



United States Coast Guard

REPORT OF INVESTIGATION
INTO THE
COMMERCIAL FISHING VESSEL (CFV)
COASTAL REIGN
Capsizing & Loss of Life

20 February 2021 16:37:00 PST



MISLE Activity Number: 7145693
MISLE Case Number: 1250976

Note: This marine casualty investigation was conducted pursuant to 46 USC § 6301. As such, and in accordance with 46 USC § 6308, no part of this report, including the findings of fact, opinions, recommendations, deliberations, or conclusions, shall be admissible as evidence or subject to discovery in any civil or administrative proceeding, other than an administrative proceeding initiated by the United States



16732

26 FEB 2021

MEMORANDUM

From: Anthony J. Vogt, RADM
CGD THIRTEEN (d)



CAPT

To: Christopher F. Coutu, CAPT
CGD SEVENTEEN (dl)

Subj: DISTRICT FORMAL MARINE CASUALTY INVESTIGATION CONCERNING
THE F/V COASTAL REIGN

1. Pursuant to the authority contained in Title 46, United States Code (U.S.C.), Section 6301 and the regulations promulgated thereunder, you are to convene a formal investigation for the marine casualty of the F/V COASTAL REIGN (O.N. 1094725) that occurred on 20FEB21. In conducting your investigation, you shall follow, as closely as possible, to the policy guidance and operational procedures for the Coast Guard Marine Investigations Program, as found in the Marine Safety Manual, Volume V, COMDTINST M16000.10A.
2. Due to the scope and complexity of the investigation, I have assigned the following persons to assist you with your investigation. For purposes of this investigation, the below persons are all designated as investigating officers as defined under 46 C.F.R. § 4.03-30, and therefore, shall enjoy the powers outlined in 46 C.F.R. § 4.07-5.:
 - LT [REDACTED] Assistant Investigating Officer
 - LT [REDACTED], Recorder
 - LT [REDACTED] Legal Counsel
 - Mr. [REDACTED] Technical Advisor
3. Upon completion of the investigation, you will issue a Report of Investigation (ROI) to me with the collected evidence, the established facts, conclusions and recommendations. Conclusions and recommendations concerning commendatory actions or misconduct that would warrant further inquiry shall be referred to me, by separate correspondence for consideration and action as appropriate. A summary of significant events shall be transmitted routinely to CGD THIRTEEN (dp) while the investigation is in formal session.
4. You will complete and submit your investigative report to me by 26 AUG 2021. If this deadline cannot be met, you shall submit a written explanation for the delay and the expected

Subj: FORMAL MARINE CASUALTY INVESTIGATION
CONCERNING THE MARINE CASUALTY OF F/V COASTAL
REIGN

16732

completion date. You are highly encouraged to submit any interim recommendations intended to prevent similar casualties, if appropriate, at any point in your investigation.

5. CGD THIRTEEN will provide funding support and MSU Portland will provide administrative assistance to the Investigation.

6. CGD THIRTEEN will furnish such funding and technical assistance as may be required by the Investigation when deemed appropriate and within the requirements for the scope of the investigation. Your point of contact for funding and technical assistance is CDR Hsingyen Fu, CGD THIRTEEN (dpi).

#

Copy: CG-INV
PACAREA (PAC-54)
INCOE
CG Sector Columbia River
CG Station Tillamook Bay

U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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16732/IIA#7145693
23 May 2022

**THE CAPSIZING AND LOSS OF LIFE ON THE COMMERCIAL FISHING VESSEL
COASTAL REIGN NEAR GARIBALDI, OR ON FEBRUARY 20, 2021**

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 approved. The investigation's safety recommendations remain under review. The Commandant's response to the recommendations and any resulting actions will be documented separately. This marine casualty investigation is closed.



J. D. NEUBAUER

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



16711
29 APR 2022

MEMORANDUM

From: [REDACTED]

CGD THIRTEEN (d)

To: COMDT (CG-INV)

Subj: ENDORSEMENT OF SAFETY RECOMMENDATIONS REGARDING THE
SINKING OF THE F/V COASTAL REIGN (O.N. 1094725)

Ref: (a) Title 46 United States Code Chapter 63
(b) Title 46 Code of Federal Regulations Subpart 4.07
(c) Marine Safety Manual, Volume V, Part A, Ch. 6.B.4
(d) D13 memo, Convening Order dated 26 Feb 2021

1. Pursuant to references (a) through (c), a formal marine casualty investigation was convened into the casualty as detailed in reference (d). The investigation and corresponding MISLE Activity 7145693 are forwarded for final action. The Thirteenth District requests that CG-INV review and release the ROI ahead of the Commandant's issuance of a Final Action Memo. The investigation confirms that the sinking of the F/V COASTAL REIGN was a preventable accident. The vessel and two crewmembers were lost on the south jetty tip at the entrance to Tillamook Bay, OR. This investigation revealed various factors that lead to the casualty to include: the vessel operator's decision to attempt a crossing of an inherently dangerous bar, crewmember's sleep deprivation, the vessel operator's suspected use of marijuana, and the submerged south jetty at the entrance of the Tillamook Bay bar entrance. I approve the findings in the Report of Investigation and recommend that the Investigation be closed.

2. Safety Recommendations:

- a. **Safety Recommendation #1 (9.1.1): Require Merchant Mariner Credentialing (MMC) for Commercial Fishing Vessel (CFV) operators less than 200GT.** Concur. I recommend Commandant obtain legislative authority to require CFV operators less than 200GT hold a valid Coast Guard MMC.
- b. **Safety Recommendation #2 (9.1.2): Engagement with the Commercial Fishing Safety Advisory Committee (CFSAC) to address safety for Commercial Fishing Vessels.** Concur. I recommend that the Commandant work with the CFSAC to improve safety on commercial fishing vessels less than 200 GT and enact the provisions in the Coast Guard Authorization Act of 2010 regarding the certification of CFV operator competency.

- c. **Safety Recommendation #3 (9.1.3): Maintenance of mariner competency, including local knowledge.** Do Not Concur. While this casualty highlights a concern with regards to mariners transiting unfamiliar ports during challenging conditions, I believe that if a mariner possesses a valid MMC, then he/she possesses sufficient skill to evaluate the risks associated with a transit. I am also concerned that the recommended framework will unduly burden commercial fishing vessel examiners to correctly determine mariners' local knowledge prior to an inbound transit.
- d. **Safety Recommendation #4 (9.1.4): Review and implement findings from Fishing Vessel Safety Task Force Report of March 1999.** Concur. I recommend the Commandant review and consider implementing those recommendations, specifically requirements for enrollment in drug testing programs, conducting and logging safety drills, and equipment maintenance and dry dock exams to ensure hull and watertight compartment integrity.
- e. **Safety Recommendation #5 (9.1.5): Implement medical fitness requirements and mandatory rest schedule for crew onboard Commercial Fishing Vessels of less than 200 GT.** Concur. I recommend that the Commandant implement a process to evaluate the overall health and fitness of crew onboard commercial fishing vessels of less than 200 GT. Evaluations should be made on potential drug use and to address crew rest, work hours and fatigue.
- f. **Safety Recommendation #6 (9.1.6): Hazardous bar restriction announcement for Tillamook Bay submerged south jetty.** Concur. I have directed my Incident Management Branch (drm) to implement the recommended verbiage into their broadcast notice to mariners to heighten awareness regarding the submerged portion of the south jetty to mariners who may not be aware.

3. Administrative Recommendations:

- a. **Administrative Recommendation #1 (9.2.1): Referral of alleged violations of 18 U.S.C. 1115 to the District of Oregon.** Do Not Concur. However, if the State of Oregon is interested in pursuing criminal charges regarding the capsizing of the COASTAL REIGN, D13 will provide documents IAW all applicable laws and regulations. Additionally, D13 may offer assistance to the State of Oregon where relevant under 14 U.S.C. § 701.
- b. I concur with all other administrative recommendations and have directed my staff to provide appropriate recognition to the parties that assisted with the COASTAL REIGN response and investigation.

#

Copy: COMDT (CG-CVC-3)
CG PACAREA (PAC-54)
CG SECTOR COLUMBIA RIVER
CG SECTOR PUGET SOUND

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List of Acronyms

AIS	Automatic Identification System, a vessel tracking system to enhance the safety of navigation
AIO	Assistant Investigating Officer
AMSEA	Alaska Marine Safety Education Association
ATON	Aids to Navigation
BNM	Broadcast Notice to Mariners via marine radio
BOSN	Boatswain, CG Chief Warrant Officer
CDC	Center for Disease Control
CFR	Code of Federal Regulations
CFSAC	Commercial Fishing Safety Advisory Committee
CFV	Commercial Fishing Vessel
CG	Coast Guard
CG STA	Coast Guard Station
CO	Commanding Officer
COMDT	Commandant of the Coast Guard
COMDTINST	Commandant Instruction, CG Communications outlining policy and direction
COTP	Captain of the Port
D13	Coast Guard Thirteenth District, comprising Washington, Oregon, Idaho and Montana
EPIRB	Emergency Position Indicating Radio Beacon
F/V	Fishing Vessel
GRT	Gross Ton (Gross Registered Tons)
HP	Horsepower
IMO	International Maritime Organization
LIO	Lead Investigating Officer
LLNR	Light List Number
LNМ	Local Notice to Mariners, published weekly
LT	Light (ATON)
LUC	Latent Unsafe Condition, determined by an assessment of the facts and then analysis
MISLE	Marine Information for Safety and Law Enforcement, a Coast Guard database for tracking vessel related activities
MLB	Motor Life Boat, MLB 47266
MMC	Merchant Mariner Credential, a document issued by the CG to commercial mariners
MRO	Medical Review Officer
MSIB	Marine Safety Information Bulletin
NAIS	National Automated Identification System, a Coast Guard capability for tracking vessels equipped with AIS equipment
NAVCEN	Coast Guard Navigation Center
NIOSH	National Institute of Occupational Health and Safety
NM	Nautical mile
NOAA	National Oceanic and Atmospheric Administration
NPFVOA	North Pacific Fishing Vessel Owners' Association
NTSB	National Transportation Safety Board
NWS	National Weather Service

O.N.	Official Number
OCMI	Officer in Charge, Marine Inspection
ODFW	Oregon Department of Fish and Wildlife
OIC	Officer in Charge
OR	Oregon
PAWSA	Port and Waterway Safety Assessment
PFD	Personal Floatation Device
PII	Parties-in-Interest, people or organizations who have a statutory right or interest in the accident investigation.
PSDA	Probability of Survival Decision Aid, planning tool for search and rescue
PST	Pacific Standard Time; is 8 hours behind Coordinated Universal Time which is used on radio logs. The time offset from UTC can be written as -08:00.
RNA	Regulated Navigation Area
ROI	Report of Investigation
SAR	Search and Rescue
SECTOR	A Coast Guard operational unit that oversees a geographic segment of the maritime domain in the United States. E.g. Sector Columbia River
SLNM	Special Local Notice to Mariners, a Coast Guard publication
TOX	Toxicology
USC	United States Code
UMIB	Urgent Marine Information Broadcast
UPV	Uninspected Passenger Vessel
USC	United States Code
USCG	United States Coast Guard
USACE	United States Army Corps of Engineers
VHF	Very High Frequency; Marine Band Radio, typically found on vessels
VMS	Vessel Movement System; NOAA Voluntary Fishing Vessel Tracking System
WAMS	Waterways Analysis and Management System, a tool used by the Coast Guard to plan and implement ATON on federally designated navigable waterways



**CAPSIZING OF THE COMMERCIAL FISHING VESSEL COASTAL REIGN, O.N. 1094725,
IN THE VICINITY OF THE TILLAMOOK BAY BAR, WITH THE LOSS OF TWO LIVES, ON
FEBRUARY 20, 2021**

EXECUTIVE SUMMARY

On February 20, 2021, at approximately 1637 Pacific Standard Time, the 38-foot, 16 gross ton, commercial fishing vessel (CFV) COASTAL REIGN (O.N. 1094725) attempted to cross the Tillamook Bay Bar through the southern entrance (locally known as the “South Hole”) near Garibaldi, OR.

The crew of the CFV COASTAL REIGN was composed of an owner/operator, a co-operator, and two deckhands. At the time of the attempted crossing, the vessel was loaded with approximately 3,500 to 4,000 pounds of Dungeness crab. On scene weather was reported as five-knot winds from the south and 8 nautical miles of visibility. The Tillamook Bay Bar report stated that the wave height was 4 to 6 feet between the tips of the jetties. In the North entrance, locally called the “North Hole,” as well as the “middle grounds,” waves were 6 to 8 feet with occasional 8 to 10 foot breaks, while 8 to 10 foot waves were reported in the “South Hole” entrance. Due to the hazardous conditions, Coast Guard Station Tillamook Bay restricted the bar to all recreational and uninspected commercial passenger vessels. Commercial fishing vessels, and other commercial traffic, had the option to enter the harbor, though the Station issued caution.

On its attempt to cross the Tillamook Bay Bar, the CFV COASTAL REIGN was not well-situated in the “South Hole” and in a location other than where other local fishermen recommended. The CFV COASTAL REIGN had transited east of the recommended “South Hole” line, finding themselves over the submerged portion of the South Jetty. All four crewmembers were inside the pilothouse. The CFV COASTAL REIGN took three progressively larger waves from the port side. The third and final wave estimated to be a 12-13 foot breaking wave, broadsided the CFV COASTAL REIGN. The vessel rolled hard to starboard and capsized. The pilothouse quickly filled with water. The two deckhands who were wearing Type I lifejackets found their way into the engine room compartment through a hatch in the deck of the pilothouse that had opened when the vessel rolled. The owner/operator and co-operator were not wearing lifejackets at the time the vessel capsized. The CFV COASTAL REIGN came to rest on the visible end of the South Jetty. Both deckhands, who were initially trapped in the engine room, were able to exit the vessel. One deckhand was able to climb onto the rocks of the South Jetty and was recovered by a Coast Guard helicopter from Sector Columbia River. The other deckhand was washed off the rocks of the South Jetty and could not make it back to shore. He was recovered by a Coast Guard 47-foot rescue lifeboat from Station Tillamook Bay in the water near the overturned CFV COASTAL REIGN.

When the CFV COASTAL REIGN capsized, and as the pilothouse filled with water, the owner/operator was able to free himself from the pilothouse. When he surfaced outside the vessel, he located a bundle of crab buoys and was able to grab ahold to remain afloat. He was able to save himself by swimming away

from the CFV COASTAL REIGN; remaining in the water south of the South Jetty. He was rescued by a second 47-foot rescue boat from Station Tillamook Bay. The co-operator was the last crewmember to be recovered. He was located in the water near the Tillamook Bay tower.

Both deckhands, along with the owner/operator, were taken to Adventist Health Hospital in Tillamook, OR, for treatment. The owner/operator was released that evening and one deckhand was released the following day. Mr. Zappone, the other deckhand, was first taken to Adventist Health Hospital, but shortly after arrival, he was flown to Oregon Health and Science University (OHSU) Hospital in Portland, OR, where he was pronounced dead. Mr. Todd Chase, the co-operator, was deceased when he was recovered from the water.

Through its investigation, the Coast Guard determined the initiating event was caused by the navigational decisions made by Mr. [REDACTED] while serving as the operator of the CFV COASTAL REIGN. Subsequent events leading to the casualty include the three large waves that struck the port side of the vessel as it transited over the submerged portion of the South Jetty of the Tillamook Bay bar. Other subsequent events include the capsizing of the CFV COASTAL REIGN, followed by the pilothouse flooding and all four persons entering the water. The final events include the injuries sustained by the surviving deckhand, the injuries and death of Mr. Zappone, and the death of Mr. Chase as a result of drowning. Causal factors contributing to the casualty were: 1) the owner/operator's operation of the vessel over the submerged portion of the South Jetty, 2) the owner/operator's use of marijuana prior to operating the vessel through a dangerous evolution; 3) lack of sufficient rest; 4) the inherently dangerous nature of crossing the Tillamook Bay bar; and 5) the owner/operator's overconfidence in his abilities to safely transit the Tillamook Bay bar while under broadcasted hazardous conditions.



