Office of Marine Safety Briefing &
NTSB Most Wanted List 2021-2022
Improve Passenger and Fishing Vessel Safety

Captain Morgan Turrell
NTSB Office of Marine Safety
Agenda

• NTSB Overview
• Office of Marine Safety
• Most Wanted List
  • Passenger Vessel Safety
  • Fishing Vessel Safety
  • October 14 Roundtable
• Summary
The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—marine, railroad, highway, and pipeline.

The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.
NTSB Mission in Marine Safety

- Investigate major marine casualties
  - Within US waters
  - US casualties anywhere in world
  - Public/non-public accidents
  - Assist other nations when US interests are impacted by maritime accidents
- Make findings
- Determine probable cause
- Make recommendations
Investigations

- Loss of self-propelled vessel $\geq 100\text{gt}$
- $\geq 500k$ damage
- 6+ fatalities
- Serious threat posed to health and environment by hazardous materials
- Accidents involving US Government vessels
  - Navy, USCG, USACOE, NOAA, CBP, NSF, etc.
- Substantially Interested States
  - Provide technical assistance to the USCG
NTSB Authorities and Guidance

• *Independent Safety Board Act of 1974*
• **49 CFR Part 831**
• **49 CFR Part 850**
• **2021 MOU NTSB/USCG**
• **IMO MSC/84/24 Add. 1**
  • *Casualty Investigation Code*
US Code Annotated

- Title 49 Chapter 11
- General Organization
- Powers
- Recordings
- Reports and Studies 1116
- Government vessel accidents
- Investigations of USCG
46 Part 831 NTSB Regulations

- Applicability
- Responsibility
- Authority
- Nature of Investigations
- Priority
- Withholding info
- Representation
- IIC
- Credentials
- Autopsies
- Parties
- Wreckage
46 Part 831 NTSB Regulations

- Recognize dual NTSB/USCG authorities
- Subpart E established for Marine mode
46 Part 850

- USCG/NTSB investigations
- Preliminary investigation by USCG
- When NTSB investigates
- NTSB included in MBI proceedings
- Records
USCG and NTSB MOU

- June 2021 is latest version
- USCG Commandant/Chairman signatures
- Establishes which agency leads federal investigations
- Describes information sharing
- Placeholder for cyber investigations
IMO Casualty Code

• MSC 84/24/Add.1, Annex 1
• Used by most flag and coastal states for casualty investigations
• Substantially Interested States
• Examples
  • Costa Concordia grounding
  • Viking Sky
Substantially Interested State investigations using IMO Casualty Code

- Accident is reported to USCG from Flag State
- Flag and Coastal State determine the lead
- USCG is the US representative to IMO investigations, NTSB provides technical assistance
- US investigators participate in all phases of fact finding
- USCG and NTSB review Flag State report and provide comments
NTSB Process

- Notification
- On Scene
- Naming of Parties
- Factual Development
  - NTSB hearing
  - USCG Marine Board
- Technical review
- Party Submissions
- Draft Report
- Board Meeting
- Safety Recommendations
- Advocacy
Early Stages of investigation

- Media reports or USCG
- NTSB Duty Officer
  - Assesses initial notification
  - Notifies OMS Management
  - Obtains additional information
- OMS Management contacts USCG INV
- Determination of MMC
- Determination of Lead Agency
- Preliminary Report is completed
- NTSB IIC and USCG IO in contact--proceed
Investigation will proceed

- Point of contact established for investigation
- NTSB named lead agency; Media handled by NTSB
- NTSB IIC named, exchange of contact info
- NTSB team sent to site
  - Office of Marine Safety, MD, RE, SRC
- Cooperate and coordinate with agency
  - Mishap and internal investigations
  - NTSB serves as external investigation
- Name parties (owner of other vessel)
- NTSB Transportation Disaster Assistance for non-government casualties
- Flag States are treated as Parties, along with Class
NTSB Party System

- Naming of Parties
  - Organizations
  - Technical support
- Participation
  - Only technical contributors
  - Limits on attorneys, insurers
  - Factual development
  - Testing of components
  - Witness interviews
  - Technical Review
- USCG PII v. NTSB Party
  - NTSB determines status
  - No attorney questions
Investigation Organization

- Investigator in charge (NTSB)
- Party Coordinators
  - USCG IO
  - Lead company representatives
- Group Chairmen (NTSB)
  - Lead technical groups
  - Party representative
Office of Marine Safety Products

- Marine Accident Brief
  - 10-20 pages
  - Probable Cause signed by Office Director
    - Except if public vessel involved, then the Board adopts
  - No Recommendations
  - Lessons Learned
- