Log 402

National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: October 19, 1995

In Reply Refer to: M-95-32 and -33

Admiral Robert E. Kramek
Commandant
U.S. Coast Guard
Washington, D.C. 20593-0001

On January 15, 1995, the U.S. fishing vessel NORTHWEST MARINER, with six crewmembers on board, capsized in the Bering Sea approximately 140 miles northwest of St. Paul Island, Pribilof Islands, Alaska. Air temperature was 28°F, wind chill was about -15°F, and sea temperature was 38°F.

About 1410, the vessel transmitted a brief Mayday message, including its position. In response, two other fishing vessels, two U.S. Coast Guard cutters, and an Alaska Department of Public Safety (DPS) aircraft detoured toward the distressed vessel. The DPS aircraft arrived on scene about 1530. The NORTHWEST MARINER was completely inverted, and two liferafts were floating nearby. The DPS pilot radioed the positions of the vessel and the liferafts to the two Coast Guard cutters and the two fishing vessels, which were approaching slowly through heavy seas.

About 1745, approximately 3 1/2 hours after the capsizing, one of the fishing vessels, the ALASKA TROJAN, recovered one of the two liferafts. It was occupied by two NORTHWEST MARINER crewmembers, but neither exhibited any signs of life. One victim was clad in shorts and a T-shirt and the other in long underwear. Crewmembers on the ALASKA TROJAN administered CPR for 1 1/2 hours without success. Meanwhile, the other fishing vessel had retrieved the second liferaft, but it was unoccupied. No evidence of the other four crewmembers has been found, and they are presumed dead. Autopsies performed on the two victims in the liferaft confirmed that both deaths were due to hypothermia. [1]

[1] For more detailed information, read Marine Accident Brief DCA95MM015 (attached).

The two ALASKA TROJAN crewmembers who lifted the liferaft onto the fishing vessel stated that the canopy of the liferaft was collapsed, that neither of the two hatch covers was secured, and that the liferaft had taken on a few inches of water. The ALASKA TROJAN's engineer stated that the air line that inflated the canopy had become disconnected from an air valve, allowing the canopy to lose air pressure and collapse. The ALASKA TROJAN crewmembers noted that the liferaft contained loose emergency equipment, but neither of them was familiar with thermal protective aids (TPAs), which are standard equipment in the liferafts required for fishing vessels like the NORTHWEST MARINER and the ALASKA TROJAN.

Based on one crewmember's verbal description of the liferaft equipment, the TPAs were lying loose in the liferaft but had not been removed from their protective packets. No evidence indicates that the two NORTHWEST MARINER crewmembers in the liferaft attempted to use them. The Safety Board acknowledges that the two men might have spent some time in the very cold water before boarding the liferaft and might have been incapable of the further exertion required to locate the TPAs and don them. However, this investigation suggests that information about TPAs is not widely known within the fishing industry. None of the fishing vessel personnel interviewed knew that TPAs exist, that they provide valuable protection pending rescue, or that they are standard equipment in liferafts required for fishing vessels that operate in cold waters more than 20 miles from shore.

It should be recognized that the TPAs kept in liferafts do not provide the same level of protection as immersion suits that are kept on board ships, and they should not be regarded as a substitute for immersion suits. Nonetheless, because some accidents occur so suddenly that crewmembers do not have time to don immersion suits (as this case demonstrates), all fishing vessel crewmembers need to be fully familiar with TPAs, the thermal protection they afford, and their availability in liferafts. Therefore, the National Transportation Safety Board recommends that the U.S. Coast Guard:

> Inform commercial fishermen that thermal protective aids can save lives and that they are standard equipment in the liferafts required for fishing vessels operating more than 50 miles offshore or more than 20 miles offshore in cold waters. (Class II, Priority Action) (M-95-32)
>
> Require that Coast Guard-approved training in survival and vessel abandonment emphasize the existence, benefits, and use of all emergency equipment, especially thermal protective aids, stowed in liferafts. (Class II, Priority Action) (M-95-33)

If you need additional information, you may call (202) 382-6860.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHIMIDT and GOGLIA concurred in these recommendations

By: Jim Hall
Chairman

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

Marine Accident Brief DCA95MM015

Vessel:	U.S. fishing vessel NORTHWEST MARINER, O.N. 652268, 106 feet long, 192 gross tons, built in 1980, uninspected
Accident Type:	Capsizing and sinking
Location:	Bering Sea, about 140 miles northwest of St. Paul Island, Pribilof Islands, Alaska (Latitude 58°29'8"N; Longitude 173°53'7"W)
Date:	January 15, 1995
Time:	About 1410, local
Owner:	Mariner Fisheries, Ltd., Seattle, Washington
Property Damage:	$2.1 million
Injuries:	Six fatalities
Complement:	Six

Description of the Accident

The NORTHWEST MARINER was a crabber, a fishing vessel designed and built for crabbing operations. About 1430[1] on January 14, 1995, the NORTHWEST MARINER, with six crewmembers on board, departed the harbor at St. Paul, Alaska. The Bering Sea opilio crab season was to open at noon on the following day (Sunday, January 15, 1995), and the master's destination was an area about 150 miles northwest of St. Paul Island.

