



N-CFSAC

Supporting Documentation Package 2

September 10-12, 2024



Table of Contents

Task 2 Statement	
Commercial Fishing Vessel RANDI Report of Investigation	Tab 1
Commercial Fishing Vessel CAPT JOHN Report of Investigation	Tab 2

Task Statement # 24-24

Review CFV marine casualty cases that resulted from structural failures which resulted in sinking and total loss of the vessel. Make recommendations to the Coast Guard on preferred standards for material conditions, construction, and design to improve vessel seaworthiness.



United States Coast Guard

MISLE Incident Investigation Report For FV RANDI - Sinking/Loss of Life

On 12Dec2011 00:00:00 Z



MISLE Activity Number: 4228449
MISLE Case Number: 582047

**U.S. Department of
Homeland Security**

**United States
Coast Guard**



Commandant
United States Coast Guard

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16732/IIA# 4228449
14 June 2022

**THE SINKING OF THE COMMERCIAL FISHING VESSEL RANDI RESULTING IN A
LOSS OF LIFE THREE NAUTICAL MILES NORTHWEST OF COOS BAY, OR
ON DECEMBER 12, 2011**

ACTION BY THE COMMANDANT

The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, and conclusions are hereby closed.

The investigation's safety recommendations will remain under review and consideration by the responsible program office(s). The response to the recommendations and any resultant actions will be documented separately.



A. L. FAHRIG

Commander, U.S. Coast Guard
Acting, Chief, Office of Investigations & Casualty Analysis (CG-INV)

U.S. Department of
Homeland Security

United States
Coast Guard



Commanding Officer
United States Coast Guard
Marine Safety Unit Portland

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16732

19 JUN 12

MEMORANDUM

From: [REDACTED] LT
Senior Investigating Officer (SIO)

To: Commanding Officer [REDACTED] 01 JUL 12
Marine Safety Unit Portland

Subj: SINKING OF THE FISHING VESSEL RANDI AND DROWNING OF MASTER

Ref: (a) Marine Safety Manual Volume V, COMDTINST M16000.10A

Executive Summary:

On 12DEC2011 at 1312, after listing hard to starboard, the F/V RANDI rolled 90 degrees to starboard then sank 3 miles North West of Coos Bay Jetties. Of the three people on board, 02 (deck hands) were rescued. 01 (master) was never recovered and is believed to have gone down with the vessel. At 0700, the F/V RANDI got underway from Coos Bay with three people onboard along with 100 pounds of bait and 42 crab pots. There were 32 pots on deck and 10 stored in the cargo hold with the bait. By approximately 1100, the vessel had set its pots out and returned to port to reload and make a second trip. The vessel was not listing at the time and there was nothing unusual about this trip.

At approximately 1130 the F/V RANDI departed Coos Bay for the second time enroute to approximately the same location as before. The vessel was outfitted in the same manner as the first trip, 42 crab pots, 100 pounds of bait, and three people on board. On this trip it was noted by all three crewmen that the vessel was listing hard to starboard. The F/V PATTY AJ's crew noted the list was worse while the vessel was rising on the swells and then would correct itself on the down swell. At approximately 1312, the F/V RANDI rolled 90 degrees to starboard then sank with the master on board.

Subj: SINKING AND DROWING OF THE MASTER FROM FISHING VESSEL RANDI



Vessel Data:

FISHING VESSEL RANDI	
Name:	RANDI
Official Number:	258739
Service:	Commercial Fishing Vessel
Year Built:	1972
Built By:	Aluma-Form, Inc.
Gross Tons:	8
Hull Material:	Wood
Length:	32.4 ft
Propulsion:	Diesel
Owner:	Mr. [REDACTED]
Operator:	Mr. [REDACTED]

Subj: SINKING AND DROWING OF THE MASTER FROM FISHING VESSEL RANDI

Personnel Data:

Survivor	AGE	Position
[REDACTED]	[REDACTED]	Deckhand
Survivor	AGE	Position
[REDACTED]	[REDACTED]	Deckhand
Deceased	AGE	Position
[REDACTED]	[REDACTED]	Master

Findings of Fact:

1. The F/V RANDI was an uninspected commercial fishing vessel built in 1939. The regulations that govern the F/V RANDI are found in Title 46 of the Code of Federal Regulations, Subchapter C – Uninspected Vessels.
2. The F/V RANDI was dry docked, painted, and all fasteners were in good condition in October 2011.
3. Prior to getting underway, Mr. [REDACTED] stated that the bilge alarm was tested and satisfactory.
4. On December 12, 2011, at approximately 0700 hrs, the F/V RANDI got underway from Coos Bay enroute to a location approximately three nautical miles North West of Coos Bay Jetties to drop crab pots for opening day of Dungeness Crab season.
5. On scene weather was clear with an air temperature of 47 degrees. The sea state was six feet and the water temperature was 48 degrees.
6. The vessel was loaded with 42 crab pots (32 on deck, 10 in fish hold) not secured to the deck, 100 pounds of bait, and three crewmembers; Mr. [REDACTED] (Master), Mr. [REDACTED] (deckhand), and Mr. [REDACTED] (deckhand).
7. By approximately 1100 hrs, the vessel had set its pots out and returned to port to reload and make a second trip. The vessel was not listing at this time and there was nothing unusual about the first trip.
8. At approximately 1130 hrs, the F/V RANDI departed Coos Bay for the second time enroute to approximately the same location as before. The vessel was outfitted in the same manner as the first trip, 42 crab pots, 100 pounds of bait, and the same crew on board.
9. After the F/V RANDI crossed the bar, all crew began to notice the vessel listing to starboard.
10. At approximately 1220 hrs, the F/V PATTY AJ began following the F/V RANDI to the same location for crabbing.