16732
19 April 2022

**CAPSIZING OF THE COMMERCIAL FISHING VESSEL COASTAL REIGN, O.N. 1094725,
IN THE VICINITY OF THE TILLAMOOK BAY BAR, WITH THE LOSS OF TWO LIVES,
ON FEBRUARY 20, 2021**

INVESTIGATING OFFICER'S REPORT

1. Preliminary Statement

1.1 This marine casualty investigation was conducted, and this report was submitted, in accordance with 46 Code of Federal Regulations (CFR) § 4.09, under the authority of 46 United States Code (USC) chapter 63. Pursuant to chapter 46 USC § 6308, no part of a report of a marine casualty investigation, including findings of fact, opinions, recommendations, deliberations, or conclusions shall be admissible as evidence or subject to discovery in any civil or administrative proceedings, other than an administrative proceeding initiated by the United States.

1.2 On February 26, 2021, the Thirteenth District (D13) Commander issued Enclosure 1, a Convening Order directing a formal investigation into the February 20, 2021, capsizing of the F/V COASTAL REIGN, and the loss of life of two of the four crewmembers.

1.3 The following personnel participated in the investigation: Lead Investigating Officer (LIO) – CAPT Christopher Coutu, District 17; Assistant Investigating Officer (AIO) – LT [REDACTED], Marine Safety Unit (MSU) Portland; Legal Counsel – [REDACTED], District 13; Recorder – LT [REDACTED], District 13 Prevention; and Technical Advisor – Mr. [REDACTED], MSU Portland waterways.

1.4 The LIO designated the F/V COASTAL REIGN'S owner, [REDACTED] as a Party-In-Interest (PII). He was represented by [REDACTED] from the Seattle law firm of LeGros, Buchanan, and Paul. No other parties were designated in accordance with 46 CFR § 4.03-10.

1.5 The Coast Guard was the lead agency for all evidence collected during this investigation. However, Oregon State Park officials collected CFV COASTAL REIGN wreckage material found along the Tillamook Bay beaches. The material was stored at the State Park Maintenance facility. The investigation team photographed the evidence and released it to the state deeming the material not relevant to determining the cause of the casualty.

1.6 The Coast Guard inquired with the National Transportation Safety Board to determine whether that agency would participate in the investigation. Due to high volume and COVID-19 restrictions and limitations, on March 17, 2021, the NTSB declined.

1.7 During the week of March 15, 2021, the team traveled to Tillamook, OR, to view the site of the casualty, collect evidence, and conduct informal interviews. While the team had an interview scheduled with the owner/operator of the CFV COASTAL REIGN, the LIO decided to reschedule the interview to a later date. Instead of continuing with the investigation, the LIO recommended that the Thirteenth Coast Guard District consider referring the matter to the United States Attorney for the District of Oregon for review. The Thirteenth District's Staff Judge Advocate discussed and shared the case with the United States Attorney for the District of Oregon to consider the case and its evidence, but no formal referral request was made. In the fall of 2021, after thoroughly reviewing the case, the U.S. Attorney's office determined the evidence did not support a federal prosecution.

1.8 In December 2021, D13 directed the team to complete a Marine Casualty Report, but not to conduct a formal public hearing, opting for a quicker report production, along with a public presentation of the findings sometime in the summer of 2022.

1.9 This marine casualty report is focused on the cause of the capsizing of the CFV COASTAL REIGN with attention paid to the vessel, the environment (including the Coast Guard's navigational assistance role in the area as well as the Army Corps of Engineers' jetty system), along with the people involved in the incident. The team did not focus on the Dungeness crab fishery or other matters not directly related to the capsizing of the vessel.

1.10 While the Coast Guard's subsequent search and rescue (SAR) evolution is not relevant to the cause of the casualties, the team has included a section regarding the SAR timeline response for the benefit of the next-of-kin of the deceased crewmembers.

1.11 Since a formal hearing was not conducted where the public would have heard the testimony of witnesses, interview summaries of percipient witnesses are provided.

1.12 A list of Exhibits to this report may be found in Enclosure 2. The Exhibits are stored electronically in the Coast Guard Homeport database within the CFV COASTAL REIGN Investigation site within a folder entitled "ROI Evidence Exhibits." It is the intent of the investigation team to ensure the Exhibits identified in Enclosure 2 are hyperlinked to electronically stored files.

1.13 All times used in this report are approximate and listed in local Pacific Standard Time.

2 Vessel Involved in the Incident



Photograph of COASTAL REIGN underway near Tillamook Bay Bar, Garibaldi, OR, February 20, 2021

2.1 Vessel Particulars

Official Name:	COASTAL REIGN
Identification Number:	1094725
Flag:	U.S.
Vessel Class/Type/Sub-Type	Fishing Vessel/Fish Catching Vessel/Pot/Trap
Build Year:	2000
Gross Tonnage:	16
Length:	38 feet

Beam/Width:	15 feet
Draft/Depth:	4.3 feet
Main/Primary Propulsion:	300HP, single screw propulsion
Owner:	██████████ - Hammond, OR
Operator:	██████████ - Hammond, OR

3 Deceased, Missing, and/or Injured Persons

Relationship to Vessel	Sex	Age	Status
Mr. Todd Chase, Secondary Operator	Male	51	Deceased
Mr. Zachary Zappone, Deckhand	Male	41	Deceased
Mr. ██████████ Deckhand	Male	█	Injured

4 Findings of Fact

4.1 The Incident:

4.1.1 On February 20, 2021 at 6:45 a.m., Coast Guard Station Tillamook Bay personnel conducted their first light bar report and observed hazardous surf conditions at the Tillamook Bay bar entrance. As a result, the station imposed a bar restriction restricting the bar to recreational vessels and uninspected passenger vessels (UPVs) less than 40 feet in length. This restriction remained in place throughout the day until 4:30 p.m. when Station Tillamook Bay restricted the bar to all recreational vessels and UPVs.

4.1.1.1 At 4:10 p.m., the Coast Guard Tower Watchstander radioed the CFV COASTAL REIGN, then positioning herself near the South Hole, seeking the number of persons on board. The Coast Guard informed the CFV COASTAL REIGN that they would be standing by ready to assist on Channel 16 and 22A.

4.1.1.2 CFV COASTAL REIGN acknowledged.

4.1.2 At 4:25 p.m. the CFV LADY LEE crossed the Tillamook Bay Bar through the South Hole. The CFV COASTAL REIGN and CFV PETRA MARIE were still south of the jetty at this time, watching wave sets as they watched the CFV LADY LEE make her crossing. Both the CFV LADY LEE and the CFV PETRA MARIE had been speaking with the CFV COASTAL REIGN (Mr. Chase) throughout the day. Earlier in the day, the owner/operator of the CFV PETRA MARIE offered to cross the bar ahead of the CFV COASTAL REIGN to allow the CFV COASTAL REIGN to see a safe track line across the bar. However, once at the South Hole, the CFV COASTAL REIGN did not wait to make arrangements with the CFV PETRA MARIE prior to their attempt.

4.1.3 Once the CFV LADY LEE crossed the Tillamook Bay bar, it drifted, waiting between the North and South Jetties to watch the CFV COASTAL REIGN make its crossing.

4.1.4 At 4:30 p.m, due to worsening bar conditions, the Coast Guard updated its bar restriction, restricting the bar to all recreational vessels and all UPVs.

4.1.4.1 At 4:30 p.m., the Coast Guard issued the following Sécurité report:

CG Station: “Sécurité, sécurité, sécurité, hello all stations. This is Coast Guard Station Tillamook Bay. At 4:30 p.m., the Coast Guard observed the following conditions on the Tillamook Bay bar. Between the tips, 4-6 feet, North Hole and Middle Grounds, 6-8 feet with occasional 8-10 foot breaks. South Hole, 8-10 feet. Winds, 5 knots from the south. Visibility is 8 nautical miles. The Tillamook Bay bar is currently restricted to all Recreational and all Uninspected Passenger Vessels at the tower due to hazardous conditions. Break.” [Emphasis added]

CG Station: “Vessel operators are encouraged to have everyone wear lifejackets. Inspected small passenger vessels are also reminded of emergency preparation and safety requirements including the provision to require passengers to wear lifejackets when possible hazardous conditions exist. All vessel operators are reminded that they are ultimately responsible for the safe operation and navigation of their vessel at all times. This is Coast Guard Station Tillamook Bay, standing by on channel 16, out.” [Emphasis added]

4.1.5 After those messages, at or about 4:34 p.m., the CFV COASTAL REIGN started their transit across the bar. The two deckhands on board were both wearing Type I personal floatation devices. The operator of the CFV COASTAL REIGN, and co-operator, Mr. Chase, were not wearing any floatation device.

4.1.6 The owner/operator of the CFV COASTAL REIGN was operating the vessel for the bar crossing evolution. He started his transit approximately 600 feet east of the South Hole. Instead of following the track-line made by the CFV LADY LEE, it transited too far east and over the top of the submerged portion of the South Jetty.

4.1.7 The Tillamook Bay Watchtower was manned by a Coast Guard watchstander, and he observed the vessel take a series of three waves from the port side. The third wave was a plunging wave that struck the vessel beam-to, capsizing it at 4:37 p.m. trapping all four crewmembers in the pilothouse.

4.1.8 According to both surviving members of the crew, within moments after capsizing, the pilothouse filled with water. The owner/operator was able to swim through a broken side window and surfaced. After locating a bundle of crab buoys to keep afloat, he swam away from the capsized vessel. Both deckhands were able to escape into the engine room from the hatch door that had opened once the vessel capsized.

4.1.9 The CFV COASTAL REIGN, now capsized, drifted onto the exposed tip of the South Jetty. Once the vessel was up against the rocks, the deckhands made their attempt to escape the vessel and maneuver themselves onto the rocks.

4.1.10 At 4:44 p.m., Coast Guard Station Tillamook Bay launched 47-foot motor lifeboat (MLB I). At 4:56 p.m., Coast Guard Station Tillamook Bay launched a second 47-foot motor lifeboat (MLB II). At 5:00 p.m., Sector Columbia River launched a rescue helicopter.

4.1.11 At 5:04 p.m., MLB I recovered the owner/operator from the water in the surf south of the South Jetty. He was suffering from minor hypothermia, had sustained minor injuries, and was responsive upon recovery from the water. He was transported to the hospital for observation and was released the same evening.

4.1.12 At 5:06 p.m., MLB II recovered Mr. Zappone from the water just north of the South Jetty near the tip of its visible portion. He was unconscious and unresponsive. The MLB II boat crew performed CPR, which was continued by EMS shore side. Mr. Zappone never regained consciousness and was later pronounced dead at the hospital.

4.1.13 At 5:23 p.m., the Coast Guard helicopter arrived on-scene and at 5:25 p.m., the surviving deckhand was hoisted from the end of the visible portion of the South Jetty by the helicopter crew. He was taken to the hospital for treatment for hypothermia, and other minor injuries. He was held overnight and released the next morning.

4.1.14 At 5:59 p.m., Mr. Chase was retrieved from the water. There were no signs of life at that time.

4.1.15 Post-casualty drug testing revealed the presence of marijuana in both the owner/operator as well as the surviving deckhand.

4.1.16 Post-casualty sleep and rest analysis revealed the crew of the CFV COASTAL REIGN was operating on very few hours of sleep from the previous two days prior to crossing the Tillamook Bay bar.

4.1.17 A post-casualty interview revealed that the owner/operator of the CFV COASTAL REIGN along with the deckhands were smoking marijuana approximately 30 minutes prior to the vessel making its attempt to cross the bar.

4.2 Video of COASTAL REIGN capsizing. (Press the “Ctrl” button and double click photo)



This hyperlinked photo will take the online reader to a composite movie with sound.

4.2.1 The Coast Guard’s Search and Rescue Efforts (MISLE Log)

4.2.1 At 0645, Station Tillamook Bay provided the First Light Bar Report. It issued its broadcast of the bar conditions as part of its mission conducted throughout the day at (0647, 0752, 0852, 1023, 1128, 1228, 1330, 1412, 1634). Since the initial Bar Report, Station Tillamook Bay had restricted recreational vessels and UPVs 40-foot or less from entering the bar area.

4.2.2 At 1012, Station Tillamook Bay updated its Bar Report to include worsening weather conditions (wave height increased from 4-6 feet to 6-8 feet, and visibility reduced from 6nm to 3nm)

4.2.3 At 1410, the Bar Report was updated to include increased visibility to 8nm. No change to wave height.

4.2.4 At 1630, the Bar Report was updated, to include a report of reduced wave height 4-6 feet at the tips of the jetty. The Station restricted traffic to all recreational and all uninspected passenger vessels.

4.2.5 At 1637, the CFV COASTAL REIGN capsized, spotted by Coast Guard Station Tillamook Bay Tower Watchstander.

4.2.6 At 1640, one person in the water was spotted by the Watchtower. The person in the water was floating towards the South Jetty.

4.2.7 At 1643, one person in the water was spotted by the tower past the South Jetty in the surf zone.

4.2.8 At 1644, the MLB I was underway with three Coast Guard crew members.

4.2.9 At 1646, the Tillamook Fire Department Chief and Rescue Unit (five crew) arrived on scene at the North Jetty. The Rescue unit attempted rescue from the jetty, unsuccessfully.

4.2.10 At 1656, MLB II was underway with four crew members.

4.2.11 At 1706, MLB II recovered Zach Zappone unconscious and deceased just north of the South Jetty. Mr. Zappone was wearing a life jacket when he was recovered.

4.2.12 At 1709, MLB I recovered [REDACTED] owner/operator, just south of the South Jetty with minor injuries holding onto a cluster of crab buoys. Mr. [REDACTED] was not wearing a lifejacket when he was recovered.

4.2.13 At 1709, MLB I started CPR on Zach Zappone.

4.2.14 At 1711, MLB II requested helicopter assistance to recover person (surviving deckhand) on South Jetty

4.2.15 At 1720, Tillamook Fire Department EMS arrived at USCG Station Tillamook Bay.

4.2.16 At 1723, the USCG Helicopter 6026 arrived on scene.

4.2.17 At 1725, USCG Helicopter 6026 recovered Mr. [REDACTED] from the tip of the South Jetty with minor injuries to include dislocated shoulder. Survivor was wearing a lifejacket when he was recovered.

4.2.18 At 1754, MLB I recovered Mr. Todd Chase from the water just south of the north shoreline with multiple injuries including a laceration on his face. Mr. Chase was unconscious and deceased when he was recovered. He was not wearing a lifejacket.

4.2.19 At 1940, Station Tillamook Bay radio guard passed to Sector Columbia River.

4.2.20 Other agencies that responded to the casualty: Tillamook County Sheriff (4 units), Rockaway Beach Police (1 unit), Garibaldi Fire Department (5 units).

4.3 The Vessel

4.3.1 The investigation team discovered no mechanical defects with the CFV COASTAL REIGN. While the entire craft was lost, statements from the owner/operator revealed no remarkable issues. All electrical and navigational systems were working along with all mechanical and engine systems.

4.3.2 Post casualty photos of the hull revealed no visible defect or holes to indicate a grounding. The rudder of the vessel was standard, though small, and unable to effect quick turns in rougher water.



