



National Transportation Safety Board

Marine Accident Brief

Sinking of Motor Vessel *Exito*

Accident no.	DCA17FM004
Vessel name	<i>Exito</i>
Accident type	Sinking
Location	Bering Sea, 4 miles north of Cape Kalekta, Unalaska Island, Alaska ¹ 54° 05' N, 166° 20' W
Date	December 6, 2016
Time	2140 Alaska standard time (coordinated universal time – 9 hours)
Injuries	Two fatal
Property damage	Loss of vessel \$310,000 est., loss of cargo \$500,000 est.
Environmental damage	Approximately 2,000 gallons of diesel fuel, twelve 55-gallon drums of ethylene glycol (anti-freeze), and one industrial X-ray machine (hazardous material) released into the sea
Weather	Visibility 10 miles, winds north-northwest at 20 knots with gusts to 30 knots, air temperature 38°F, water temperature 41°F, seas 8–10 feet, no reported icing conditions
Waterway information	The Akutan Pass is open water between the islands of Unalaska and Akutan in the Bering Sea. The Bering Sea is north of the Aleutian Islands, which form an island chain in the North Pacific Ocean.

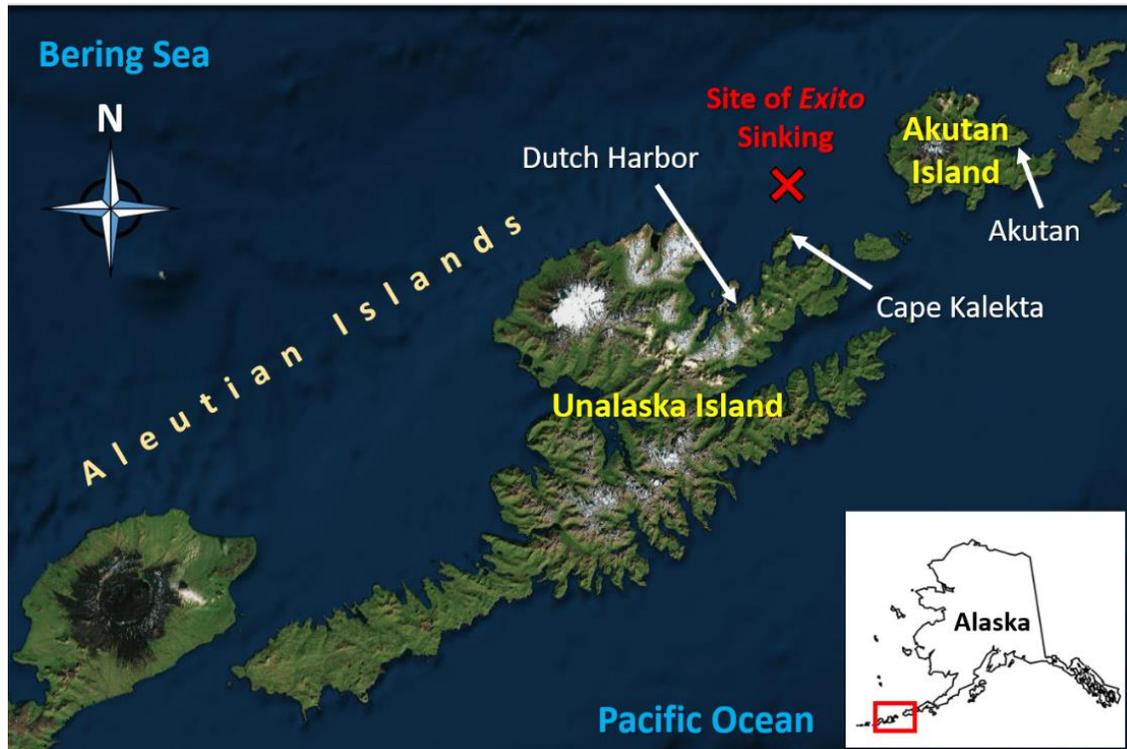
On December 6, 2016, about 2140 local time, the uninspected motor vessel *Exito* sank while transiting from Dutch Harbor to Akutan, Alaska. During the transit, the vessel had been struck by a wave and began listing to starboard. Unable to determine the source of the list as it progressively increased, the captain ordered the *Exito*'s second crewmember and three contractors who were also on board to don immersion suits and abandon the vessel. The crew and one contractor evacuated to a liferaft, but two contractors were unable to escape the *Exito* before it sank. The survivors were recovered shortly after by a good Samaritan vessel. US Coast Guard aircraft, a Coast Guard cutter, and other vessels searched for the missing contractors, but they were never found. About 2,000 gallons of diesel fuel, twelve 55-gallon drums of anti-freeze, and an industrial X-ray machine were released into the sea when the vessel sank. The *Exito*, valued at about \$310,000, was lost.



