



National Transportation Safety Board

Marine Accident Brief

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

Accident type	Collision	No. DCA18FM023
Vessel names	<i>Tofteviken</i> and <i>Polaris</i>	
Location	Atlantic Ocean, about 30 miles south of Montauk, Long Island, New York 40°31.40' N, 071°57.78' W	
Date	May 12, 2018	
Time	1913 eastern daylight time (coordinated universal time – 4 hours)	
Injuries	None	
Property damage	\$716,047	
Environmental damage	None	
Weather	Visibility 10 miles, light breeze, seas 2–4 feet, air temperature 52°F, water temperature 51°F, sunset 1955	
Waterway information	North Atlantic Ocean. Navigational approach to New York Harbor.	

On May 12, 2018, about 1913 local time, the fishing vessel *Polaris* transiting with a crew of 7 and the tanker *Tofteviken* with a crew of 25 collided about 30 miles south of Montauk, Long Island, New York, during daylight and good visibility.¹ There were no reports of pollution or injuries. Both vessels sustained hull damage amounting to \$716,047.



Fishing vessel *Polaris* (left) and tanker *Tofteviken* (right) before accident. Yellow rectangle identifies extended outrigger and paravane on *Polaris*' starboard side. (Photos from Eastern Fisheries and Viken Shipping²)

Background

The *Polaris*, a 91-foot-long, steel-hulled commercial fishing vessel with a single propeller and rudder, was flagged in the United States. Owned by O'Hara Corporation of Rockland, Maine,

¹ All distances referenced in this report are nautical miles (1.15 statute miles).

² These photos were retrieved from the companies' websites at <https://www.easternfisheries.com/vessels/> (Eastern Fisheries) and http://www.vikenshipping.no/fleet_tofteviken.asp (Viken Shipping).

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

the vessel was being used in the scallop fishery. It was fitted with two control stations in the pilothouse: one facing forward, which contained the radar displays; the other facing aft, equipped with the automatic identification system (AIS). According to the captain of the *Polaris*, on the day of the accident there were no problems with the vessel's hull, machinery, or navigation equipment. The fishing vessel was en route to its home port of New Bedford, Massachusetts.

The Bahamian-flagged *Tofteviken* was an 820-foot-long, double-hulled oil tanker with a single propeller and rudder. It was owned by Viken Shipping AS, managed by Wallem Ship Management Ltd., and classified by the American Bureau of Shipping. There were no conditions of class related to the vessel's hull, machinery, or navigation and communication equipment. Carrying a partial load of crude oil, the *Tofteviken* was on a voyage from Point Tupper, Nova Scotia, Canada, to an oil refinery in Linden, New Jersey. The tanker departed Nova Scotia at 1130 on May 10, anticipating a May 13 arrival at Ambrose Anchorage near New York City.

On the day of the accident, sunset was at 1955 local time. Visibility was good, wave heights were about 2–4 feet, and winds were light from the southwest.



Area of accident where vessels collided, as indicated by red triangle. (Map data from Google Maps)

Accident Events

On the morning of May 12, the fishing vessel *Polaris*—with a captain, mate, and five other crewmembers—departed the fishing grounds in the Mid-Atlantic Scallop Access Area after

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

catching their quota of scallops. The captain had the vessel on a northeasterly course with its autopilot engaged as he began the transit toward New Bedford. The engine revolutions per minute (rpm) were set at 1,425 for the voyage, giving the *Polaris* a speed of about 10 knots. The captain and mate rotated on a watch schedule of 8 hours on and 8 hours off. At 1600, the captain was relieved by the mate and went to his stateroom to sleep.

During his watch, the mate began the task of cleaning the pilothouse, which he and the captain later confirmed was routine during the transit back to port. All other crewmembers were below. While polishing the wood and cleaning the windows and deck, he left the pilothouse at one point to go below and get cleaning supplies. Before doing so, he checked the vessel's two radars but did not see anything. The radars were centered; one was set on 3 miles, and the other on 6. After a few minutes, he returned to the pilothouse and resumed his cleaning duties. During his watch, the mate stated that he did not make any major alterations to the vessel's course or speed, rather only small course changes on the autopilot to maintain the 055-degree trackline to the next waypoint at Buzzards Bay. He recalled the course was set to 062 or 065 degrees to maintain the vessel's trackline.

