



Transportation
Safety Board
of Canada

Bureau de la sécurité
des transports
du Canada

MARINE INVESTIGATION REPORT M15A0348



Person overboard and subsequent loss of life

Small fishing vessel *Cock-a-Wit Lady*
23 nautical miles SSW of
Clark's Harbour, Nova Scotia
30 November 2015

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Cat. No. TU3-7/15-0348E-PDF
ISBN 978-0-660-07203-6

This report is available on the website of the
Transportation Safety Board of Canada at www.tsb.gc.ca

Le présent rapport est également disponible en français.

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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Summary

On 30 November 2015, at 0911 Atlantic Standard Time, the fishing vessel *Cock-a-Wit Lady*, with 5 people on board, reported a crew member had gone overboard 23 nautical miles south-southwest of Clark's Harbour, Nova Scotia. The crew recovered the crew member using the trap hauler and attempted resuscitation. After being airlifted to hospital, the crew member was pronounced deceased.

Le présent rapport est également disponible en français.

1.0 Factual information

1.1 Particulars of the vessel

Name of vessel	<i>Cock-a-Wit Lady</i>
Registry/Licence number	824240
Port of registry	Shelburne, Nova Scotia
Flag	Canada
Type	Small fishing vessel
Gross tonnage	43.38
Length	12.19 m
Built	2002, Wood's Harbour, Nova Scotia
Propulsion	1 diesel engine
Cargo	300 lobster traps
Crew	5
Registered owner/manager	Private owner, Nova Scotia

1.2 Description of the vessel

The *Cock-a-Wit Lady* is a small, open-construction fishing vessel of the Cape Island design, built from moulded, glass-reinforced plastic. The wheelhouse and accommodation are forward of midships, and the engine room is beneath the wheelhouse (Photo 1). The wheelhouse can be accessed via doors on its starboard and aft sides. Access to the engine room is through a covered hatch in the wheelhouse.

The working deck, which extends aft of midships, has bulwarks on the port and starboard sides; each side has 3 freeing ports at deck level. The working deck also has 3 flush, watertight hatches located aft. A large, raised hatch midships provides access to the hold. There are 3 watertight bulkheads below the main deck.

The vessel has an open stern to facilitate the setting of lobster traps (Photo 2). A permanent aluminum rail is fitted on the starboard side. A temporary rail of equal scantlings¹ is fitted on the port side and is used only at the beginning and end of the lobster season, to provide stability for the traps on deck. A cargo boom with a small winch is mounted on top of the wheelhouse. There is a trap hauler on the starboard side with a block located above it that can be raised or lowered into position for use. The vessel is used primarily for fishing lobster and longlining.

¹ The dimension of all parts which go into the construction of a ship's hull.

1.3 History of the voyage

On 30 November 2015, at approximately 0600,² the *Cock-a-Wit Lady* departed Shag Harbour, Nova Scotia, on the opening day of the lobster season with about 300 lobster traps on board. The master and 4 deckhands were wearing personal flotation devices (PFD).

After approximately 2½ hours, the crew began to set the first string of traps. The strings had 18 traps, with each trap separated by 25 fathoms of rope that were coiled and stowed on top of the next trap to be set. The first 2 traps went over the stern without incident, but the third got caught on the port railing. A deckhand attempted to free the caught trap with his feet; while doing so, he stepped into the coil of rope between traps 3 and 4. When he managed to free trap 3, it was pulled forcibly by the weight of the traps in the water and quickly went over the stern. The deckhand was still standing in the coil of rope, and when it became taut, he was carried overboard and underwater by the weight and momentum of the traps. As he fell, he grabbed hold of some of the traps, and about 3 went overboard with him.

There were multiple lines hanging over the stern that were attached to the traps that the deckhand had carried with him. The crew of the *Cock-a-Wit Lady* determined which of the multiple lines was attached to the deckhand and passed it around the stern and up the starboard side to the trap hauler. They rove³ the line around the hauler directly over the bulwarks and attempted to haul up the deckhand.

Photo 1. *Cock-a-Wit Lady*



Photo 2. The *Cock-a-Wit Lady* in a partially loaded condition



² All times are Atlantic Standard Time (Coordinated Universal Time [UTC] minus 3 hours), unless otherwise stated.