Exito in Dutch Harbor, March 2006. (Photo by Coast Guard)

¹ Unless otherwise noted, the miles in this report are nautical miles (1.15 statute miles).

Sinking of Motor Vessel *Exito*



Satellite image of Unalaska and Akutan Islands. The approximate location of the *Exito* sinking is indicated by the red X. (Background by National Geographic MapMaker Interactive)

Vessel Information

Built in 1956 as an oil field vessel for the Gulf of Mexico, the steel-hulled *Exito* was converted to a crab fishing vessel between 1987 and 1988. In 2004, the vessel was removed from fishing service indefinitely as part of a conservation program and, from then on, used as a private live-aboard vessel and as a fish plant wastewater-handling vessel.

The *Exito* was purchased in late 2012 by an individual who intended to sell it for scrap. However, upon learning of the utility of the vessel, the owner established a holding company, transferred ownership of the *Exito* to the company, and used the vessel for charter work hauling “stickwater” and crab waste from fish processing plants in the nearby islands.² At the time of the accident, the *Exito* was under a charter agreement with Trident Seafoods Corporation to haul stickwater and crab waste to a designated offshore mixing zone from its plant on the eastern side of Akutan Island. On occasion, the *Exito* was also tasked with carrying cargo between the plant and Dutch Harbor, which was about 40 miles away.

The *Exito* had an open main deck that was used for placement of cargo and crab waste, three centerline tanks below the main deck for stowing stickwater, and a deckhouse aft. A wooden plank surface was installed on top of the steel main deck. The forecastle forward contained a small generator, which the crew called the “hotel generator,” that provided power for the vessel’s accommodation. Back aft, enclosed walkways on both the port and starboard side of the deckhouse were accessed through steel watertight doors from the main deck. Inside each walkway, another watertight door accessed the galley in the deckhouse. In addition to kitchen equipment, the galley

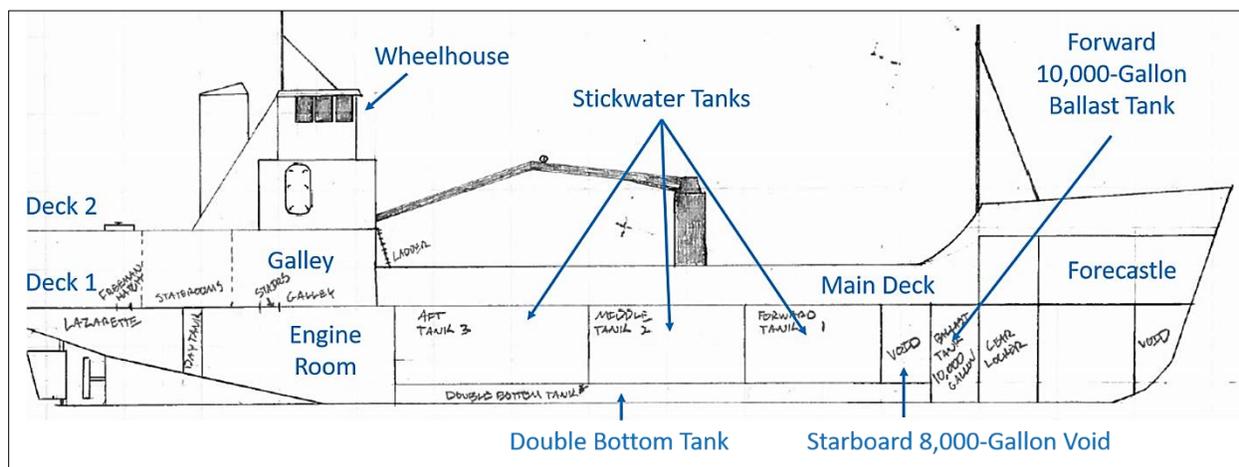
² *Stickwater* is a viscous, quickly decomposing, and foul-smelling liquor that is obtained as a by-product in the wet process of manufacturing fish meal and fish oil. Source: Merriam-Webster, <https://www.merriam-webster.com>.

