



DUTCH  
SAFETY BOARD

# Fatal accident during an attempt to prevent the sinking of a sailing ship in the Baltic

Crew of Msv Wylde Swan on board Msv Wyvern



# Fatal accident during an attempt to prevent the sinking of a sailing ship in the Baltic

Crew of Msv Wylde Swan on board Msv Wyvern, 11 July 2013

*The Hague, September 2014*

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*Source photo cover: Shipping company Wylde Swan*

## **Dutch Safety Board**

The aim in the Netherlands is to limit the risk of accidents and incidents as much as possible. If accidents or near accidents nevertheless occur, a thorough investigation into the causes, irrespective of who are to blame, may help to prevent similar problems from occurring in the future. It is important to ensure that the investigation is carried out independently from the parties involved. This is why the Dutch Safety Board itself selects the issues it wishes to investigate, mindful of citizens' position of independence with respect to authorities and businesses. In some cases the Dutch Safety Board is required by law to conduct an investigation.

### **Dutch Safety Board**

Chairman:

T.H.J. Joustra  
E.R. Muller  
M.B.A. van Asselt

General Secretary:

M. Visser

Visiting address:

Anna van Saksenlaan 50  
2593 HT The Hague  
The Netherlands

Postal address:

PO Box 95404  
2509 CK The Hague  
The Netherlands

Telephone:

+31 (0)70 333 7000

Fax:

+31 (0)70 333 7077

Website:

[www.safetyboard.nl](http://www.safetyboard.nl)

NB: This report is published in the Dutch and English languages. If there is a difference in interpretation between the Dutch and English versions, the Dutch text will prevail.

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## **International obligation to investigate**

A Dutch crewmember of a sailing ship registered in the Netherlands died off the coast of Sweden. This constitutes a very serious accident as specified in the Casualty Investigation Code of the International Maritime Organisation (IMO) and EU Directive 2009/18/EC. This means that the Netherlands as the flag state has a duty to ensure that a safety investigation is carried out. This duty to investigate is also stipulated in the Besluit Onderzoeksraad voor Veiligheid (Dutch Safety Board Decree). Because no obligation to investigate applies to the sunken Norwegian sailing ship and the incident occurred in international waters, both Norway and Sweden have decided not to initiate any investigation into the facts. Under EU Directive 2009/18/EC article 7 of the European Parliament, both states are nonetheless designated as a state with a significant interest.

## **Scope and question to be examined**

Because a crewmember died during the rescue attempt, the investigation focuses on the conduct of the crewmembers who provided assistance. The central question is what circumstances and considerations played a role in the decision to board Msv Wyvern in order to prevent the sailing ship from sinking.

On 11 July 2013, a Dutch crewmember of a sailing ship sailing under the Dutch flag, Msv Wylde Swan, drowned. This occurred during an attempt made by the crewmember and two other crewmembers from the Wylde Swan (figure 1) to prevent another sailing ship, Msv Wyvern sailing under the Norwegian flag (figure 2), from sinking. This attempt failed, as a result of which the crewmember went down with the ship. The two other crewmembers were rescued by the Swedish Sea Rescue Society.

The crew were very keen to save the ship from sinking. This was because they had spent time, energy and effort on saving the ship during the morning, and they believed that there possibly was no alternative option available anymore for this rescue.

However, the crew had no experience in this type of rescue. The investigation by the Dutch Safety Board shows that the crewmembers did not identify scenarios with the associated risks relating to the rescue operation. Potential information that the Swedish Sea Rescue Society felt that it was too risky to participate in the rescue was also not included in the risk assessment, since it was believed that the lifeboat service was not allowed to assist because of its primary task (rescuing people). As a result the captain of Msv Wylde Swan opted for a rescue scenario in which the risks for the crew could not be adequately controlled.

One control measure was discussed by the captain and his crew. If it were found that the ship could no longer be saved, the crew had to leave the ship as quickly as possible. During the rescue operation the captain received multiple signals which, with hindsight, could have given grounds for reconsidering the plan. That did not happen however because the crew had already invested a lot of time, energy and effort in the rescue, there were no alternatives available, and particularly because the crew had no experience of rescue operations. One example of such a signal was the Swedish Sea Rescue Society decision to refrain from further action after completing its rescue operation. In addition, the fact that the accident was preceded by a failed attempt to board the Wyvern and that the only way of boarding the Wyvern was then by manoeuvring alongside in the open sea with a moderate swell could also have been grounds for abandoning the rescue operation.

Boarding a sinking ship is tempting but extremely risky. Tempting because their dedication to their hobby meant that in the eyes of these crewmembers it would be a shame if such a fine historic ship were to sink. Risky because the many variable factors make it hard for captain and crew to assess from a distance when, at what speed and how a ship will sink.