³ "Rove" refers to the past tense of "reeve," which indicates, in this context, the passing of a lead through a block or other object.

Given the extreme angle at which the line was being hauled, as well as the strain caused by the weight of the submerged traps and the deckhand who was wearing the now inflated PFD, the line parted. The master navigated the vessel to the other end of the line and picked up the balloon to which it was attached to retrieve it.

Photo 3. Overhead block in raised position



While they were under way, the crew lowered the overhead block that is mounted on top of the wheelhouse and above the trap hauler (Photo 3). They began hauling from this end and, after retrieving 3 traps, they brought up the deckhand who had fallen overboard. At approximately 0905, after being underwater for approximately 10 minutes, the deckhand was recovered and brought on board. As no pulse was detected, cardio-pulmonary resuscitation was administered immediately.

The master transmitted a distress call on channel 16 with the very high frequency (VHF) radio; this call included the name and position of the vessel as well as the nature of the distress. At 0924, a search and rescue (SAR) fixed-wing Hercules, which was already in the air, heard the distress call and inquired to the Joint Rescue Coordination Centre (JRCC) about dropping 2 search and rescue technicians (SAR techs) onto the *Cock-a-Wit Lady*. JRCC replied in the affirmative and coordinated the SAR response from that point on.

The Hercules was on scene at 0925 but did not drop the 2 SAR techs until 1022. They were mistakenly dropped at a different vessel approximately 2 miles south of the *Cock-a-Wit Lady*, as they were unable to determine the exact location of the *Cock-a-Wit Lady*. The SAR techs were transferred to the *Cock-a-Wit Lady* by Canadian Coast Guard Cutter *Clark's Harbour*. The deckhand was evacuated at approximately 1100 by a SAR helicopter and taken to hospital, where he was pronounced deceased.

1.4 Environmental conditions

At the time of the occurrence, winds were northerly at 15 knots with seas of about 1 metre. The air temperature was -3°C.

1.5 Vessel certification

As a small fishing vessel with a gross tonnage exceeding 15, the *Cock-a-Wit Lady* was subject to quadrennial inspections carried out by Transport Canada (TC) and held a valid Ship Inspection Certificate.

1.6 *Personnel certification and experience*

The master held a certificate of service as master of a fishing vessel of less than 60 gross tonnage and a radio operator's certificate. The deceased had spent about 8 years fishing on the *Cock-a-Wit Lady*. One of the other crew members had fished on the *Cock-a-Wit Lady* for about 3 years, and the other had fished for about 5 years, including 1 year on the *Cock-a-Wit Lady*. All of the crew held Marine Emergency Duties (MED) certificates.

1.7 *Safe work practices*

TC regulations place the responsibility on the authorized representative⁴ to develop procedures for the safe operation of the vessel.⁵ The resulting safe work practices help ensure that masters and crew members have the knowledge, as well as the necessary information, to make sound decisions in any operating condition—including both routine and emergency operations. On many small fishing vessels, such as the *Cock-a-Wit Lady*, the master acts as the authorized representative. The master and the authorized representative of a vessel ensure that any person assigned a function on that vessel receives the on-board familiarization and safety training before they start to perform any duty on the vessel.

The new Fishing Vessel Safety Regulations will come into force on 13 July 2017. Under these regulations, small fishing vessels will be required to have written safety procedures (in English or French, according to the needs of the crew) and to familiarize the persons on board the fishing vessel with those procedures. The procedures are required to include the location and use of all safety equipment as well as all of the measures that must be taken to protect persons on board, in particular, measures to prevent persons from falling overboard, to retrieve persons who have fallen overboard, to protect limbs from rotating equipment, and to avoid ropes, docking lines, nets, and other fishing equipment that may pose a safety hazard. The new Fishing Vessel Safety Regulations will also require that drills on safety procedures, including person overboard situations, be held to ensure that the crew is proficient at all times in carrying out those procedures. A record shall be kept of every drill.

In addition, the Nova Scotia Occupational Safety General Regulations apply to fishermen. These regulations include owners' responsibilities for ensuring workers' safety, mandatory usage of PFDs, and the proper stowage of "piled material," such as traps. The Nova Scotia Department of Labour and Advanced Education, through its Occupational Health and Safety Division, uses education and the enforcement of its regulations to work with the fishing community to reduce workplace injuries and fatalities. In this manner, the provincial government plays an important role in fishermen's safety by making use of activities that fall under its jurisdiction.

