphone. An extensive rescue operation was then launched. After about four hours – shortly after sunset – two of the three crew members were spotted and rescued by a SAR helicopter. The body of the third crew member was spotted floating lifeless in the water by rescuers and sank during the recovery attempt. It had not been possible to find this crew member before the publication of these lessons learned.

Why did it happen?

- The boat capsized due to short steep waves. In all likelihood, groundswell and possibly tidal surges had formed in the area of a bar due to an outgoing tidal current and an opposing wind sea of up to 2.5 metres in height generated by the strong onshore winds, which were reaching gale-force in gusts.

- Information from nautical publications (sailing directions and guides) and navigational charts (electronic/paper) with warnings against sailing in tidal inlets in certain conditions was either not used or overlooked.

- The deceased person was wet due to water washing over the boat before she capsized. Due to a lack of suitable clothing, this person was already hypothermic before the emergency and may have had a lower chance of survival because of that.

- The distress call sent by smartphone was only possible because

  - the device used was initially in a waterproof cover;
  - this cover was secured to the lifejacket;
  - the device was waterproof and could therefore be removed from the cover to dial the emergency number;
  - a mobile phone network of sufficient quality was available, and
  - the device's battery capacity was just sufficient.

- The emergency control centre was only able to classify the distress call as a maritime emergency report early on because the mobile network operator (provider) had transmitted data to determine the location of the caller in accordance with legal regulations.

- In particular, a light on the lifejacket of one of the people in distress had caught the attention of the helicopter crew, which was therefore able to rescue two of the three crew members.

What can we learn from this?

- Groundswell and tidal surges

  Groundswell is a typical phenomenon for tidal inlets. Groundswell arises when rough swell created by wind hits a shallower bottom. It develops mainly when an additional current is running against the sea state. This hazard is typical for all sea areas with similar natural conditions, e.g. at estuaries and port entrances when waves coming from the sea meet a rapidly decreasing water depth there.

  In areas with groundswell or breakers, all seagoing vessels are at risk of capsizing and subsequently foundering. Accordingly, every effort should be made to avoid areas at times when groundswell and tidal surges are likely to be encountered there.

- Nautical publications/navigational charts

  In addition to the navigational charts, at least one nautical publication (sailing directions/guide) should be carried and used as a source of information for any trip/route planning.

- Clothing

  All crew members should always carry windproof and waterproof clothing, including in sailing areas with higher air and water temperatures, and wear such clothing if necessary to avoid getting cold and weakening the body unnecessarily.

- Lifesaving appliances

  The BSU believes it is advisable to always carry the following on seagoing recreational craft:

  - pyrotechnic distress signals;
  - a VHF radiotelephone, and
  - waterproof distress transmitters, such as an EPIRB[1], personal locator beacon and/or (for coastal areas) POB devices with AIS and DSC functions.

  Pure AIS POB devices should not be used. Such equipment should be readily available in an emergency and, ideally, every crew member should be able to use it.

[1] EPIRB: Emergency Position Indicating Radio Beacon.

The emergency number 112 should always be used for maritime distress calls made using a mobile device (smartphone, smartwatch, etc.) in the coastal area of an EU Member State. In particular, location information is automatically transmitted to emergency call centres when this emergency number is dialled. In principle, MRCC phone numbers should only be used for subsequent calls in the sense of a radiotelephone operating channel – always on the assumption that communication via (GMDSS) marine radio is not possible.

Recommendations of the German Maritime Search and Rescue Service (DGzRS)[2] and other publications[3] should be observed.

- Lifejackets (equipment/maintenance/use)

  If possible, all lifejackets should be equipped with a light. Rescue operations can extend into darkness for a variety of reasons.

  In addition to receiving instruction on how to don a lifejacket correctly, all crew members should also be familiarised with its equipment, such as the oral valve, whistle and – if fitted – the light during the safety briefing and be able to carry out visual checks.

Who can implement/observe it?

Skippers, crews, owners and operators of recreational craft, sailing schools. Any person who comments on the topic of seamanship in the Wadden Sea.

[2] Sicherheitsausrüstung für Seefahrt | Die Seenotretter (2022-08-19).
[3] The *Sicherheit auf dem Wasser* [safety on the water] pamphlet, for example. Federal Ministry of Transport and Digital Infrastructure. Information as of December 2020. BMDV – Publications (bmvi.de) (2022-08-19).