A captain's decision to allow crewmembers to board another ship must therefore be well-considered. The responsibility for this rests primarily with the captain. But each individual crewmember, regardless of rank or experience, must make a personal own assessment.



Figure 1: Wylde Swan.  
(Source: Shipping company Wylde Swan)



Figure 2: Wyvern.  
(Source: Crew Wylde Swan)

## Sail Training International

The incident took place during an annual sailing race for classic sailing ships on a route from Aarhus (Denmark) to Helsinki (Finland) off the Swedish island of Öland. This race was organised by Sail Training International (STI). STI is a non-profit organisation with the goal of stimulating the development and education of young people through sailing experiences. The sailing ships are divided into various classes, and on board the young people are supervised by the (permanent) crew of the ships. Inspectors from STI check the safety equipment on the small sailing ships before participation. In addition to a speed prize, the race also features a Friendship Trophy. Captains of the participating ships award this to one of the ships after the race. In 2011, the Wylde Swan won the Friendship Trophy.

## Wylde Swan

The sailing ship Wylde Swan was originally an iron-hulled herring lugger built<sup>1</sup> in 1920. In 2010, the ship was converted to a two-masted topsail schooner<sup>2</sup> by the current owner. The ship is registered with the Netherlands Shipping Inspectorate (Inspectie Leef-omgeving en Transport) as a Special Purpose Ship. A safety certificate (International Safety Management certificate) is not mandatory for this type, because the traditional ship uses sails and not an engine as the main form of propulsion. The Wylde Swan has been specially modified for providing sailing experience and learning on board. The focus is on working together, perseverance, discipline in the face of adversity and leadership (source: [www.wyldeswan.com](http://www.wyldeswan.com)).

## Wylde Swan crew

The minimum required crew for the Wylde Swan is four persons. At the time of the incident there were four crewmembers present who held the required sailing qualifications. In total there were thirteen crewmembers of various nationalities on board, most of whom were sailing as volunteers. The captain had come on board shortly before and was being trained up by the owner of the ship, who was also on board as a passenger. The owner did not hold the correct Dutch sailing qualification to act as captain of this ship. The owner had a Dutch sailing certificate for '*master sailing ships less than 40 metres and 500 Gross Tonnage (GT) in the trading area*', and the Wylde Swan has a Length overall of 62 metres. The captain and the owner were on good terms and had known

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<sup>1</sup> A herring lugger is a fairly wide ship with three masts which was formerly used for herring fishing.

<sup>2</sup> A topsail schooner is a fore-and-aft rigged sailing ship, originally with two, but later also more, masts equipped with a square sail.



each other for years. There were also thirty-five trainees on board who were paying for the trip, and an STI representative as passenger.

## **Wyvern**

The wooden open sailing ship Wyvern was designed for a wood merchant in Norway in 1894 and subsequently commissioned as a pleasure vessel in 1897. After the Second World War the ship crossed the Atlantic several times and also circumnavigated the globe. This received a lot of media attention at the time, and it is therefore known to many (competitive) sailing enthusiasts. The ship returned to Norway in very poor condition in the late '70s. After a major restoration, the Wyvern was transferred to the maritime museum in Stavanger as a national cultural monument in 1984. The ship is not required to have any (crew) certificates because it is not used commercially.

### **Wyvern crew**

The ship was fully crewed with five experienced volunteers and has taken part in various Tall Ship Races in recent years. The captain held a master's certificate for yachts (class 5 worldwide) issued by the Norwegian maritime authorities. Alongside the five experienced volunteers, there were also five trainees on board who were voluntarily taking part in the race as working passengers.

## **Location during the rescue operation**

At the time of the mayday call and the rescue operation on 11 July 2013 from 05:21 hours<sup>3</sup> until termination of the rescue operation, the sky was heavily overcast. More than an hour after dawn there was a north-northeasterly wind with a wind strength of 6 to 7 Beaufort, dropping later with a moderate swell.

At the time of the mayday call, the Wyvern was located outside Swedish territorial waters east of the island of Öland at the position of 56°30.34N, 17°28.78E (see figure 3).

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<sup>3</sup> Unless stated otherwise, all times in this report are local times (UTC + 1).