⁴ Section 14(1) of the *Canada Shipping Act, 2001* specifies that every Canadian vessel must have a person, known as the authorized representative, who is responsible for acting with respect to all matters related to the vessel that are not otherwise assigned to another person.

⁵ *Canada Shipping Act, 2001*, section 106.

There is guidance available to help fishermen develop safe work practices. In 2004, an advisory committee led by the Nova Scotia Fisheries Sector Council published a handbook entitled *Fish Safe: A Handbook for Commercial Fishing and Aquaculture*. It is intended to address workplace health and safety issues in the fishing industry. Key points addressed in the handbook include the following:

- ensuring that employees know about workplace hazards, including how to identify hazards and how to protect themselves from those hazards;
- using a pre-sailing checklist;
- knowing how to rescue someone who has fallen overboard; and
- wearing a floater suit or other survival gear when water is extremely cold and the risk of falling in is high.⁶

It was the practice for the master of the *Cock-a-Wit Lady* to advise crew members if he observed unsafe practices. The master had purchased new inflatable PFDs before the beginning of the season, and the crew, including the crew member who fell overboard, wore them when they were out on deck.

Provincially, there are ongoing initiatives to increase safe work practices on fishing vessels. For example, on 04 June 2015, a plan for Nova Scotia's fishing industry was released, called "Fishing Safety Now." It was developed by the Safe at Sea Alliance, a group of fishermen, family members, industry, safety organizations, community leaders, and government representatives. The plan includes recommendations to help improve safety, including developing a code of safe work practices for fishing vessels, developing occupational health and safety awareness, and making improvements in safety training and equipment.

1.8 Search and rescue

On the opening day of the lobster season in southwest Nova Scotia, the JRCC had 2 aircraft scheduled to train in the area due to the large number of vessels expected to sail at the same time to set their traps. There were also 4 Canadian Coast Guard vessels in the immediate area to support the opening day of lobster fishing.

A JRCC Hercules fixed-wing aircraft departed the nearby Yarmouth airport at 0905, and within minutes the crew heard a distress call from the *Cock-a-Wit Lady* on VHF radio channel 16 involving a person overboard in their area. The crew from the Hercules self-tasked and headed toward the distressed vessel on a bearing provided by the radio direction finder, which gives the general location of the vessel. The second aircraft, a CH-149 Cormorant helicopter that was also dedicated to search and rescue, was unable to respond immediately to the *Cock-a-Wit Lady*, as the helicopter was responding to a simultaneous distress case on another vessel.

⁶ Nova Scotia Fisheries Sector Council, *Fish Safe: A Handbook for Commercial Fishing and Aquaculture*, 2004, available at <http://novascotia.ca/lae/healthandsafety/docs/fishsafe.pdf> (last accessed 16 December 2016).

The crew of the fixed-wing aircraft set about identifying the vessel in distress. The initial identification was made by a low pass and verbal confirmation by VHF. However, subsequent reidentification was hindered for the following reasons:

- An estimated 40 lobster boats of a similar design within a 3-mile radius had moved into the area around the *Cock-a-Wit Lady* to set their traps.
- There was a lot of conversation on VHF channel 16, which is used for distress and calling only;⁷ most of these communications were related to the emergency on the *Cock-a-Wit Lady* and another local distress situation that was happening at the same time. This included communications between Halifax Marine Communications and Traffic Services and SAR aircraft personnel, vessel operators involved, and other vessel operators in the area offering assistance. As a result of the volume of discussion, communications with the *Cock-a-Wit Lady* were intermittent and often interrupted.

Using channel 16, the aircraft crew asked the *Cock-a-Wit Lady* to turn to port. Although no vessels turned to port, one turned to starboard. The Hercules crew decided that this could be the vessel in distress. Before the SAR techs jumped, the crew had a pre-drop safety brief, made another pass over what they assumed was the vessel in distress, and performed a wind drift assessment. On the final pass over the vessel, the 2 SAR techs jumped and deployed their parachutes.