The *Tofteviken* was also on autopilot, making a westerly (270-degree) course toward the Ambrose Anchorage in the safety fairway at a speed of about 10.5 knots.³ The third mate, who was on watch alone on the bridge, stated that between about 1850 and 1855 she noticed two surface contacts on radar on the port bow, with the closest being 8 miles away. She stated that at that distance the closest of the two contacts, the *Polaris*, seemed to have altered its course to starboard, prompting her to place an electronic bearing line (EBL) on the vessel using the automatic radar and plotting aid (ARPA). Based on her observation of the contact on the EBL, she thought that the *Polaris* was "opening slowly," which indicated to her that the fishing vessel was going to pass astern. However, she did not acquire the *Polaris* on the ARPA. Acquiring a vessel on the ARPA provides information on the closest point of approach (CPA) and the time to closest point of approach (TCPA).

According to the master's standing orders on the *Tofteviken* and company policy, watch officers were required to utilize the ARPA for collision avoidance. During a single-person lookout, guard rings were to be used on the ARPA, and alarms were to be audible and not inhibited. Guard rings establish zones that alert operators when contacts enter these areas. The master's standing orders specifically instructed "all bridge watch-keeping officers" to "plot and track all targets including the use of guard rings."

At about 1858, the third mate radioed the able-bodied seaman (AB) on duty to request that he come to the bridge to stand lookout. At the time, the AB on duty was resting in his cabin and was not required to be on the bridge during low navigational risk conditions in daylight. Upon arriving on the bridge about a minute later, the AB assumed lookout duties. Both he and the third mate stated that they had visual contact with the *Polaris* ahead of them and to port. Similar to the third mate's observations, the AB believed that the *Polaris* had changed course. According to the playback from the electronic chart and information display system (ECDIS) on the *Tofteviken*, at

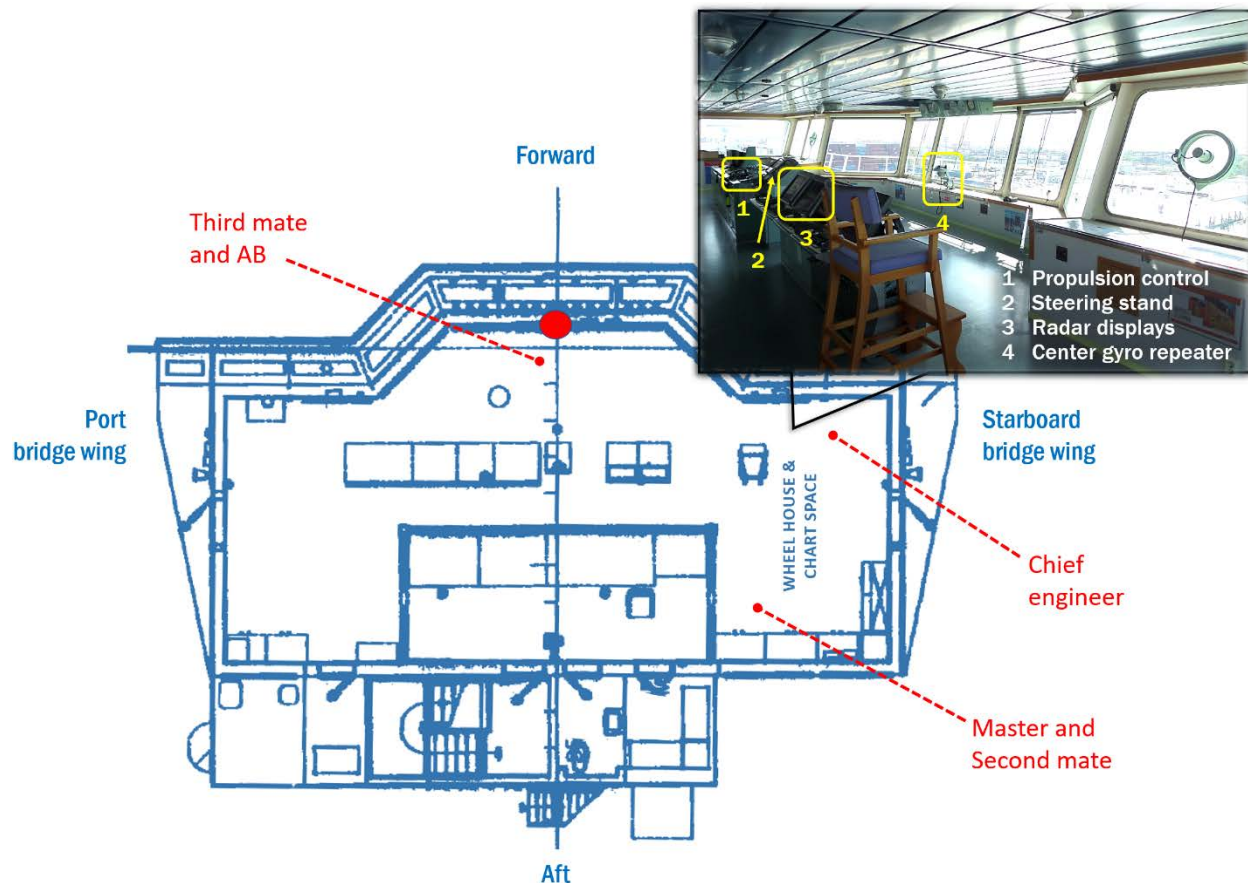
³ As defined by Title 33 *Code of Federal Regulations (CFR)*, Section 166.500, a *safety fairway* is established to control the erection of structures therein to provide safe vessel routes along the Atlantic Coast (and do not include vessel navigation restrictions or special rules).