Subj: SINKING AND DROWING OF THE MASTER FROM FISHING VESSEL RANDI

11. At approximately 1230 hrs, the master of the F/V PATTY AJ noted the F/V RANDI was listing to starboard.
12. At approximately 1240 hrs, the master of the F/V PATTY AJ noted the F/V RANDI would list hard to starboard on the up swell and would right itself on the down swell.
13. At approximately 1255 hrs, Mr. [REDACTED] entered the fish hold to move pods and bait around attempting to offset the starboard list.
14. At approximately 1300 hrs, Mr. [REDACTED] became nervous and donned a lifejacket. Mr. [REDACTED] then proceeded to the Port side of the vessel near the out rigger attempting to offset the list.
15. At approximately 1305 hrs, Mr. [REDACTED] entered the pilot house to voice his concerns to the master about the list to starboard. The master decided to drop crab pots and re-evaluate the list of the vessel and decide if further corrective measures were needed.
16. At approximately 1305 hrs, the F/V PATTY AJ passed the F/V RANDI.
17. At approximately 1310 hrs, Mr. [REDACTED] exited the pilot house to inform Mr. [REDACTED] of the decision made by the master to correct the starboard list.
18. At approximately 1312 hrs, the F/V RANDI rolled 90 degrees to starboard. Mr. [REDACTED] lost his balance and fell on the starboard side of the vessel. A few unsecured pods slid and pinned Mr. [REDACTED] against the starboard gunwale.
19. At approximately 1313 hrs, Mr. [REDACTED] attempted to free and inflate the life raft.
20. At approximately 1314 hrs, Mr. [REDACTED] freed Mr. [REDACTED] from the crab pots and both men began to become entangled in the lines and other pods floating about the deck. Mr. [REDACTED] stated to abandon ship. F/V PATTY AJ radioed, via channel 16, Coast Guard Group North Bend and informed them that the F/V RANDI has capsized with two people in the water.
21. Immediately after Mr. [REDACTED] and Mr. [REDACTED] cleared the F/V RANDI, it sank. Mr. [REDACTED] stated that it looked as though the pilot house door was open, but there were crab pots blocking the exit.
22. At approximately 1315 hrs, F/V PATTY AJ maneuvers to recover crewmen from water.
23. At approximately 1322 hrs, F/V PATTY AJ radioed Coast Guard and informed both crewmen are on board and Mr. [REDACTED] is displaying signs of hypothermia.
24. At approximately 1323 hrs, the crew from the F/V PATTY AJ began to treat Mr. [REDACTED] for hypothermia.
25. At approximately 1326 hrs, the Mr. [REDACTED] informed the master of the F/V PATTY AJ, that he did not see Mr. [REDACTED] exit the pilot house.
26. At approximately 1404 Coast Guard Rescue Helo 6551 and Coast Guard 25' RHIB were on scene with the F/V PATTY AJ. The Coast Guard 25' RHIB assisted with the Helo

Subj: SINKING AND DROWING OF THE MASTER FROM FISHING VESSEL RANDI

hoist to MEDI VAC Mr. [REDACTED]

27. At approximately 1417 hrs, Mr. [REDACTED] was aboard CG 6551 and was enroute to Bay City Hospital in Coos Bay.
28. At approximately 1418 hrs, Coast Guard 25' RHIB was enroute back to station Coos Bay with Mr. [REDACTED]. Upon arrival at station, EMS followed-up on Mr. [REDACTED] health.
29. At approximately 1422 hrs, Coast Guard 6551 lands and transports Mr. [REDACTED] to Bay City hospital.

III. ANALYSIS:

The cause of the F/V RANDI sinking remains unknown. The F/V RANDI had gone through a dry dock check which included; checking of all fasteners and repainting of the hull and superstructure. Mr. [REDACTED] did speculate the vessel may have lost a plank on the hull due to severe starboard list followed by the 90 degree starboard roll and immediate sinking. F/V RANDI was underwater before any USCG personnel arrived on-scene, so all input/speculation into the cause of the casualty is from the vessel's crew.

Conclusion:

Vessel was a wooden hulled 32 ft Commercial Fishing Vessel constructed in 1939. The vessel was not inspected and is under no legal requirement to conduct any safety checks with the Coast Guard or the State of Oregon.

During a voluntarily Coast Guard Fishing Vessel inspection of the F/V RANDI performed by Sector Columbia River (Portland Detachment) on April 28, 2011, deficiencies were observed, but none of which would have contributed to the sinking or changed the outcome of the master being trapped in the pilot house. The inspectors performed a full safety check which included a visual inspection of the vessel's EPIRB, immersion suits, and lifejackets.

The cause of the capsizing and subsequent sinking remains undetermined. Unless the vessel is raised or attended by divers, there is no way to determine with any degree of certainty what caused the sinking.

Actions on Recommendations:

Establish standards for new and existing commercial fishing industry vessels of 79 feet or less in length that (1) address intact stability, subdivision, and watertight integrity and (2) include periodic Dry-Dock Exams to determine condition of hull.

It is recommended this casualty investigation be closed.

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United States Coast Guard

MISLE Incident Investigation Report For CAPT JOHN - Sinking

On 24Jan2016 22:15:00 Z



MISLE Activity Number: 5808328
MISLE Case Number: 1009727

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
United States Coast Guard
Sector Puget Sound

1519 Alaskan Way South
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Staff Symbol: s
Phone: (206) 217-6206
Email: [REDACTED]

16732
26 Apr 2017

MEMORANDUM

From: [REDACTED]
CG SECTOR Puget Sound (s)

Reply to CG SECTOR Puget Sound (spv)
Attn of: [REDACTED]

To: COMDT (CG-INV)
Thru: CGD THIRTEEN (dp)

Subj: CFV CAPT JOHN REPORT OF INVESTIGATION

Ref: (a) Title 46, United States Code, Chapter 63
(b) Title 46, Code of Federal Regulations, Part 4
(c) Marine Safety Manual Volume V, COMDTINST M16000.10A

1. In accordance with the above references, my office conducted an investigation into the marine casualty involving the fishing vessel CAPT JOHN on 24 January 2016. The resulting report of investigation is attached.

2. The record and the report of the investigation convened for the subject casualty have been reviewed. The record and the report, including the findings of fact, analysis, conclusions, and recommendations are approved subject to the following comments.

a. My designated Officer in Charge, Marine Inspection and I have reviewed this investigation and the safety recommendations therein. All Commercial Fishing Vessel Examiners have been instructed to pay particular attention to modifications made to watertight bulkheads and bilge pump, piping and dewatering systems that may create an especially hazardous condition. Examiners are to report all such instances to the Officer in Charge, Marine Inspection, to determine if the vessel is fit for sea prior to departing port.

b. It is recommended that this marine casualty investigation be closed.

#

Enclosure: Report of Investigation dated 26 April 2017

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
United States Coast Guard
Sector Puget Sound

1519 Alaskan Way South
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16732
26 Apr 2017

MEMORANDUM

From: [REDACTED] CWO3
Investigating Officer

To: CG SECTOR Puget Sound (S
Thru: (1) CG SECTOR Puget Sound
(2) CG SECTOR Puget Sound
(3) CG SECTOR Puget Sound

Subj: SINKING OF THE CFV CAPT JOHN OFF THE COAST OF LA PUSH,
WASHINGTON ON 24 JANUARY 2016

Ref: (a) Marine Safety Manual Volume V, COMDTINST M16000.10A
(b) Marine Investigations Management and Documentation (MIMD) Requirements, CG-
INV Policy Letter 3-15

Preliminary Statement:

In accordance with references (a) and (b), Sector Puget Sound conducted a casualty investigation of the capsizing and sinking of the commercial fishing vessel (CFV) CAPT JOHN (Official Number: 299710), which occurred approximately 20 nautical miles west of La Push, Washington, on 24 January 2016. The owner of the CAPT JOHN did not attempt to locate or recover the sunken vessel, and therefore, a post casualty analysis of the capsized hull was not completed. However, I was able to gather evidence, conduct numerous interviews, perform a thorough analysis, and draw several conclusions regarding this case. The MISLE Activity number is 5791470.