⁷ Transport Canada, Small Fishing Vessel Safety Manual – TP 10038 E (2003), available at <https://www.tc.gc.ca/eng/marinesafety/tp-tp10038-menu-548.htm> (last accessed 16 December 2016).

They landed within a few metres of the target vessel, and their personal life rafts partially inflated. The nearby vessel operator acknowledged the SAR techs in the water with the hand gesture of a thumbs-up, but the vessel continued its fishing operations. When the SAR techs realized no vessels were coming to retrieve them from the water, one of them released a smoke flare and 2 vessels came to their assistance; each vessel retrieved a SAR tech. After boarding the 2 vessels and realizing they had jumped toward the wrong vessel, the SAR techs had the Canadian Coast Guard Cutter *Clark's Harbour* pick them up and deliver them to the *Cock-a-Wit Lady*, which was approximately 2 nautical miles (nm) away.

1.9 Previous occurrences

Transportation Safety Board (TSB) data indicates that, between 1999 and August 2015, there were 55 deaths on Canadian fishing vessels due to falling overboard.

On 09 March 2015, 1 of the 3 crew members on the fishing vessel *Four Ladies 2003*⁸ went overboard when some stacked lobster traps fell onto the main deck and knocked the crew member over the open stern. At the time, the vessel was 15 nm south of Cape Sable Island, Nova Scotia. The crew member was recovered but was later pronounced deceased. The investigation found that there was no form of on-board risk management that would guide the crew on how to work safely on the open stern. The crew also had no reboarding devices for retrieving persons overboard and did not conduct emergency drills.

On 06 June 2014, a crew member on the fishing vessel *Diane Louise*⁹ went overboard while setting prawn traps near Calvert Island, British Columbia, when he became entangled in the groundline. Although cardio-pulmonary resuscitation was performed, the crew member was later transported to Port Hardy Hospital, where he was pronounced deceased. The investigation found that although the crew was aware of the risk of entanglement, they did not manage it consistently, and no risk assessments were performed on board.

Photo 4. Search and rescue technician water jumping (Source: Department of National Defence)



⁸ TSB Marine Investigation Report M15A0045.

⁹ TSB Marine Investigation Report M14P0110.

The following recent occurrences were reported to the TSB, but no investigation reports were issued:

- On 20 June 2014, a crew member on the fishing vessel *Lady Jenna II*¹⁰ was hauled overboard while setting turbot gillnets off Cape Bonavista, Newfoundland and Labrador. Although the crew member was recovered, he later died of his injuries.
- On 27 April 2013, a deckhand on a herring punt was setting crab traps near the mouth of the Fraser River, British Columbia,¹¹ when his leg was caught in the rope and he was dragged overboard. Although the deckhand was recovered and received medical attention, he was later pronounced deceased.
- On 21 May 2011, a fisherman on board the vessel *L'Echo des Mers I*¹² drowned after he was pulled overboard by the lobster traps he was setting near l'Étang-du-Nord, les Îles-de-la-Madeleine, Quebec. The unresponsive body was later recovered.

1.10 Safety Issues Investigation into Fishing Safety in Canada

In June 2012, the TSB released its *Safety Issues Investigation into Fishing Safety in Canada* (SII).¹³ The SII provides an overall national view of safety issues in the fishing industry, revealing a complex relationship and interdependency among these issues. The Board identified the following safety significant issues requiring attention: stability, life-saving appliances, fisheries resource management, the cost of safety, safety information, safe work practices, the regulatory approach to safety, fatigue, training, and fishing industry statistics. The SII found that the safety of fishermen is compromised by numerous issues that are interconnected: for example,

- work practices that do not include regular emergency drills;
- training that is not regularly reinforced with emergency drills; and
- the cost of safety as it relates to the failure to buy and maintain life-saving equipment and perform drills in the use of life-saving equipment.

The report also documented the complex operating environment of commercial fishing in Canada. This includes complex regulatory safety and environmental frameworks, changing economics and market conditions, many vessels owned and operated by individuals or families, shorter seasons, increasing difficulties finding experienced crew, and very traditional fishery practices as far as safety is concerned.

¹⁰ TSB marine occurrence number M14A0263.

¹¹ TSB marine occurrence number M13W0061.

¹² TSB marine occurrence number M11L0111.