The NORTHWEST MARINER was carrying a load of crab pots on the after deck. A crab pot is a rectangular box-like unit constructed of steel bar stock. It is covered with netting and fitted with a tunnel entrance that allows crabs attracted by the bait inside to enter the pot. A crab pot measures about 7x7x3 feet and weighs about 750 pounds, including buoys and lines.

According to the vessel's owner, the NORTHWEST MARINER normally departed St. Paul with two of its six crab tanks filled with water. The two full tanks were intended to provide adequate stability and still allow the best speed possible under existing weather conditions. The other four tanks would be filled with sea water at the crabbing grounds.

[1] Alaska standard time based on a 24-hour clock.

A stability booklet[2] for a sister vessel indicated that with two crab tanks full of water, the vessel could safely carry 150 crab pots. The Alaska Fish and Game inspector who checked the NORTHWEST MARINER's crab tanks[3] in St. Paul stated that the NORTHWEST MARINER was carrying only 130 crab pots. A load of 20 fewer crab pots than allowed would be expected to improve a vessel's stability. However, the master of the fishing vessel REBEL stated that when the NORTHWEST MARINER departed St. Paul harbor, all of the crab pots were stacked on the after portion of the main deck and appeared to be one layer higher than normal.

When the Bering Sea opilio crab season opened at noon on the following day (January 15, 1995), weather conditions in the area were as follows: The sky was overcast with a cloud ceiling about 700 feet high. Visibility was 1 to 2 miles. The wind was from the north-northeast at approximately 40 knots. Seas from the north-northeast were about 3 feet, and swells from the northeast were about 15 feet. Air temperature was 28°F, wind chill was about -15°F, and sea temperature was 38°F.

About 1410, the master of the fishing vessel ALASKA TROJAN heard a brief Mayday message on channel 16 VHF-FM. The message did not include the vessel's name. The master of the ALASKA TROJAN asked the sender to repeat his position, and the sender did so. The master then called several other fishing vessels participating in the crab season to determine whether any of them were near the distressed vessel. Two other Mariner Fisheries crabbers,[4] the PACIFIC MARINER and the ARCTIC MARINER, responded. The master of the ARCTIC MARINER reported that the NORTHWEST MARINER could have sent the Mayday because his efforts to contact the vessel had been unsuccessful.

The masters of the ALASKA TROJAN and the PACIFIC MARINER concluded that they were probably closest to the scene and decided to search for the distressed vessel. However, they knew that ice accumulation on their own superstructures and crab pots could become critical during a transit at best speed toward the Mayday position. Therefore, before proceeding, both

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[2] The NORTHWEST MARINER's owner was unable to locate a copy of the vessel's stability booklet following the accident, but he provided a copy of the stability booklet for the LADY ANNE, a sister vessel. The U.S. Coast Guard inspector who conducted the voluntary safety inspection of the NORTHWEST MARINER in Seattle in June 1993 stated that the stability booklet was on board at that time. A fisherman stated that he had served on both vessels and that they were identical.

[3] To prevent preseason crabbing, "dry tank checks" are conducted just before the season opens on all participating vessels. In St. Paul, tank checks began about noon on Saturday, January 14, 1995. The checking progressed slowly, and many vessels were still waiting as late as Monday, January 16.

[4] Mariner Fisheries, Ltd., owned four crabbers: the NORTHWEST MARINER, the ARCTIC MARINER, the PACIFIC MARINER, and the ALEUTIAN MARINER. All four were participating in the opilio crab season.

masters launched crab pots to reduce topside weight.[5] They made further attempts to communicate with the NORTHWEST MARINER but were unsuccessful.

Meanwhile, the master of the fishing vessel STELLAR SEA, which was still in St. Paul waiting for the mandatory tank check, had heard the ALASKA TROJAN's radio communications and had relayed the Mayday message to the U.S. Coast Guard. At 1413, the Coast Guard Radio Station at Kodiak, Alaska, about 600 miles away, received the STELLAR SEA's report by telephone.