Executive Summary:

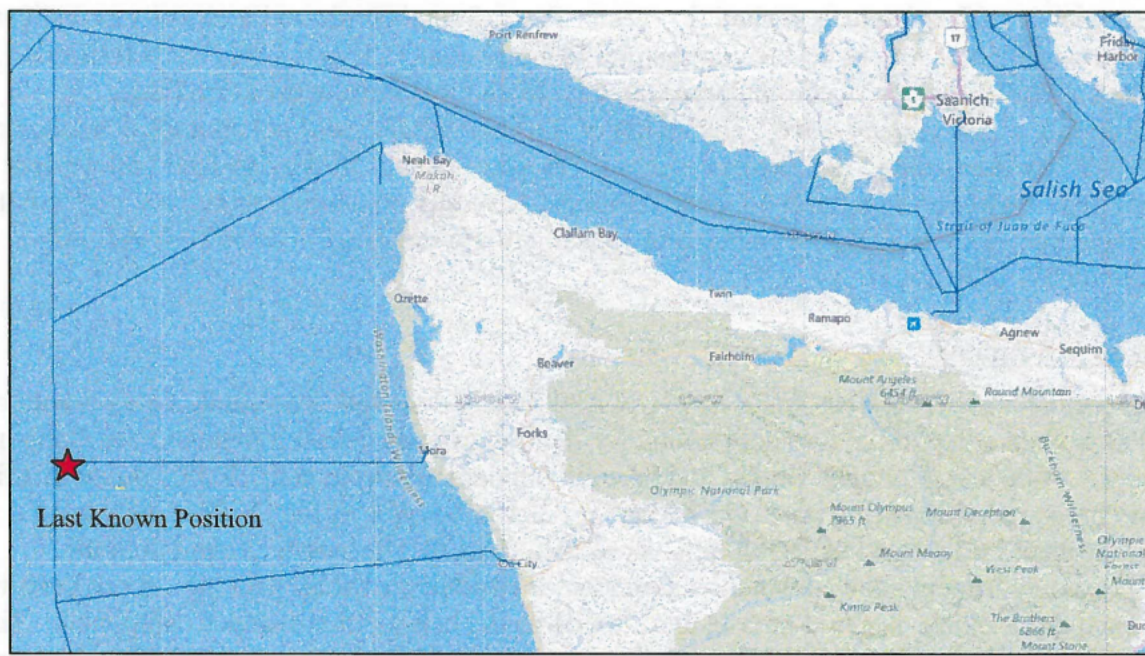
On 23 January 2016, the deep water trawler CAPT JOHN departed Warrenton, Oregon with over 20,000 pounds of ice in the fish-hold bound for fishing grounds near the Juan de Fuca Canyon. The crew of the CAPT JOHN caught and brought onboard approximately 70,000 pounds of fish within 36 hours of departing port. On 24 January 2016, the crew of the CAPT JOHN hauled in their fourth and final trawl of 10,000 pounds of fish. Shortly afterwards, a camera in the lazarette compartment showed water leaking from the rudderpost shaft packing. A crewmember tightened the packing, inserted grease, and slowed the leak, but did not stop it completely. The lazarette had no bilge pump and consequently, the vessel relied on limber holes¹ at the bottom of each transverse bulkhead to allow water to drain out of a compartment and towards the fish-hold, which contained the only bilge pump aboard the CAPT JOHN. The compartment directly forward of the lazarette was a void space used by the crew for spare fishnets and other gear.

¹ A limber hole is a drain hole through a frame or bulkhead in a boat designed to prevent water from accumulating against one side of the frame or within one bulkhead.

Crewmembers could not check the void space for flooding because standing water over the access hatch on the weather deck prohibited entry. The crew found no obstruction to the limber hole between the lazarette's forward bulkhead and void space, which allowed progressive flooding from the rudderpost shaft-packing leak to fill both spaces. Water did not reach the fish-hold bilge pump as designed due to a clog in the limber hole of the void space's forward bulkhead that connected the two compartments. With an inability to dewater the lazarette and the void space, the vessel became increasingly unstable. The crew abandoned the CAPT JOHN as the vessel capsized to starboard, and boarded the vessel's previously deployed inflatable liferaft. Aircraft from U.S. Coast Guard Air Station Port Angeles and a small boat from Station Quillayute River rescued all crewmembers with no injuries. The CAPT JOHN sank approximately 20 nautical miles west of La Push, WA.

As a result of its investigation, the Coast Guard determined that the CAPT JOHN sank due to excess water in the lazarette and void spaces, which was exacerbated by the vessel having a nearly full load of fish and ice in the fish-hold. The crew of the CAPT JOHN was unable to dewater the affected compartments due to a lack of preinstalled de-watering pumps. The CAPT JOHN's lack of de-watering capability created an especially hazardous condition as contemplated in Navigation Vessel Inspection Circular 12-91.

Casualty Location:



CAPT JOHN's Last Known Position from Vessel's EPIRB: 47° 51.99' N, 125° 21.67' W

Vessel Data:



Photograph of CAPT JOHN at drydock in May 2014

CFV CAPT JOHN	
Official Number:	299710
Service:	Deep Water Trawler
Year Built	1965
Built By:	Allied Shipyard, Larose, LA
Gross Tons:	95
Net Tons:	65
Length:	65.5 feet
Breadth:	20.7 feet
Hull:	Steel
Owner:	BFD Ventures LLC
Operator:	██████████

Personnel Data:

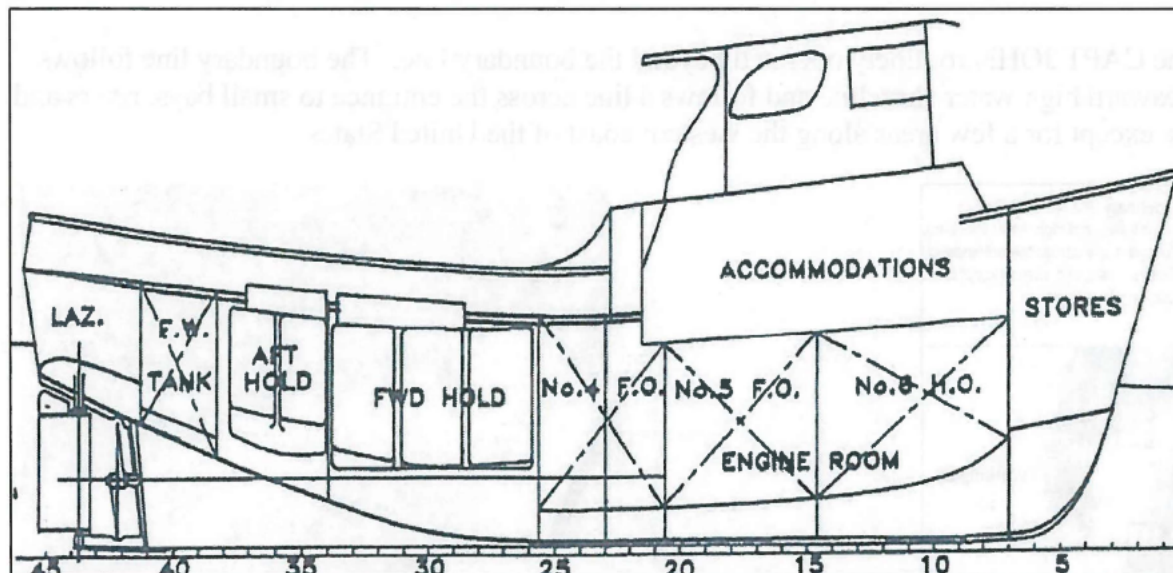
CAPT JOHN Crewmembers	Position	Experience	USCG Credential	Status
[REDACTED]	Master	30+ years	None	Uninjured
[REDACTED]	NOAA Observer	9 months	None	Uninjured
[REDACTED]	Deckhand (1)	29 years	None	Uninjured
[REDACTED]	Deckhand (2)	28 years	None	Uninjured
[REDACTED]	Assistant Master	25 years	None	Uninjured