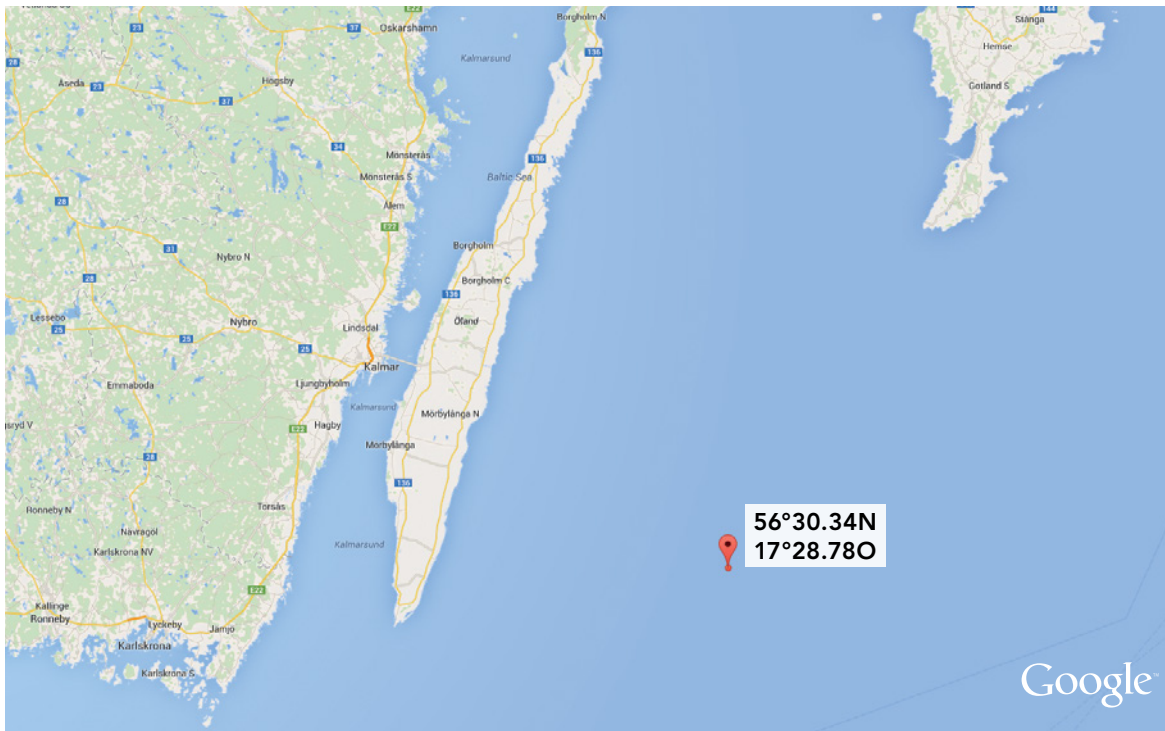


Figure 3: Location of the rescue operation. (Source: Google Maps)

## Circumstances

On 11 July 2013, a Dutch crewmember of a sailing ship sailing under the Dutch flag, Msv Wylde Swan, drowned. This occurred during an attempt made by the crewmember and two other crewmembers from the Wylde Swan (figure 1) to prevent another sailing ship, Msv Wyvern sailing under the Norwegian flag (figure 2), from sinking. This attempt failed, as a result of which the crewmember went down with the ship. The two other crewmembers were rescued by the Swedish Sea Rescue Society.

## Wyvern's actions

On 11 July 2013 at around 04:00 hours the waves became higher during the sailing race and the northerly wind strengthened to an estimated wind speed of 18 to 26 knots<sup>4</sup> (wind force 5-6 Beaufort). At around 04:45 hours the bilge level alarm<sup>5</sup> sounded on board the sailing ship Wyvern. The captain, who was in the accommodation at that time, heard both the alarm and the automatic bilge pump which had activated. He was also aware of the ship's heavy pitching against the waves. The crew then started pumping the water overboard below deck using hand bilge pumps.<sup>6</sup> The captain also decided to start the main engine in order to be able to activate the bilge pump connected to it. He expected that the water level in the ship would then drop, because he suspected that water had entered the ship via deck openings and the anchor's spurling pipe.

<sup>4</sup> One knot is one nautical mile per hour. A nautical mile is defined as 1,852 metres. One knot is therefore a speed of 1.852 km/hour.

<sup>5</sup> Bilge = space located under the engine

<sup>6</sup> Hand bilge pumps are fixed pumps on board which are operated manually.

At around 05:10 hours the crew below deck reported that the water level was still rising and was now above the floor plates. At 05:21 hours the captain decided to send out a mayday call via the ship's radio.

Meanwhile the crew lowered a number of sails. The speed at that time was around 2 to 4 knots. The crew were unable to use the portable electric submersible pump, possibly due to a short-circuit of the 220 Volt system on board.