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

1901 the *Polaris* was about 3.5 miles away, about 25 degrees on the port bow of the *Tofteviken*. AIS data from the ECDIS playback showed there was no change in bearing.

At 1907, the distance between the *Tofteviken* and *Polaris* had decreased to 1.8 miles, with no change in the bearing between both vessels. According to the master's standing orders and company guidelines, the officer of the watch was required to "maintain a minimum 2 nm [nautical miles] CPA to other vessels regardless of their size. Also, for this CPA if the TCPA less than 20 mins [minutes], inform me immediately." While the distance between the vessels continued to decrease, the third mate and the AB were standing at the centerline compass repeater close to the forward windows of the bridge. The master and second mate were also on the bridge working at a computer on the starboard side.

About 3 minutes later, the distance between the *Tofteviken* and *Polaris* decreased further, to about 0.8 miles, with no change in bearing between both vessels. The chief engineer, who was also on the bridge to see the master, walked around from where the master and second mate were located to look out of the windows forward. From there, he noticed the *Polaris* at close range on the port bow and shouted to the third mate, "What are you doing?" Upon hearing the chief engineer, the master stood up from the computer, went forward where he saw the *Polaris*, and immediately ordered hand steering and hard to starboard. He also directed the second officer to sound the ship's whistle. Playback of the *Tofteviken*'s ECDIS indicated a heading change to starboard beginning at 1912.