¹³ Transportation Safety Board of Canada Safety Issues Investigation Report Number M09Z0001, *Safety Issues Investigation into Fishing Safety in Canada*.

1.11 TSB Watchlist

The Watchlist is a list of issues that pose the greatest risk to Canada's transportation system; the TSB publishes it to focus the attention of industry and regulators on the problems that need addressing today.

Commercial fishing safety is a 2016 Watchlist issue. As this occurrence demonstrates, despite many safety initiatives, unsafe practices continue in the fishing industry.

Although regulations have been published and will likely lower some of the risks associated with outstanding safety deficiencies, gaps remain with respect to, among other things, unsafe operating practices and crew training.

The Watchlist says that new regulations must be implemented for commercial fishing vessels of all sizes, and user-friendly guidelines regarding vessel stability must be developed and implemented to reduce unsafe practices.

New regulations alone are not enough, however. Concerted and coordinated action is required by federal and provincial authorities, by leaders in the fishing community, and by fishermen themselves to put in place strong regional initiatives and develop a sound safety culture in the fishing community.

2.0 Analysis

2.1 Factors leading to person overboard and loss of life

While the crew was setting traps on the day of the occurrence, a trap became stuck on the port guard rail, preventing it from going overboard. A crew member attempted to free the trap. When it came free, it was pulled quickly over the stern by the weight of the traps already under the water and the momentum of the vessel under way. Although he was experienced, the crew member was standing in the trap's coil of rope when it was freed. The coil became tight around his leg and he was hauled overboard.

The overhead block of the trap hauler was not lowered into its operating position, as it was not expected to be used that day. Thus, to recover the crew member as quickly as possible, the crew members rove the line through the trap hauler without passing it through the overhead block. This caused the line to be at an extreme angle as it passed over the gunwale to the hauler. Given that angle, and under the additional strain of the submerged traps and the weight of the crew member with his inflated personal flotation device (PFD), the line parted.

Having lost that end of the line, the master then navigated the vessel to the beginning of the string of traps to pick up the balloon attached to the other end of the 3 traps. At the same time, the crew lowered the overhead block. Using the lowered overhead block, they were able to pull up the 3 traps and the crew member. By that time, approximately 10 minutes had passed and they were unable to resuscitate the crew member.

The search and rescue (SAR) crew on board the Hercules fixed-wing aircraft self-tasked to respond to the *Cock-a-Wit Lady's* distress call. However, they were delayed in reaching the *Cock-a-Wit Lady*. When they were in the vicinity of the vessel, the excess conversation on very high frequency (VHF) radio channel 16, as well as the large number of vessels in the area, made it difficult for them to identify the vessel in distress. They requested the *Cock-a-Wit Lady* to turn to port. When a vessel in the area turned to starboard and no other vessels manoeuvred, they chose to deploy to the vessel that had turned, which was not the correct one. By the time the SAR techs arrived at the *Cock-a-Wit Lady*, the crew member had no vital signs. After being evacuated to hospital, the crew member was pronounced deceased.

2.2 Risk management and safe work practices

2.2.1 Safety or toolbox meetings

Research on changing work practices has shown that, in part because of the contextual factors of the physical and economic environments in which they are practised, unsafe work practices can be difficult and slow to change.¹⁴ In the marine environment, crews may

¹⁴ D.M. DeJoy, "Behaviour change versus culture change: divergent approaches to managing workplace safety," *Safety Science*, Vol. 43, Issue 2 (2005), p. 108.

routinely work without experiencing accidents, which reinforces any unsafe work practices that are relied on regularly.¹⁵ Fishing operations, such as those that involve the setting of any kind of fishing gear, have a particular set of hazards and risks that must be managed.

Although fishermen are often aware of the risks present in their fishing operations, few undertake risk assessments to manage those risks on board their vessels. Risk assessments involve identifying hazards in an operation, developing methods to eliminate or control those hazards, and putting in place a system by which these methods are reviewed and amended on an ongoing basis. While many formal assessment systems are also documented, risk assessments on board a fishing vessel could take the simple but effective form of regular safety or toolbox meetings led by the master of the vessel at predetermined times. In these meetings, the master would have the opportunity to review on-board risks with the crew, remind them of the means to mitigate those risks, and discuss workplace hazards with them.