Photo of the COASTAL REIGN capsized at the end of the submerged South Jetty. 20 Feb 2021

4.3.3 The CFV LADY LEE crossed the Tillamook Bay Bar just prior to the CFV COASTAL REIGN's attempt. The CFV PETRA MARIE crossed the Tillamook Bay Bar just after the CFV COASTAL REIGN's attempt. All three vessels had similar characteristics:

	Length (feet)	Breadth (feet)	Depth (feet)	GRT	HP	Hull Material	Year Built
CFV COASTAL REIGN	38	15	4.3	16	300	aluminum	2000
CFV LADY LEE	40	13.7	6	22	440	aluminum	1988
CFV PETRA MARIE	37.1	13.9	6.5	28	165	steel	1964



PETRA MARIE moored at the Garibaldi Marina. Date unknown.



LADY LEE moored at the Garibaldi Marina. Date unknown.

4.4 The People

4.4.1 Owner/operator of the CFV LADY LEE (Mr. [REDACTED])

4.4.1.1 Mr. [REDACTED] captains the CFV LADY LEE (O.N. 927181) out of Garibaldi, OR. He has fished out of Garibaldi, OR, crossing the Tillamook Bay Bar since 1985 and may have the most Tillamook Bay Bar crossings in the area. He also serves as the Vice President for the Port Commission.

4.4.1.2 On February 20, 2021, he left port to fish. Upon his return, he watched the breaks at the North Hole for approximately two hours before deciding that the South Hole would be the preferred approach. He stated that he rarely uses the North Hole approach and only does so when the swells are small, even though it is the preferred approach designated by the Coast Guard. He felt comfortable crossing the bar that day, as he described the conditions were “not that bad.”

4.4.1.3 After shifting his approach to the South Hole, he watched the wave sets for approximately 30 minutes before crossing. He stated that he prefers to navigate the LADY LEE over the bar from the flying bridge where visibility is better. He also requires his crew to accompany him on the flying bridge and requires them to wear lifejackets, in case the vessel were to capsize. He stated that having his crew outside of the pilot house prevents anyone from being trapped.

4.4.1.4 On February 20, 2021, the CFV LADY LEE, CFV COASTAL REIGN and CFV PETRA MARIE were all in the South Hole lined up to cross the bar. The CFV LADY LEE went first at about 4:25 p.m. and successfully crossed. Once through, he stopped and drifted, awaiting the CFV COASTAL REIGN which was just outside of the surf zone. [REDACTED] stated that he was worried about the CFV COASTAL REIGN making the crossing and wanted to wait for the vessel to cross before heading home. He noticed that the CFV COASTAL REIGN was about 500 feet east of the South Hole (closer towards the shore and the submerged Southern Jetty). He stated that the CFV COASTAL REIGN never reset their position prior to beginning their attempt despite being shifted out of the South Hole and closer to the South Jetty. [Emphasis added]

4.4.1.5 Mr. [REDACTED] provided the investigation team access to his vessel and used his chart plotter to describe the trackline of the CFV LADY LEE as well as the location of the CFV COASTAL REIGN prior to making its attempt to cross.

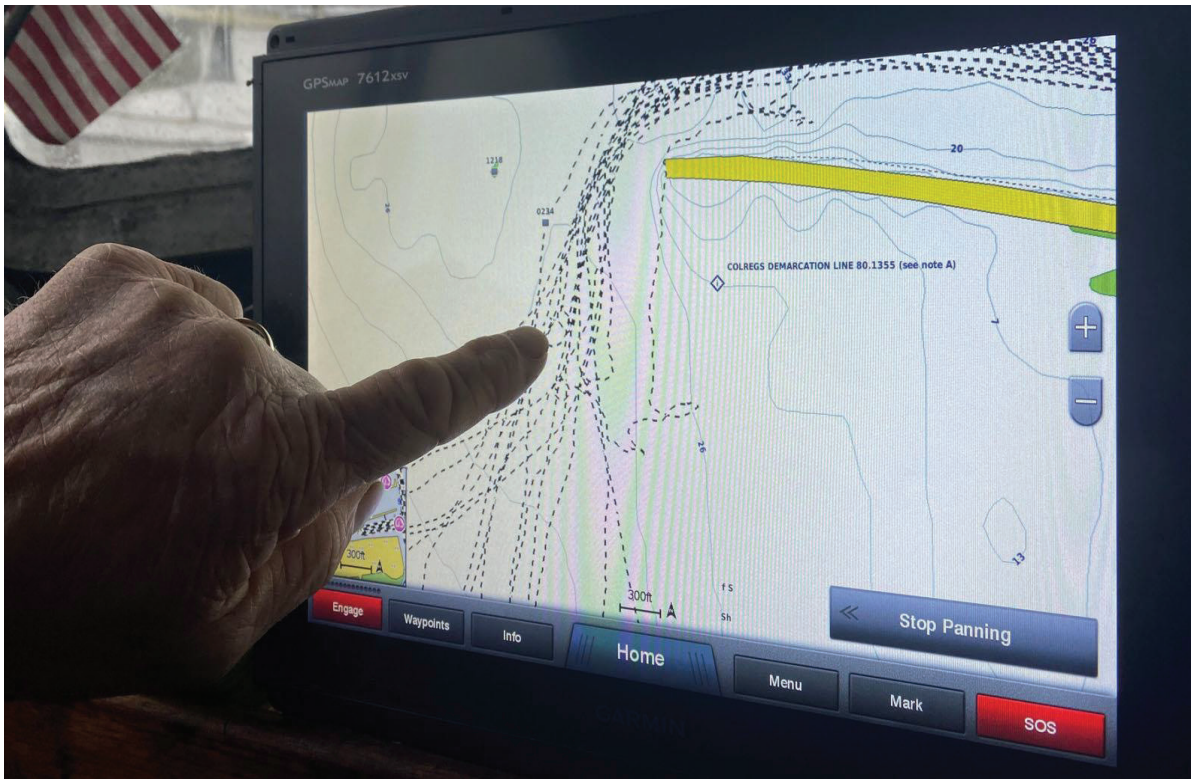
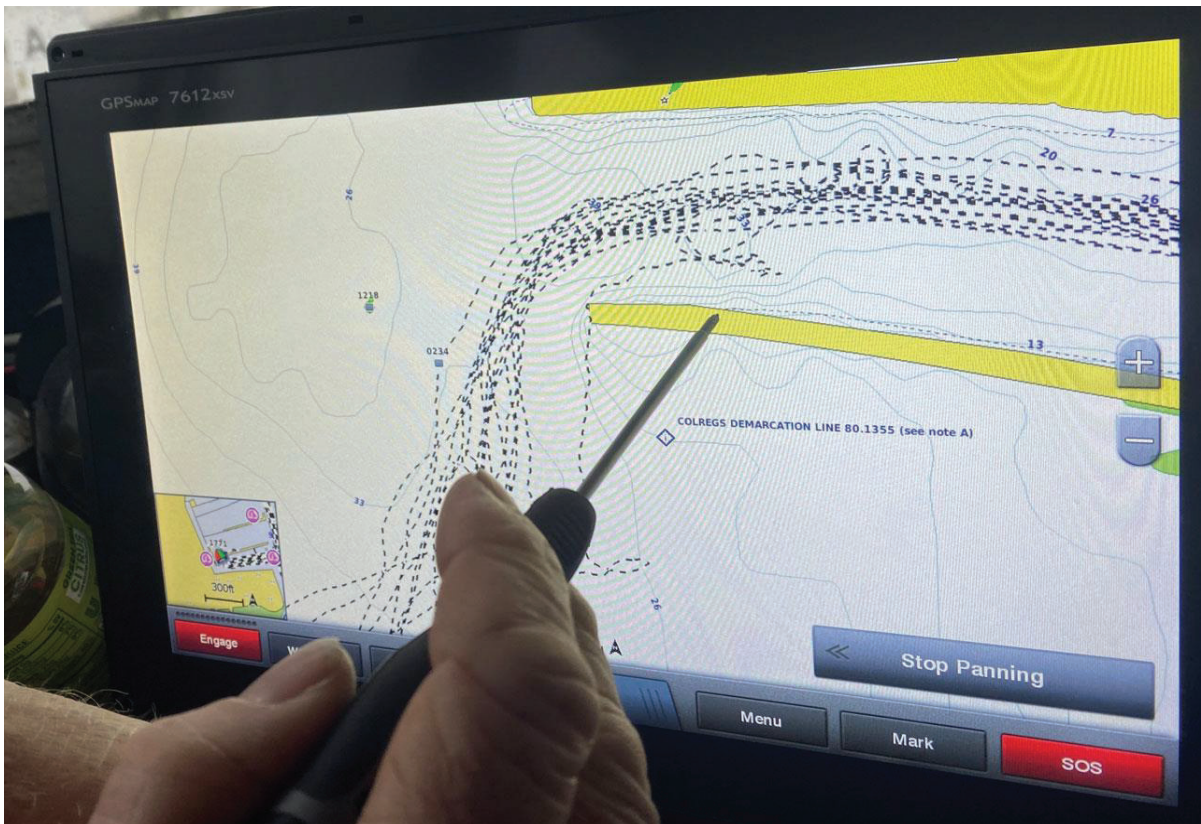


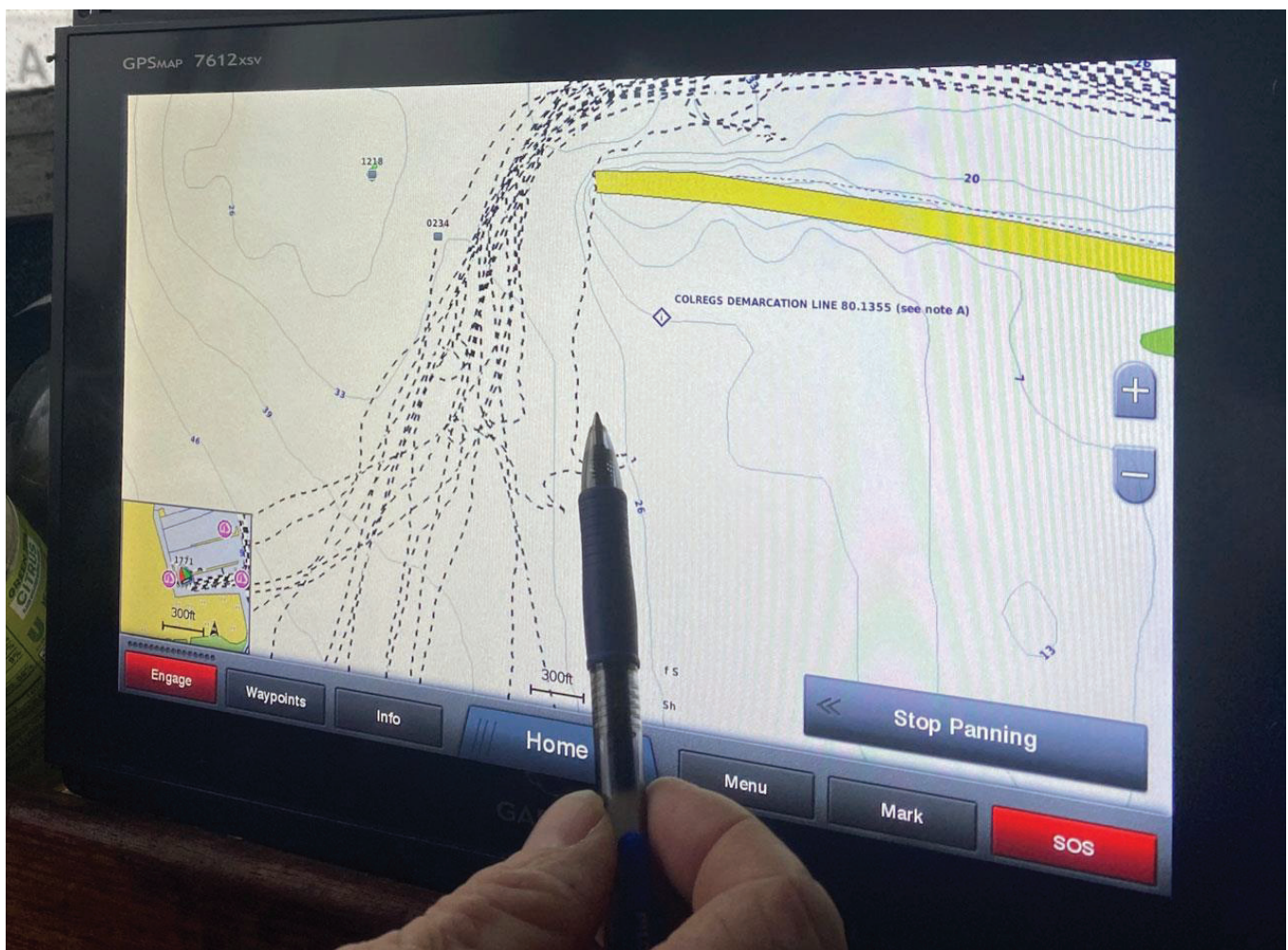
Photo of the CFV LADY LEE track lines through the South Hole. Note: chart shows full extent of the south jetty to the 'as built' length. The submerged area of the jetty colored solid as if fully configured. The electronic chart with the full length of the jetty highlighted would ensure that vessels maintain a safe distance from the submerged portion of the structure. Here, [REDACTED] is pointing to the exact location where the CFV LADY LEE set up for its approach.



The approximate end of the submerged jetty, showing that the electronic chart portrays an image of the as-built jetty.

4.4.1.6 When viewing the CFV COASTAL REIGN's transit, Mr. [REDACTED] knew, due to the wave action, (in that the waves were "standing up" quickly in the area of the submerged jetty), that the CFV COASTAL REIGN attempted its bar crossing over the submerged south jetty. In his opinion, the unpredictable waves caused by the submerged jetty are what caused the vessel to capsize. [Emphasis added]

4.4.1.7 Despite its poor starting point to the south of the jetty, the CFV COASTAL REIGN appeared to have chosen a good wave set in which to cross. However, unpredictable waves 'jump up' at the submerged jetty because it is so shallow. He was unable to contact the CFV COASTAL REIGN via radio to make them aware of their position as he did not have a radio on the flying bridge. However, he could hear his radio below and the CFV PETRA MARIE stating to the CFV COASTAL REIGN that, "You're in too far! You're in too far! Turn out, turn out, turn out!"



Owner/operator of CFV LADY LEE pointing to the location where the CFV COASTAL REIGN was set up prior to beginning its approach from the south, approximately 600 feet east of the CFV LADY LEE's starting position.

4.4.1.8 He knew Mr. Chase from fishing in Garibaldi. The two men had been in communication during the course of the day on February 20, 2021, earlier in the day and then again right before the CFV COASTAL REIGN attempted to cross. He discussed that the CFV LADY LEE would be using the South Hole approach after he decided the North Hole was not in a crossing condition. He

stated that Mr. [REDACTED] the owner/operator of the CFV COASTAL REIGN, mostly operated in Garibaldi during the summer months, and that he had not seen him yet that winter.

4.4.1.9 When navigating the Tillamook Bay bar, [REDACTED] relies mostly on seaman's eye and local knowledge but also stated that his vessel is outfitted with a rudder that allows for quick turning, which is helpful when crabbing, to quickly get around the pots/lines but also helpful to correct course quickly when crossing the bar. [Emphasis added]

4.4.1.10 He estimated that the wave that capsized the CFV COASTAL REIGN was about 12 feet high. Prior to that final wave, the CFV COASTAL REIGN was hit by two others on the port side. It was able to navigate over the first wave, which turned the vessel to starboard a few degrees. The CFV COASTAL REIGN then turned to port and north in order to correct its position. He could see black smoke come out of the stacks as the engines increased in speed. The CFV COASTAL REIGN did not turn into the second wave and took it broadside. He thought the vessel would go over on the second wave, but the vessel recovered. The third and final wave was estimated to be about a 12-foot breaking wave that hit the CFV COASTAL REIGN broadside and capsized it. Each time the vessel was struck by a wave, the vessel was moved further east and further over the submerged jetty. After watching a video recorded from shore of the incident, (the same video imbedded in this report), he believes that after the first two waves, the vessel was attempting to turn into the third wave but wasn't able to complete the turn fast enough.