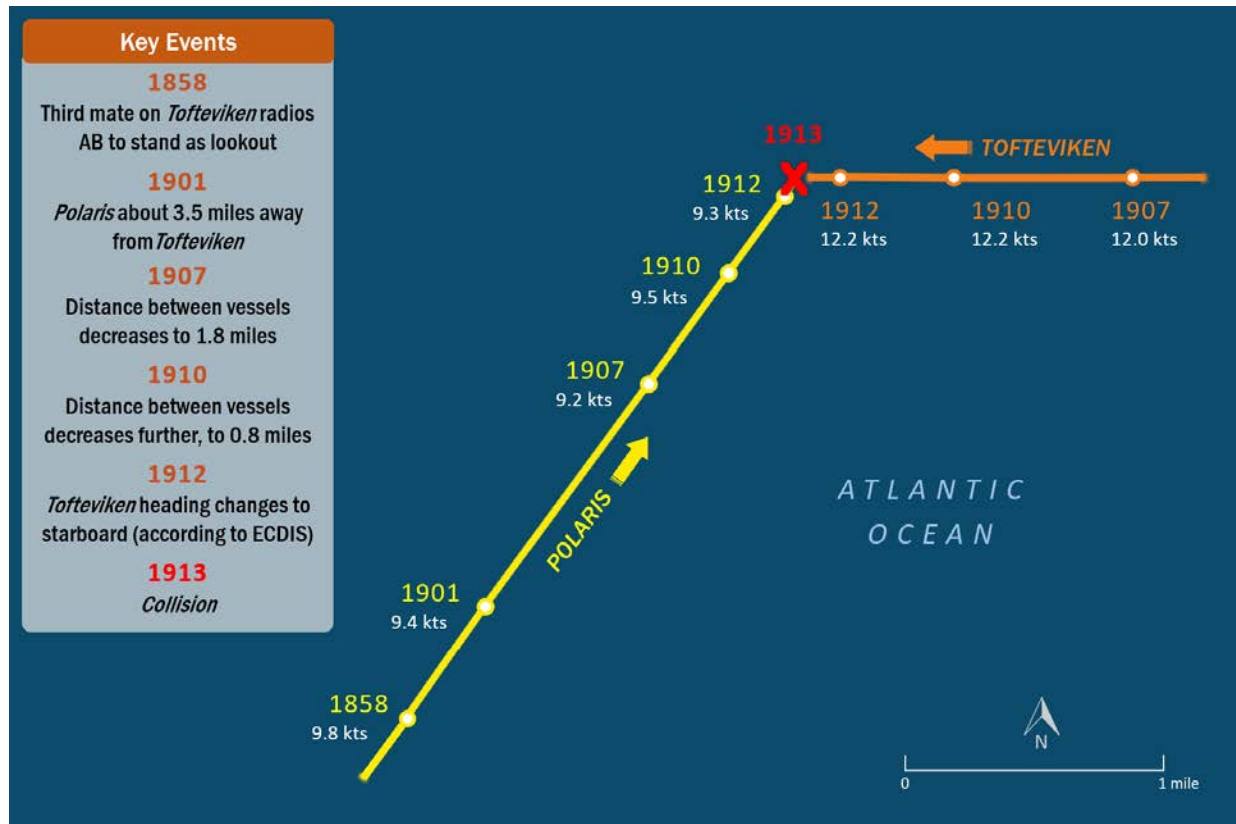
General arrangement of *Tofteviken* bridge and crewmembers' positions just before collision. Red circle indicates location of centerline compass repeater. Inset photo shows view from starboard side looking to port and forward.

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

The *Tofteviken* master moved the propulsion lever from full to half ahead, then slow ahead. Seconds later, at 1913 the two vessels collided. The master stated that the propulsion engine's load limiting program for the vessel was not active at the time. The AB on the *Tofteviken* said he was concerned about their proximity to the *Polaris* and therefore understood the engineer's concern. He stated, however, "I wasn't able to warn them because I...already reported [the matter] to her [the third mate]."

On board the *Polaris*, the mate said he was polishing the aft control station propulsion levers when he heard a "bing" sound and turned around to see "a wall of green" in front of him. He stated that the sound he heard was from the portside outrigger and paravane (commonly referred to as a "bird") making contact with the hull of the *Tofteviken*. The outriggers were extended with the birds at the top of each outrigger. The mate attempted to turn the vessel to starboard, but it was too late; the bow of the *Polaris* struck the port side of the tanker. The captain of the *Polaris*, who was in bed at the time of the collision, was awakened by the impact and went immediately to the pilothouse.

