

# **National Transportation Safety Board**

## **Marine Accident Brief**

## Wave Damage to Fishing Vessel Progress

Accident type	Hull/Machinery/Equipment Damage	No. DCA18FM013
Vessel name	Progress	
Location	Bering Sea, 39 nautical miles north of Unimak Island, Alaska 55°33.20' N, 164°42.89' W	
Date	January 26, 2018	
Time	0820 Alaska standard time (coordinated universal time – 9 hours)	
Injuries	None	
Property damage	\$1.3 million est.	
Environmental damage	None	
Weather	Visibility limited by sea spray, winds north-northwest at 20–22 feet, air temperature 21°F, water temperature 39° sunset at 1821	40–45 knots, seas F, sunrise at 1001,
Waterway information	The Bering Sea is north of the Alaska Peninsula and the Ale form an island chain in the north Pacific Ocean. The water of location was about 330 feet.	eutian Islands, which lepth at the accident

On January 26, 2018, at 0820 local time, the commercial fishing vessel *Progress* was riding out heavy weather in the Bering Sea north of Unimak Island, Alaska, when a large wave struck the vessel's wheelhouse. Several windows were damaged by the force of the wave, and seawater ruined navigational and other electrical equipment and knocked out the vessel's electrical power. The five crewmembers reestablished control and Good Samaritan vessels led the *Progress* back to Dutch Harbor, Alaska. The vessel sustained \$1.3 million in damage. No pollution or injuries were reported.



Progress before the accident. (Photo by Vincent Maritime)

## Background

The 113-foot-long, 191-gross ton, single-propeller fishing vessel *Progress*, a trawler, was built in 1975.<sup>1</sup> The vessel had three levels: the forecastle deck, including the walk-around aluminum wheelhouse bolted to the steel forecastle deck; the main deck, including a large weather deck fitted with trawl gear, deck machinery, and interior accommodation spaces; and the third deck, below the main deck, including the engine room, other compartments and tanks. A stability booklet containing stability instructions was on board as required by US Coast Guard regulations. The vessel was operated by Evening Star Fisheries and fished for pollock and cod in the Gulf of Alaska and the Bering Sea.



*Progress* accident location, 39 nautical miles north of Unimak Island. (Adapted from National Oceanic and Atmospheric Administration chart 16011)

## **Accident Events**

The Alaska pollock A-season, a Total Allowable Catch fishery, opened on January 20, 2018.<sup>2</sup> The *Progress* and the *Commodore*, both vessels catching fish for the Northern Victor Fleet Cooperative, were moored in Dutch Harbor preparing to sail for the Bering Sea fishing grounds to

<sup>&</sup>lt;sup>1</sup> *Trawling* is a fishing practice that herds and captures the target species by towing a net through the water.

<sup>&</sup>lt;sup>2</sup> Total Allowable Catch is the annual recommended or specified regulated catch for a species or species group.

harvest pollock. The *Progress* owner's representative told investigators the two vessels were going to coordinate fishing together. The vessels would harvest and deliver pollock to the *Northern Victor*, a former fish-processing vessel that was permanently moored to serve as a processing facility in Dutch Harbor. Because the manager for the *Northern Victor* was starting up processing operations, he wanted to begin slowly by staggering catch deliveries.

To assist with the Northern Victor start-up, the plan called for the Progress to wait—possibly until Friday, January 26—to set its nets until the Commodore first delivered a half load of pollock to the Northern Victor where the facility staff would begin processing these first 200,000 pounds of fish. In addition to waiting for word that the processing operation was successful, the Progress captain would not begin fishing until she learned if the Commodore exceeded the salmon bycatch restrictions. If too many salmon were counted during the Commodore's offload to the processor vessel, the Progress would not fish where the Commodore harvested but instead find a location where the crew hoped there would be less salmon in the schools of pollock.

On the afternoon of Wednesday, January 24, two days before the accident, the *Progress* with five people on board (the captain, a first mate, two deckhands—one serving as the

engineer-and a National Oceanic and Atmospheric Administration [NOAA] observer) departed port and headed to the fishing grounds 95 miles northeast of Dutch Harbor. The Commodore also departed at this time. The Progress captain knew that the forecasts called for high winds and seas. She told investigators that as a captain of a fishing vessel in the Bering Sea, she knew that she would often be required to sail in less than ideal conditions that time of year. Twelve hours before departure, at 0320, the National Weather Service (NWS) issued the forecast for the time and area of the Progress captain's intended route to the fishing grounds. The forecast called for the winds to increase from 30 to 40 knots and the seas from 8 to 16 feet between Wednesday and Friday.

