



National Transportation Safety Board

Marine Accident Brief

Sinking of Fishing Vessel *Kupreanof*

Accident no.	DCA15LM025
Vessel names	<i>Kupreanof</i>
Accident type	Sinking
Location	Gulf of Alaska, about 50 miles* west-northwest of Cape Spencer, Alaska, 58°19.54' N, 138°14.99' W
Date	June 10, 2015
Time	0540 Alaska daylight time (coordinated universal time – 8 hours)
Injuries	None
Property damage	\$875,000
Environmental damage	Potential release of more than 7,300 gallons of diesel fuel and other petroleum products
Weather	Raining, visibility 2 miles, winds southeast at 25–35 knots, seas 15–20 feet, air temperature 46°F
Waterway information	Gulf of Alaska, open ocean

About 0300 local time on June 10, 2015, the uninspected commercial fishing vessel *Kupreanof* began taking on water while transiting from Juneau to Bristol Bay, Alaska. About two and half hours later, the vessel sank in 420 feet of water. All four crewmembers were rescued without injury by the Coast Guard soon after abandoning ship. About 7,300 gallons of diesel fuel and an unknown quantity of hydraulic and lubricating oil were aboard the vessel when it sank. The *Kupreanof* was not salvaged due to the water depth. The vessel and the equipment stowed on deck were valued at \$875,000.



**Fishing vessel *Kupreanof* before the accident.
(Photo courtesy of Shoal Hollingsworth)**

*All miles in this report are nautical miles (1.15 statute miles).

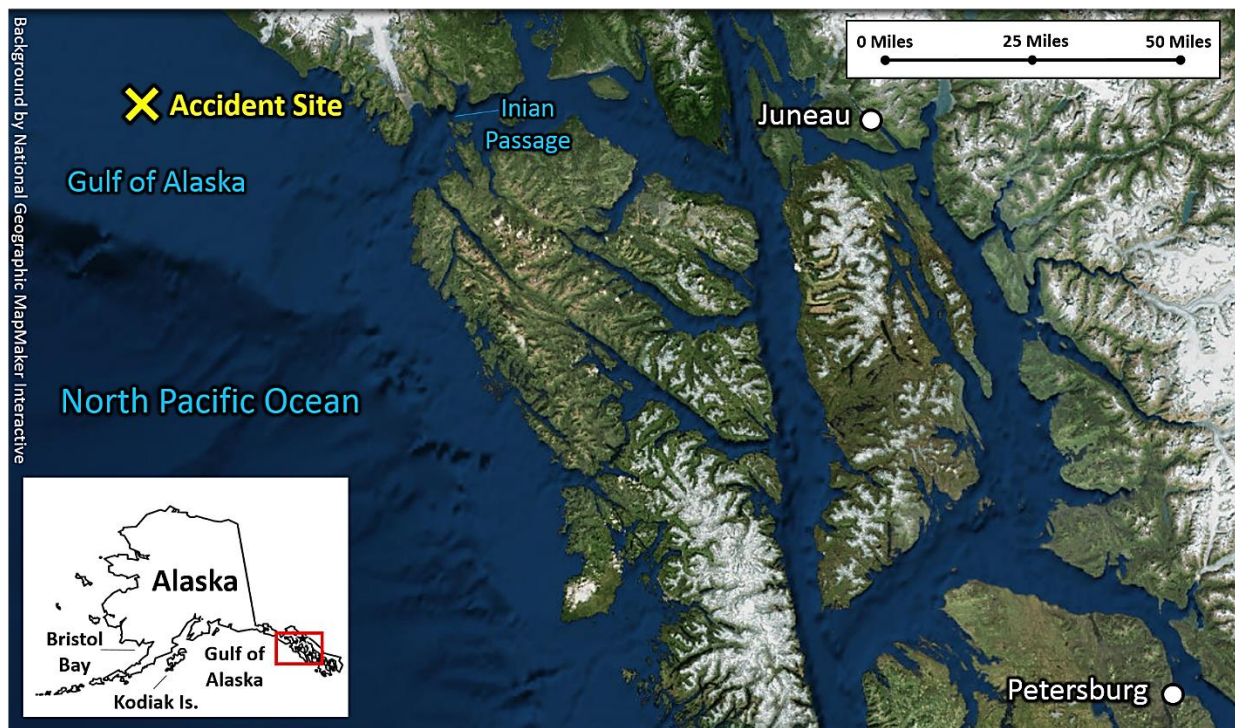
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The *Kupreanof*, a 73-foot-long, steel-hulled fish tender, was built in 1975 and its home port was Petersburg, Alaska. Tenders meet at sea with fishing boats that have reached full capacity, unload the fish, and then transport the catch to the nearest fish processing plant. According to crewmembers, the vessel had primarily worked the inside passage in southeast Alaska prior to the accident. The transit to Bristol Bay was the vessel's first voyage in the open ocean in over two decades.