Sinking of Motor Vessel *Exito*

had a common area with a table and TV for the crew. A berthing area was aft of the galley. At the far aft end of the deckhouse on this deck (deck 1), a ladder led up to a weatherdeck on deck 2 via a watertight hatch.

In the center of the deckhouse was a stairwell that led down to the engine room or up to deck 2, which had accommodation spaces for the captain and the vessel's only other crewmember, a deckhand. Deck 2 had watertight doors on both the port and starboard sides that opened to the aft weatherdeck. The vessel's only liferaft was stowed on the aft port side of the deck 2 weatherdeck. The center stairwell in the deckhouse continued up from deck 2 to the wheelhouse.

In the engine room, two main propulsion diesel engines drove twin propellers, while two Caterpillar 3306 diesel generators supplied electrical power to the vessel. Since these generators consumed more fuel than the smaller hotel generator up forward, they were used only when there was a demand for power to the vessel's pumps and hydraulic systems. Three 5-inch electrically driven centrifugal pumps in the engine room were connected to a common manifold for the three centerline stickwater tanks. The engine room also had two electrically driven bilge pumps. In addition to these pumps, a portable submersible pump was used to empty the forward ballast tank. The vessel was fitted with a bilge alarm system that would give an indication in the wheelhouse of a high-water level in the engine room, lazarette, or forepeak.



Profile of the *Exito* drawn by the captain.

Accident Events

On the day before the accident, the *Exito* was tasked with sailing from Akutan to Dutch Harbor to pick up cargo for Trident Seafoods and return it to Akutan. The acting manager at the Trident plant also requested that the captain transport four people that had been contracted for work at the plant. One contractor would disembark in Dutch Harbor and not return; the other three would return to Akutan with the *Exito* after picking up equipment needed for their work. However, it was not until after the vessel got under way that the captain learned that the four men accompanying the crew on the voyage were not directly employed by Trident. Three of the men worked for a company called Acuran and were conducting non-destructive inspections of refrigeration piping at the Akutan plant.

The captain told investigators that once the four contractors arrived on board and prior to getting under way he and the deckhand gave them a safety briefing, which included verbal

Sinking of Motor Vessel *Exito*

instructions for the use and locations of immersion suits, the emergency position indicating radio beacon (EPIRB), and the liferaft. During the briefing, the captain sounded the general alarm and informed the contractors that if they heard the alarm when the *Exito* was under way they were to proceed to the wheelhouse with their immersion suits and await further instructions. None of the contractors were instructed to try on their suits for familiarity or fit, and there were no instructions provided regarding the locations of alternate emergency exits from the deckhouse.

Immersion suits for the four contractors were provided by Trident Seafoods. Additionally, the captain informed investigators that the *Exito* had six suits already on board. Four of these were stowed in the galley under the table, while the other two were stowed in the wheelhouse for use by the captain and deckhand.

About 1230 on December 5, the *Exito* departed Akutan for Dutch Harbor. According to one of the contractors, the *Exito* had what he described as a “pretty good list to starboard all the time” during the transit. When interviewed, the captain only recalled a slight list.

The *Exito* arrived at the Trident Seafoods dock in Dutch Harbor about 1945 that same day. The contractors disembarked the vessel and stayed at a hotel in town that evening. According to the captain, the crew found about 2 feet of water in the starboard side 8,000-gallon forward void space on arrival in Dutch Harbor. The space was supposed to be empty, so they pumped it out.