Forecast for:	Warnings	Wind	Seas and weather
01/24/2018 Wednesday Night		NW wind 25 kt before midnightotherwise NW wind 20 kt.	Seas 8 ft. Freezing spray. Snow showers.
01/25/2018 Thursday Day	Į.	NW wind 25 kt.	Seas 8 ft. Freezing spray. Snow showers.
01/25/2018 Thursday Night	Gale Warning Thursday night. Heavy Freezing Spray warning Thursday night	N wind 40 kt.	Seas 15 ft.
01/26/2018 Friday		N wind 40 kt.	Seas 17 ft.
01/27/2018 Saturday		N wind 30 kt.	Seas 12 ft.
01/28/2018 Sunday		N wind 30 kt.	Seas 12 ft.

1526 AKST January 24, 2018 Coastal Water Forecast up to 100 NM out between Port Heiden and Cape Sarichef

That same day, at 1526, while the *Progress* and the *Commodore* proceeded out of Dutch Harbor, the NWS issued an updated forecast, with minor changes, increasing the seas by one foot (to 15 and 17 feet) for Thursday night, January 25, and Friday, January 26.

The next day, Thursday, January 25, the two boats arrived at the fishing grounds together, with the *Progress* assisting the *Commodore* in finding fish. About 1430 as planned, the *Commodore* headed toward Dutch Harbor with its half load of fish. To bide time until she learned of the *Commodore*'s salmon bycatch, the captain of the *Progress*—noting the deteriorating weather and the 18-foot seas predicted for Friday in another updated forecast—decided to ride out the heavy weather by heading north to a location about 40 miles from her position, arriving about 2300. There, about 117 miles northeast of Dutch Harbor and 42 miles north from Unimak Island, three factory trawlers and a fourth vessel were operating. The *Progress* captain's decision to ride out the winds and seas was what most captains between Dutch Harbor and north of Unimak Island chose to do at that time. A chart mapping the locations of vessels showed that most stayed at sea during the night of January 25, with a few vessels seeking a lee behind Unimak and other islands.



PortVision screenshot from 0800 local time on Friday, January 26, 2018, showing fishing vessels in the Bering Sea, 20 minutes before the wave struck the *Progress*.

Because of her concern for the winds and seas as she was riding out the heavy weather, the *Progress* captain obtained an updated weather forecast. This forecast, received at 1700 on Thursday, January 25, called for north-northwest winds at 40–45 knots and seas of 18–20 feet at that time and into Friday the 26th. The *Progress* captain told investigators that based on the updated forecast, she was prepared to hove to until Saturday.<sup>3</sup> She said she intended to "continue

<sup>&</sup>lt;sup>3</sup> *Hove to* is to be stationary with the vessel's bow to the wind.

to stand by until the weather was cleared enough for us to set our nets." To ride out the weather during the night, one crewmember was on watch while the others were in their cabins. The person on watch used bare steerage speed of 1 knot or less and maintained a heading into the seas out of the north and sometimes jogged south. The deckhand who started watch at midnight wrote in his statement to investigators that between midnight and 0100 on January 26, the weather degraded to 20- to 40-knot winds, 16- to 18-foot seas, and 8- to 10-second wave periods. At 0545, the deckhand on watch began steering north, a heading the captain maintained when she took the watch at 0700. The captain told investigators that at 0700, she observed winds of 39 to 43 knots out of the north and seas of 20 to 22 feet.

About 0820, with more than an hour remaining until sunrise, the crew woke up when—as one deckhand said—"we heard the bomb go off upstairs," referring to the noise resulting from a wave colliding with the wheelhouse. The captain said a "much larger wave 30 feet to 35 feet slammed into the wheelhouse taking out six windows." The captain described the wave as "twice the size of what I had seen" and believed it was a combination of a north swell and a northwest swell she had been observing.



Wheelhouse damage and missing windows on the Progress. (Photo by Coast Guard)

One of the deckhands rushed to the wheelhouse and saw the ceiling "had been ripped off and our radios were torn away." Another deckhand described "a river of water rushing down the [wheelhouse] stairs into the galley." One of the crewmembers opened the door at the rear of the galley so water could drain from the interior to the trawl deck outside.

The crew immediately began to assess and react to the situation. They restored wheelhouse steering and engine throttle control that had been lost. The captain then turned the boat to go with

the seas to smooth the vessel's ride. The crew found the previously mounted radios and the emergency handheld radios scattered about the wheelhouse. One of the deckhands shut off the main breaker to the wheelhouse after noticing a galley microwave oven arcing and other appliances shorting out. Other crew tasks included assessing the engine room, restoring power to wheelhouse lights and electrical equipment, restarting the pump for the three fish holds to press each full of water to maintain the vessel's stability, covering broken wheelhouse windows, removing debris from the wheelhouse and galley, and pumping water from the engine room bilge, steering compartment, and lazarette using the installed bilge system.



Interior wheelhouse damage. (Photo by Coast Guard)

About 30 minutes after the wave struck the *Progress*, damage control was completed. The crew donned survival suits and then the captain, assessing that the vessel had lost all communications and navigation equipment, decided to activate the emergency position-indicating radio beacon (EPIRB) and shoot flares, hoping vessels would respond. Shortly thereafter, one of the radios was repaired and the captain called the Coast Guard and nearby vessels. At 0849, the Coast Guard District Seventeen Command Center received the EPIRB signals from the *Progress*.