4.4.1.11 His experienced opinion is that if the COASTAL REIGN would have been in a better position, northwest of their starting location, which would have put them in the South Hole, (and not in position to transit over the submerged jetty) they would have successfully crossed the bar. [Emphasis added]

4.4.1.12 As the Vice President of the Port Commission, Mr. [REDACTED] is very aware of the ongoing changes and dangers of the bar. In 2019, the Thirteenth Coast Guard District conducted a Waterways Analysis and Management System (WAMS) study of the Tillamook Bay bar to determine the safest approach and the possibility of repositioning the channel marking buoy. As a result, the Coast Guard moved the buoy from the South Hole, to the North Hole, and designated the North Hole as the best approach. He stated that the local fisherman were not aware of the meetings leading up to the buoy relocation and were not involved in the decision making. He believes that had the local community known of the plan to move the buoy, he thinks most would have been opposed. He stated that when the buoy was in the South Hole, it was heavily relied upon as a reference point to begin the bar crossing and also as to the safe distance from the submerged South Jetty. He stated that mariners would also use the buoy to determine incoming wave sets and height based on the rise and fall of the buoy itself. [Emphasis added]

4.4.1.13 He stated that the current location of the buoy, (see the chartlet on page 27), marking the North Hole, is too far north on the bar to use as a reference point when using the South Hole approach. Regardless, he rarely uses the North Hole approach. For South Hole approaches, he has the former location of the buoy marked on his GPS (as seen in the photo above), and continues to use that as a reference for his bar crossings. However, a buoy in location would help him and other mariners judge wave height as the buoy rises and falls with each developing set.

4.4.1.14 He stated that a buoy placed in the vicinity of the old South Hole buoy, to be used as a visual reference when entering from the south, would be helpful. He stated that mariners aren't

always able to look at the GPS plotter when navigating over the bar, and it is helpful to have an object to see on the water.

4.4.2 Owner/operator of the PETRA MARIE

4.4.2.1 The owner/operator of the CFV PETRA MARIE, Mr. [REDACTED] was a witness to the casualty. An experienced operator and fisherman, he has been operating fishing and crabbing vessels out of Garibaldi, OR, for approximately 12 years. Like the CFV LADY LEE and the CFV COASTAL REIGN, he was a Dungeness crab fisherman. He stated that commercial crabbers typically work long hours at the beginning of the season as they typically get 60-70% of their catch in the first couple of weeks. Though not a derby style fishery, the Dungeness crab fishery is a first-come, first-served industry.

4.4.2.2 The CFV PETRA MARIE does not have a flying bridge, and only one operating station within the pilot house. He stated that he didn't typically wear a life jacket when crossing the bar, but frequently made his crew wear them when conditions were less than fair. From his operating station he is able to easily reference his chart plotter and his radio. He uses his chart plotter to ensure he is in position to begin his approach across the Tillamook Bay bar.

4.4.2.3 He stated that when the buoy was moved from the south to the north, the north approach made for a good crossing on most days and that was the approach that he typically used. Over the next couple years following the buoy repositioning, the north approach became shallower and is now too shallow to cross when the weather is poor. He said that he did use the North Hole on calm days, but used the South Hole more often. On the day of the incident, the CFV PETRA MARIE watched the conditions at the North Hole before deciding that the South Hole was the safer approach. It is his practice to get to the bar about an hour before high tide so that he can sit and time the wave sets to ensure he can cross successfully.

4.4.2.4 He stated that the bar changes every year following winter storms. Like the CFV LADY LEE, he has the location of the former buoy in the South Hole where the buoy had previously been marked on his chart plotter. He uses that as his main reference point to position his vessel to begin his approach over the bar. Additionally, he uses the time before crabbing season to prepare his vessels and frequently drives to different locations to watch the breaks on the bar in all types of weather. He states that this is how he learns what has changed in the last year to determine where the safest approaches are during bad weather.

4.4.2.5 He and Mr. Chase met approximately two years ago when Mr. Chase was frequently fishing out of Garibaldi. They became friends and spoke frequently. On the day of the incident, Mr. Chase and Mr. [REDACTED] had been communicating throughout the day. Mr. Chase was worried about crossing the Tillamook Bay Bar. Mr. Chase had asked him earlier in the day if vessels ever crossed the bar together. Mr. [REDACTED] replied that he didn't typically like to do that since it was such a small area. But, if the CFV COASTAL REIGN felt uncomfortable, the CFV PETRA MARIE could cross first while the CFV COASTAL REIGN watched their track line. When the PETRA MARIE arrived at the South Hole, the CFV COASTAL REIGN was already in position to cross and was watching the wave sets.

4.4.2.6 The CFV COASTAL REIGN started its approach without waiting for the CFV PETRA MARIE. The CFV PETRA MARIE did not contact the CFV COASTAL REIGN so as not to

distract the operator. He stated that as the CFV COASTAL REIGN began their approach, they appeared to be in a good position starting position. However, the CFV COASTAL REIGN steered east towards the submerged jetty. He could see the sea foam from where the previous set of waves had broken on the submerged portion of the jetty. The CFV COASTAL REIGN transited over the top of the foam. He called over the radio to let the CFV COASTAL REIGN know that they were too close to the jetty. The CFV COASTAL REIGN did not respond. Right after the radio call, it appeared that the CFV COASTAL REIGN turned north/northwest and was hit broadside by a large wave. The vessel then appeared to turn slightly to port and was hit by another larger wave that capsized the vessel.

4.4.2.7 After showing Mr. [REDACTED] the video of the CFV COASTAL REIGN capsizing, he stated that the wave set that the CFV COASTAL REIGN chose, looked good, but that the vessel turned too soon and transited over the submerged South Jetty.

4.4.2.8 When asked how a mariner can identify the submerged South Jetty, he stated that it is charted on the chart plotter, and it can also be determined by the wave action. He stated that the waves “stand straight up” at the start of the submerged jetty. He added, “[e]ven when there is not a large swell, the waves still stand straight up when they hit the end of the submerged jetty.” [Emphasis added]

4.4.2.9 He stated that it would help if the tip of the submerged jetty were marked visually or if a buoy could be put back in the location from where it was moved a few years ago as it marked the South Hole as it could be used as a reference point to help vessels avoid getting too close to the submerged jetty.

4.4.2.10 In his conversations with Mr. Chase on the day of the incident, he learned the crew of the CFV COASTAL REIGN had not gotten much rest in the past couple days due to the opening of crab season.

4.4.3 Owner/Operator of the CFV COASTAL REIGN (Mr. [REDACTED])

4.4.3.1 The Coast Guard interviewed the Mr. [REDACTED] on February 21, 2021, one day after the incident, at his home in Hammond, OR. He stated that he purchased the CFV COASTAL REIGN in 2011. While a survey had been completed on the vessel, he could not produce it at the time of the interview and he could not recall when exactly it was completed. He did recall that the survey identified no major issues with the vessel and he described the boat as being in good condition with all systems fully operational. The value of the vessel was between \$220,000 and \$250,000.

4.4.3.2 He was the sole owner of the vessel and it was not insured.¹ He did not have contracts with his crew, though the terms of employment of the crew were based on a percentage of the catch for each of the crew members.

4.4.3.3 February 13, 2021, was “dump day” for the start of the 2021 Dungeness crab season for northern Oregon and Washington. “Dump day” was the day commercial crabbers could set their

¹ The investigation team learned that the CFV COASTAL REIGN had moorage in the Warrenton, OR, Marina until June 30, 2020, when his annual moorage was not renewed. It is the Marina’s policy that customers are required to provide current insurance, registration, and payment in full for the annual moorage to be renewed. Without meeting the Yearly Moorage Agreement Requirements, CFV COASTAL REIGN would have been charged a daily rate for being moored. Since the marina did not renew his annual moorage, it did not collect a current copy of his insurance. The marina was unaware that Mr. [REDACTED] had canceled his vessel insurance until after the vessel’s casualty.

crab pots in advance of the official opening on February 16, 2021. The CFV COASTAL REIGN made its first trip on February 13, set the pots, and then retrieved them on February 16 and 17 for the second trip. The crabs caught on that trip were sold in Warrenton, OR. After off-loading his catch, he went home and got six to eight hours of sleep.

4.4.3.4 The next day, February 18, the crew met at the boat around 5:45 a.m. to load bait and then depart Warrenton. For this trip, the crew consisted of Mr. [REDACTED] a co-operator (Mr. Chase), and two deckhands (Mr. [REDACTED] and Mr. Zappone). Mr. Chase was hired as he was an experienced operator.

4.4.3.5 [REDACTED] stated that he discussed emergency procedures prior to the vessel getting underway and that he typically reviews emergency procedures before each trip. He discussed how to operate the radio and the vessel in an emergency. He did not train with or inspect the immersion suits as often as he should have. "Every once in a while," he would pull them out from storage on the boat. He was unsure if the new deckhand, Mr. [REDACTED] had ever donned an immersion suit.

4.4.3.6 During the trip, Mr. Chase and Mr. [REDACTED] discussed the price of crab. They had learned that Garibaldi was paying \$6.50 a pound, \$2.50 more than the price for crab in Warrenton. They discussed how much crab it would take to make the longer trip south worthwhile. Complicating the decision was the worsening weather. He was aware of the hazardous nature of the Tillamook Bay Bar and described the area as a "hell hole." He stated that he had been across the bar over 100 times during the last ten years but had not gone over that winter.

4.4.3.7 He made the decision that they would travel to Garibaldi to offload their catch, then remain in port for a couple of days to wait for the expected bad weather to pass. The transit time from where they were crabbing off Fort Stevens, OR, to the Tillamook Bay Bar was four hours. On the way south, they set their crab pots between Silver Point and Castle Rock. After setting the gear, he cleaned the deck and rested in anticipation of crossing the bar. He believes he slept for a couple of hours. Mr. Chase operated the CFV COASTAL REIGN during the transit south. [Emphasis added]

4.4.3.8 Sometime between Manzanita and Twin Rocks, he ended his nap. He re-circulated the water in the No.1 crab hold to keep the crab fresh. He then switched the fuel tanks from which the engine drew fuel. The fuel tanks were located on the aft portion of the vessel on either side of the lazarette, port and starboard. Fuel had only been drawn from the port tank during the first trip and for a part of the second trip. He switched the fuel tanks as he wanted to ensure that there would be no interruption in fuel flow while crossing the bar.

4.4.3.9 He estimated that there were 3,500 – 4,000 pounds of crab in the No.1 fish hold. This was the forward fish hold and it was filled with water to keep the crab fresh. The aft fish hold was empty with no water. On the aft section of the vessel is the lazarette. Each tank on either side of the lazarette was 450 gallons. Both tanks were filled before they had started their first trip on February 13. The first trip was about two days on the water. Some of the fuel from the port tank was transferred the generator day tank. The day tank holds about 90 gallons and Mr. [REDACTED] claimed the vessel burned around 100 gallons of fuel each day. He stated that the starboard fuel tank was full for the crossing and there would have been 100 gallons or less in the port tank.

4.4.3.10 At the time of the crossing, the deck was mostly cleared. It held a couple of fish totes that were empty along with a handful of unset, but secured, crab pots. On top of the cabin were miscellaneous totes, poles and line along with a bundle of buoys.

4.4.3.11 During the transit towards the Tillamook Bay Bar, Mr. Chase had been in constant communication via cell phone with both the CFV PETRA MARIE and CFV LADY LEE. Mr. [REDACTED] and Mr. Chase knew that the conditions at the Tillamook Bay Bar were changing on a daily basis so they sought input from experienced operators.

4.4.3.12 At the Tillamook Bay Bar, [REDACTED] stated that he took over control of the vessel. Initially, he first approached the North Hole to observe conditions. The waves were breaking significantly and the CFV LADY LEE recommended going to the South Hole.² [REDACTED] stated that he had used the South Hole approach last year, so the area was not unfamiliar to him.

4.4.3.13 He navigated the CFV COASTAL REIGN south, transiting west of the bar. He then set up for an approach in the South Hole. He stated that the CFV COASTAL REIGN sat and watched the South Hole conditions for approximately 30 minutes, watching the way the waves were breaking and watching the timing of the waves. He watched the CFV LADY LEE cross the bar and then he believed that he moved the CFV COASTAL REIGN into the same position as the CFV LADY LEE prior to their entry. [Emphasis added]

4.4.3.14 He was sitting in his chair at the controls on the starboard side of the cabin. Mr. Chase was standing on the port side forward in the cabin. One deckhand was the lookout on the port side aft in the cabin while the other deckhand was sitting on the bench on the starboard aft side of the cabin behind the pilot's chair.

4.4.3.15 Prior to starting their approach, Mr. Chase instructed the deckhands to put on their lifejackets. Mr. [REDACTED] and Mr. Chase did not don lifejackets, but the jackets were at the ready on the bench near the seated deckhand.

4.4.3.16 He stated that visibility was crystal clear, good daylight, and he had a 32-inch monitor in the cabin with the plotter zoomed into the area. The plotter was on the starboard side of the cabin, visible from the operating position. He stated he would occasionally glance over to ensure they were in the "correct" position. Most of his attention was outside the vessel to watch the waves. He also used the depth sounder to check the depth. He stated that he had crossed the bar in worse conditions in previous years.

4.4.3.17 When they started their approach, the depth sounder read 5.4 fathoms, approximately 33 feet. He believed that they were following the same track line as the CFV LADY LEE and were west of the submerged South Jetty. Mr. Chase announced the presence of waves as they pushed forward. Two waves hit the vessel and each pushed the vessel east, towards the jetty. He did not feel that these first two waves were very big, but did set the vessel further east.

4.4.3.18 While pressing further, he heard one of the crew say, "oh shit!" which caused him to look to port. There, he saw a wall of water seemingly out of nowhere. He put the CFV COASTAL

² According to the Coast Guard Watchtower, the CFV COASTAL REIGN made several attempts to enter into the north hole but abandoned the effort and transited to the south hole.

REIGN hard over to port. The vessel was broadside to the wave. The wall of water lifted the vessel and rolled it toward starboard capsizing the vessel.

4.4.3.19 He felt the water come into the vessel from the port side and fill the cabin. Both of the side windows had been locked for the crossing. The front windows were one half inch thick. The side windows were much weaker windows and must have broken. Unable to see due to the water, he attempted to find the side and at the same time trying to find the crew. He reached out and felt the outside railing of the vessel. Grabbing the rail, he pulled and kicked his way out of the vessel. He emerged out of the water and immediately saw a bundle of buoys. He grabbed ahold of the buoys for buoyancy. He watched the vessel for a moment as it surged in the surf and saw no other crewmembers. At that point, he made the decision to head towards the beach to get out of the water.

4.4.3.20 At some point later, he saw the Coast Guard vessel and crew who pulled him from the water. It is his opinion that he would not have been able to get out of the cabin if he was wearing a lifejacket. When asked what could have been done differently, he stated that the only thing that could have been done differently would have been to not attempt to cross the bar at that time.

