



TSB Recommendation M23-08

Hazard identification in fisheries resource management decisions

The Transportation Safety Board of Canada recommends that the Department of Fisheries and Oceans ensure that policies, procedures, and practices include comprehensive identification of hazards and assessment of associated risks to fish harvesters when fisheries resource management decisions are being made and integrate independent safety expertise into these processes.

Marine transportation safety investigation report	M21A0065
Date the recommendation was issued	07 December 2023
Date of the latest response	February 2024
Date of the latest assessment	May 2024
Rating of the latest response	Unable to assess
File status	Active

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Summary of the occurrence

On 01 April 2021, Fisheries and Oceans Canada (DFO) assessed the weather conditions and notified fish harvesters that the snow crab fishery in area 12 of the Gulf of St. Lawrence would open at 0001 on 03 April 2021. At the time of the notification, there was ice in Richibucto Harbour, New Brunswick, and an excavator was needed to break ice at the wharf to put the *Tyhawk* in the water.

On 02 April at 0435, the master and 4 crew members sailed the 13.61 m open fishing vessel *Tyhawk* from Richibucto, New Brunswick, to Chéticamp, Nova Scotia, for the season. They were joined in Chéticamp by 4 additional crew members, who had driven from Richibucto.

On 03 April, starting at approximately 0240, the *Tyhawk* made 2 voyages from Chéticamp to the fishing grounds. On the first voyage, with the master and all 8 crew members on board, they set about 75 crab traps. During this voyage, ice was accumulating on the vessel. On the second voyage, the master and 4 crew members departed to set about 50 more crab traps.

On the trip to the fishing grounds, the master and 3 crew members napped in the accommodation space while another crew member stood watch. The winds had increased to 20 to 25 knots with 1 to 2 m seas. Waves were hitting the starboard side, and rain and freezing rain were falling. A second crew member came to the wheelhouse where he noticed an accumulation of water in the bilge. He called the master and the other crew members, and the bilge pumps were started. Shortly afterwards, a crew member went under the removable deck to get some of the gear and found water on the main deck. He alerted the other crew members, and the wash-down pump configuration was changed to dewater the bilge. At this time, the weather seemed to increase in severity and the vessel's movements became more severe. Following a significant heel to starboard, the vessel's main deck submerged, allowing water in addition to that already on deck to enter the *Tyhawk*.

Crew members could not reach the lifejackets and immersion suits stowed in the accommodation space or launch the life raft, which had slid under the removable deck. Shortly afterward, the *Tyhawk* capsized and the master and crew members climbed on to the overturned hull. One crew member called 911. The automatic emergency position-indicating radio beacon (EPIRB) floated free and at 1750, the Joint Rescue Coordination Centre Halifax received notice of an EPIRB signal from the *Tyhawk*.

As the overturned *Tyhawk* sank lower in the water, wave action repeatedly swept the master and 1 crew member clear of the hull and into the water. Eventually, the master and this crew member remained in the water. The fishing vessel *Northumberland Spray* arrived on scene and rescued the 4 *Tyhawk* crew members, but the master could not be located. The *Northumberland Spray* returned to Chéticamp and the 4 crew members received medical assistance. One crew member was pronounced dead. The search for the master continued through the night and all the next day. At 1955 on 04 April 2021, the case was turned over to the RCMP as a missing persons case.

The Board concluded its investigation and released report M21A0065 on 22 November 2023.

Rationale for the recommendation

In this occurrence, Fisheries and Oceans Canada (DFO) moved the opening date for the snow crab fishery forward by almost 3 weeks from previous years. This decision was based on the advice of a subcommittee composed of representatives from industry and government. DFO and the subcommittee members considered the selection of the opening date and time for the 2021 snow crab fishery as routine. Consequently, hazards posed by changing the date, which would increase the likelihood of colder water, ice, and freezing rain, or by opening the fishery at midnight, which would increase the risk of fatigue, were not identified and assessed for safety implications.