Cargo was loaded on the *Exito* throughout the day on December 6. Between cargo loading operations, the captain had the forward ballast tank emptied at the request of the vessel owner. The captain set the return trip departure time for that evening, after cargo loading was complete, noting that conditions would be less favorable if they waited for the following morning. He recalled the winds were forecast to shift from northwesterly at 20 knots to northerly at 25 knots. The National Weather Service had a small craft advisory in effect for the area where the *Exito* planned to transit. The captain stated that the forecast conditions were acceptable and that the vessel normally operated in the expected 6–10-foot seas.

All cargo loading was completed about 1630. According to the captain, the vessel had on board three pallets holding a total of twelve 55-gallon drums of anti-freeze, two or three pallets of air filters, and two crates of tools. The pallets and crates were stowed on the main deck with the heavier barrels on the starboard side about 1–2 feet from the side rail. There were no exact weights given to the captain, but he estimated the total weight of the cargo to be 10,000 pounds. In addition to the cargo on the main deck, there were “pelican cases” belonging to the contractors secured starboard side aft on deck 2. These cases were reported to have weighed about 850 pounds. The contractors were also carrying an X-ray machine, which they had brought with them on the trip from Akutan. Referencing stability instructions from 1990 when the *Exito* was still a fishing vessel, the captain stated the weight of the deck cargo during the accident voyage was “nowhere close” to the weight of a full load of crab pots, with the 10,000 estimated pounds of cargo equal to about the weight of only 10 crab pots.

The captain provided investigators with a hand-drawn tank layout of the *Exito*, with estimated amounts of liquid in each tank at the time it got under way. He recalled the following contents: the stickwater and double bottom tanks were full of seawater, the main fuel tank on the port side was about three quarters full of diesel oil, the starboard ballast tank on the opposite side of the fuel tank was full, and the forward ballast tank was empty. Smaller tanks such as the day

Sinking of Motor Vessel *Exito*

fuel tank, sewage tank, potable water tank, and hotel generator tank were reported to have contained liquid but were not full. All the void spaces were empty. There were no exact volumes given and tank soundings were not taken prior to getting under way.

The *Exito* left Dutch Harbor about 1850 for the 7-hour voyage back to Akutan. According to the owner, when the *Exito* departed the drafts were about 6–6.5 feet forward and about 8 feet aft, with an estimated 2–3 feet of freeboard between the vessel's freeing ports and the waterline. Once the vessel was under way, the deckhand secured the cargo on deck using chains for the heavier pallets and rope for the lighter ones.

The *Exito* proceeded outbound from Unalaska Bay on a north-northeasterly course toward Akutan Pass at a speed of about 6 knots. Once past Priest Rock, a prominent reference point at the northeastern side of Unalaska Bay, the captain said he experienced progressively increasing seas from directly ahead. With a course change toward Akutan, the seas shifted to the port bow. The *Exito* was pitching, with wave heights about 10 feet, according to the captain. In order to make the ride as comfortable as possible for the contractors, the captain adjusted his course about 10 degrees to port, which he said caused the vessel to roll less. During this part of the voyage, one of the contractors went up to the wheelhouse, another slept in one of the bunks on deck 1, and the third watched a movie in the galley with the deckhand.

Sometime after 2100, the captain said the *Exito* experienced a roll and did not right itself, instead holding a 2–3-degree list to starboard. He turned the *Exito* into the seas and reduced speed to bare steerageway, then told the deckhand to go forward and check if there was any water in the forward ballast tank that had been emptied earlier in the day. The deckhand went forward and reported that there was no water in the tank. At 2122, the captain called the owner by cell phone and informed him of the list, stating, "Something doesn't feel right." He told the owner that he intended to turn back to Dutch Harbor. He next directed the deckhand to go to the engine room to start the port 3306 generator in case they needed to run additional pumps. The hotel generator, which they were using at the time, could only run one pump.

Shortly after making that request, the captain noticed that one of the pallets of filters on the starboard side of the main deck had shifted. In response, he activated the vessel's autopilot and went to the engine room, where he asked the deckhand to go out on deck and secure the pallet. The captain then switched the electrical distribution to the generator that had been started by the deckhand. He next activated a centrifugal pump and aligned the valve manifold to discharge the starboard-side ballast tank with hopes of reducing the starboard list. Afterward, he returned to the wheelhouse.