The crew dropped both life rafts from the Wyvern overboard in anticipation of a possible evacuation and activated the EPIRB.<sup>7</sup> One life raft broke loose after a couple of minutes. At around 06:00 hours various ships were in the vicinity of the Wyvern, including a container ship and the sailing ship Wylde Swan. They were available to assist with a rescue operation if necessary. At around 06:20 hours two Swedish Maritime Administration search and rescue helicopters arrived at the location. They evacuated eight crewmembers. The evacuation was completed at around 07:00 hours. The captain and a crewmember of the Wyvern remained on board in order to take four aluminium crates with two pumps and accessories on board. The aluminium crates had been dropped into the water shortly before by one of the Swedish Maritime Administration search and rescue helicopters. The Wylde Swan had taken these crates on board and had successfully tested the pumps. The Wylde Swan transferred the crates to the Wyvern via a floating line about twenty minutes later. The remaining crew then found water in one of the crates, as a result of which the pump could no longer be used. The second pump did start, but because floating objects continuously blocked the suction hose, it delivered insufficient pumping capacity.

At 08:00 hours the captain of the Wyvern asked the Wylde Swan to come closer, because the water level on board continued to rise. There was now also water in the cockpit. As a result the remaining two crewmembers concluded that there was no chance of saving the ship from sinking, even if the pumps that had been placed on board were to operate at full capacity. A helicopter finally lifted the two remaining crewmembers from the ship and returned to Kalmar airfield.

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<sup>7</sup> EPIRB = Emergency Position Indicating Radio Beacon.



Figure 4: Evacuation of the crewmembers. (Source: Crew of the Wylde Swan)



Figure 5: Volunteers on the deck of the Wyvern. (Source: Crew of the Wylde Swan)



### **Wylde Swan's actions**

The Wylde Swan received the Wyvern's mayday call at 05:21 hours. The captain decided in consultation with the Swedish Maritime Administration (JRCC - Joint Rescue Coordination Centre) to sail to the specified location as soon as possible, and started the main engine for this. This ended their participation in the sailing race. Meanwhile the permanent crew prepared the ship to assist with the rescue operation. They asked the trainees to stay in the accommodation, so that only the permanent crew were on stand-by on deck. After mutual consultation between the captain and the owner, it was decided that the owner would take over the role of captain. He had more experience with the ship in these unusual circumstances and knew the crew. The owner and now also acting captain took the wheel. The replaced captain would maintain an overview and if necessary intervene during problems or unclear situations, also in view of them being on good terms. The STI representative travelling as passenger and the mate were responsible for communication with the Swedish Maritime Administration (JRCC) and the Wyvern. At that time there was a moderate swell.

The Wylde Swan reached the Wyvern at around 05:45 hours. Meanwhile there were various ships and a helicopter in the area offering their assistance. The helicopter started evacuating those on board the Wyvern at 06:30 hours. The Wylde Swan recovered an activated life raft which had broken loose from the Wyvern and two life rafts which had broken free but had not been activated. A second helicopter arrived at the site. This had two mobile pumps with hoses on board in four watertight aluminium crates. The crates were dropped into the sea close to the Wylde Swan, recovered and successfully tested by the crew of the Wylde Swan. After testing, the crew transferred the crates to the Wyvern via a floating line. Over the ship's radio the crew on board the Wylde Swan heard that the two crewmembers remaining on the Wyvern were unable to get one of the pumps working. The instructions for starting the pump were then provided by a crewmember on the Wylde Swan, but didn't make the pump start.

The crew of the Wyvern finally decided to evacuate, because the water level on board continued to rise. At around 08:20 hours the last crewmember was rescued by helicopter. The Swedish Maritime Administration (JRCC) then officially declared the emergency situation ended.

In the light of the fact that the crew of the Wylde Swan found that the Wyvern's situation did not particularly worsen during the subsequent hour, it was suggested that a small group of crewmembers could board the ship and make an attempt to prevent it from sinking. The acting captain (owner) and the captain then jointly decided to carry out this plan. The interviews show that three crewmembers volunteered and that they agreed with the owner and the captain to leave the ship immediately if it became too dangerous and they were unable to start the pumps. The three volunteers had experience with small ships and were considered capable, in case keeping the ship afloat succeeded, to safely reach a (emergency) port.

The volunteers put on their survival suits with a life jacket. They also selected tools and made agreements about the method of communication and the approach to be adopted on board. All the volunteers had nautical knowledge. They were going to try to start the

bilge pumps. One volunteer would be responsible for communication between the parties. Meanwhile the Swedish Sea Rescue Society had arrived on the scene with two vessels. (The requested search and rescue log shows that the crew on board of the lifeboats did not observe a worsening of the Wyvern's condition at that time either).