After the turn placing the vessel in following seas, the *Progress* did not encounter another large wave but made way in the heavy seas. Good Samaritan vessels accompanied the *Progress* to Dutch Harbor. From the accident site, the *Ocean Rover* escorted the *Progress* to offshore of Unimak Island. From there, the *Patricia L* and the *Gladiator* escorted the vessel to Dutch Harbor, where the *Progress* moored at the Trident Seafood dock at 0011 on January 27.

### Additional Information

Vessel damage was documented in a marine surveyor's report. Damage included the bolted wheelhouse shifting to starboard, five wheelhouse windows blown out, and deformations

to the wheelhouse visor as well as to internal carpentry (bulkheads/walls and overheads/ ceilings). The force and saturation of the saltwater and debris entering the wheelhouse and continuing down the stairwell to the accommodation area damaged vessel electronics, controls, navigation systems, trawl equipment controls, and wiring.

The captain was credentialed as master of self-propelled vessels not including auxiliary sail of less than 200 gross register tons (GRT) upon near coastal waters. She had been sailing on the *Progress* since 1994 and became captain in 2016. The engineer had worked on board the vessel since 2015, and the two deckhands had both worked on board previously but never at the same time. The captain was trained as a drill instructor, and the crew had attended damage-control and firefighting courses in November 2017. According to the captain, before getting under way, drills were conducted on January 10 and 16. An addition, a Coast Guard fishing vessel safety exam was completed on January 17.

The captain of the *Progress* knew only one other vessel damaged from waves during the same period. She told investigators the *American Progress*, a 288-foot-long factory trawler operating only 6 miles from the *Progress*, lost a liferaft container.

Larger waves like the one described by the *Progress* captain do occur but infrequently. Information to help the mariners understand wave data and probability and how the National Weather Service uses that wave data in its forecasts is available on the NWS website and in other sources. Larger waves than those forecasted can occur. The NWS expresses wave height in its forecast and analysis products in terms of "significant wave height, the mean or average height of the highest one third of all waves in a swell train or in a wave-generating region." Because wave heights vary and the NWS bases its forecast on the estimated highest one-third of the waves, mariners will experience smaller waves than the significant height included in the forecast. However, they will also experience some larger waves, and possibly those twice the size of the significant wave height included in the forecast. The NWS website explained that one wave in every 1,000 waves may be twice the height of the forecast and, "there are occasional reports of 'rogue' waves of an even greater ratio."<sup>4</sup> Applying this information to the wave forecast issued at 1538 on January 25, 2018, the Progress could have anticipated experiencing a wave about twice the height of the 19-foot wave height as what had been forecast. Although the NWS does state that one in every thousand waves may be twice the height of the forecast, no one can predict when and where such a wave could occur. When wind and seas concern forecasters, the NWS may include a "Hazardous Seas Warning" in marine forecasts: "Seas given as significant wave height . . . which is the average height of the highest 1/3 of the waves. Individual waves may be more than twice the significant wave height." A warning was not included in the coastal forecasts available to the Progress.

The captain of the *Progress* stated she knew she would have to sail in less than ideal conditions as was common in that area that time of year, and she opted to put to sea in forecast gale-force conditions. Although she did take precautions to relocate the *Progress* to a location where other vessels rode out the weather, the conditions further deteriorated (she estimated that waves heights exceeded the forecasts of 17 feet, running up to 22 feet), leaving the *Progress* vulnerable to higher wave heights at a location where seeking shelter was not an option. By virtue of her work, experience with the vessel, and operating on a rotational basis with another

<sup>&</sup>lt;sup>4</sup> <u>https://www.nws.noaa.gov/om/marine/faq.htm</u> Question 14.

vessel, the captain accepted the weather risk to ensure that the *Progress* was in a position to quickly begin to fish once the weather improved.

## **Probable Cause**

The National Transportation Safety Board determines that the probable cause of the damage to fishing vessel *Progress* was an encounter with a considerably larger wave than those the vessel had been experiencing while hove to in gale-force conditions.

## Vessel Particulars

Vessel	Progress
Owner/operator	Progress Fishing, LLC
Port of registry	Newport, Oregon
Flag	United States
Туре	Fishing vessel
Year built	1975
Official number (US)	565349
IMO number	7534323
Classification society	N/A
Construction	Steel hull with an aluminum wheelhouse
Length	112.6 ft (34.3 m)
Draft	14.04 ft (4.28 m)
Beam/width	30.1 ft (9.2 m)
Gross or ITC tonnage	191 gross tons
Engine power, manufacturer	1,280 hp (956.7 kW), single Caterpillar, model 3512 DI diesel
Persons on board	5

NTSB investigators worked closely with our counterparts from Coast Guard Sector Anchorage throughout this investigation.

For more details about this accident, visit <u>www.ntsb.gov</u> and search for NTSB accident ID DCA18FM013.

### Issued: March 20, 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. 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).