The *Kupreanof* was crewed by an unlicensed captain, an engineer, and two deckhands. The captain had worked in the fishing and yachting industries for about 40 years, with about 10 years of experience on tenders. He was hired on the *Kupreanof* three weeks before the accident voyage and had only begun significant work on the vessel 10 days prior to departure. The other three crewmembers joined the tender between June 1 and June 2. None of the crewmembers had any previous experience on the vessel.

A September 2014 survey reported that the *Kupreanof* was "immaculately kept, well maintained, in excellent condition, and fully equipped for her intended service." The survey also noted that the hull of the vessel had been ultrasonically tested in 2012 and deemed to be in satisfactory condition. By May 2015, the vessel was under new ownership, and the captain stated that it was in "a little bit rougher shape than I knew about." The condition did not concern the captain enough, however, to stop him from taking the vessel out to sea.

On the morning of June 7, the *Kupreanof* departed Petersburg en route to Bristol Bay via the Gulf of Alaska. That evening, the vessel stopped in Juneau, Alaska, to load provisions, repair one of its two cranes, and correct a minor plumbing problem.



The *Kupreanof* got underway from Juneau about 0500 on June 9. About 1500, the captain checked the weather forecast but was not concerned with the conditions. Issued at 0400 that morning, the National Weather Service forecast predicted winds increasing to 30 knots and seas building to 11 feet through the evening. A small craft advisory was in effect through the night.

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An hour later, before reaching the open waters of the Gulf of Alaska, the captain anchored the vessel at Inian Passage to test the anchoring equipment, check the lashings of the gear on deck, and review safety equipment and procedures with the crewmembers. During the safety review, the captain instructed the three crewmembers on donning survival suits, launching the liferaft, and locating and operating the emergency position indicating radio beacon (EPIRB).¹ The captain also assigned each crewmember specific responsibilities in the event of an emergency.

About 1800, the vessel weighed anchor and resumed its voyage to Bristol Bay with the four crewmembers alternating watches at the helm. Three hours later, after the vessel entered the Gulf of Alaska, the weather conditions worsened as seas increased to 15–20 feet. Just prior to midnight, the captain assumed the watch from a deckhand and checked the weather forecast. The National Weather Service forecast, which had been issued at 1600 (an hour after the captain had last checked the forecast), included a gale warning with 35 knot winds and 10-foot seas predicted through the night. The captain said the report surprised him based on what he had seen in the earlier report. He also stated that he did not know actual wind speeds at the time because the vessel's anemometer was not working.

About 0300, the captain woke the engineer; after the engineer relieved him at the helm, the captain went to the vessel's aft deck to secure a large hose that had come loose. Thirty minutes later, the captain noticed that the stern was "sitting down" more than normal and not shedding water as expected. Soon after, he noted that the vessel had taken on a port list.

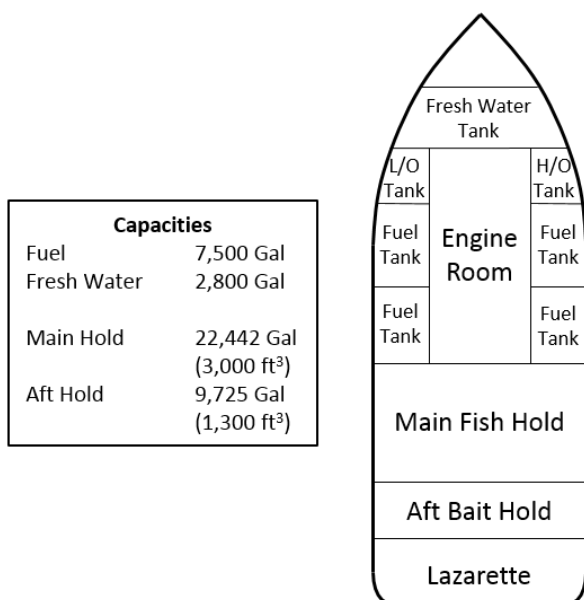


Diagram of *Kupreanof* below deck spaces and holds (not to scale) based on captain's description and 2014 survey. Tank capacities from survey.

In an attempt to resolve the list, the captain checked the engine room for water accumulation and pumped out the space, along with the shaft alley. He then began pumping out the lazarette, the aft-most space on the vessel. A single pump was used to remove water, with a valve manifold in the engine room controlling which space was being pumped. The captain did not find a significant amount of water in the engine room spaces, but he could not check the lazarette because equipment was stowed atop the access hatch.