4.4.3.21 Mr. [REDACTED] was not tested for alcohol within the requisite period of time after the incident, but was able to get his drug test completed. He admitted during his first interview that his drug test was probably going to come back positive. He admitted that he had smoked marijuana prior to getting underway and had “taken a pill” for pain that was given to him by Mr. Chase. He did not have any additional information regarding the pill contents. Mr. [REDACTED] believed he took the pill about 3 hours before crossing the Tillamook Bay Bar.³

4.4.3.21.1 Drug Test Results - Mr. [REDACTED] provided a urine sample for a post-accident drug screening at 5:15 p.m. on February 21, 2021. This met the 32-hour time requirement for testing as set forth in the regulations. He tested positive for Carboxy-THC, the metabolite for THC (marijuana). The screening cut-off for a positive THC test is 50 ng/ml and Mr. [REDACTED] tested at 373 ng/ml.

4.4.4 Surviving Deckhand

4.4.4.1 The Coast Guard preliminary investigation officer interviewed Mr. [REDACTED] the deckhand, on February 21, 2021, a day after the casualty. Mr. [REDACTED] was again interviewed on March 17, 2021, by the investigation team.

4.4.4.2 His father was a commercial fisherman and while in high school, he regularly went gill netting with him. He surfed recreationally and was very comfortable on the water. The job on the CFV COASTAL REIGN was his first commercial fishing job. In December of 2020, he started work on the CFV COASTAL REIGN, maintaining the fishing gear and preparing for the crab season. Starting February 13, 2021, he began crabbing with the vessel, operating out of Warrenton, OR.

4.4.4.3 He took three trips with the CFV COASTAL REIGN. He transited with the vessel on February 13, 2021, to set the crab pots on “dump day.” Then, transited with the vessel on February 16 and 17 to haul and sell the catch from the first day of the season. The third and final trip began

³ Despite further inquiry, the Coast Guard has no additional information as to the nature of “the pill.”

on February 18, 2021, where they hauled their catch, set the traps, and transited to Tillamook in order sell.

4.4.4.4 He stated that prior to getting underway for the first time on February 13, 2021, the Mr. [REDACTED] discussed the life raft, emergency radio operations, lifejackets, and basic emergency vessel operations. When Mr. Chase came onboard on February 18, 2021, the owner/operator reviewed the safety procedures once again.

4.4.4.5 He stated that the last trip aboard the CFV COASTAL REIGN departed Warrenton at about 0500 on February 18, 2021. The crew consisted of himself, another deckhand, the Mr. [REDACTED] and Mr. Chase, the co-operator. He stated that the crew got along very well together. Mr. Chase operated the vessel while conducting crabbing operations and Mr. [REDACTED] worked the deck with the two deckhands.

4.4.4.6 On February 20, 2021, the CFV COASTAL REIGN headed south to Tillamook Bay to sell their catch. The first hold was almost full, and according to Mr. [REDACTED] they had approximately 5,200 to 5,600 pounds of crab in it. The second hold did not have any catch and he could not recall if it was filled with water or empty. He understood that the trip to Tillamook was made to sell the crab for \$2 or so more per pound in Tillamook than in Warrenton.

4.4.4.7 When the CFV COASTAL REIGN arrived at the Tillamook Bay Bar, it was rough and everyone onboard appeared increasingly nervous. He described the mood of the crew as “scared.” He recalls the Coast Guard reaching out to the CFV COASTAL REIGN on VHF radio to request to know how many people were onboard. He recalls the Coast Guard also stating that lifejackets were strongly recommended. [Emphasis added]

4.4.4.8 He stated that the vessel was operated by Mr. Chase as it navigated towards the North Hole of the Tillamook Bay Bar. After an unknown amount of time watching the bar from the North Hole, Mr. Chase continued south towards the South Hole.⁴ The vessel waited outside of the bar in the South Hole for approximately 30 minutes. They watched the wave sets and timed them looking for the best opportunity to make an approach. Given the sea state, the crew became increasingly worried. Mr. Chase ordered the deckhands to put on their lifejackets.

4.4.4.9 At or about the same time, [REDACTED] locked down (or ‘dogged’) the pilot house door to keep it from slamming in the rough seas and to prevent the glass from breaking. Mr. Chase immediately opened all dogs, except for one. He opened them so that in the event of an emergency they could more easily escape the pilot house. He recalled that he and Mr. Zappone had trouble buckling the life jackets as designed, so Mr. Chase secured them for each deckhand. He stated that he was so nervous about the bar crossing that he planned to have a friend pick him up in Garibaldi so that he would not have to cross the bar again on the return to Warrenton on the CFV COASTAL REIGN.

4.4.4.10 At some point while the vessel was waiting in the South Hole, [REDACTED] assumed control of the vessel from Mr. Chase. Mr. Chase then recommended that they move the vessel to deeper water and continue to time the wave sets from there. Mr. [REDACTED] did not move the vessel as Mr. Chase had suggested. It was around this time that the CFV LADY LEE successfully crossed

⁴ The operator of the vessel from the North Hole to the south hole is different between the deckhand and the owner/operator’s accounts. They do not differ when discussing the operator at the time of the south hole approach.

the Tillamook Bay Bar from the South Hole. Soon after, the owner/operator attempted his approach. He recalls that he could see the rocks of the south jetty 30-40 feet to the right of the vessel seconds before the vessel capsized. [Emphasis added]

4.4.4.11 He and Mr. Zappone were the only two crewmembers wearing lifejackets at the time the vessel capsized. The cabin filled with water. He attempted to find the door to escape but his ability to move and attempt to locate the door were hindered by his lifejacket that kept pushing him upwards. The engine room hatch, which was located on the deck of the cabin, opened once the vessel capsized. He felt air in the engine room and was able to climb into that compartment. He was sitting in the engine room with his legs hanging into the cabin when felt Mr. Zappone grab his leg. He reached down and pulled him into the engine room. He was able to use his cell phone for light.

4.4.4.12 Mr. Zappone had blood on his head and had lost his glasses. The deckhand stated that he was in a state of panic, but that Mr. Zappone was calm and collected. They both spotted Mr. Chase in the cabin face down in the water, completely limp, wrapped up in line. They reached down into the cabin and attempted to grab him but were unable to reach.

4.4.4.13 The waves pushed the capsized vessel towards the South Jetty and it was resting upon the rocks. The engine room began to fill with water and he believed that it would fill completely. Convinced he would drown, he decided to get out of the vessel. Meanwhile, Mr. Zappone wanted to stay inside the engine room and wait for the Coast Guard to rescue them.

4.4.4.14 He spotted a hole that was just large enough for the two to crawl out of the engine room. He doesn't know if it was a hole in the hull or if it was the open engine room hatch cover. Although he escaped from the inside the vessel, he does not know exactly how except that he does recall seeing the rocks and waves surging into them. He timed the wave sets and convinced Mr. Zappone to exit the engine room with him. He exited the vessel first but once out of the vessel, he saw Mr. Zappone on the rocks about six feet higher than he was. He was then hit by a wave and smashed to the rocks which dislocated his right shoulder. He was able to wedge himself between two rocks to secure himself in place as the waves continued to crash against the jetty. He stayed there until the Coast Guard helicopter rescued him.

4.4.4.15 Mr. [REDACTED]'s injuries were as follows: sliced finger on the right hand which required stitches, dislocated right shoulder, and various scratches and bruises.

4.4.4.15.1 Drug Test Results - He provided a urine sample for a post-accident drug screening at 1:20 p.m. on March 2, 2021. This exceeded the 32-hour time requirement for testing as set forth in the regulations. He tested positive for Carboxy-THC, the metabolite for THC (marijuana). The screening cut-off for a positive THC test is 50 ng/ml and Mr. [REDACTED] tested positive at 1667 ng/ml.

4.4.4.15.2 Sleep Schedule - After departing Warrenton on the February 18, the crew did not sleep again until they slept from 0400 to 0630 on February 19. He did not sleep again until he arrived at the hospital on the evening of February 20, 2021, after the capsizing of the vessel and his recovery by the Coast Guard. He states that the crew was working constantly. Every so often, in between strings of crab pots, they would have 10 minutes or so to eat or change clothes before working the next string of pots. He was tired during the work schedule, but they all were focused on work which kept them up and active.

4.4.4.15.3 Drug Use on Board the Vessel - During his initial interview on February 21, 2021, he stated that he did not use any drugs while onboard the CFV COASTAL REIGN and he had no suspicion of anyone using drugs onboard the vessel at any time. However, after the close of the first interview, he contacted LT [REDACTED] and Mr. [REDACTED] (MSU Portland) to admit that he had been using marijuana throughout the entire fishing trip along with other members of the crew.

4.4.4.15.3.1 During the interview on March 17, 2021, he stated that he, Mr. [REDACTED] and Mr. Zappone, smoked marijuana routinely while underway. Mr. Chase was against the use of drugs onboard the vessel, so they hid their use of marijuana from him. Mr. Zappone brought the marijuana on board in both a glass jar and a zip lock bag. Mr. Zaponne kept the material in his backpack.

4.4.4.15.3.2 While the vessel set pots during the February 13, 2021, trip, the crew onboard was Mr. [REDACTED] Mr. Zappone and Mr. [REDACTED] Mr. Chase was not onboard the vessel for that initial trip. Mr. [REDACTED] stated that the three would smoke marijuana frequently in the pilot house and on the deck while crabbing. However, when Mr. Chase was onboard, the crew would attempt to hide their use by going out on the aft deck to smoke.

4.4.4.15.3.3 [REDACTED] stated that he, Mr. Zappone, and Mr. [REDACTED] rotated on the aft deck for the entire transit towards Garibaldi, each taking turns smoking. He stated that the three of them smoked marijuana approximately 30 minutes before attempting to cross the Tillamook Bay Bar. At the time of the crossing, he stated that he felt a "normal high" that day and that his senses were "slower."

4.4.4.15.3.4 In his experience as a marijuana smoker, he stated that a marijuana high normally makes a person second-guess themselves and that Mr. [REDACTED] appeared to be "high" or "stoned" and was frequently second-guessing himself when deciding when to cross the Tillamook Bay Bar. When asked how the marijuana made him feel at the time of the crossing, he stating that he was "high, definitely stoned" at the time of the crossing.

4.4.4.15.3.5 Mr. [REDACTED] stated that he was confident that Mr. [REDACTED] and Mr. Zappone had consumed a comparable amount of marijuana as he had in the 30 minutes prior to crossing the bar. This account is consistent with the correction to his original interview and the results for the surviving crew's drug tests.

4.5 Marijuana Found and Tested Post-Casualty

4.5.1 On February 23, 2021, the Park Manager from the Cape Lookout State Park recovered debris from the CFV COASTAL REIGN wreckage on the beach south of the South Jetty. Included in the wreckage was a backpack containing a zip-lock bag and a glass jar containing what appeared to be organic plant matter.

4.5.2 On March 15, 2021, U.S. Coast Guard Station Portland tested the material using their Nik Kit. Tests on the contents of the glass jar revealed a positive test for marijuana. Tests on the zip-lock bag were inconclusive. However, based on the contents, characteristics, appearance and smell, and the Boarding Officer's training, experience and judgment, it is believed by the Station personnel conducting the test that the contents were marijuana. The Boarding Officer believed that the amount

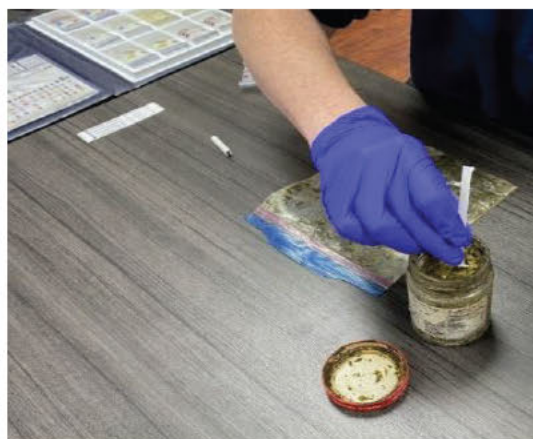
of moisture mixed in with the potent leafy green substance within the zip-lock bag led the test result on the contents of the zip lock to be inconclusive.

4.5.3 Mr. Zach Zappone's next of kin confirmed that the backpack belonged to Mr. Zaponne. Mr. [REDACTED]'s description of where and how the marijuana was stored on board the CFV COASTAL REIGN is confirmed by the evidence of the plastic bag and glass jar. The full Nik Kit test and procedure report from Coast Guard Station Portland may be found on Homeport in the exhibits folder.



Left: Backpack found on the beach with the CFV COASTAL REIGN wreckage. Confirmed to be Mr. Zach Zappone's property. Note: plastic bag and glass jar containing green leafy organic material.

Below left and below right: Station personnel retrieve a sample from the plastic bag and glass jar described by Mr. [REDACTED]



4.6 Owner/Operator Follow-up Interview, March 4, 2021

4.6.1 On March 2, 2021, the AIO with assistance from local law enforcement, served a subpoena on Mr. [REDACTED] requiring him to appear before the investigation team for an interview. The subpoena required [REDACTED] to appear at Sector Columbia River in Astoria, OR, on March 4, 2021. His attorney, Mr. [REDACTED], sought immunity from any prosecution prior to any statements his client would give at the interview. Coast Guard District Thirteen was presented with that option and declined. The team proceeded with the interview and asked the following questions in order to allow the owner/operator to provide further detail and explain the casualty given the evidence the investigation team had collected. The investigation team asked the following questions to which Mr. [REDACTED] asserted his Constitutional right against self-incrimination provided by the 5th Amendment.

1. Why wasn't Todd (Mr. Chase) driving when you crossed the bar?
2. Did Todd (Mr. Chase) ask you to drive the boat?

3. During your initial interview with Mr. [REDACTED] you stated that you looked at the North Hole as a possible way to get in, correct?
4. "You made, according to the CG, several attempts going into the North Hole...."
Mr. [REDACTED]: Anything about the navigation of the vessel, crossing the bar, my advice will be to assert the Fifth Amendment privilege."
5. What was the agreement for determining who was going to drive the boat across the bar?
6. Who had more experience crossing the Tillamook Bay Bar, you or Mr. Chase?
7. Why did you take control over the vessel (at the South Hole)?
8. The jetty system for the South Jetty is charted well beyond what is visible, did you notice that?
9. On the day in question, were you following any track lines?
10. Do you have any buoys saved on your plotter?
11. There was no buoy in the south hole, was that a concern of yours prior to entering that hole?
12. Why did you not wait for the CFV PETRA MARIE to contact you prior to attempting the crossing?
13. Generally, when you cross the Tillamook Bay Bar, what are your procedures to ensure a safe crossing?
14. The Coast Guard recommends a safety checklist prior to crossing and hazardous bars. Do you use any checklists to cross the bars?
15. Is there a process that you go through prior to crossing the bar to ensure that it will be a safe crossing?
16. Are you aware that the Coast Guard offers, and is available to do standbys, where the Coast Guard will send a vessel out if there is a hazardous condition on the bar?
17. Are you aware that the Coast Guard will provide an escort or discuss the crossing of the bar?
18. On the day in question, did you ask the Coast Guard for a standby?
19. What was your thought process and why did you not contact Station Tillamook Bay for an escort?
20. Discuss the process you went through in determining which route to take to cross the Tillamook Bay Bar that day.
21. Are you aware that the end of the southern jetty is submerged?
22. What if anything do you know about Mr. Zappone's marijuana use aboard the CFV COASTAL REIGN?
23. Were you aware that Mr. Zappone had marijuana on your boat?
24. The Coast Guard recovered a backpack that was identified to be Mr. Zappone's. In the backpack were marijuana-like material and a jar of marijuana. We identified that the materials were stored openly on the CFV COASTAL REIGN. Did you see this material onboard the vessel?
25. Did you have a drug use policy onboard the CFV COASTAL REIGN?
26. From other interviews, there was mention of drug use onboard. When was the last time you recall any use of marijuana onboard the vessel?
27. Do you recall Mr. [REDACTED] using marijuana onboard?
28. Do you recall Zachary Zappone using marijuana onboard?
29. Do you recall if you used marijuana onboard?
30. Do you recall if Todd Chase used marijuana onboard?