The *Polaris* mate said that while he was cleaning the aft console, he had been monitoring channels 16 (at the aft console) and 22A (at the forward console) but did not hear any calls on the VHF radio or any sound signals from the *Tofteviken*. He estimated that he last looked out the windows and at both the radars about 15 minutes before the collision, but he did not see any vessels. He said he also looked at the AIS display but did not see the *Tofteviken*, although he could not recall the time. Investigators found AIS information was transmitting from both vessels during the time leading up to and after the collision.



Tracklines of *Polaris* and *Tofteviken* leading up to collision, based on AIS data. (Background from Google Maps)

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

After the collision, the master of the *Tofteviken* and the captain on the *Polaris* communicated via VHF radio to confirm there were no injuries, assess damage, and confirm neither vessel was taking on water. Both stated that they reported the collision to the Coast Guard. The *Polaris* captain and mate said that the running lights were displayed, not the fishing lights or day signals, which was confirmed by the *Tofteviken* crew. The *Polaris* remained on scene about 20 minutes; after confirming there were no injuries or flooding, the crew continued the transit to New Bedford.

Damage. The *Tofteviken*'s port side shell plating sustained damage consisting primarily of a 40-foot-by-2-foot gash in the hull below the main deck into the port water ballast tank no. 3 (which was empty), along with multiple scrapes down the ship's side. There was no damage to any of the cargo tanks.



Main damage area of hull of *Tofteviken*. (Photos by Coast Guard)

The *Polaris* sustained damage to its bow, port outrigger, and stern port gallows post used for hauling gear. Numerous scrapes and some dents extended down the port side from the bow to stern. The vessel's bow, constructed of welded steel and bolted onto a half-inch-thick backing plate, was torn and mangled.⁴ The steel was 0.25-inch thick around the cone and 1.25-inch thick at the stem. Aft of the bolted-on bow, the main deck was fractured, buckled, and warped with the steel compressed. The portside outrigger was found bent toward the aft of the vessel and cracked at the base.

⁴ By design, a bolted-on bow is not considered to be a part of the overall length of the vessel, which allowed the *Polaris* to work in specific fisheries with length and tonnage limitations.

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*



Area of greatest damage to hull of *Polaris*.

9 months prior to joining the *Tofteviken* in April 2018. The AB on the *Tofteviken*, who had completed several contracts on the ship during the last 4 years, had been working the same watch schedule as the third mate since she joined the ship the previous month.

Voyage data recorder. The *Tofteviken* was fitted with a Samsung voyage data recorder (VDR), the external capsule portion of which was manufactured by L3 Communications.⁶ Minutes after the collision, the second mate pushed the “save” button on the remote panel on the bridge, which was then confirmed by a green indicator light on the VDR main unit in the navigation

Additional Information

Drug and alcohol testing. Per Coast Guard regulations, the crew involved on both the tanker and the fishing vessel were tested for drugs and alcohol.⁵ All five crewmembers on the *Tofteviken* tested negative for alcohol and drugs.

Although the captain and mate on the *Polaris* tested negative for alcohol, toxicology results indicated that both had used marijuana at some point prior to the test. Because the time of use could not be determined, no conclusions could be drawn about whether the crew’s use of marijuana may have impaired their performance at the time of the collision.

Experience. The mate on the *Polaris* who was on watch at the time of the collision had 35 years of experience on fishing vessels, including 1.5 years as a mate. He had a merchant mariner credential for able seaman and 5 years of experience with vessel navigation. He had worked on the *Polaris* for about 3 years and had completed this trip many times.

The third mate on the *Tofteviken* had worked on bulk carriers as a deck cadet, an ordinary seaman, and an AB. She had worked on another Viken ship as third mate for

⁵ Urine drug testing is limited to identifying urinary metabolites of cocaine, codeine, morphine, heroin, phencyclidine (PCP), amphetamine, methamphetamine, methylenedioxyamphetamine (MDMA), methylenedioxyamphetamine (MDA), methylenedioxyethylamphetamine (MDEA), tetrahydrocannabinol (THC), oxycodone, oxymorphone, hydrocodone, and hydromorphone.