The Swedish Sea Rescue Society was asked over the ship's radio whether they could assist in transferring the volunteers to the Wyvern. The log shows that because the seas were (too) rough, the Swedish Sea Rescue Society was unable to agree to this request. The interviewed crewmembers of the Wylde Swan declared that it was made clear to them that it was their own responsibility if they nonetheless went on board and that they had received orders from headquarters not to board. The three volunteers then boarded a life raft which they had previously recovered and tried to board the Wyvern using this raft, attached to a floating line. However, this was not successful. Back on board the Wylde Swan, the decision was made to manoeuvre the ship alongside the Wyvern. When the Wylde Swan was alongside the Wyvern, the three volunteers managed to jump on board the Wyvern.

They soon started one of the pumps. They also bailed the water from the cockpit using buckets. The volunteer responsible for communications also took part in this. All of the actions took place on deck. Statements showed that they could not go further below deck because of the water level and the loose objects floating around inside the ship. They broke the starting cord on the second pump, as a result of which the pump could no longer start. The crewmembers had the impression that the water level in the Wyvern's cockpit was dropping. They reported this over the ship's radio to the owner and captain of the Wylde Swan.

However, a high wave suddenly washed over the deck and ended up in the cockpit. They then immediately decided that the situation on board was now becoming too dangerous and that it was time to leave the ship. All three of them agreed on this. This decision was communicated to the Wylde Swan over the ship's radio. A fresh wave then washed over the deck from the stern. This wave rapidly flooded the cockpit. This made evacuation even more urgent. One crewmember immediately jumped on to the life raft. When the Wyvern sank, another crewmember ended up in the water. The third crewmember was not seen again. The Swedish Sea Rescue Society recovered the two crewmembers and immediately started a search for the missing crewmember. The Wylde Swan, other vessels and two helicopters also took part in this search. It was suspected that the crewmember had become entangled in the rigging when the ship suddenly sank. The search was finally discontinued at 11:45 hours.

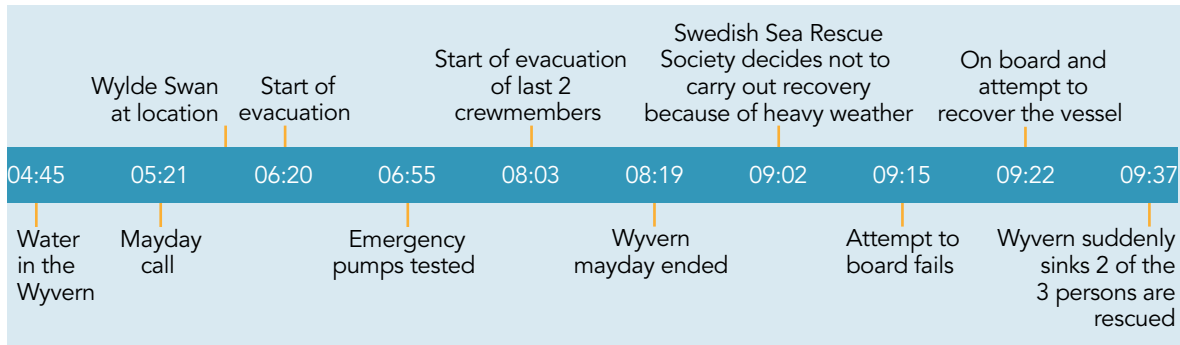


Figure 6: timeline from the mayday call to the sinking of sailing ship the Wyvern.

### After the search

On 14 July 2013 the Dutch crewmember from the Wylde Swan was located by the Swedish Maritime Administration (JRCC) underwater camera and the body was subsequently recovered. The victim was found to have become entangled in the ship's rigging and went down with the sinking ship. The life jacket had been activated and the survival suit showed no damage.

The Wyvern was recovered and is being restored and re-commissioned by the Norwegian owners.

In order to answer the question of what circumstances and considerations played a role in the decision to board the Wyvern in order to save the sailing ship from sinking, the Netherlands Organisation for Applied Scientific Research (Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek - TNO) has been asked to draw up a reference framework (conceptual model) for this on the basis of the literature (see Appendix 2). This reference framework relates to five related variables, namely the level of commitment to achieving the objective, sensemaking, communication, risk assessment and leadership. The reference framework shows how optimum decision-making should take place in *professional teams of emergency responders* (there is no such reference framework for non-professional teams of people providing assistance). The decision-making by the crew of the Wylde Swan must therefore be assessed in this context.

### **Commitment to achieving the objective**

The objective of the crew of the Wylde Swan was initially to win the race. When it was found that the Wyvern was in distress, this objective changed to bringing the crew to safety. Once the crew of the Wyvern had been brought to safety, the objective of the captain, the owner and most of the crewmembers changed for a second time. This time rescuing the Wyvern itself was important.