31. Mr. [REDACTED] states that both you and he were smoking marijuana about 30 mins prior to crossing the bar. Is that true?
32. Are you aware of how marijuana affects an individual?
33. Can you tell me if anybody onboard the vessel at the time of the crossing, to your knowledge, was under the influence of marijuana?

Without answers to the questions above, the investigation team must draw its conclusions from the other evidence collected during the investigation.

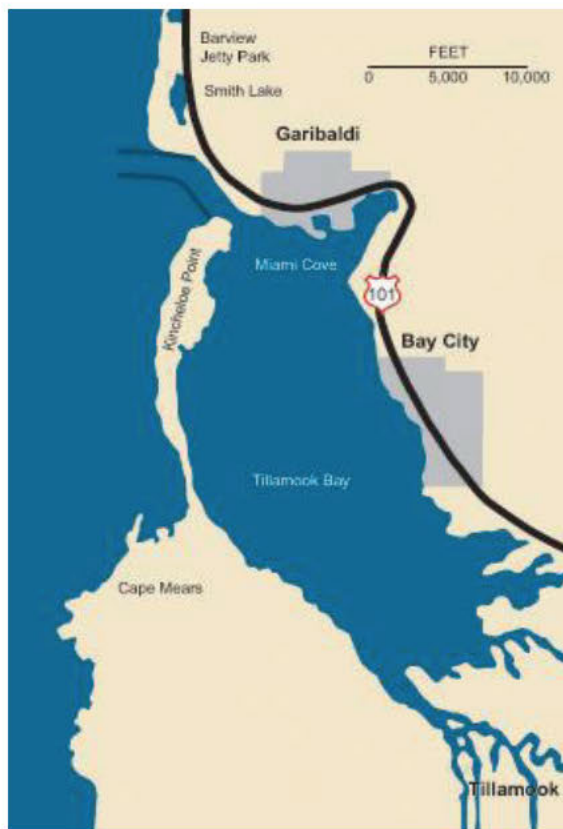
4.7 The Tillamook Bay Entrance

4.7.1 Tillamook Jetty System

4.7.1.1 Tillamook Bay is on the Oregon coast, 50 miles south of the Columbia River. Chart 18558 covers the area. The United States Army Corps of Engineers (the “USACE”) owns and maintains two jetties at Tillamook Bay’s entrance. The North Jetty was constructed first in 1914 with South Jetty construction beginning decades later in 1969. The USACE has made repairs to both jetties due to persistent damage from wave action continually smashing against them.

4.7.1.2 In 1931, the North Jetty was reconstructed and extended it to its full, authorized 5,700-foot length. In 2004, the USACE constructed a revetment to help prevent shoreline erosion and protect the vulnerable North Jetty root. USACE contractors rebuilt the North Jetty head in 2010, stabilizing the jetty at 5,213 feet. The repaired head is broader, higher and more substantial to withstand the powerful waves.

4.7.1.3 The South Jetty construction was authorized in 1965 with completion of the first segment in 1971. The USACE completed the second segment in 1974 and the third and final segment in 1979. The 1,500-foot third segment brought the South Jetty to its full authorized length of 7,094 feet.



USACE Map of Area:

<https://www.nwp.usace.army.mil/Portals/24/images/coast/Garibaldi%20Bay.jpg?ver=2018-12-31-122806-830>

4.7.1.4 The map to the left provides a view of the jetty project area. The North and South Jetties are seen as dark gray lines in the upper left quadrant of the illustration. The North Jetty is well connected to the shore, while the South Jetty extends northwesterly from the tip of Kincheloe Point. The project description states that the channel over the Tillamook Bay Bar is 5,000 feet long, 18 feet deep, and has no prescribed width. The North Jetty is 5,213 feet long, while the South Jetty is 7,094 feet long.

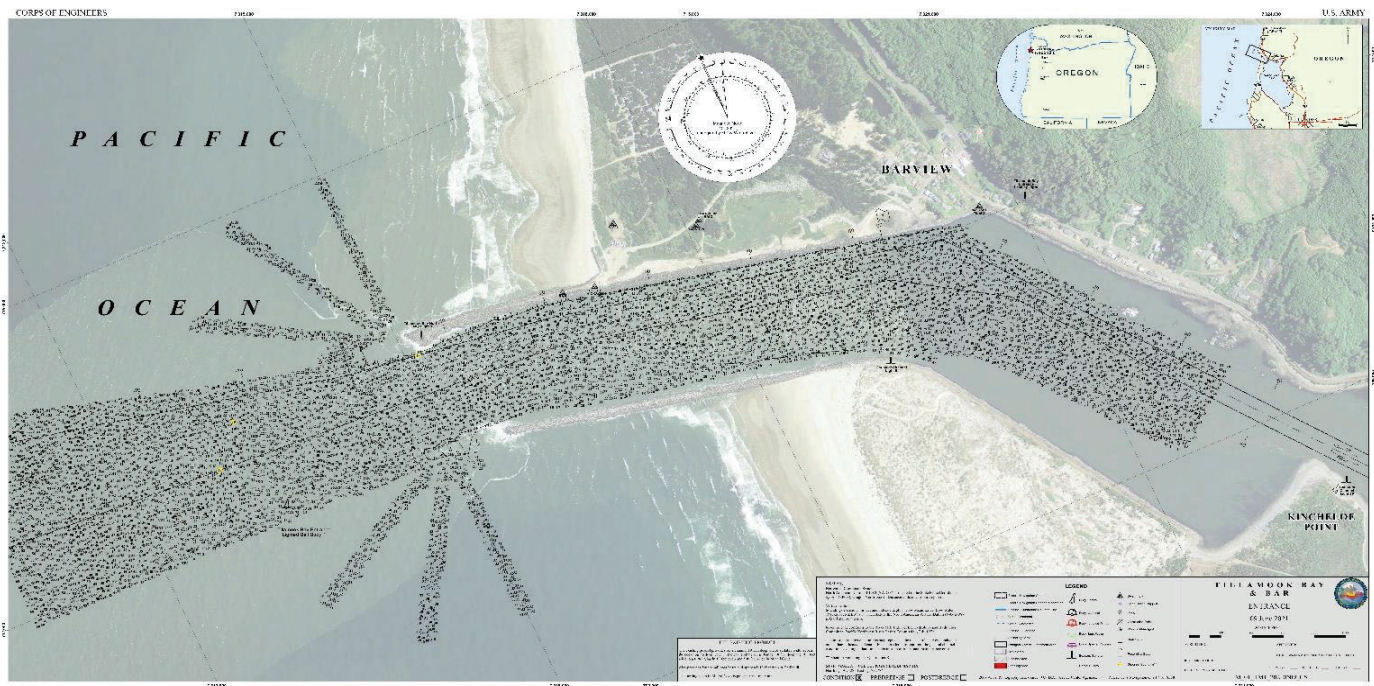
4.7.1.5 Since its construction, both jetties have receded due to the Pacific Ocean environment. The USACE has focused on the rehabilitation of the North Jetty and a 2020 rehabilitation project capped it at its current length of 5,213 feet. USACE contractors placed more than 1,000 stones weighing 25-50 tons each on an existing relic stone base, creating a new cap.

4.7.1.6 The South Jetty has continued to erode and has receded significantly. The USACE has annually sought project funds to rehabilitate the South Jetty without success.

Additionally, the Port of Garibaldi has been an outstanding and persistent advocate for the South Jetty rehabilitation project. At the time of the casualty, however, no South Jetty rehabilitation work had been completed by the USACE.

4.7.1.7 An overview photo, below, from June 2019, shows the Tillamook Channel and Bar area along with the North and South Jetties. Detailed depth data of the area shows the extent of South Jetty's recession as no depths are identified over the submerged area of the jetty extending past the visible rocks of the structure. On this map, the area extending west of the visible portion of South Jetty measures approximately 600 feet. However, a USACE study in 2021 officially measured the submerged area as 1100 feet, a 41-foot increase since their last official study in 2014.

4.7.1.8 The Tillamook jetty system project was proposed in such a way to have near-even jetty tips that would cause the inflow and outflow of water to serve as a means of pushing sediment from Tillamook Bay out to sea, thereby creating and maintaining a channel through the bar. The uneven jetty system has created persistent and often unpredictable shoaling. The USACE does not have a dredging program for the Tillamook entrance. According to the USACE, the Tillamook entrance is already self-dredging and has been since construction.



ACOE Aerial photo of area above, with current depth data, June 2019.

4.7.2 Tillamook Entrance Buoys

4.7.2.1 The Tillamook Bay Bar is divided into three distinct approaches as can be seen in the photo above and the chartlet below. The approaches are locally identified as the “North Hole,” the “South Hole,” and the “Middle Grounds.” The Tillamook Bay Channel lies just south of the North Jetty. Shoaling of the “Middle Grounds” due to the uneven jetty system, makes this area unpredictable and hazardous and is an area to be avoided except on the calmest of seas.

4.7.2.2 Prior to 2019, the main approach over the bar was from the south through the South Hole which is the deep water area that runs north and south, just west of the end of the submerged rocks on the South Jetty. The approach was marked with a lighted whistle buoy 1.25 miles southwest of the seaward end of the south jetty and a green lighted bell buoy marking the west side of the “South Hole”.

4.7.2.3 In the spring of 2019, in response to concerns from recreational boaters, as well as the crew at Station Tillamook Bay, that the South Hole was shoaling due to the deteriorating South Jetty and that the entrance buoy should be moved to the north, D13 Waterways Management Branch commissioned a Waterways Analysis and Management System (WAMS) study. It determined that the preferred route should be changed to the North Hole. As such, the lighted whistle buoy was moved to the northwest of the North Jetty tip. The green lighted bell buoy marking the west side of the South Hole was removed and, instead, a red lighted bell buoy was placed marking the west side of the North Hole.

4.7.2.4 The Coast Guard’s movement of this buoy was, and still is, contentious. Local fisherman and the Port of Garibaldi have expressed concern about the Coast Guard’s effort to

provide notice and include as many voices as possible, in particular the voices of commercial fishermen, regarding the proposed buoy movement.

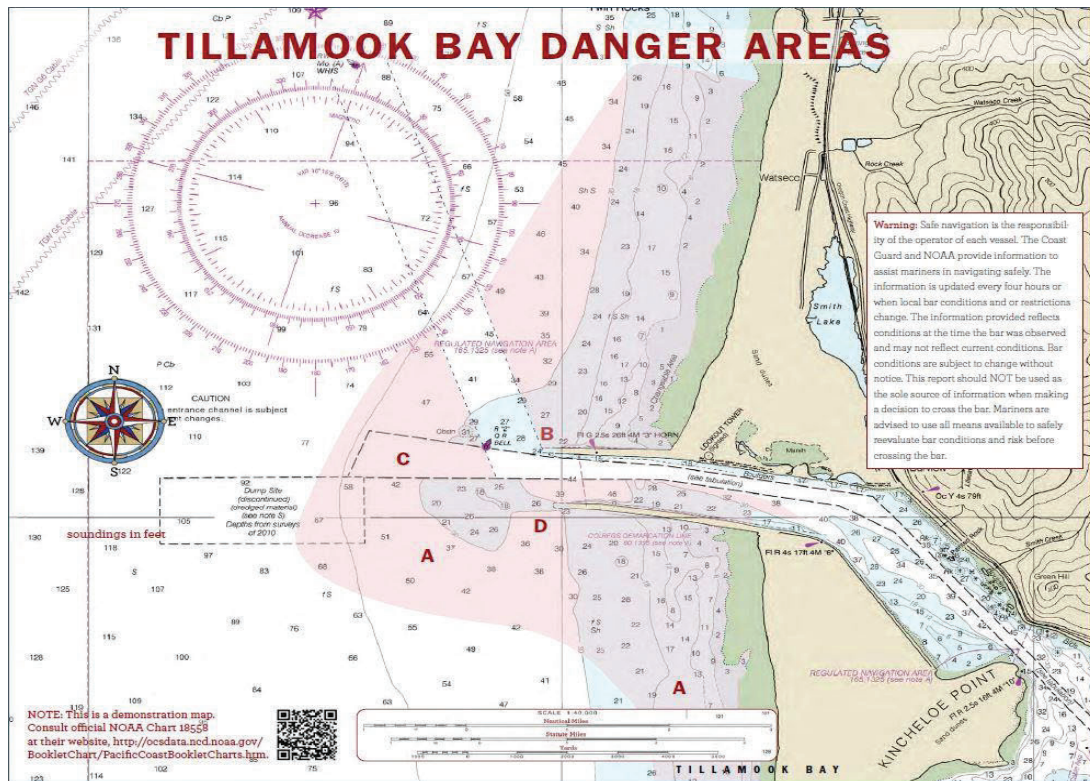
4.7.2.5 In March of 2019, the Coast Guard published a local notice to mariners announcing a public meeting to seek input on the buoy placement at the Tillamook entrance. They also issued a press release seeking the same, conducted an email campaign and phone conversations in an effort to drive input. The public meeting was held in Garibaldi, OR, on May 8, 2019, with very low turnout. The Coast Guard received a total of 9 surveys. Based on the input, along with a D13 Waterways Management Branch site visit, the proposed move was approved on October 2, 2019.

4.7.3 Station Tillamook Bay Navigational Control and Assistance

4.7.3.1 The Officer in Charge (OIC) of Station Tillamook Bay is designated as a Representative of the Captain of the Port, Sector Columbia River. He has been granted the authority to impose bar restrictions in accordance with the Regulated Navigation Area established for the Tillamook entrance.

4.7.3.2 The OIC's authority is limited to recreational vessels and uninspected passenger vessels. In order to control the movement of inspected vessels or commercial fishing vessels, the OIC must seek the authority of the COTP. The OIC Station Tillamook Bay exercises his authority diligently and bar restrictions generally follow the table that is identified in Chapter 2 of the Station's Operations Policy Manual. On the day of the incident, Station Tillamook Bay implemented its bar restriction authority in accordance with its policy.

4.7.3.3 Part of Station Tillamook Bay's duties is to educate the boating public regarding bar crossings. One such effort is distributing a joint publication with NOAA and the Oregon State Marine Board called "Crossing Tillamook Bay Bar." Station Tillamook reviews the material, Oregon State publishes it both in print and on-line. The Station places copies in the hands of mariners throughout the port. The version in place at the time of the casualty identifies the North Hole as the preferred route. The publication contains a chartlet (below) and it identifies the buoy watching on the north side of the bar. However, the publication states that the South Jetty has only 200 feet submerged.



4.7.3.4 The Coast Guard also educates the public through its Special Local Notice to Mariners (SLNM) program. On June 3, 2020, District Thirteen issued a press release identifying the release of the updated SLNM. The publication is easy to use and provides quick access to “Know Before You Go” a guide to crossing hazardous bars in Washington and Oregon. While the CFV COASTAL REIGN had mobile phone access, there is no evidence that suggests the operator accessed this information prior to making their decision to transit to Tillamook.

