

**NATIONAL TRANSPORTATION SAFETY BOARD**  
**Virtual Meeting of June 29, 2021**  
**(Information subject to editing)**

**Capsizing and Sinking of Commercial Fishing Vessel *Scandies Rose***  
**Sutwik Island, Alaska**  
**December 31, 2019**  
**DCA20FM009**

This is a synopsis from the NTSB’s report and does not include the Board’s rationale for the conclusions, probable cause, and safety recommendations. NTSB staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing to reflect changes adopted during the Board meeting.

## **Executive Summary**

On December 31, 2019, about 2200 Alaska standard time, US Coast Guard Communications Detachment Kodiak received a distress call from the fishing vessel *Scandies Rose*. The vessel was en route from Kodiak to fishing grounds in the Bering Sea when it capsized about 2.5 miles south of Sutwik Island, Alaska, and sank several minutes later. At the time of the accident, the *Scandies Rose* had seven crewmembers aboard, two of whom were rescued by the Coast Guard several hours later. The other missing crewmembers were not found and are presumed dead. The *Scandies Rose*, valued at \$15 million, was declared a total loss.

According to the surviving crewmembers, the vessel had begun to encounter freezing spray and accumulate ice from 0200-0800 on the day of the accident. By 2037, the captain of the *Scandies Rose* noted that his vessel was icing “really bad” and had developed a 20° starboard list. He was trying to seek shelter southeast of Sutwik Island, but when he changed course, the vessel’s list worsened. At 2155, the captain of the *Scandies Rose* broadcasted a mayday call.

The NTSB’s 2021–2022 Most Wanted List of Transportation Safety Improvements includes the issue area, “Improve Passenger and Fishing Vessel Safety.” Fishing consistently tops the list of most deadly occupations, due, in large part, to challenging work environments, such as poor weather and rough waters. Per the Coast Guard, there are 58,000 commercial fishing vessels in service in the United States, and between 2000 and 2020, there were 805 fatalities, 164 missing, and 2,122 injured in commercial fishing vessel accidents in the United States.

## **Probable Cause**

The National Transportation Safety Board determines that the probable cause of the capsizing and sinking of the commercial fishing vessel *Scandies Rose* was the inaccurate stability instructions for the vessel, which resulted in a low margin of stability to resist capsizing, combined with the heavy asymmetric ice accumulation on the vessel due to localized wind and sea conditions that were more extreme than forecasted during the accident voyage.

## Safety Issues

The safety issues identified in this accident include the following:

- **The effect of extreme icing conditions.** Sea spray icing is a serious hazard to marine vessels because the ice accumulates over exposed decks and exterior surfaces of a vessel, adding weight that may ultimately capsize a vessel. Sea spray icing occurs in environmental conditions where cold, wave-generated spray contacts exposed surfaces and air temperatures are below freezing.
- **Lack of accurate weather data for the accident area.** The area around Sutwik Island and west of Kodiak Island is subject to bad weather with northeast through northwest winds and cold air moving across the Alaskan Peninsula. When observation sites are more spread out in remote areas like Alaska, the data do not accurately represent the entire area, which can lead to inaccurate and less precise forecasts and weather modeling.
- **The vessel's inaccurate stability instructions.** Stability instructions for a vessel lay out different loading scenarios that a master can follow to ensure the vessel meets the stability criteria established by regulators. The intent of the regulatory requirements is to provide information to vessel operators that will enable them to readily ascertain the stability of their vessel under varying loading conditions and to operate them in compliance with applicable stability criteria. The *Scandies Rose's* inaccurate stability instructions gave the vessel a smaller margin of safety than intended by the regulations.
- **Need to update regulatory guidelines on calculating and communicating icing for vessel stability instructions.** Stability regulations factor in a minimum set amount of added weight for accumulated ice from freezing sea spray on continuous horizontal and vertical surfaces. However, the regulations do not provide guidance on how to apply ice accumulation on crab pots, which consist of tubular frames and mesh, and have additional ice accumulation internally. Nor do they account for reported asymmetric ice accumulation on exposed vessel surfaces and pot stacks. Additionally, stability instructions are currently not required to present the accumulated ice thicknesses used to calculate vessel stability, which, if communicated to masters, would better prepare them in decision making.