⁶ VDRs maintain continuous, sequential records of data relating to a ship’s equipment and its command and control. They also capture audio from certain areas in the pilothouse and on the bridge wings. According to the *International Convention for the Safety of Life at Sea (SOLAS)*, VDRs must be installed on all passenger ships and all cargo ships of 3,000 or more gross tons built on or after July 1, 2002.

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

equipment room on the bridge. However, Coast Guard investigators were not able to recover the saved data from the main unit. Marine service technicians from two different companies attempted to extract the VDR data from the main unit following the accident, but no files were found for this recorded event. According to both attending technicians' reports, the files were not saved to the main unit hard drive because there was no "VDR DATA" folder on drive "D", where the data was supposed to be saved. One of the technicians found this folder misplaced in a different folder on drive D. After moving that folder back to the correct location on drive D, the system was tested and found to be recording properly.

The VDR capsule and internal hard drive were removed from the vessel and shipped to the Coast Guard Investigations National Center of Expertise (NCOE). When the package was received at the NCOE, the hard drive had been severely damaged during shipping and was non-functioning. Attempts to recover the data and access the capsule's memory by both the NCOE and the NTSB were unsuccessful.

The last annual performance test for the VDR conducted in September 2017 found no deficiencies. Further, the test report stated that "all data recorded is secured and correctly stored to the final recording medium."

Analysis

Prior to the collision, both the *Polaris* and the *Tofteviken* were in sight of one another while under way during good visibility and daylight conditions. There was no other traffic of concern in the area, no navigational hazards nearby, and the *Polaris* was not engaged in fishing. The *Tofteviken* had been on a westerly heading toward Ambrose Anchorage, and the *Polaris* on a northeasterly heading toward New Bedford. According to the third mate on the *Tofteviken*, the aspect of the *Polaris* was such that she could see the fishing vessel's starboard side and bow. Given the crossing situation developing, the *Polaris*, as the give-way vessel, was required to take "early and substantial action to keep well clear."⁷ However, because the mate on the *Polaris* did not notice the *Tofteviken* on his starboard bow, he took no action to keep clear.

On the *Tofteviken*, the third mate did not identify that there was a risk of collision because, based on her observation that the fishing vessel seemed to have altered course to starboard, she expected that the *Polaris* would pass astern. Similarly, the AB stated that he too observed the *Polaris* change course to starboard when it was about 2 miles away. Although they both believed they saw this course alteration, the evidence shows that the *Polaris* was on a steady course up until the time of collision. Only when the chief engineer noticed the approaching fishing vessel and alerted the bridge team did the master give the orders to sound the whistle and turn the tanker to starboard.

Based on the navigation rules, "as soon as it becomes apparent...that the vessel required to keep out of the way is not taking appropriate action" the stand-on vessel may take action to avoid collision.⁸ However, despite the fishing vessel's constant bearing and decreasing range, the third

⁷ This requirement is based on rule 16 ("Action by Give-way Vessel") of the *International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS)*.

⁸ 72 COLREGS rule 17 ("Action by Stand-on Vessel").

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

mate took no action. At a minimum, the third mate could have attempted to contact the fishing vessel, either by VHF radio to ask their intentions or by sounding a signal to warn the *Polaris* of their proximity. The rules state that a sound signal shall be used by vessels in sight of and approaching one another when there is “doubt whether sufficient action is being taken by the other to avoid collision.”⁹ The mate on the *Polaris* told investigators that he was listening to the vessel’s VHF radios and that there was not any noise (such as music playing in the pilothouse) or other distractions that could have prevented him from hearing sound signals or radio calls. Had he heard either the sound signal or VHF radio call, he likely would have taken action to avoid the collision. Investigators could not confirm if or when the whistle ordered by the master was sounded just before the collision. Nonetheless, the *Polaris* was still obligated to comply with the rules.