KNOW BEFORE YOU GO

Washington & Oregon Bar Conditions



Coastal bars in Oregon & Washington can be deadly

Know the risks, check the current and expected conditions, carry appropriate safety equipment, and **wear your life jacket**



Check bar conditions with your mobile phone

<http://https://www.weather.gov/pqr/barcams>

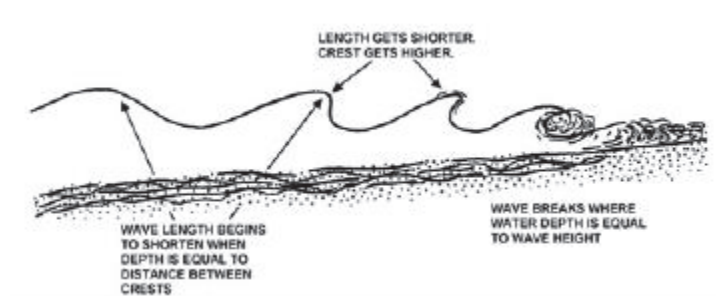



A collaborative project of the National Oceanic and Atmospheric Administration and the United States Coast Guard

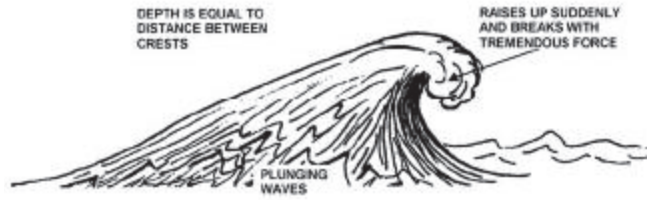
WARNING: Safe navigation is the responsibility of the operator of each vessel. The Coast Guard and NOAA provide information to assist mariners in navigating safely. The information provided will be updated every four hours or when local bar conditions and/or restrictions change. The information provided reflects conditions at the time the bar was observed and may not reflect current conditions. Bar conditions are subject to change without notice. This report should NOT be used as the sole source of information when making a decision to cross the bar. Mariners are advised to use all means available to safely evaluate bar conditions and risk before crossing the bar.

5. Additional/Supporting Information

- 5.1 The CFV COASTAL REIGN was destroyed as a result of sinking at the Tillamook Bay entrance and suffering the effects of the pounding surf. Parts of the vessel and its equipment washed ashore along the beach, but much of it was lost to the sea. As such, the vessel was not available for post-casualty inspection or analysis.
- 5.2 Post-casualty Department of Transportation drug testing of Mr. [REDACTED] and Mr. [REDACTED] showed positive for THC (marijuana). The use of marijuana can result in impaired judgement, mental fog, drowsiness, impaired attention or memory, and poor coordination.
- 5.3 The Tillamook Bay Bar Report at the time of the incident was 4-6 foot swells between the tips, 6-8 foot swells with occasional 8-10 foot breaking waves in the North Hole and Middle Grounds, and 8-10 foot swells in the South Hole. Winds were 5 knots from the south; visibility was 8 nautical miles; water temperature was 49°F, and air temperature was 44°F. The tide was flooding.
- 5.4 As deep-water waves approach the bar, they become organized by the effects of the contact with the bottom. As the depth of water decreases, the waves break and the crests tumble forward. They fall into the trough ahead usually as a mass of foaming white water. This forward momentum carries the broken water forward until the wave's last remaining energy becomes awash rushing up the beach or jetties. (USCG, 2003).



- 5.5 Plunging waves are breaking waves that result when there is a sudden lack of water ahead of the wave, such as in a steep rise of the ocean floor like the seaward edge of a bar or shoal. As a wave steepens, its momentum will cause it to fall forward or curl. This momentum gives the curl of breakers tremendous force. Waves can travel at up to 35 knots (40 mph), and very few boats can outrun a wave of that speed (note: an average fully loaded crab boat only makes approximately 6 to 10 knots). One cubic yard of seawater weighs almost a ton. A 20-foot breaker can drop 1,500 tons of water on a boat, and exert a force of up to 6000 PSI. (USCG, 2003). These types of breaks are usually found on the outer edge of the bar where deep water meets shallow depths. These types of breaks are common and visibly mark the end of the submerged portion of the South Jetty.



5.5.1 Breaking waves cause aerated water on the subsurface jetty. As the wave breaks, it combines with air, creating whitewater on the face of the breaker. As the breaker moves across the bar, it leaves a trail of pale or white aerated water behind it which takes some time to dissipate. This air-water mix can create changes in a boat's handling ability. A boat's propeller will not create as much thrust when operating in heavily aerated water. Likewise, a boat's rudder will not direct the propeller force as effectively in aerated water. A boat's response will be greatly slowed and create poor acceleration, cavitation (excessive engine RPM for a given throttle), and poor turning performance. (USCG, 2003).

5.5.2 Capsizing will generally occur when a boat is placed beam-to breaker the same height as the beam of the boat. (USCG, 2003).

5.6 Marine Casualties on the Tillamook Bay Bar

The bar at the entrance of Tillamook Bay is one of the most treacherous bars on the Oregon coast. Since 2003, there have been over 34 marine casualties in the immediate area. Eight of these marine casualties occurred as the vessels attempted to cross the bar while hazardous conditions existed and bar restrictions were in place. Forty-one lives were put at risk and the casualties resulted in the loss of 19 lives and include a total loss of the vessels involved. Four of these marine casualties involved the South Jetty.

Vessel Name	Date	Lives at risk	Lives lost	Vessel Value	Approach
COASTAL REIGN	February 20, 2021	04	02	\$250,000	South
OR537ACN	March 23, 2012	02	00	UNK	North
DOUBLE EAGLE	October 4, 2010	02	00	\$275,000	South
NETWORK	November 27, 2008	03	02	\$300,000	North
STARRIGAVAN	January 24, 2007	04	01	\$350,000	South
CATHERINE	Feb 7, 2006	03	03	\$25,000	Middle
OR258ABL	October 15, 2004	04	00	\$30,000	South
TAKI-TOOO	June 14, 2003	19	11	\$180,000	North

6. Causal Analysis

6.1 Failure to properly navigate in and through the “South Hole.”

The operators of both the CFV LADY LEE and the CFV PETRA MARIE stated that they watched the CFV COASTAL REIGN attempt to cross the bar and that the CFV COASTAL REIGN did not transit through the South Hole. Although the CFV LADY LEE and the CFV PETRA MARIE differ as to the exact starting location of the CFV COASTAL REIGN, they both confirmed that they saw the CFV COASTAL REIGN transit over the top of submerged south jetty. Both the CFV LADY LEE and CFV PETRA MARIE are home-based in Garibaldi and the operators have extensive experience crossing over the Tillamook Bay Bar in all types of weather. Both captains are experts at identifying the submerged portion of the South Jetty so as to avoid transiting near it. At the time of the casualty, there were no breaking waves in the South Hole. The CFV COASTAL REIGN transited over the submerged jetty, venturing too far east out of the south hole and failed to follow the line set by the CFV LADY LEE.

6.2 Marijuana use.

6.2.1 The post-casualty DOT drug tests for the two survivors were positive for THC. While a positive test alone does not show that either was under the influence of THC at the time of the casualty, the positive test does however, corroborate the surviving deckhand’s statement of drug use aboard the vessel. If the deckhand is to be believed, the operator of the CFV COASTAL REIGN was smoking marijuana approximately 30 minutes prior making the transit. The deckhand’s statement is bolstered by his accuracy as to the location and storage of the marijuana on the vessel, the Station’s positive Nik Kit test, along with the positive drug tests for both crew members. While a positive test alone does not show that a user was under the influence of the drug, Mr. [REDACTED]’s own admission of his state of mind and his admission of usage indicates that he and others were under the influence of the drug at the time of the casualty.

6.2.2 The CDC has identified operating under the influence of drugs, including marijuana, as dangerous and illegal. Operating a vessel is a complex task requiring full attention in order to stay safe and alert. Marijuana affects areas of the brain that control the body’s movements, balance, coordination, memory, and judgment. Marijuana use can impair important skills required for safe vessel operation by slowing reaction time and the ability to make decisions, impairing coordination, and distorting perception.

6.2.3 Marijuana use, combined with fatigue, can result in an impairment of critical decision-making during a bar crossing and could be reasonably concluded as a causal factor to this marine casualty.

6.3 Crewmembers’ lack of proper rest

6.3.1 The first weeks of the Dungeness crab season is critical to commercial fishermen. About half of the crab caught during the entire season is caught within the first two weeks of the season and that 75% of the total catch is brought in within the first eight weeks. Mr. [REDACTED] stated that he had very little time for rest between pulling pots. Mr. Chase informed the operator

of the CFV PETRA MARIE that the crew was operating with very little rest over the previous 48-hour period. Mr. [REDACTED]'s rest schedule from 0500 on February 18, 2021 to 1637 on February 20, 2021, included just one short nap. At present, there are no work/rest regulations applicable to CFVs less than 200 GTs. The operation of the CFV COASTAL REIGN and other commercial marine vessels is similar in nature in terms of maneuvering, navigation and basic seamanship to larger vessels. Similarly, fatigue impacts mariners on any platform the same way.

6.3.2 The International Maritime Organization (IMO), which governs international maritime shipping, makes the following statement describing fatigue:

*A state of physical and/or mental impairment resulting from factors such as inadequate sleep, extended wakefulness, work/rest requirements out of sync with circadian rhythms and physical, mental or emotional exertion can impair alertness and the ability to safely operate a ship or perform safety-related duties.*⁵

Furthermore, the IMO states:

Fatigue is a hazard because it may affect a seafarer's ability to do their job effectively and safely. Importantly, fatigue affects everyone regardless of skill, knowledge and training. The effects of fatigue can be particularly dangerous in the transportation sector, including the shipping industry. All stakeholders should be alert to the factors which may contribute to fatigue, and make efforts to mitigate and manage the risks posed by fatigue.

6.4 CFV COASTAL REIGN's reduced maneuverability due to position over the submerged jetty

6.4.1 The CFV COASTAL REIGN attempted several times to maneuver itself to port in an effort to ride over the waves. Mr. [REDACTED] stated that when he saw the final wall of water coming towards the vessel from the port side that he put the CFV COASTAL REIGN hard over to port. However, the vessel failed to respond. In the video of the capsizing, it appears that the CFV COASTAL REIGN was moving forward straight ahead with no indication of turning to port and almost no forward momentum.

6.4.2 The operators of the CFV LADY LEE and the CFV PETRA MARIE stated that they saw the CFV COASTAL REIGN transiting over the white aerated water trailing behind the breaking waves over the top of the submerged jetty. The white aerated water has the capacity to change the vessel's handling ability as the propeller creates less thrust and the rudder less effective resulting in the CFV COASTAL REIGN being unable to turn. The operator of the CFV LADY LEE stated that had the CFV COASTAL REIGN turned to port and taken the waves straight on, they may have lost the front windows, but they likely would not have capsized. Had the CFV COASTAL REIGN's maneuverability not been reduced by the aerated whitewater located above the submerged jetty, the operator of the CFV COASTAL REIGN may have been able to turn into the oncoming breaking waves and may not have capsized.

⁵ IMO Circular MSC.1/Circ. 1598 Guidelines on Fatigue



6.5 The inherently dangerous nature of crossing the Tillamook Bay Bar.

The Tillamook Bay Bar is considered one of the most dangerous bars on the Oregon Coast. Due to the extensive shoaling at the entrance caused by the severely damaged jetty system in place, vessels are unable to transit straight across the bar in the charted channel unless the sea state is calm. An approach through the Middle Grounds would allow operators to travel head into the direction of the waves. Shoaling at the entrance forces vessels to use the North Hole or the South Hole entrances to cross the bar. Operators must travel beam-to the direction of the waves for a period of time which places the vessel in an inherently dangerous condition. If the jetties were properly functioning, the increased velocity of the water as it passed through the channel may have prevented the shoaling from occurring at the entrance of the Tillamook Bay Bar. This would have made the crossing of the Tillamook Bay Bar less hazardous as the CFV COASTAL REIGN may have been able to cross the Tillamook Bay Bar head-into the direction of the waves, and would not have been beam-to the waves, and may not have capsized.

6.6 Restrictions on commercial fishing vessels for Tillamook Bay bar crossings are not warranted by this case

6.6.1 Coast Guard regulations and hazardous bar restrictions exist to prevent recreational and uninspected passenger vessels from crossing the bar. These restrictions do not apply to commercial fishing vessels unless the OIC seeks the authority of the Sector Columbia River COTP. The conditions of the bar at the time of the incident warranted diligent seamanship as portrayed by the CFV LADY LEE and the CFV PETRA MARIE. In the words of the CFV LADY LEE captain, the bar was “not that bad” despite the restrictions placed on the bar by Station Tillamook Bay.

6.6.2 In his first interview, Mr. [REDACTED] stated that he had crossed the bar under worse conditions. However, while Mr. [REDACTED] stated that he crossed the Tillamook Bay Bar many

times in the past, he could not recall a winter bar crossing. As the bar shifts regularly due to shoaling, particularly in the winter due to extreme weather, crossing in February without heightened knowledge such as that exhibited by the CFVs LADY LEE and PETRA MARIE, would increase the risk of a casualty.

6.6.3 Bar crossings are challenging. However, prudent seamanship presumes the operator has adequate rest and is not operating under the influence of any substance that would impair judgment particularly in an unfamiliar location wherein conditions change seasonally from year to year. The Coast Guard regulates such conduct by way of licensure which helps provide some surety against drug use and prudent rest time. At issue is the regulatory action upon which the Coast Guard can take as a result of these departures from the requisite standard of care. As an unlicensed operator, action against the operator of the CFV COASTAL REIGN is limited to personal action whether it may be criminal in nature, or administrative through civil penalties. Under either enforcement regime, however, nothing prevents the operator from resuming fishing operations.

6.7 Placement of buoys marking the north and south hole

6.7.1 After completing a WAMS in 2019, the Coast Guard removed the green buoy that had marked the South Hole and placed a red buoy to mark the North Hole. Although the Coast Guard designated, charted, and marked the North Hole as the preferred route, the local mariners that cross the Tillamook Bay Bar on a regular basis do not choose the route based on the Coast Guard designation. The mariners choose which route to take by watching the conditions on the bar and choosing the safest route, which changes with weather and sea conditions. The red and the green buoys are used as a visual reference outside of the vessel and are used by mariners to ensure they stay clear of the submerged portions of both the North and South Holes as well as used to judge the height of incoming wave sets. Mariners prefer to keep their eyes outside the vessel to be able to watch the waves.

6.7.2 Both the operators of the CFV LADY LEE and the CFV PETRA MARIE stated that they believe that some sort of navigation aid where the old green buoy was marking the South Hole would be a visual aid and would help mariners know where the South Hole is and help avoid the submerged portion of the South Jetty. When asked about the lack of the green buoy to mark the South Hole, Mr. [REDACTED] of the CFV COASTAL REIGN exercised his right not to answer. Based on the opinions of the experienced mariners, however, a visual aid is a helpful and a preferred tool.

6.8 Lifejacket usage

6.8.1 Both deckhands were wearing US Coast Guard approved Type-I lifejackets while the operator and Mr. Chase were not. The Type-I is designed to turn most unconscious wearers face-up to prevent drowning. To properly secure the lifejackets, three sets of straps must be secured. Here, in order to secure the top and bottom sets of straps, Mr. Chase pulled the strap ends tight and tied them together as [REDACTED] and Zappone struggled with securing the straps. The middle set of straps consisted of a strap and clip on one side and a strap and ring on the other side. To secure the middle straps, the clip was secured to the ring and then the strap pulled tight. The middle strap was located just under the wearer's armpits. This middle strap is

a vital part of the securing mechanism of the lifejacket as this secured the lifejacket securely around the wearer's body or chest.

6.8.2 Mr. [REDACTED] stated that he and Mr. Zappone had difficulty connecting the ring and clip as designed. He only remembered the top and bottom straps being tied together by Mr. Chase, but did not recall the middle clip ever being secured around either him or Mr. Zappone. The top and bottom set of straps were cut by the Coast Guard rescue team after Mr. [REDACTED] was recovered. Mr. Zappone was retrieved from the water, still in his life jacket, but with his head lowered in the jacket to where his chest should have been. When Coast Guard investigators received Mr. Zappone's lifejacket for further examination, the top and bottom straps were still tied together and the middle clip still clipped together. By the way that Mr. Zappone was retrieved from the water, and from Mr. [REDACTED]'s testimony, it is assumed that the clip was never secured around Mr. Zappone as it was supposed to have been. The Coast Guard was able to remove the life jacket without undoing any of the straps.