## Findings

1. None of the following were safety issues for the accident voyage: (1) the captain's predeparture decision-making, (2) operational pressures, (3) fatigue, (4) drug and alcohol use, (5) the vessel's propulsion and steering systems or (6) the vessel's hull integrity.
2. Based on the voyage timeline and the estimated ice accumulation over that period, the *Scandies Rose* likely accumulated between 6 and 15 inches of ice on surfaces exposed to

wind and icing during the accident voyage.

3. Although the captain's decision to proceed to Sutwik Island was reasonable, by the time he was close enough to turn into the lee, the icing conditions had accelerated and reduced the vessel's stability.
4. The added weight from ice accumulating asymmetrically on the vessel and the stacked crab pots on deck raised the *Scandies Rose*'s center of gravity, reducing its stability, and contributing to the capsizing.
5. Although the crew loaded the *Scandies Rose* per the stability instructions on board, the stability instructions were inaccurate; therefore, the vessel did not meet regulatory stability criteria and was more susceptible to capsizing.
6. Because the stability instructions were inaccurate, the captain was unaware that his vessel did not meet the margin of safety intended to be provided by the stability regulations.
7. Current regulatory guidelines on calculating the effects of icing on a fishing vessel's stability do not take into account how ice actually accumulates on and in crab pots and crab pot stacks.
8. If vessel captains were aware of the amount of icing that is factored into their stability instructions, they would be better prepared to make critical vessel safety decisions when operating in areas of potential icing.
9. Formal stability training would provide fishing vessel crews with a better understanding of the principles and regulatory basis of stability, including the effect of icing.
10. An oversight program to review and audit stability instructions produced for uninspected commercial fishing vessels, like the *Scandies Rose*, that are not required to carry a load line certificate, could identify and reduce potential errors in stability instructions, which in turn may reduce the chance that vessels are sailing without the intended margin of safety provided by applicable stability criteria.
11. Due to the limited surface observation resources near Sutwik Island and the Chignik Bay region along the fishing vessel route from Kodiak to Dutch Harbor, the National Weather Service cannot accurately forecast the more extreme localized wind and sea conditions for the area, which can lead to vessels encountering conditions that are worse than expected.
12. The National Weather Service Ocean Prediction Center site could provide mariners with more detailed, graphical icing information not currently available elsewhere, which would help them make decisions based on more accurate weather information.
13. Personal locator beacons would aid in search and rescue operations by providing continuously updated and correct coordinates of crewmembers' location.

## **Recommendations**

### **New Recommendations**

#### **To the US Coast Guard:**

1. Conduct a study to evaluate the effects of icing, including asymmetrical accumulation, on crab pots and crab pot stacks and disseminate findings of the study to industry, by means such as a safety alert.
2. Based on the findings of the study recommended in Safety Recommendation [1], revise regulatory stability calculations for fishing vessels to account for the effects of icing, including asymmetrical accumulation, on a crab pot or pot stack.
3. Revise Title 46 *Code of Federal Regulations* 28.530 to require that stability instructions include the icing amounts used to calculate stability criteria.
4. Develop an oversight program to review the stability instructions of commercial fishing vessels that are not required to possess a load line certificate for accuracy and compliance with regulations.

#### **To the North Pacific Fishing Vessel Owners' Association:**

5. Notify your members (Bering Sea/Aleutian Islands Crabbers/Fishing Vessel fleet) of the specifics of this accident, the amount of ice assumed when developing stability instructions, and the dangers of icing.

#### **To the National Oceanic and Atmospheric Administration:**

6. Increase the surface observation resources necessary for improved local forecasts for the Sutwik Island and Chignik Bay region in Alaska.

#### **To the National Weather Service:**

7. Make your Ocean Prediction Center freezing spray website operational and promote its use in industry.

## **Previously Issued Recommendations Reiterated in this Report**

### **To the US Coast Guard:**

Require all owners, masters, and chief engineers of commercial fishing industry vessels to receive training and demonstrate competency in vessel stability, watertight integrity, subdivision, and use of vessel stability information regardless of plans for implementing the other training provisions of the 2010 Coast Guard Authorization Act. (M-11-24)

Require that all personnel employed on vessels in coastal, Great Lakes, and ocean service be provided with a personal locator beacon to enhance their chances of survival. (M-17-45)