Environmental Data:

Air Temperature:	45 Degrees Fahrenheit
Water Temperature:	51 Degrees Fahrenheit
Winds:	5-10 Knots, from the Southwest
Gusts:	14 Knots
Swells:	2-5 Feet

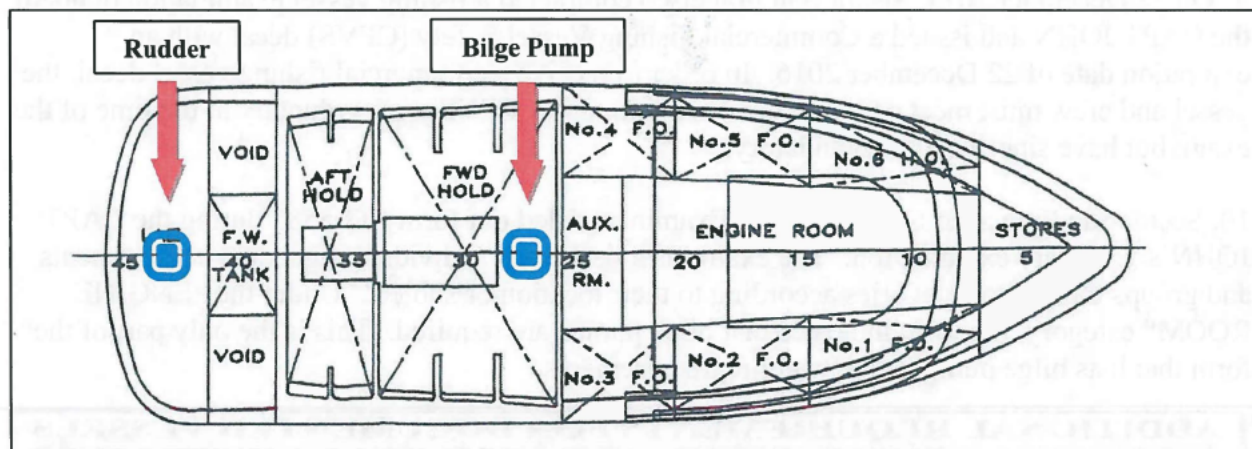
Findings of Fact:

1. The CAPT JOHN is an uninspected fishing vessel documented by the U.S. Coast Guard, with a Fishery, Registry, and Coastwise Endorsement. The federal regulations that govern the CAPT JOHN are found in Title 46 of the Code of Federal Regulations, Subchapter C.
2. The CAPT JOHN is a steel-hulled vessel built in 1965 by Allied Shipyard.
3. BFD Ventures, LLC, owner of the CAPT JOHN, acquired the vessel in May 2015.
4. The maximum weight capacity of the fish-hold onboard the CAPT JOHN is unknown. However, crewmembers estimate it to be 100,000 pounds of fish. When at max capacity, the Master reported the vessel to be stable but with minimal freeboard.
5. Each transverse bulkhead on the CAPT JOHN had limber holes drilled into the bottom. It is unknown if these limber holes were original to the vessel as the plans for its sister vessel, GRANADA, showed bilge piping installed through watertight bulkheads that lead to a bilge manifold or pumps. Though not required on commercial fishing vessels built prior to 1991 and less than 79 feet, the GRANADA was designed with subdivision consisting of eight watertight compartments. The purpose of the limber holes were to allow water to drain forward/aft to the fish-hold and from there to be pumped overboard. The CAPT JOHN's owner and crew could not produce a specific need for the limber hole modifications that differed from the sister vessel GRANADA's plans.



Schematic of CAPT JOHN's Sister Vessel, GRANADA

6. The fish-hold contained the only installed bilge pump onboard the CAPT JOHN, located within the shaft-alley, below the space that also contained the propeller shaft. The bilge pump, rated at approximately 200 gallons per minute and activated manually by a switch in the pilothouse, never pumped water during the vessel's flooding.

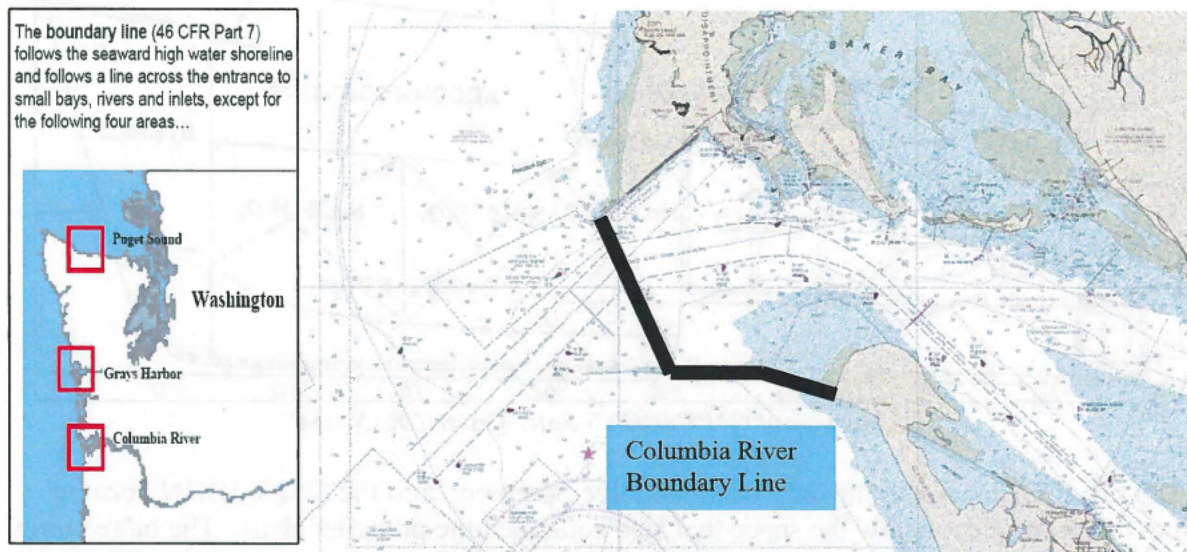


*Schematic from CAPT JOHN Sister Vessel's, GRANADA
(arrows pointing to rudderpost and bilge pump locations)*

7. Commercial fishing vessels, such as the CAPT JOHN, are required to be equipped with a bilge pump and bilge piping capable of draining any watertight compartment when operating beyond the boundary line.² Federal regulations did not prohibit the CAPT JOHN from modifying watertight bulkheads from original construction, to allow free communication between compartments.