7. Opinions and Conclusions

7.1 Determination of Cause

7.1.1 The initiating event for this casualty occurred when the plunging waves hit the CFV COASTAL REIGN on her port side, beam-to, as she transited over the submerged portion of the South Jetty of the Tillamook Bay Bar. The causal factors leading to this event were:

7.1.1.1 The operator's impaired judgment due to marijuana use. Had the operator of the CFV COASTAL REIGN not ingested marijuana prior to crossing the bar, his decision-making and ability to react to rapidly changing conditions during the attempted crossing would have been improved. Mr. [REDACTED] was positive for THC at elevated levels. Additionally, Mr. [REDACTED]'s statements regarding drug use on the vessel and prior to crossing the bar are compelling. His statements are corroborated not only by the positive drug tests, but also by the identification of marijuana found in Mr. Zappone's backpack which matched that which was described by Mr. [REDACTED]. Marijuana is a drug that is unlawful pursuant to federal statute and operating a vessel while under the influence of marijuana is unlawful for the very reason that it impairs an operator's judgment.

7.1.1.2 The operator's judgment was impaired due to fatigue. Statements made by Mr. Chase to Mr. [REDACTED], along with statements by Mr. [REDACTED] during his first interview and that of Mr. [REDACTED] show that the crew of the CFV COASTAL REIGN was operating on very little sleep over the previous 48 hours. Mr. [REDACTED]'s short nap during the transit to Tillamook was the only rest he had in the immediate period leading up to the crossing. Fatigue is a primary factor affecting judgment. Without rest, his ability to operate the vessel in a prudent manner is reduced.

7.1.1.3 The operator's overconfidence in his abilities to safely transit through Tillamook Bay Bar while restrictions were in place are a causal factor. Mr. [REDACTED] failed to consider the changing bar conditions during the winter months. There is no evidence that he accessed any of the Coast Guard materials that would assist in his bar crossing. His previous bar crossings had occurred later in the season as he could not recall ever crossing the bar in the wintertime. Mr. [REDACTED] and Mr. [REDACTED] both stated that they travel to the bar and watch the wave sets from shore prior to getting underway

for the season. Watching the wave sets and the breaking pattern of the waves allows them to assess the current shoaling conditions of the bar. This provides the basis for prudent crossing decisions. Mr. [REDACTED] did not have that local knowledge, nor did he consider it essential. Instead, he mistakenly relied on crossings from previous seasons to serve as a basis for his crossing.

7.1.1.4 The operator lost situational awareness once he started his transit in the South Hole. Relying solely on external factors, he failed to rely on his electronic chart which would have showed the South Jetty built out to its expected length. Navigating the vessel away from the charted jetty would have provided him sufficient distance from the submerged portion. Without consulting the chart, and relying on external information as he sought calmer water, Mr. [REDACTED] navigated his vessel towards the channel where the CFV LADY LEE was watching, having the effect of ‘cutting the corner.’ Both the CFV LADY LEE as well as the PETRA MARIE stated that the CFV COASTAL REIGN turned towards the channel too early, thereby placing the vessel directly over the jetty and subject to rising waves.

7.1.1.5 The reduced maneuverability of the CFV COASTAL REIGN due to the aerated water encountered over the submerged portion of the south jetty caused the vessel to not respond adequately to rudder commands. Without sufficient water from which to propel and turn, the CFV COASTAL REIGN was subject to wave action which pushed her further to east and further over the submerged jetty.

7.1.1.6 The hazardous plunging waves created by the submerged tip of the south jetty caused the vessel to capsize. Once over the jetty, even a crossing on a day that is described as “not so bad” becomes extremely hazardous. As described above, plunging waves appear quickly creating a situation from which a vessel sitting broadside cannot recover.

7.1.2 The first subsequent event was the capsizing of the CFV COASTAL REIGN. The causal factor leading to this event was the CFV COASTAL REIGN placed beam-to the wave action. Once beam-to and over the submerged jetty, the operator was unable to turn her into the waves in order to navigate over them. The wave that capsized the CFV COASTAL REIGN was nearly the same height as the boat.

7.1.3 The next subsequent event was the flooding of the pilot house of the CFV COASTAL REIGN. Once upside down, water pressure broke the side windows and the pilot house filled with water.

7.1.4 The next subsequent event were the injuries sustained by Mr. [REDACTED] and Mr. [REDACTED]. The causal factors leading to their injuries were the capsizing of the CFV COASTAL REIGN and their struggle to find air and a way out of the vessel. Both received minor injuries and mild hypothermia from being exposed to ocean water prior to rescue. Ocean water temperature was 54°F.

7.1.5 Deaths of the Mr. Chase and Mr. Zappone as a result of drowning. The causal factors leading to these events were:

7.1.3.1 Mr. Chase's inability to escape the pilot house. Mr. Chase made every effort to ensure his crew was safe and had the ability to get out of the pilot house if the vessel rolled. He assisted Mr. [REDACTED] and Mr. Zappone with the lifejackets despite the likelihood that the jackets were defective in their buckles and desired fit. However, despite helping others, he opted to not wear one. While there is no evidence to suggest that a lifejacket would have saved Mr. Chase, Mr. [REDACTED] tried to reach him while he was trapped in the pilot house. A lifejacket may have assisted in bringing Mr. Chase closer to the engine room compartment hatch so that Mr. [REDACTED] and Mr. Zappone could reach him. Other than that coincidental chance, there is no evidence that suggests that Mr. Chase would have survived the capsizing with a donned lifejacket.

7.1.3.2 Mr. Zappone was swept into the ocean due to extreme wave action after he escaped from the hull of the CFV COASTAL REIGN. A well-fitted and functional lifejacket would likely have saved Mr. Zappone's life. As he was found with his head in the area of the jacket that should have wrapped his chest, it is clear that the life jacket was not fitted properly. The jacket was tied by Mr. Chase but there is no evidence to suggest that it was tied poorly given the circumstances. The burden of providing well-fitted life jackets rest with the owner/operator of the vessel. The crew did not pre-fit the jackets prior to getting underway. Once in extremis, securing the jacket in a manner that best fit was Mr. Chase's only option while assisting the crew.

7.2 Evidence of acts or violations of law by any Coast Guard credentialed mariner subject to action under 46 U.S.C Chapter 77: Since no mariner on board was required to hold a credential, there is no act of misconduct, incompetence, negligence, unskillfulness, or violations of law by a credentialed mariner identified as part of this investigation.

7.3 Evidence of acts or violation(s) of law by U.S. Coast Guard personnel, or any other person: There is evidence that the operator of the CFV COASTAL REIGN was negligent on the vessel by transiting over the Tillamook Bay Bar in a restricted status, over a submerged jetty, while fatigued, having ingested marijuana, and resulting in the death of two persons, is in violation of 18 U.S.C. § 1115.

7.3.1 Evidence of State Law violations: Recommend consideration for referral to state prosecutor's office for violations of ORS 163.195, recklessly endangering another person; and ORS 830.325, operating a boat while under the influence of intoxicants.

7.4 Evidence of acts subject to civil penalty: The operator's decision to cross the Tillamook Bay bar while a bar restriction was in place, failure to request an escort from Station Tillamook Bay, and navigating the vessel over the submerged portion of the South Jetty, while fatigued, with THC in his system, and operating a commercial vessel, is against the standard of care of a prudent mariner. The definition of negligence is provided in 46 C.F.R. § 5.29. It states, "[t]he commission of an act which a reasonable and prudent person of the same station, under the same circumstances, would not commit, or the failure to perform an act which a reasonable and prudent person of the same station, under the same circumstances, would not fail to perform." Mr. [REDACTED]'s actions endangered the life, limb, and property of others and is an act of negligence in violation of 46 U.S.C. § 2302(a).

7.5 Need for New or Amended U.S. Law or Regulation: While it is tempting for an agency to create new rules in response to a casualty, particularly in a local area prone to casualties, this case does not give rise to a new regulatory scheme or additional restrictions on vessels in this area. Prudent mariners who are able to navigate the bar safely under the conditions at the time of this incident should not be further restricted due to the actions of one individual whose seamanship was outside the scope of the standard of care. The matter that must be addressed is furthering the surety of safety of those operating commercial fishing vessels for the benefit of the crews entrusted to them. Implementing a credentialing regime for operators of commercial vessel less than 200 GT will be a tremendous positive step in ensuring drug free operators and would have potentially prevented this casualty.

7.6 Unsafe Actions or Conditions that Were Not Causal Factors

7.6.1 Coast Guard Buoy Placement

A primary issue in this case is whether the buoy that the Coast Guard moved from the South Hole to the North Hole was a causal factor in this casualty. While evidence shows that mariners use the buoys for a variety of reasons including determining the distance between the jetty and the bar as well as helping judge wave sets and height, there is no evidence that Mr. [REDACTED] would have used the navigational aid to his benefit. Mr. [REDACTED] had the assistance of two fellow fishing vessels of which he watched only one cross and didn't wait for the second. He also had a 32-inch chart plotter screen which displayed the area along with the South Jetty to its as-built location. While prospectively, Mr. [REDACTED] may have used the buoy to assist as a visual aid in order to determine the location of the South Hole, he stated that he was comfortable with his starting position based on the depth of his location. Once in transit, fatigued and under the influence of marijuana, there is no evidence to suggest that the buoy placement would have changed the course of events. Additionally, without Mr. [REDACTED] answering questions regarding his situational awareness, the investigation team could gather no additional facts as to the efficacy of the buoy for this particular incident.

7.6.2 CFV COASTAL REIGN Weight Distribution

There is evidence that shows that the CFV COASTAL REIGN may have uneven fuel levels in the port and starboard fuel tanks creating a situation that predisposed the vessel to roll more easily to starboard. Without a vessel to inspect and no boat build plans, the investigation team did not seek the assistance of the Marine Safety Center to determine the vessel's likelihood of capsizing based on the weight distribution of fuel. Additionally, since video of the event shows an otherwise stable vessel, sitting broadside to plunging wave action that is nearly the same height as the CFV COASTAL REIGN, the fuel balancing was likely not a factor in this casualty.

8 Actions Taken Since the Incident

8.1 During the course of this investigation, the investigation team interviewed and discussed the casualty and circumstances of the Tillamook Bay Bar jetty system with the USACE Portland District. Despite years of funding requests for the south jetty repair project, and having the project in the top five projects of the District, it was never funded. However, on January 25, 2022, the USACE issued their Operation and Maintenance Work Plan of 2022-23. In it included \$62M to repair the south jetty. Work is expected to begin in 2022.

9 Recommendations

9.1 Safety Recommendations

9.1.1 Recommend that the Commandant of the Coast Guard obtain legislative authority to require commercial fishing vessel operators of less than 200 GT to hold a valid Coast Guard issued Merchant Mariner Credential (MMC). This requirement would standardize level of competency, ensure medical fitness for CFV operators, and require enrollment in a drug-testing program. Credentialing would subject operators to the revocation or suspension of their credential should a mariner engage in unlawful drug use or otherwise breach the standard of care expected of prudent mariners.

9.1.2 Recommend that the Commandant of the Coast Guard collaborate with the Commercial Fishing Safety Advisory Committee (CFSAC) to establish a working group to draft and accept a Task Statement addressing the safety of commercial fishing vessels of less than 200 GT.

9.1.2.1 Recommend that the Coast Guard complete the implementation of the 2010 and 2012 legislation for commercial fishing vessels as specified in those Coast Guard Authorization Acts. These efforts should enact the provisions in the Coast Guard Authorization Act of 2010 regarding the certification of CFV operator competency.

9.1.2.2 Recommend a work group to propose initiatives and actions to eliminate drug and alcohol usage onboard commercial fishing vessels less than 200 GT.

9.1.2.3 Recommend that the collaborative CFSAC and Coast Guard work group develop a process to review and implement commercial fishing vessel mariner fitness-for-duty onboard CFVs of less than 200 GT. Fitness-for-duty should include an assessment of overall health and physical fitness, and contain provisions for the elimination of drug and alcohol use as well as fatigue management.

9.1.3 Recommend the Commandant of the Coast Guard develop a framework for Sectors to assess, document, and maintain mariner competency, in addition to the MMC requirement, to operate CFVs of less than 200 GRT, that will include local knowledge. This provision may be incorporated into annual fishing vessel safety exams.

9.1.4 Recommend that the Commandant of the Coast Guard request a review of the Fishing Vessel Casualty Task Force report, March 1999, with the aim of implementing recommendations. Comprehensive requirements should include the following: enrollment in drug testing program, watertight integrity and subdivision requirements, requirements to conduct and log safety drills, requirements for equipment maintenance, and regular dry dock examinations to ensure hull integrity.

9.1.5 Recommend that the Commandant of the Coast Guard to develop and implement a process for mariner's fitness-for-duty onboard commercial fishing vessels of less than 200 GT. Recommend process to include mandatory rest requirements onboard the vessel.

9.1.6 Recommend Station Tillamook Bay, when announcing hazardous bar restrictions, to add this language to their broadcast notice to mariners as a reminder to vessels seeking entry through the bar:

“Vessel operators are reminded to exercise extreme caution while transiting in the vicinity of the seaward end of the north and south jetties. Approximately XX yards of the North Jetty is submerged and XX yards of the South Jetty is submerged. The submerged portions of the jetties create an extreme hazard to navigation. Vessel operators are reminded not to transit over the submerged portion of the jetties.”

9.2 Administrative Recommendations:

9.2.1. On 5 April 2021, this investigation team recommended that the Coast Guard Thirteenth District refer this case to the United States Attorney for the District of Oregon for criminal prosecution for alleged violations of 18 U.S.C. 1115 for the deaths of Mr. Todd Chase and Mr. Zachary Zappone. The U.S. Attorney’s office did not take action after review of the case. This recommendation renews the request to submit this case for action to the State of Oregon for consideration.

9.2.2 Recommend that MSU Portland, who has designated OCMI authority from Sector Columbia River, initiate civil penalty action against the F/V COASTAL REIGN’s owner for alleged violations of 46 USC § 2302.

9.2.3. Recommend that D13 Dpw immediately conduct a local WAMS study for the placement of buoy on the south hole and maintain two buoys due to unpredictable shoaling. Buoys, while difficult to maintain in the area, provide some surety to mariners regarding distance from the submerged jetties.

9.2.4 Recommend that D13 dpw engage with the USACE Portland Division to determine, and publish, the actual length of the submerged portion of the jetties. Distance ranges include 200 feet as published by the Station Tillamook Bay, ‘Crossing the Tillamook Bay Bar,’ pamphlet as compared to the USACE’s 1100 feet as described in their project survey.

9.2.5 Recommend that the Commandant of the Coast Guard provide a copy of this report to the next-of-kin of Mr. Todd Chase and Mr. Zachary Zappone.

9.2.6 Recommend a public meeting to present the findings of this investigation to interested parties. Recommend the hearing take place in Garibaldi, OR, with the investigation team along with dpw and the ACOE. While the facts of this case are relatively simple, the more complex issues involve those two bodies that must be able to answer the public’s question regarding future operations in the area.

9.3 Recommend this investigation be closed.

COUTU.CHRIST
OPHER.F [REDACTED]
[REDACTED]
Digitally signed by
COUTU.CHRISTOPHER.F [REDACTED]
Date: 2022.04.20 [REDACTED]
Capt Christopher Coutu
Lead Investigating Officer