After observing the shift of pallets on the deck, the contractor who had been sitting in the wheelhouse went down to deck 1 and looked out onto the main deck from a starboard porthole in the galley. He noticed that, in addition to the pallets of filters, the pallets of barrels had also begun to shift, breaking loose shortly thereafter. The deckhand, who was out on the main deck, recalled having to climb a ladder at the forecabin to get away from the loose items on deck.

The captain ran back to the engine room to check that the overboard discharges were open and to turn on the two remaining centrifugal pumps. He stated that the vessel was "heavy" and that he wanted to evacuate all the water he possibly could, including water in the stickwater and double bottom tanks. The captain returned to the wheelhouse where he witnessed a wave hit the forecabin and starboard-side railing, which left much of the main deck awash. From deck 1, the contractor

Sinking of Motor Vessel *Exito*

saw that the water was up to the starboard porthole and entering the starboard-side walkway to the galley. Concerned with what was happening, he and another contractor went up to the wheelhouse. They were there only about a minute before the captain asked both men to go below to the galley.

Another wave came over the starboard rail, again leaving much of the main deck under water. At that point, the captain sounded the general alarm and then called the deckhand to tell him to return to the wheelhouse. As soon as it was safe to do so, the deckhand walked down the unsubmerged port side of the deck and noted that “everything was floating.” He could not use the starboard-side watertight door into the walkway and galley, which was the normal route of entry into the deckhouse, because the water level was up to the door. Instead, he climbed the railing on the port side to deck 2 and from there climbed to the wheelhouse. Once in the wheelhouse, the deckhand was instructed by the captain to get into his immersion suit. Upon hearing the general alarm, one of the contractors went about halfway up the stairs to the wheelhouse and asked the captain if he wanted them to get into their immersion suits. The contractor received an affirmative response and then went to wake up the man that was sleeping in the berthing room. All three contractors began donning their suits in the galley.

The captain made a distress call on the VHF radio and again called the owner using his cell phone to report that he could not resolve the situation on board. He provided the owner information about the *Exito*'s position and told him that they were donning immersion suits and preparing to launch the liferaft. At 2132, the owner called Coast Guard Sector Anchorage command center (SCC Anchorage) and reported the vessel's position, its distress state, and his efforts for mustering all on board into a liferaft. The owner reported there were six people on board, not knowing one of the contractors had disembarked the vessel in Dutch Harbor. The phone call was the first notification that SCC Anchorage had of the *Exito*'s situation; the Coast Guard had no VHF reception coverage in the accident area and had not received the distress call.

Recognizing that none of the contractors had come up to the wheelhouse, the captain went down to gather them. When he got to the bottom of the stairs he saw that one of the contractors was in his immersion suit and standing, while another was laying on the deck trying to get into his suit. The captain and the suited contractor helped the second contractor finish donning his suit but could not pull the suit's zipper up the last few inches. The second contractor then announced that he was not able to swim. The captain ordered both suited men up to the wheelhouse. One of the contractors stated that ascending the stairs was more like “climbing a ladder,” because the vessel was listing significantly.

In the galley, the captain went to the last of the three contractors who was having difficulty getting into his suit. He assisted the man, described to be large in size, managing to get the suit's hood on but only getting the zipper closed to the middle of his chest. The captain, who estimated that the list was about 7–10 degrees and getting worse, told the third contractor that they needed to get upstairs. He replied to the captain, “I can't do this.” The captain told investigators that he seemed to almost give up, which prompted the captain to drag him across the deck to the bottom of the stairs. The captain stated that he was not able to carry the man up the stairs by himself given his weight and the angle of the stairs. With three other persons waiting in the wheelhouse and the list increasing, the captain, who still had not donned his own immersion suit, told the contractor to follow him and went up the stairs.

Sinking of Motor Vessel *Exito*

Meanwhile, the deckhand and the first contractor were trying to help the second contractor up off the wheelhouse deck. According to the deckhand, the man was “locked up” and wanted to stay on the deck. The first contractor recalled that the second contractor stated multiple times “I can’t.” The captain, who had returned to the wheelhouse, tried to assist as well and told the deckhand to prepare the liferaft for launching.