The Coast Guard immediately initiated a search and rescue operation. Two cutters on patrol in the Bering Sea, the STORIS and the RUSH, were ordered to the area. In addition, the Coast Guard Air Station at Kodiak was directed to launch a C-130 aircraft.

About 1423, an Alaska Department of Public Safety (DPS) aircraft took off from St. Paul Island for Anchorage, Alaska. The pilot, an Alaska State Trooper, heard the radio communications and detoured toward the Mayday position to provide any assistance possible. The DPS aircraft arrived at the Mayday position about 1517 and located the NORTHWEST MARINER about 1530.

The vessel was completely inverted. The stern was higher in the water than the bow, and the pilot could read the name NORTHWEST MARINER on the stern. He saw two inflated liferafts near the vessel but detected no signs of life in either.

The DPS pilot radioed the NORTHWEST MARINER's position to the Coast Guard Communications Station at Kodiak, to the cutter RUSH, and later to the C-130 airplane, which had taken off from Kodiak about 1515. In addition, he radioed the positions of the vessel and the liferafts to the ALASKA TROJAN and the PACIFIC MARINER. He estimated the two approaching vessels to be 15 miles away and proceeding slowly in heavy seas. The pilot continued to search the area for signs of survivors. He noticed that the canopy of one raft was deflating.

By about 1635, the cutter RUSH was near enough to launch a helicopter, which arrived on scene about 1724. About 1730, the ALASKA TROJAN arrived and headed for the liferaft that was about 1.9 miles southwest of the NORTHWEST MARINER. About 10 minutes later, the PACIFIC MARINER arrived on scene and headed for the other liferaft.[6] About 1741, the

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[5] Before receiving the Mayday message, the ALASKA TROJAN crew had launched 20 of their 190 pots to compensate for heavy ice accumulation. The crew launched an additional 20 pots before proceeding toward the distressed vessel. The crew of the PACIFIC MARINER, which was carrying 150 pots, launched an undetermined number.

[6] When the two masters received the liferaft positions from the DPS pilot, they agreed that whoever arrived first would recover the liferaft farthest from the NORTHWEST MARINER.

DPS pilot was forced to depart the area because of low fuel; however, the Coast Guard C-130 aircraft arrived about this time and continued the aerial search for survivors.

About 1745, the crew of the ALASKA TROJAN recovered the liferaft farthest from the capsized vessel. Two NORTHWEST MARINER crewmembers were in the raft, but neither showed any signs of life. One was clad in shorts and a T-shirt; the other was wearing long underwear. ALASKA TROJAN crewmembers moved both victims to the vessel's mess, began administering cardiopulmonary resuscitation (CPR), and tried to warm them.

At 1923, the Coast Guard flight surgeon at Kodiak authorized cessation of CPR, which the ALASKA TROJAN crewmembers had been administering without success for about 1 1/2 hours. In the meantime, the PACIFIC MARINER had retrieved the other liferaft, but it was unoccupied.

On the following day (January 16, 1995), searchers could not find the NORTHWEST MARINER; it is believed to have sunk during the night. At 0900 on January 17, the Coast Guard discontinued the search operation, which had been under way for 43 hours 15 minutes. No evidence of the missing four crewmembers has been found, and they are presumed dead.

Adverse weather conditions delayed removal of the two bodies from the ALASKA TROJAN until January 18, 1995, when they were lifted off by a Coast Guard helicopter and transported to St. Paul Island. On January 19, the bodies were brought to the Alaska State Medical Examiner's office in Anchorage, Alaska. Autopsies performed on the following day confirmed that both deaths were due to hypothermia. Toxicological tests for alcohol and other drugs[7] were negative for both crewmembers.

Two other fishing vessel masters stated that they had encountered heavy icing conditions in the Bering Sea during the opening days of the crab season. One master said that on January 14, 1995, a considerable amount of ice had accumulated on his vessel while it waited to enter St. Paul Harbor. Both masters stated that preventing ice buildup, especially on crab pots, is crucial. They explained that the first step is to minimize spray over the vessel by reducing speed and altering course. If ice continues to build up, the crew must launch some or all crab pots and physically remove the ice with clubs and hammers. They noted that under severe icing conditions, a vessel's stability can become critically impaired in 1/2 hour.

[7]Marijuana metabolites, cocaine metabolites, opiate metabolites, phencyclidine, and amphetamines.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the capsizing and sinking of the U.S. fishing vessel NORTHWEST MARINER was a loss of vessel stability due to heavy ice accumulation on the superstructure and crab pots.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

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