Both the main fish hold and the aft bait hold were completely filled with water before the *Kupreanof* left Petersburg. The captain stated that he did not attempt to pump out the water in these spaces, fearing that free surface effect in the holds would make the vessel less stable.² Both the captain and the engineer were aware that the

¹ An emergency position indicating radio beacon (EPIRB) alerts search and rescue services in an emergency by transmitting a coded message on the 406 MHz distress frequency via satellite and earth stations to the nearest rescue coordination center. The device can be activated manually or automatically when submerged and deployed from the vessel.

² Free surface effect occurs when a tank or hold carrying liquids is not completely full, the liquid consequently moves in a manner so that its surface remains parallel to the earth's surface. As a vessel heels, the free movement of the liquid shifts the overall center of gravity away from centerline potentially destabilizing the vessel.

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vessel had capsized several years before when the holds had not been completely filled.

After unsuccessfully attempting to resolve the port list, the captain woke the other crewmembers to alert them of the problem and directed them to move to the upper decks with their survival suits. The list and aft trim on the vessel progressively worsened with the stern continuing to sink further into the sea and waves breaking over the transom. The captain turned the vessel south into the seas, but conditions did not improve.

Crewmembers stated that none of the vessel's bilge alarms sounded prior to abandoning the vessel. The captain told investigators that he had satisfactorily tested all bilge alarms prior to leaving Petersburg, with the exception of the lazarette. He could not test the lazarette alarm because the access was blocked by equipment on deck.



***Kupreanof* under way prior to the accident. Note equipment lashed to the aft deck that blocked access to the lazarette. (Photo courtesy of Lana Parker)**

At 0342, the captain made a Mayday call to the Coast Guard. The nearby fish-processing vessel *Gordon Jensen*, which was about 10 miles away, responded to the distress call by heading toward the location of the *Kupreanof*, and Coast Guard Sector Juneau launched rescue helicopters from Air Station Sitka and Air Station Kodiak to assist the sinking vessel.

After all attempts to correct the list had failed, the crew donned their immersion suits, deployed the liferaft, and moved to the bow for safety while they waited for the Coast Guard to arrive. They continued to maintain communications via radio with the Coast Guard, and after a helicopter arrived on scene about 0510, the crew moved to the aft deck, entered the water, and boarded the liferaft. A Coast Guard rescue swimmer assisted each crewmember into the

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helicopter's rescue basket where they were hoisted one by one into the aircraft. The last crewmember was rescued from the water about 0540 as the vessel sank stern first.

The captain stated that he did know what caused the vessel to sink, since he was unable to determine the source or location of the flooding. He believed a crack might have developed on the stern deck that led to flooding of an aft compartment. Since the vessel was not salvaged after the accident, the cause of the foundering could not be determined.



Coast Guard video image of the sinking *Kupreanof* soon after the arrival of the rescue helicopter.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the sinking of the fishing vessel *Kupreanof* was the flooding of an aft compartment, likely the lazarette.

Access to High-Risk Spaces

Blocking access to high-risk spaces, such as the lazarette on the *Kupreanof*, is a safety hazard. Without access, operators cannot be sure of the condition of the space, nor can they respond when emergencies, like flooding, affect those spaces. In this accident, access to the lazarette—the space containing the steering machinery and one or more hull penetrations—was obstructed, which prevented crewmembers from determining if it was the source of flooding and, if so, possibly addressing the hazard.

Testing of Alarms and Sensors

All alarms and sensors should be tested on a regular basis to verify operation so that the crew has early warning of developing hazards.

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Vessel Particulars

Vessel	<i>Kupreanof</i>
Owner/operator	Angelette, LLC
Port of registry	Petersburg, Alaska
Flag	United States
Type	Fish tender
Year built	1975
Official number (US)	562486
IMO number	7632149
Construction	Steel
Length	73 ft (22.2 m)
Draft	8.5 ft (2.6 m)
Breadth	23 ft (7.0 m)
Gross tonnage	137
Engine power, manufacturer	450 hp (336 kW) Detroit Diesel MTU Series-60
Persons on board	4

NTSB investigators worked closely with our counterparts from US Coast Guard Marine Safety Detachment Sitka throughout this investigation.

For more details about this accident, visit <http://www.nts.gov> and search for NTSB accident ID DCA15LM025.

Issued: October 26, 2016

The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under 49 *United States Code* 1131. This report is based on factual information either gathered by NTSB investigators or provided by the Coast Guard from its informal investigation of the accident.

The NTSB does not assign fault or blame for a marine casualty; rather, as specified by NTSB regulation, “[NTSB] investigations are fact-finding proceedings with no formal issues and no adverse parties . . . and are not conducted for the purpose of determining the rights or liabilities of any person.” 49 *Code of Federal Regulations*, Section 831.4.

Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by conducting investigations and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. 49 *United States Code*, Section 1154(b).