With the list worsening and the vessel sinking by the bow, the captain went to retrieve his immersion suit and make another distress call on the VHF radio. The captain recalled receiving a response to the distress call from the fishing vessel *Afognak Strait*, to which he repeated his position and announced that they were abandoning the vessel. He then went to the port wheelhouse exit where both he and the first contractor tried to assist the second contractor out the door. Each time they tried to push him out, the second contractor reportedly braced himself with his hands at the doorway. Realizing that their efforts were futile, the captain helped the first contractor out the door and remained behind in an attempt to help the second contractor, who was still resisting exit.

From the wheelhouse, the captain heard the deckhand yelling for assistance because he was unable to launch the raft by himself. The captain exited through the door and, looking back, saw the second contractor hanging onto the handrail at the top of the stairs and the third contractor, whom he had last seen in the galley, at the first landing of the steps on deck 2. The captain left the wheelhouse and helped the deckhand get the raft canister overboard. Once the liferaft was launched, the captain went back to the wheelhouse door to assist the two contractors remaining inside. However, while he was trying to reenter, the vessel went under water.

According to the contractor that was on the weatherdeck, he became immersed in water about the same time that the deckhand inflated the liferaft. The deckhand also found himself in the water, stating that the “boat went out from underneath my feet.” The captain, the deckhand, and the contractor swam to the liferaft, and both the captain and deckhand helped the contractor climb in the raft before boarding themselves. In the liferaft, all three waited for rescue while keeping a lookout for vessels in the area and the two missing contractors. The captain recalled seeing the EPIRB floating on the surface of the water, although he was not able to grab it. SCC Anchorage detected the EPIRB activation signal at 2145.

The *Afognak Strait* and another fishing vessel, the *Commitment*, overheard the distress call from the *Exito* and responded. The *Afognak Strait* captain estimated that he was about 4 miles away from the *Exito* when he received their position. Seeing lights on the horizon, the *Exito* captain launched a rocket parachute flare and then another flare once he saw the lights of a vessel getting closer. He estimated that about 10 minutes after the second flare, the *Afognak Strait* arrived at the raft’s location. The *Afognak Strait* recovered the survivors at 2244. According to the captain of the *Afognak Strait*, the seas were 10–12 feet with 30 knot winds.

The *Commitment* arrived on scene, and both vessels remained in the area through the night searching for the two remaining contractors. About 0830 the next morning, the Coast Guard released the *Afognak Strait* to proceed to Dutch Harbor. At 0945, the *Afognak Strait* arrived in Dutch Harbor where the survivors disembarked; none were injured. Three Coast Guard helicopters, a C-130 fixed wing aircraft, the cutter *Alex Haley*, and fishing vessels *Commitment*, *Northern Leader*, and *Blue North* continued to search the area. The search was suspended at 1952 on December 8. The two missing contractors were not located.

Sinking of Motor Vessel *Exito*

The captain of the *Exito* held a Coast Guard-issued merchant mariner credential as master of vessels up to 100 tons in near coastal waters. However, because the vessel was uninspected, there was no requirement for it to have credentialed personnel on board. The captain had started working on the *Exito* on November 1, 2016, after a four-day handover with the off-going captain. He stated that he had previously received training in marine firefighting and cold-water immersion. The deckhand, who had been employed on the *Exito* since November 12, 2016, did not have any marine safety or survival training. Likewise, none of the three contractors that were on board the vessel had any type of marine safety or survival training, nor did they have any experience on a sea-going vessel. Tests of both the captain and deckhand for the presence of alcohol and other drugs were negative.

Analysis

There was no attempt to salvage the *Exito* or conduct a post-casualty survey. Without a survey, it was not possible to determine the exact cause of the list to starboard. The captain told investigators that there were no obstructions in any of the freeing ports on the vessel. When asked if there was any flooding when he was in the engine room, the captain said that the space was dry. Furthermore, he did not receive any bilge alarms in the wheelhouse.