On the *Cock-a-Wit Lady*, the master and crew were aware of the risk of entanglement but did not manage it consistently. Instead, when an unsafe practice such as stepping in a coil of rope was observed by the master or another crew member, it was corrected on an ad hoc basis. On the day of the occurrence, as it was the first day of the lobster season, the crew was concerned with moving quickly: all vessels leave port at the same time, and there is competition for the preferred fishing areas. The vessel was also heavily loaded with lobster traps. Although it was commonly known and understood by the crew that stepping in the coils of rope was a significant safety risk and should not be done, this was not reinforced or addressed by regular safety meetings. Such meetings provide a review of on-board hazards and a reminder of safety precautions to take while setting gear – especially on the opening day of the season, which is one of the most dangerous days of the year for lobster fishermen due to the high volume of traps carried on board and the desire to set those traps quickly.

If fishing vessel operations do not have a system for on-board risk management, such as safety or toolbox meetings, there is a risk that crew members will not mitigate on-board hazards effectively.

2.2.2 Emergency drills

When a person falls overboard in cold water, it is critical that they be retrieved as quickly as possible due to the imminent danger of exposure and drowning. Carrying out regular emergency drills helps crew members become familiar with the vessel's emergency equipment and allows them to practise retrieval strategies using various types of equipment. Regular drills can also help the crew discover deficiencies in emergency procedures and equipment, and take mitigating actions.

The crew of the *Cock-a-Wit Lady* did not conduct emergency drills such as person overboard. When the deckhand was entangled and fell overboard, the crew first attempted to haul him up with the trap hauler, using the line going directly over the gunwale to the hauler. When

¹⁵ S. Dekker, *Drift into Failure: From Hunting Broken Components to Understanding Complex Systems* (CRC Press, 2011), p. 14.

the line parted under the strain at that steep angle, they had to navigate over to retrieve the other end of the line and simultaneously lower the overhead block. Although they successfully retrieved the deckhand with the overhead block, by that time he had been submerged for approximately 10 minutes.

As the *Cock-a-Wit Lady* was intending only to set traps on the day of the occurrence, the overhead block was not lowered into the horizontal position; it was lowered only when it was intended to be used for hauling traps. Performing regular emergency drills would provide an opportunity for crew members to identify shortcomings in the retrieval of a person overboard, such as the fact that, in the vertical or raised position, the overhead block was not available for immediate use to haul a person overboard and that, when lowered, the block allowed for the most efficient angle for hauling the heavy traps and the weight of the person in the water.

If crew members have not practised drills, they may respond to an emergency in an ad hoc manner where mistakes can happen and more expedient methods of doing things are often not considered, resulting in safety-critical delays. Thus, if vessel operators do not conduct drills that provide an opportunity for the crew to identify shortcomings in emergency response situations, such as a person overboard, there is a risk that fishermen will not be able to respond to an emergency effectively.

2.3 *Vessel identification*

Hercules aircraft need to identify vessels in distress that are below them while they are travelling at a higher altitude and at a speed of approximately 120 knots, in contrast to the Joint Rescue Coordination Centre's (JRCC) Cormorant rescue helicopters, which have more flexibility in terms of altitude and speed. Radio direction finders enable Hercules aircraft to home in on the general location of the vessel that has signalled distress; such a vessel is generally obvious, as it is not surrounded by many other vessels.

When the Hercules aircraft in this occurrence received a distress call from the *Cock-a-Wit Lady*, the crew self-tasked and headed toward the coordinates they were given. They positively identified the vessel in distress with an initial low pass and verbal communication. However, as it was opening day of the lobster season, more vessels had moved into the area to set traps, and there were an estimated 40 vessels of a similar design to the *Cock-a-Wit Lady* within a 3-mile radius. There was also a large amount of emergency-related discussion on VHF radio channel 16. These 2 factors made identifying the *Cock-a-Wit Lady* very difficult for the SAR techs on board the Hercules.

The SAR techs requested the *Cock-a-Wit Lady* to turn to port to help them visually identify the vessel. No vessels turned to port but, when one turned to starboard, the SAR techs decided that could be the vessel in distress and jumped toward it.