Various intermediate steps on the path to these objectives resulted in an increased level of commitment to achieving these objectives. They were satisfied about the coastguard bringing the crew of the Wyvern to safety. There was also satisfaction after they succeeded in recovering life rafts and bringing two bilge pumps aboard successfully. Both actions required an investment in terms of time, energy and effort on the part of the crew of the Wylde Swan. Finally the crew decided that they were the only people left who were willing or able to save the Wyvern from sinking. They felt that there were no alternative options available. These three factors: a high level of satisfaction with the progress made so far, the investments made and the absence of alternatives, meant that the level of commitment to achieving the ultimate objective (saving the Wyvern) increased.

The interviews with the crew following the event confirm this picture. They were enthusiastic, excited, motivated and nautically competent. This indicates that they started the job full of optimism and confidence. In other words, they were very committed to the objective of saving the Wyvern. They saw concern for their personal safety as the only conflicting interest with that objective. They did not see other conflicting objectives, and these were therefore not discussed within the team beforehand. Partly as a result of the fact that the crew had no experience of explicit rescue operations, there were no risk assessments. This meant that control measures and alternatives were not considered. It should particularly be noted that the only alternative felt to be realistic, namely to do nothing, would mean that the Wyvern would be lost. Without at least making an effort to save the ship from sinking, this might have been a waste for some crewmembers.



### **Assessment of the situation**

It was agreed on board that boarding the Wyvern was generally risky. The interviews and statements showed that the crewmembers discussed this with one another. The situation as judged from a distance appeared hardly to worsen over the period of more than four hours that they were on the scene. However, sinking whilst they were on board was viewed as a possibility. They felt that the use of (extra) personal protective equipment (life jacket and survival suit) would be sufficient to assist them to return safely on board if the ship were to sink. Also, the presence of the two well manoeuvring ships of the lifeboat service, the presence of the life raft and the continued lighting of the navigation lights gave them enough confidence to get on board.

It was discussed with the volunteers that they would leave the ship immediately if it started sinking. One person would remain in contact via the ship's radio. No further preparations were made for possible other emergency situations, although boarding a ship that is taking on water involves a large number of risks. The many variable factors (including wind, swell and the influence of the surface of open water) means that it is not possible to determine when, how and how quickly a ship will sink. The risk of becoming entangled or getting caught behind something if the situation suddenly worsens is high under these circumstances, particularly on a sailing ship with its extensive rigging. The only scenario that was discussed was to leave the ship as quickly as possible if the ship could no longer be saved. The life raft that was still secured to the Wyvern would be used for this.

### **Communication**

The manner in which the assessment of the situation took place can partly be explained by the method of communication. There was little communication with both the (rescued) crew of the Wyvern and Swedish Sea Rescue Society. There is an impression that the Swedish Sea Rescue Society made a different assessment of the situation than the crew of the Wylde Swan. Hence the Swedish Sea Rescue Society informed the Wylde Swan that it would be their own responsibility if they were to transfer people from the Wylde Swan to the Wyvern. The Swedish Sea Rescue Society's risk assessment was that there was a real danger to those who were to carry out the mission. This assessment was either not properly received by the crew of the Wylde Swan, or not properly communicated. As a result, an additional assessment of the situation, made by professionals, was not taken into account when weighing up the options beforehand. However, the Swedish Sea Rescue Society did not take any steps to expressly urge against the rescue effort.

Another communication example relates to the communication between the crewmembers of the Wylde Swan. One of the crewmembers has stated that he clearly felt the situation to be dangerous: according to him, the Wyvern was clearly taking on water and the ship could sink rapidly. However, he did not share this assessment, which was made a few minutes after the crewmembers had boarded the Wyvern, with the captain or the owner, but with a few less experienced crewmembers.

### **Leadership and risk assessment**

It is reasonable to assume that in some aspects the nature of the leadership on board the Wylde Swan played a role in the decision to save the Wyvern. Apart from drawing the three team members' attention to the general dangers and the fact that they were

boarding of their own free will, neither the captain nor the owner made preparations for possible other scenarios (e.g. quick sinking, becoming entangled in the rigging and increasing slope angles) and the associated options for action.

Both the captain and the owner of the ship did not use the only alternative, namely not boarding and allowing the Wyvern to sink. This can be explained by characteristics of the leadership and the communication. Among other things the Swedish Sea Rescue Society informed the Wylde Swan that it would be their own responsibility to transfer the people from the Wylde Swan to the Wyvern. The captain and owner later stated that they thought that the Swedish Sea Rescue Society meant that it was not allowed to help because of its primary task (saving people). However, this assumption was not verified.