² See 46 CFR §28.255, to wit: each vessel must be equipped with a bilge pump and bilge piping capable of draining any watertight compartment, other than tanks and small buoyancy compartments, under all service conditions. Large spaces, such as enginerooms must be fitted with more than one suction line.

8. The CAPT JOHN routinely operated beyond the boundary line. The boundary line follows the seaward high water shoreline and follows a line across the entrance to small bays, rivers and inlets, except for a few areas along the western coast of the United States.



Depiction of the Boundary Line

9. On 22 December 2014, Sector San Francisco completed a fishing vessel examination onboard the CAPT JOHN and issued a Commercial Fishing Vessel Safety (CFVS) decal with an expiration date of 22 December 2016. In order to receive a commercial fishing vessel decal, the vessel and crew must meet certain federal requirements. CFVS were voluntary at the time of the exam, but have since become mandatory.

10. Sector San Francisco Fishing Vessel Examiners filled out form CG-5587 during the CAPT JOHN's voluntary examination. The exam form lists many individual regulatory requirements and groups them into categories according to their location or subject. Under the "ENGINE ROOM" category, the form indicates that bilge pumps are required. This is the only part of the form that lists bilge pump and dewatering requirements.

ADDITIONAL REQUIREMENTS FOR DOCUMENTED VESSELS OPERATING BEYOND THE BOUNDARY LINE OR WITH MORE THAN 16 PEOPLE ON BOARD		
ENGINE ROOM		
46 CFR 28.215	Guards for Exposed Hazards	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
46 CFR 28.255	Bilge Pump, Piping & Dewatering Systems	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A

Excerpt of Coast Guard Standard CFVS Form CG-5587

11. [REDACTED]

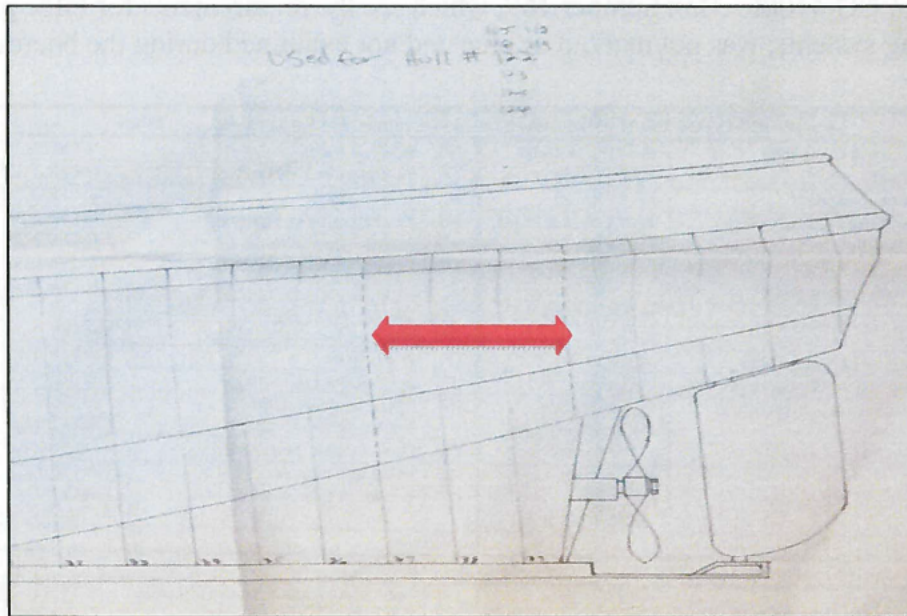
12. On 9 July 2015, Boarding Officers from the Coast Guard Cutter CUTTYHUNK (WPB 1322) boarded the CAPT JOHN and filled out form CG-4100F. The MLEM allows Boarding Officers to reduce the scope of a fishing vessel boarding to those items listed in blue on the Coast Guard boarding form, CG-4100F. Box number 169, which are the requirements for bilge pumps, piping and dewatering systems, was not marked in blue and not examined during the boarding.

REQUIREMENTS FOR ALL VESSELS (Fishing Vessels with a current CFVS Decal: Check items in blue)					
130	Life Preservers & Other PFDs	46 CFR 25.25 & 28.110	141	Ring Life Buoys	46 CFR 28.115
142	Survival Craft <i>AS/IS EXP.</i>	46 CFR 28.120	143	Stowage of Survival Craft	46 CFR 28.125
144	Survival Craft Equipment	46 CFR 28.130	147	Distress Signals	46 CFR 28.145
148	Emergency Position Indicating Radio Beacons (EPIRBs)	46 CFR 25.26 & 28.150, 47 CFR 15.209	149	Fire Extinguishing Equipment	46 CFR 25.30 & 46 CFR 28.155 & .160
176	Material condition <input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT MSO Follow-up recommended		177	Stability/Stability Instructions	46 CFR 28.530 & 46 CFR 28.65 (b) (5)
105	Sound Producing Device	33 USC 2033, Rule 33	138	Backfire Flame Control	46 CFR 25.35
139	Ventilation	46 CFR 25.40-1	145	Lifesaving Equipment Markings	46 CFR 25 & 28.135
146	Maint/Insp of Lifesaving Equipment	46 CFR 28.140	150	Injury Placard	46 CFR 28.165
151	Waste Mgmt Plan (oceangoing vessels >40ft)	33 CFR 151.55 & .57	152	Marine Sanitation Devices	33 CFR 159.7
153	Copy of Nav Rules (inland waters only)	33 CFR 103.05 46 CFR 28.225	154	Navigation/Anchor Lights Sunset/Sunrise (24-Hour)	33 USC 2020 & 2026 Rules 20 & 26
155	Oil Pollution Placard (vessels ≥ 26 ft)	33 CFR 155.450	156	Garbage Placard (vessels ≥ 26 ft)	33 CFR 151.59
157	FCC SSL	47 CFR 15.405	158	Load Line Certificate	46 USC 51
159	Vessel Numbering & Registration	33 CFR 173 46 CFR 27.121 & .123	173	Document/Official Number	46 CFR 67
199	Other				
REQUIREMENTS FOR DOCUMENTED VESSELS OPERATING BEYOND THE BOUNDARY LINE OR W/ MORE THAN 16 POB's					
168	High Water Alarms	46 CFR 28.250	171	Instructions, Drills & Safety Orientation	46 CFR 28.270
160	Fireman's Outfit & SCBA	46 CFR 28.205	161	First Aid Training & Equipment	46 CFR 28.210
162	Guards for Exposed Hazards	46 CFR 28.215	163	Navigational Information	46 CFR 28.225
164	Compasses & Deviation Tables	46 CFR 28.230	165	Anchors & Radar Reflectors	46 CFR 28.235
166	General Alarm System	46 CFR 28.240	167	Communication Equipment	46 CFR 28.245 & .375 33 CFR 26.03
169	Bilge Pumps, Piping & Dewatering Systems	46 CFR 28.255	170	Electronic Position Fixing Devices	46 CFR 28.260
172	Emergency Instructions	46 CFR 28.265	199	Other	
178	Coaming Height	46 CFR 28.560 (b)	179	Deadlight Covers	46 CFR 28.560 (f)
180	Non US Master Violation	46 USC 2110 (d)	181	75/25 Crewing Standards	46 USC 8103
119	Negligent/Gross Negligent Operation	46 USC 2302	120	Intoxicated Operations	46 USC 2302 (c)
174	Fisheries Violation(s)		175	Unsafe Conditions -- Terminated Use	46 USC 4505
182	No Violation		183	Law Enforcement Action Taken	

CG-4100F Boarding Report for CAPT JOHN 9 July 2015 (Bilge pumps not checked)

13. Operating a commercial fishing vessel with an inoperable bilge system is an especially hazardous condition according to Navigation Vessel Inspection Circular (NVIC) 12-91. The absence of an operable bilge system is grounds for a Boarding Officer to consider voyage termination.