Maintaining a proper lookout, by sight and sound, is a fundamental rule of the *COLREGS* for vessels on the high seas, regardless of their size or activity. Yet, the *Polaris* mate on watch was occupied with a cleaning task in the pilothouse. He therefore did not keep a proper lookout or notice any danger or risk of collision until he heard the port paravane making contact with the hull of the *Tofteviken*. The captain of the *Polaris* confirmed that it was routine to clean the pilothouse on the return trip to port to avoid having to clean the vessel once it was alongside and thereby delaying the crew from immediately disembarking the vessel. The mate stated that occasionally he would leave the pilothouse unattended, which was not uncommon during his watch. This practice, accepted by the captain as well as by the company, did not promote effective watchkeeping and distracted the mate from maintaining a proper lookout. Further, although the mate on the *Polaris* had radar available, he was checking it at infrequent intervals and without the use of long-range scanning, which, collectively, could have alerted him to the developing collision course with the tanker.

The third mate on the *Tofteviken* did not use all available means to determine the risk of collision. Although she identified the fishing vessel visually and by radar at a distance of about 8 miles, she did not adhere to company policy that required her to utilize the ARPA and radar guard rings for acquiring contacts. Instead, she only placed an EBL on the *Polaris*’ radar target; however, investigators found no evidence that she monitored the progress of the vessel in relation to the EBL.

Furthermore, the third mate did not follow the master’s standing orders and company policy that required her to notify the master, who was on the bridge at the time, of the *Tofteviken*’s proximity to the *Polaris*. The master was only alerted to the fishing vessel’s proximity by the chief engineer, who upon arriving on the bridge instantly recognized the dangerous situation that had developed. Once the master realized that the collision was imminent, he took action to avoid the collision, but it was too late.

When making assessments or predictions about a situation, there can be a tendency to rely more heavily on information that reinforces one’s expectations and avoid information that may contradict those expectations. This concept is called confirmation bias. In this case, the third mate on the *Tofteviken* expected the *Polaris* was going to pass astern of them. To bolster her confidence of this expectation, the AB shared that he too believed the vessel would pass astern. Having her expectation reinforced could explain why she did not utilize the functions of the ARPA or monitor

⁹ 72 *COLREGS* rule 34 (“Maneuvering and Warning Signals”).

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

the relative motion of the *Polaris* as it was approaching. However, had she followed the master's standing orders, this accident could have been avoided.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the collision between the fishing vessel *Polaris* and the tanker *Tofteviken* was the failure to maintain a proper lookout by the mate on the fishing vessel and the failure to identify the risk of collision by the third mate on the tanker.

Proper Lookout

Non-navigational routines should never interfere with the primary task of a watchstander or a bridge team member to maintain a proper lookout. Should performance of another task or duty be necessary, an extra lookout should be posted.

Early Communication

Early communication can be an effective measure in averting close quarters situations. The use of VHF radio can help to dispel assumptions and provide operators with the information needed to better assess each vessel's intentions.

Collision between Fishing Vessel *Polaris* and Tanker *Tofteviken*

Vessel Particulars

Vessel	<i>Polaris</i>	<i>Tofteviken</i>
Owner / operator	O'Hara Corporation	Tofteviken LLC/Wallem Ship Management Group
Port of registry	New Bedford, Massachusetts	Nassau, Bahamas
Flag	United States	Bahamas
Type	Commercial fishing vessel	Oil tanker
Year built	2007	2005
Official number (US)	1198545	NA
IMO number	9097111	9285847
Construction	Welded steel	Welded steel
Classification Society	Not applicable	American Bureau of Shipping
Length	90.5 ft (27.6 m)	819.9 ft (249.9 m)
Draft	14.5 ft (4.4 m)	26.3 ft (8 m)
Beam/width	28.0 ft (8.5 m)	143.7 ft (43.8 m)
Gross / Net tonnage	165	62,806 ITC / 34,551 ITC
Engine power; manufacturer	1 X 1,000 hp (746 kW), CAT 3508, single propeller	1 X 18,420 hp (13,735 kW), MAN B&W 6S60 MC-C, single propeller
Persons on board	7	25

NTSB investigators worked closely with our counterparts from Coast Guard Sectors New York and Southeastern New England throughout this investigation.

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA18FM023.

Issued: June 28, 2019

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(b)(1). 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).