The fact that the Swedish Sea Rescue Society refrained from participating in the rescue operation was not the only signal indicating a possible need for reassessment of the rescue plan. Despite multiple signals or moments which gave reason for reconsidering the plan, this did not happen. Some examples of these are:

- the Wyvern crewmembers' problems to get the bilge pumps working;
- the completed evacuation of the Wyvern and the official declaration by the Swedish Maritime Administration that the emergency situation had ended and;
- the failed transfer of the Wylde Swan crewmembers to the Wyvern using the life raft.

In unfamiliar situations in particular, all available information must be used to gain a complete picture of the situation and assess and balance risks. The personal safety of those providing assistance must form part of that risk assessment. Responsibility for this rests with each individual crewmember, regardless of rank or experience. The captain has an additional responsibility because of his position on board as leader. As already stated, it must thereby be noted that although the captain had leadership experience in a nautical context, he did not have any experience of leading a rescue operation.

Because various objectives were achieved during the morning - including assisting with the initial rescue operation and the successful evacuation of the Wyvern crew - it is likely that a subconscious 'press-on mentality' took hold of the crew and captain. The pressure to carry out the pre-determined plan no longer allowed them to objectively form a realistic picture of the risks which such a rescue could entail.

The extent to which the change of captain played a role in the leadership over the crew could not be determined. It is notable that all those interviewed saw the owner as captain on the Wylde Swan with the greatest authority on board. The elements of the race and the moment of training up could have played a role in this.

Leadership also played a role on board the Wyvern during the attempt to keep the Wyvern afloat. After the three crewmembers had transferred, the crewmember who was going to maintain radio contact and watch over the activities went to work with buckets to save the ship. This double role limited his ability to make an objective assessment of the hazardous situation and the associated risks.

# CONCLUSIONS

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The cause of the sinking of the ship are beyond the scope of this investigation.

The crewmember from the Wylde Swan drowned because he became entangled in the rigging of the ship as the Wyvern sank. He was wearing a close-fitting survival suit and a self-inflating life jacket over his normal clothes. Neither was damaged. The life jacket had been activated.

## **Commitment to achieving the objective**

The crew of the Wylde Swan were very keen to save the ship from sinking. This was because they had spent time, energy and effort on saving the ship during the morning, and they believed that there possibly was no alternative option available anymore for this rescue.

## **Assessment of the situation**

However, the crew had no experience of this type of rescue. The investigation by the Dutch Safety Board shows that the crewmembers did not identify scenarios with the associated risks relating to the rescue operation. As a result the captain and owner of Msv Wylde Swan opted for a rescue scenario in which the risks for the crew could not be adequately controlled.

One control measure was discussed by the owner, the captain and his crew. If it were found that the ship could no longer be saved, the crew had to leave the ship as quickly as possible. As a precaution, the crew donned a survival suit and a life jacket.

## **Leadership and risk assessment**

During the rescue operation the owner and the captain received multiple signals which, with hindsight, could have given grounds for reconsidering the plan. That did not happen however because the crew had already invested a lot of time, energy and effort in the rescue, there were no alternatives available, and particularly because the crew had no experience of rescue operations. Examples of these signals are the Swedish Sea Rescue Society's decision to refrain from further action after completing its rescue operation and the information discovered later that this lifeboat service felt it was too dangerous to assist with the rescue of the Wyvern. The fact that the accident was preceded by a failed attempt to board the Wyvern and that the only way of boarding the Wyvern was then by manoeuvring alongside in the open sea with a moderate swell could have been grounds for abandoning the rescue operation. The risk mitigation measures were deemed sufficient to safely get on board.

## **Communication**

The failure to identify the risk can also be explained by shortcomings in the way in which the crew was lead and the nature of the communication about the proposed rescue

operation. A captain's decision to allow crewmembers to board another ship must be well-considered. The responsibility for this rests primarily with the captain. Nevertheless each individual crewmember, regardless of rank or experience, must make their own assessment. It is noteworthy that the interviewees saw the owner as the captain in this case. To what extent this played a role in the leadership on board has not been determined, but the race and the moment of training up could have played a role in this.

## LESSONS FROM THE ACCIDENT

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Boarding a sinking ship is always extremely risky. The many variable factors make it hard to assess when, at what speed and how a ship will sink. Sudden sinking can lead to fatalities. Boarding in order to save ships must always be left to professionals who have experience with saving ships. Only when it is necessary, for example in order to save people who are in extreme peril, can consideration be given to boarding a ship which is in danger of sinking. Those providing assistance, both individually and as part of a team, must thereby utilise all available information to gain a complete picture of the situation, and assess and balance the risks. The personal safety of those providing assistance must form part of that risk assessment. Responsibility for this rests with each individual crewmember, regardless of rank or experience. The captain has a special responsibility in this regard because of his position on board.