Fisheries resource management (FRM) decisions are complex, balancing economic, conservation, and safety concerns and their interactions and cumulative effects. In 2021, the season-opening decision was influenced by many FRM measures and policies. All commercial

fishing vessels in Canada, the number of which is estimated at 18 000 to 29 000 vessels,¹ are subject to FRM measures that influence the actions and behaviours of fish harvesters.²

The TSB has previously investigated occurrences in which FRM measures were implemented and fish harvester safety was affected. For example, in September 2018, 2 people died when the fishing vessel *Kyla Ann* capsized near North Cape, Prince Edward Island, while following a DFO-defined corridor instead of the established navigational route.³ In 2016, 2 people died and 2 others were presumed drowned after the crew of the *Pop's Pride* sailed in adverse sea conditions in order to ensure the FRM measures were met.⁴ The TSB's Safety Issues Investigation into Fishing Safety in Canada, published in 2012, identified FRM as 1 of the 10 significant safety issues associated with fishing accidents. The report indicated that "meeting resource management measures can contribute to risk-taking" and expressed "concern that the safety risks associated with fisheries management measures are not adequately identified and addressed."⁵

FRM measures can have positive consequences for safety, whether they were implemented for that reason or not. For example, in the British Columbia and Quebec regions, some fisheries are restricted to daylight hours.

Complex decisions, such as those concerning FRM, need to consider all relevant areas and interactions and must be supported by a comprehensive, methodical risk assessment. The quality of a risk assessment depends on the robustness of hazard identification. To identify as many hazards as possible, all relevant information must be considered by experts in their fields, including independent safety experts who are not affected by the decisions.

When FRM measures and decisions do not consider the interactions between economic, conservation, and safety factors, including their cumulative effects, then decisions may be made for new and complex situations without adequate identification of safety hazards, increasing safety risks for fish harvesters.

Therefore, the Board recommended that

the Department of Fisheries and Oceans ensure that policies, procedures, and practices include comprehensive identification of hazards and assessment of

¹ On 31 March 2023, TC's records listed 18 365 vessels actively registered with TC as fishing vessels. Vessel registration may be suspended for various reasons while a vessel continues fishing. If suspended vessels are included, the number of vessels registered with TC as a fishing vessel was 25 410. A few thousand more fishing vessels receive commercial fishing licences but may not have registered with TC. See TSB Marine transportation recommendation M22-01 for background and updates.

² TSB Marine Investigation Report M09Z0001, Safety Issues Investigation into Fishing Safety in Canada.

³ TSB Marine Transportation Safety Investigation M18A0303. The vessel capsized when it was following DFO licence requirements to use a defined travel corridor instead of using the safest established navigational route. The travel corridor was defined as part of fisheries resource management enforcement measures.

⁴ TSB Marine Investigation Report M16A0327.

⁵ TSB Marine Investigation Report M09Z0001, Safety Issues Investigation into Fishing Safety in Canada.

associated risks to fish harvesters when fisheries resource management decisions are being made and integrate independent safety expertise into these processes.

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Previous responses and assessments

N/A

Latest response and assessment

February 2024: response from the Department of Fisheries and Oceans

The Department is in the process of analyzing and exploring options to address this recommendation with the aim to incorporate further safety aspects into processes beginning in 2024, as appropriate. One area in particular we are giving attention to is the process of fishery openings and how to further identify hazards and associated risks, and where we may be able to integrate independent safety expertise. We will also explore areas around other resource management decisions where adjustments could be made to minimize risks to harvesters.

While analysis and procedural development and implementation may take time, we are eager to support reducing risk on the water without adding undue cost or complexity to commercial fishers. As such, the Department recently developed and implemented a communication plan which provides safety reminders and tips to fish harvesters through social media. This initiative is a direct result of industry feedback around increasing communication and education. In addition, DFO continues to work with all our partners, especially Transport Canada, to promote and advance safety at sea.

May 2024: TSB assessment of the response (Unable to Assess)

The Department of Fisheries and Oceans (DFO) indicates that it is currently assessing how to best address this recommendation. In particular, the department is looking at the process for determining when to open fisheries and where independent safety expertise could be incorporated. Additionally, it is exploring areas around other resource management decisions where risk could be minimized. In the meantime, DFO will provide safety reminders and tips for fish harvesters on social media through its newly implemented communication plan, as well as continue its collaborative work with other departments, such as Transport Canada, to advance safety at sea.

The Board takes note that DFO has acknowledged the recommendation and is considering how best to address it. The Board is encouraged that DFO is taking a more active role in promoting safety at sea for fish harvesters. However, DFO has not yet presented a plan for how it will address the scope of the recommendation. Therefore, the Board is **unable to assess** DFO's response to Recommendation M23-08.

File status

The TSB will monitor the actions taken by the Department of Fisheries and Oceans.

This deficiency file is **Active**.