14. The CAPT JOHN was constructed with a void space located directly forward of the lazarette that contained no thru-hull fittings. Fishnets and excess gear were stowed in the void space and accessible via a watertight hatch designed to be flush with the weather deck.



*Stern Cross Section of CAPT JOHN at Original Construction
(Dashed vertical lines indicate watertight bulkhead)*

15. On 22 January 2016, the CAPT JOHN loaded 20,400 pounds of ice into the fish-hold to refrigerate their catch. Additionally, 1,000 gallons of diesel fuel, distributed evenly in the port and starboard fuel tanks, was loaded in preparation of departure from port.

16. Immediately before departing port, a leak was found in the rudderpost shaft causing water to enter the lazarette compartment. Deckhand (1) adjusted the packing, but water continued to leak. He then added grease³ to the rudderpost shaft, which stopped the leak. The Master remained concerned with the leak and continued to monitor it while underway via the CCTV installed in the compartment.

17. On 23 January 2016, at approximately 0002, the CAPT JOHN departed its homeport of Warrenton, Oregon for fishing grounds in the Juan de Fuca Canyon off the coast of Washington.

18. Once clear of the Columbia River, the CAPT JOHN turned north, crossed the boundary line, and deployed their trawling gear to drag for Dover Sole.⁴

³ Through-hull shafting, such as rudderposts, often use fibrous packing material to seal from water intrusion, while still allowing the shaft to rotate. Rudderposts are fitted with grease ports, allowing shafting to function smoothly with less noise. The function of the grease is not to seal from water intrusion.

⁴ A flatfish also called "Common Sole."

19. On the first four trawls, the crew managed to catch in excess of 70,000 pounds of fish.

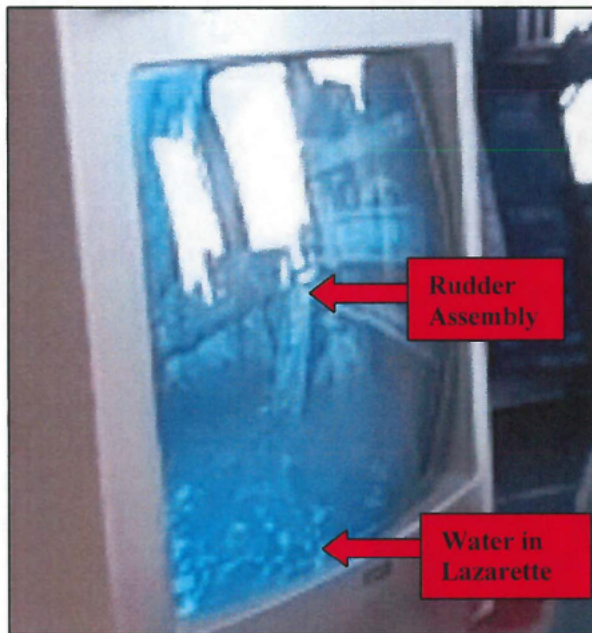
	Net Drag Start Date/Time	Approx. Total Caught
1 st catch	Jan 23 at 0600	300lbs
2 nd catch	Jan 23 at 1700	40,000lbs
3 rd catch	Jan 23 at 1800	20,000lbs
4 th catch	Jan 24 at 0800	10,000lbs
	Total	70,300lbs

Approximate Start Times of Dragging Fish Net with Haul-back Load

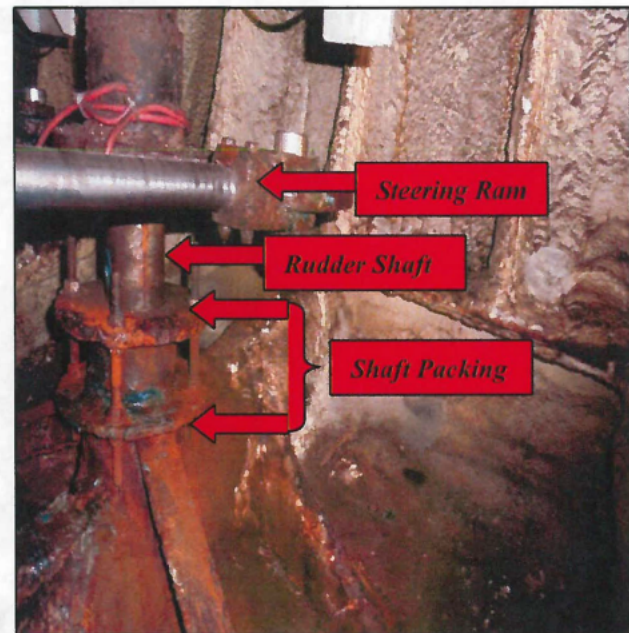
20. Fish were stowed in sectional bays within the fish-hold and packed with ice. After filling a bay, deckhands installed a wooden board to separate the next bay and keep the fish from shifting with the vessel's movement.

21. All available bays became full after the third haul-back, necessitating the fourth haul-back be placed in the center of the hold without any compartmentalization.

22. After the fourth haul-back of fish, the vessel's stern was low enough in the water that water began washing onto the weather deck from the stern ramp. Around the same time, the CCTV camera in the lazarette showed the rudderpost shaft packing was leaking again.