The captain did not provide information on alternate means of escape during his initial safety briefing to the contractors. There was no emergency exit signage on the *Exito*; to the contrary, there was signage on one reportedly useable escape route (the port galley watertight door) indicating that it was not an exit. Critical time was lost in trying to access the wheelhouse by way of two decks of stairs. Had the contractors who were lost been informed of alternate means of escape, they may have survived.

Investigators were informed that the immersion suits provided to the contractors were adult size. According to Title 46 *Code of Federal Regulations* (CFR) Part 160, adult-size suits must fit persons ranging in weight from 110 to 330 pounds and in height from 59 to 75 inches. For larger persons, the regulations prescribe oversize adult suits. In this accident, one of the contractors who did not survive was described as large in size. Critical time was lost donning his suit, and he could not be fully suited up. Had the contractors been instructed to try on their immersion suits prior to getting under way for both familiarity and fit, it may have been determined that the adult-size suit provided to the larger contractor did not fit. According to the performance standards set forth by the Coast Guard, an immersion suit should be able to be unpacked and donned within two minutes. For persons too large for an adult-size suit, an oversize adult suit requires less time to don and provides better fit and mobility.

The *Exito* was employed by Trident Seafoods for the carriage of stickwater and cargo only. The charter agreement did not set forth any requirements to carry Trident employees or its contractors. (The company normally used its own vessels to transport its employees between Akutan and Dutch Harbor and did not use vessels it did not own, crew, or maintain.) Although the captain and owner accepted the responsibility for carrying persons with no maritime survival training or experience—a task different from what the vessel was contracted for—Trident Seafoods also had a responsibility to assess the risk and honor the conditions of the charter agreement.

The captain of the *Exito* had no training or experience with stability and relied on information that had been passed on to him. There were no procedures or reference materials to

Sinking of Motor Vessel *Exito*

base any decisions related to cargo stowage or liquid load distribution on the vessel, except for a dated stability instruction letter. When the vessel began to list to starboard and sink by the bow, the captain stated that he wanted to get as much water off as possible. However, reducing liquid volumes from tanks that were previously full increased the free surface effect, thus reducing stability. Furthermore, the effort to pump out the starboard-side ballast tank to decrease the starboard list may have also negatively affected the vessel's ability to right itself. The removal of weight on the listing side with a lower center of gravity while not removing the opposing weight (portside fuel tank) with a higher center of gravity would also decrease the vessel's stability. Additionally, the pre-departure effort of emptying the 10,000-gallon forward ballast tank lowered the center of buoyancy, while adding cargo to the deck raised the center of gravity relative to the vessel's keel; both actions decreased stability.

The Coast Guard did not receive the VHF distress call from the *Exito*. Given the vast, mountainous, and sparsely populated coastline of the Aleutian chain and the line-of-sight limitations of VHF, the Coast Guard's ability to maintain a continuous monitoring of VHF channel 16 is limited in this area. However, for mariners that use and work in these waters, it appears that ship-to-shore VHF limitations are not widely known. Operators and crews in the Aleutian chain and Bering Sea need to be aware of the limitations of VHF coverage and should be prepared to communicate by other means during emergencies.

According to Coast Guard information on the *Exito*, the vessel was categorized as a "cargo and miscellaneous vessel," commonly referred to as a freight vessel. At the time of the accident, the vessel's type of service listed on the certificate of documentation (COD) was "unclassified." After the accident, the Coast Guard determined that the *Exito* fell under the definition of a fish tender, per Title 46 CFR Part 28, because it was predominantly engaged in hauling stickwater. Under that definition, the *Exito* would have been required to have a load line certificate, which is issued every 5 years and endorsed annually by a recognized organization. However, the *Exito* did not have a valid load line certificate. The owner of the *Exito* had no knowledge of the regulations that were applicable to its operation as an uninspected fish tender. Furthermore, because the *Exito* was a part of a fishery conservation program and its COD noted that the vessel was never to engage in any fishing activity, it should not have been used as a fish tender and should have been prohibited from hauling stickwater. The *Exito* was last inspected in 2003, during a voluntary dockside examination by the Coast Guard, when the vessel was working in the commercial fishery.