# REACTION FOLLOWING PREVIEW

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A preview version of this report was provided to the parties involved in accordance with the Rijkswet Onderzoeksraad voor Veiligheid (Dutch Safety Board Act). These parties were asked to check the report for errors and lack of clarity. The preview version of this report was provided to the following parties:

- Victim's next of kin;
- STI representative on board Wylde Swan;
- owner of Wylde Swan;
- captain of Wylde Swan;
- crewmember of Wylde Swan;
- Accident Investigation Board Norway (AIBN);
- Swedish Accident Investigation Authority (SAIA) and the
- owner of the Wyvern: Stavanger Maritime Museum.

The captain, the STI representative on board Wylde Swan, the Swedish Accident Investigation Authority (SAIA) and the Stavanger Maritime Museum have made use of the opportunity to respond. All comments received have been incorporated in this report. Also, the reaction of the captain were explained and discussed by phone and a conversation with the victim's next of kin took place.

## TABLE OF SHIPS' DATA

Ships' data		
Name	Msv Wylde Swan	Msv Wyvern
Call sign:	PIWS	LKSI
IMO number:	51267187	N/a
Flag state:	The Netherlands	Norway
Home port:	Makkum	Stavanger
Ship type:	Special Purpose Ship	Sailing yacht
ISM	Voluntary	N/a
Year of construction:	1920	1897
Length overall (LOA):	62 m.	18.2 m.
Beam:	7.3 m.	5.4 m.
Draught:	3.5 m.	3.25 m.
Mast height:	43 m.	24 m.
Gross Tonnage:	263	42.8
Owner:	Swan Fan Makkum CV	Stavanger Maritime Museum
Crew	13	5
Trainees	35	5

### REFERENCE FRAMEWORK/CONCEPTUAL MODEL USED TO ANALYSE THE DECISION-MAKING

**Sensemaking** relates to the way in which people reach a shared picture of the situation or to that shared picture itself. Optimum sensemaking requires good communication and good leadership.

**Communication** is the transfer of information from one person to another. Good teamwork is based on good communication. Good communication consists of:

- Use of the correct terminology.
- Closing the communication loop in order to ensure that message has been understood.
- Regularly providing complete summaries of the situation to everyone in the team.
- Avoiding unnecessary chatter.
- Ensuring that you can be heard (despite a mask in front of your mouth or background noise, for instance).
- Providing information to the right people before they have asked for it.
- Seeking information from all available sources.

#### **Risk assessments**

Risk assessments and the willingness to take risks are strongly influenced by aspects such as the freedom to choose whether or not to take a risk, whether the risk is controllable and clear, whether people are familiar with the risk, whether there are available alternatives for a risky activity, and whether the consequences are life-threatening. These and more aspects can be summarised in the three dimensions of fear of, unfamiliarity with and scale of the risks. As these factors increase, people perceive the risk to be greater and the likelihood that they will perform the risky actions reduces. By communicating about risk and the factors which influence risks, teams can try to remove personal bias in risk perceptions.

#### **Leadership**

The modern view is that leadership is a role which can be performed by several team members, depending on the situation. This is called 'shared leadership' or 'situational leadership'. Good leadership consists of:

- ensuring correct awareness of the situation;
- being open to criticism and insights from other team members;
- treating other team members with respect;
- encouraging collaboration between team members;



- correct communication;
- limiting stress on other team members;
- defining objectives and monitoring them;
- allocating tasks (if this is not standardised);
- motivating team members;
- organising team evaluations;
- resolving conflicts.

### **Commitment to achieving an objective**

The factors listed above describe how teams interpret a situation, how they communicate and how leadership is provided within the team. These factors do not give a picture of the reasons why an individual or a team opt for a particular objective and what factors determine their 'goal commitment'. The level of commitment to achieving an objective is determined by three factors:

- Satisfaction: positive feelings about the progress made towards reaching the objective.
- Alternatives: presence of conflicting objectives.
- Investments: time, energy, money and effort invested in achieving the objective.

The more satisfied people are, the fewer alternatives that are available and the greater the level of the investments that have already been made, the greater the level of commitment to achieving an objective.

**Visiting Address**

Anna van Saksenlaan 50  
2593 HT The Hague  
T +31(0)70 333 70 00  
F +31(0)70 333 70 77

**Postal Address**

PO Box 95404  
2509 CK The Hague

[www.safetyboard.nl](http://www.safetyboard.nl)