Screenshot from NOAA Observer Video of CCTV before CAPT JOHN Sinking



Rudderpost Assembly of Sister Vessel GRANADA

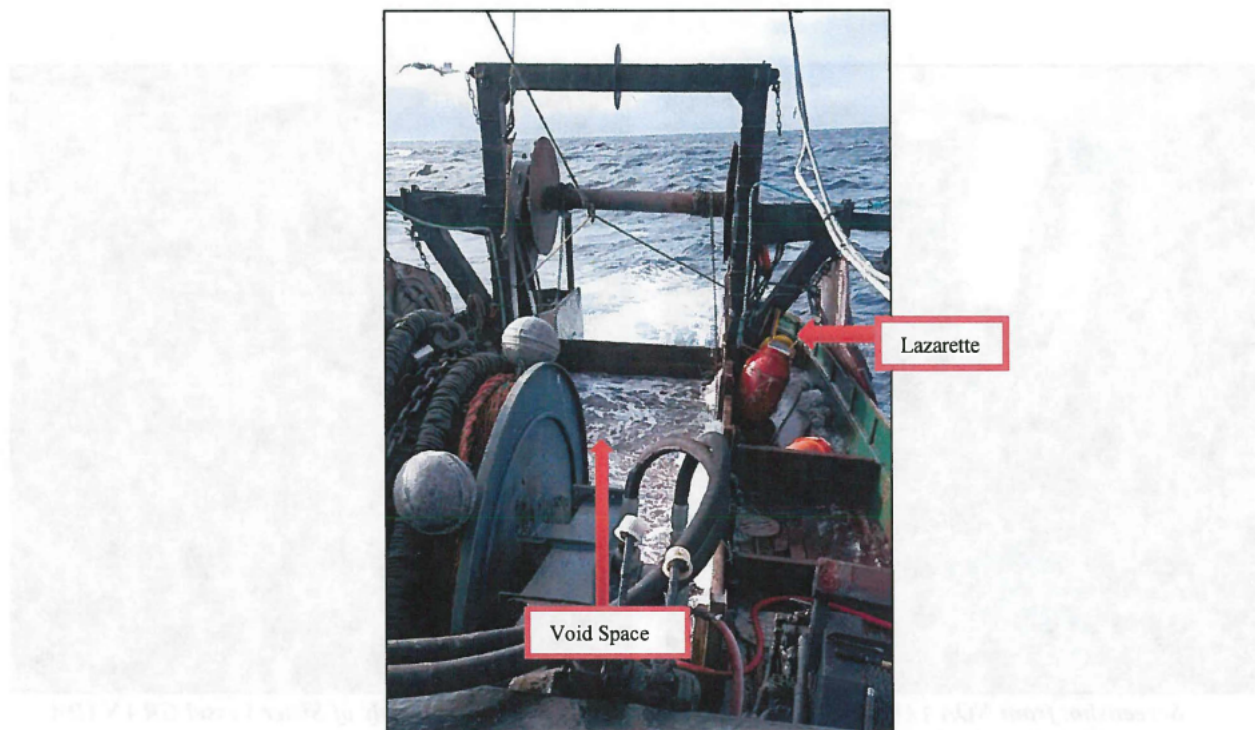
23. The Master sent Deckhand (1) to investigate the leak. Deckhand (1) reported that water had accumulated in the lazarette's bilge and did not appear to be draining to the fish-hold through the

limber hole. He verified the limber hole was unobstructed, then retightened the rudderpost shaft packing, and added more grease.

24. At 1146, the Master assessed the vessel's stability and transmitted a radio distress call to Coast Guard Station Quillayute River via VHF Channel 16 to relay concerns about rising water in the lazarette. At the time of the distress call, the Master observed water continually washing up the stern ramp, over the void space and lazarette watertight hatches.

25. Deckhand (1) continued to assess the status of corresponding limber holes to determine where the source of the obstruction preventing drainage from the lazarette originated. Standing water on the weather deck prohibited him from entering the void space to examine the limber holes on the common bulkhead shared by the void space and lazarette. He then examined the limber holes on the common bulkhead shared by the void space and fish-hold. Ice initially obstructed the access to shaft alley, however, he chipped away enough to observe no water in the space.

26. At approximately 1230, water on the weather deck began obstructing access to the lazarette as it flowed over the flush deck hatch. Deckhand (1) was able to gain intermittent access to the space to continue to assess the water level being wary of down flooding concerns if the hatch remained opened too long.



*Screenshot from NOAA Observer Video Approx. 1 Hour before Sinking
(Arrows show approximate location of access hatches to Crew Gear Locker and lazarette)*

27. The flush deck hatches for the void space and lazarette on the CAPT JOHN were not required to have raised coamings from the deck, nor be of the quick-acting type⁵ because the vessel was built before the regulations went into effect in 1991 and hence grandfathered from meeting the requirements.

28. The Master moved the net-reel from the stern up forward as a damage control measure to improve the vessel's stability by raising the stern higher in the water. The crew also opened all water faucets in the galley and bathroom to drain the potable water tanks via the gray-water overboard discharge to reduce the weight and displacement of the vessel.

29. At 1415, the Master reported to Coast Guard Sector Puget Sound that the lazarette was completely flooded and the vessel had no freeboard left at the stern or amidships. The Assistant Master told the Master that he thought the vessel was going to roll-over.

30. At 1430, the four crewmembers and NOAA Observer mustered on the port side rail. In preparation for abandoning the vessel, all donned immersion suits and deployed the life raft over the side. The crew tied the liferaft to the CAPT JOHN and inflated it. As the vessel began to roll to starboard, someone yelled, "Jump!"

31. Three personnel jumped, including the Master, NOAA Observer and Deckhand (1). The Assistant Master and Deckhand (2) remained onboard and rode the vessel down until it fully capsized to starboard.

32. After entering the water, all personnel swam to the liferaft and boarded it. Deckhand (2) ended up on the opposite side of the CAPT JOHN and had to swim around the vessel to reach and board the liferaft.

33. At 1440, Rescue Helicopter 6597 from Coast Guard Air Station Port Angeles lowered the rescue swimmer to the CAPT JOHN's liferaft to assess the survivors. All crewmembers were accounted for with no injuries noted.

34. At 1501, Motor Lifeboat 47281 from Coast Guard Station Quillayute River recovered all crewmembers from the CAPT JOHN's liferaft.

35. At 1528, Motor Lifeboat 47281 reported the CAPT JOHN sank in position 47° 51.99' North, 125° 21.67' West in approximately 700 feet of water.

Post Casualty Drug and Alcohol Testing:

Boarding Officers from Coast Guard Station Quillayute River conducted post-casualty alcohol testing of the vessel's crew upon returning to shore. All crewmembers tested negative for the presence of alcohol. The master submitted to a drug test approximately 24 hours after the sinking occurred and the results were negative. No other crewmembers were tested.

⁵ Title 46, Code of Federal Regulations, Part 28, Subpart E applies to fishing vessels greater than 79 feet. Under this subpart, the following is codified: For a vessel less than 79 feet (24 meters) in length, the coaming must be at least 12 inches (0.30 meters) in height. See 46 CFR 28.560(b)(2).

Analysis:

1. *Improper Maintenance:* Rudderpost shaft packing, properly maintained, prevents water intrusion. During interviews with Investigating Officers, Deckhand (1) demonstrated knowledge regarding the proper procedure to replace the packing. However, the rudderpost shaft packing was leaking before departing port and close watch on the CCTV during the voyage indicated a lack of confidence in the adjustments made. Furthermore, the crew improperly relied on the pressure of grease to prevent water from seeping through the shaft packing and into the lazarette.

2. *Insufficient Freeboard:* The CAPT JOHN was nearly at its full capacity of fish loaded into the fish-hold. The amount of fish onboard likely lowered the stern of the CAPT JOHN, which would have increased water pressure on the rudderpost shaft packing. The increased water pressure overcame the pressurized grease in the rudderpost packing, allowing seawater to enter the lazarette unabated. In order to maintain sufficient freeboard, thus positive stability, the center of gravity of a vessel must remain below the transverse metacenter⁶. As the lazarette filled with water, the center of gravity rose above the transverse metacenter and created an upsetting arm and moment⁷. When this occurs, an unstable equilibrium exists, which would allow a vessel to capsize and ultimately did.