Repairs for leaks and areas of reduced thickness in the steel hull plating were furnished on an as-needed basis by the owner, the crew, or third-party contractors such as shipyards or commercial divers. According to persons interviewed, numerous repairs were necessary in the last several years to address wastage or holes within the vessel's hull, bulkheads, or other structural members. These repairs included the use of doubler plates welded onto the vessel and the use of marine epoxy to temporarily fill holes in structural components. None of the repairs were known to have been made with oversight from the Coast Guard or a recognized organization. Much, if not all, of the reported steel work and welding repairs were conducted without following any welding standards or procedures. The process of managing wastage holes and leaks was reactive in nature.

The steel main deck was last inspected in 2013, when about two-thirds of the wood covering was replaced. At that time, the vessel owner and crew did not notice any wastage holes or areas of reduced steel thickness. Due to the difficulty of inspecting the deck underneath the

Sinking of Motor Vessel *Exito*

wood covering, there had been no thorough inspections conducted since 2013. It is plausible that the source of water intrusion during the accident was a breach in this deck.

The captain was aware that the starboard side 8,000-gallon forward void space was not watertight. He stated that water was found in the void on previous occasions and had been pumped out two to three times in his 5 weeks on board. He estimated that each time the quantity of water in the void was “small.” Upon arrival in Dutch Harbor on the evening of December 5, the crew pumped out about 2 feet of water. The previous captain stated that he worked to eliminate the leak using an epoxy material. He suspected the leak was coming into the void from the middle stickwater tank, which was adjacent to the void. Use of epoxy materials to eliminate leaks is not a permanent solution and should only be used as a temporary measure. While it cannot be determined if the source of the leak was from water intrusion in the starboard-side void, it was a known issue for the owner and captain, and there were no measures taken to appropriately correct it.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the sinking of the motor vessel *Exito* was progressive flooding from an undetermined location. Contributing to the loss of life was the carriage of personnel on board, other than crewmembers, who were inadequately prepared and equipped for an emergency.

VHF Radio Reception in Alaska Region

Vessel owners, operators, and crewmembers should be aware of the limitations of VHF radio reception in the Aleutian region. In addition to VHF radios, mariners should have alternate means of immediately alerting Coast Guard search and rescue (SAR) centers, such as satellite communication devices. If satellite communication is used as the designated alternate communication device, the number for the SAR center should be posted in the wheelhouse and in crew common areas and be known by crewmembers onboard. For any type of installed marine distress and alerting system, the captain and owner should ensure crewmembers are capable of using the system.

Safety Briefing for Non-crewmembers

Prior to departure on a voyage, non-crewmembers should be given a complete safety briefing that includes actions to be taken during emergencies such as fire, flooding, or abandon ship, along with instructions on egress routes and survival equipment such as liferafts and immersion suits. During the safety briefing, immersion suits should be donned to ensure proper fit and familiarity with instructions.

Maintenance of Hull and Watertight Bulkheads

For the safety of a vessel and all on board, the hull and watertight bulkheads must be maintained and any deficiencies must be appropriately repaired. Known issues with watertight integrity and wastage need to be addressed by permanent means.

Sinking of Motor Vessel *Exito*

Vessel Particulars

Vessel	<i>Exito</i>
Owner/operator	Aleutian Endeavor, LLC
Port of registry	Dutch Harbor, Alaska
Flag	United States
Type	Fish tender
Year built	1956
Official number	273458
IMO number	7427831
Classification society	N/A
Construction	Welded steel
Length	117.4 ft (35.8 m)
Draft	7.9 ft (2.4 m)
Beam/width	36.8 ft (11.2 m)
Tonnage	188 gross tons
Engine power, manufacturer	2 x 400 hp (208.3 kW) Caterpillar D353 6-cylinder diesels
Persons on board	5

NTSB investigators worked closely with our counterparts from Coast Guard Sector Anchorage and Marine Safety Unit Dutch Harbor throughout this investigation.

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA17FM004.

Issued: December 15, 2017

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 Title 49 *United States Code*, Section 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.” Title 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. Title 49 *United States Code*, Section 1154(b).