Crew members on fishing vessels have a lot of factors to deal with in an emergency situation. After sending out a distress call on VHF, they are often very busy attempting to mitigate the emergency, not to mention they may be experiencing a high level of stress. With all of the distractions, they may not take into account the difficulty SAR resources may have in

identifying their vessel. While numerous VHF calls were made from the Hercules, few were returned, most likely due in part to the volume of other conversation. Furthermore, despite early confirmation of the vessel in distress, a change in altitude and multiple aircraft manoeuvres meant that the Hercules was no longer certain of which vessel was in distress. In this occurrence, the crew of the *Cock-a-Wit Lady* was focused on attempting to resuscitate the deckhand. However, vessel operators also have the means to self-identify when they are in distress for SAR resources in the air. For example, crew members can shine and/or flash a searchlight, deploy an emergency position indicating radio beacon if one is fitted, request to communicate on a different VHF frequency, or use a hand flare to make the vessel more distinguishable from above. Although these options may not be readily considered by a crew that is very involved in the emergency situation, one or more methods to self-identify should be incorporated into emergency response plans on board vessels.

In this occurrence, the misidentification of the vessel and the resulting delay of the SAR techs did not have an impact on the rescue. If it is not possible to identify accurately a vessel in distress from above, critical SAR operations may be delayed.

2.4 Safety issues in the fishing industry

The TSB *Safety Issues Investigation into Fishing Safety in Canada* (SII) released in June 2012¹⁶ categorized actions that impact safety into 10 safety significant issues and found that there are complex relationships and interdependencies among them. These safety significant issues are further analyzed in the SII. In this occurrence, 3 of these 10 safety significant issues were present and are reflected in the on-board practices and procedures of the *Cock-a-Wit Lady*.

Life-saving appliances

Safety issues investigation findings	Relationship to this occurrence
Fishermen do not always conduct drills.	The crew did not participate in emergency drills on board the <i>Cock-a-Wit Lady</i> before the beginning of the season.

Training

Safety issues investigation findings	Relationship to this occurrence
[Fishermen] assess and manage risk based on experience.	Although the risk of falling overboard when setting traps was well known, no safety/toolbox meetings were held.

Safe work practices

Safety issues investigation findings	Relationship to this occurrence
[Fishermen] do not emphasize the importance of safety in work practices.	The increased level of risk on the opening day of the lobster season was not addressed by the master.

¹⁶ Transportation Safety Board of Canada Safety Issues Investigation Report Number M09Z0001, *Safety Issues Investigation into Fishing Safety in Canada*.

3.0 Findings

3.1 Findings as to causes and contributing factors

1. While the crew was setting lobster traps, one of the traps became stuck on the port guard rail.
2. A crew member attempted to free the trap. Once the trap was freed, it went quickly over the stern, pulled by the weight of the traps in the water and the momentum of the vessel. At that time, the crew member was standing in one of the coils of rope and was thus entangled and hauled overboard.
3. To attempt to recover the crew member, the crew rove the line through the trap hauler. However, the extreme angle over the gunwale and weight of the submerged traps and deckhand caused the line to part and resulted in a significant delay in the recovery of the crew member.
4. By the time the deckhand was recovered using the overhead block, approximately 10 minutes had passed and the crew members were unable to resuscitate him. After he was taken to hospital, he was pronounced deceased.

3.2 Findings as to risk

1. If fishing vessel operations do not have a system for on-board risk management, such as safety or toolbox meetings, there is a risk that crew members will not mitigate on-board hazards effectively.
2. If vessel operators do not conduct drills that provide an opportunity for the crew to identify shortcomings in emergency response situations, such as a person overboard, there is a risk that fishermen will not be able to respond to an emergency effectively.
3. If it is not possible to identify accurately a vessel in distress from above, critical search-and-rescue operations may be delayed.

This report concludes the Transportation Safety Board's investigation into this occurrence. The Board authorized the release of this report on 04 January 2017. It was officially released on 19 January 2017.

Visit the Transportation Safety Board's website (www.tsb.gc.ca) for information about the TSB and its products and services. You will also find the Watchlist, which identifies the transportation safety issues that pose the greatest risk to Canadians. In each case, the TSB has found that actions taken to date are inadequate, and that industry and regulators need to take additional concrete measures to eliminate the risks.