3. *Improper Modification & Progressive Flooding:* The vessel's construction consisted of several transverse bulkheads, each designed and constructed to be watertight. At some unknown point in the vessel's history, limber holes installed in each bulkhead compromised the vessel's watertight integrity by effectively removing the vessel's subdivision. Vessel subdivision prevents hazardous situations from spreading from one compartment to another. CAPT JOHN's improper modification negated the subdivision compartmentalization designed to prevent progressive flooding in an emergency, compounded by the lack of installed bilge piping, thus allowing water to flood two adjacent compartments and ultimately sink the vessel.

4. *Especially Hazardous Condition:* There is no information available on why bilge piping did not extend to all spaces as installed on the sister vessel GRANADA. The CAPT JOHN crew relied on progressive flooding into the fish-hold as the primary method to dewater. The lazarette did not have dewatering capability due to inadequate bilge pumping capability. Since limber holes existed in each bulkhead, the entire interior of the vessel became a singular watertight compartment. Federal regulations did not prohibit changing CAPT JOHN in this manner, however, good marine practice would not warrant such a change. According to NVIC 12-91, an especially hazardous condition exists when a bilge system is inoperable. The CAPT JOHN lacked the ability to dewater each compartment independently. The fish-hold's installed bilge pump was the only method available to dewater the entire vessel. This method proved inadequate as obstruction to one or more limber holes prohibited dewatering capability.

U.S. Coast Guard CFVS examiners receive formal classroom and on-the-job training to conduct fishing vessel examinations. In order to streamline and focus attention, examiners outfit

⁶ The highest point the center of gravity may rise and still permit the vessel to have positive stability.

⁷ Created by a force or weight moved when the center of gravity has risen above the transverse metacenter, thus causing negative stability. When negative stability is formed, the vessel does not tend to return to an upright position if inclined, nor to continue its inclination if the inclining force is removed.

themselves with tools. These tools consist of several items, including props to assist in drill realism, and checklists that allow the reader to identify deficient areas quickly. CFVS Exam Form CG- 5587 implies bilge pumps are only required in the engine room, though the federal regulations make it clear that bilge pumps or piping are required in order to drain any watertight compartment. Compounding this is the CG-4100F boarding form, which does not require a Boarding Officer to check bilge pumps when a current CFVS decal is present. Together, the CFVS CG-5587 and CG-4100F forms helped enable an especially hazardous condition to be overlooked and not corrected.

5. *Watertight Hatch Design:* Access to the lazarette and void space were placed in locations on the weather deck that are often awash with seawater. This was especially prevalent for the CAPT JOHN on 24 January 2016 because of the approximately 90,000 pounds of fish and ice loaded into the fish-hold, which caused the vessel to sit lower in the water. Compounding the inconvenient location is the fact that the hatches were designed flush to the deck with zero coaming height. If a crewmember attempted to open one of these hatches, water would immediately down-flood into the compartment, which is what happened when Deckhand (1) attempted to enter the space.

The flush-deck hatch allowed unobstructed down flooding each time the lazarette hatch opened. This quickened the water ingress occurring within the lazarette. Coast Guard regulations for watertight hatch coaming heights do not exist for fishing vessels built before 1991. During damage control efforts, additional water entered into the lazarette, exacerbating the casualty by increasing the vessel's weight and decreasing its stability. Eventually, the standing water on-deck prevented Deckhand (1) from continued efforts to stabilize the vessel, or lower a submersible pump, had one arrived in time.

6. *CG-4100F:* Six months before the CAPT JOHN sinking, a Coast Guard boarding team verified the vessel met all eight requirements listed in blue on the CG-4100F boarding form. The Boarding Officer is, by Coast Guard policy, allowed to focus only on the blue items due to the vessel completing a dockside Commercial Fishing Vessel Exam. If the Boarding Officer had been required to determine compliance with box 169, a lack of bilge dewatering capability could have led to the termination of the vessel's voyage and potentially avoided the CAPT JOHN from sinking on 24 January 2016.

Conclusions:

1. In accordance with Marine Safety Manual, Volume V, the Initiating Event (or first unwanted outcome) for this casualty was the rudderpost shaft packing leaking into the lazarette compartment.
2. The causal factors that led to the casualty are as follows:
 - a. The inadequately maintained rudderpost shaft caused seawater to flow into the lazarette compartment when the fish-hold was near maximum capacity.

- b. The compromised watertight integrity of the CAPT JOHN's bulkheads by the drilling of limber holes and the removal of previously installed bilge suction piping allowed progressive flooding forward from the lazarette to the void space.
 - c. The CAPT JOHN crew relied on a single bilge pump suction located in the fish-hold to remove any, and all, collected water in the vessel.
 - d. The flush coamings designed on the CAPT JOHN forced crewmembers to stop damage control efforts when standing water was on-deck in order to prevent down-flooding. Even if additional pumps had arrived on-scene, the crew would not have been able to access the lazarette or void space.
 - e. CFVS examination form, CG-5587, implies that bilge pumps are only required within the engine room compartment, even though federal regulations clearly require bilge pumping ability within all watertight compartments on vessels operating beyond the boundary line.
3. With the above exceptions, there is no evidence that any personnel of the Coast Guard or of any other agency or any other person contributed to this casualty.

Safety Recommendations:

1. It is recommended that the Office of Commercial Vessel Compliance (CG-CVC) modify the CFVS form CG-5587 to accurately reflect the requirements of 46 CFR §28.255 by changing or removing the sectional header titled "Engine Room" for vessels operating outside the boundary line. Clarifying CG-5587 will help Coast Guard personnel better understand the regulatory requirements for bilge pumping arrangements.
2. It is recommended that CG-CVC modify the Coast Guard Boarding Report form CG-4100F and include box number 169 as one of the requirements that should be checked on every law enforcement boarding, by highlighting it in blue. Guidance to field units should be provided, detailing procedures to properly check a fishing vessel's bilge pumps, piping, and dewatering systems. Modification of the CG4100F will allow additional oversight of Coast Guard Boarding Officers during law enforcement boardings conducted at sea.
3. It is recommended that Sector Puget Sound Officer in Charge, Marine Inspection consider compromise of watertight bulkheads, and those designed to be watertight, as an especially hazardous condition in keeping with the intent of NVIC 12-91 and prohibit fishing vessels from proceeding beyond the boundary line until those conditions are properly addressed. Preventing commercial fishing vessels from operating beyond the boundary line with compromised watertight integrity will reduce the risk of sinking due to progressive flooding. This could potentially save lives, property, and/or the environment from irreparable harm.
4. It is recommended that Commander, Pacific Area, conduct outreach with all District Fishing Vessel Coordinators, and reiterate the requirement of bilge pumping within watertight compartments in accordance with 46 CFR §28.255. Ensuring all Coast Guard personnel are

Subj: SINKING OF THE CFV CAPT JOHN OFF THE COAST OF LA
PUSH, WASHINGTON ON 24 JANUARY 2016

16732
26 Apr 2017

conducting examinations with the same expectations will ensure fishing vessels encountered throughout PACAREA are uniformly safe.

Administrative Recommendations:

It is recommended that this casualty investigation be closed.

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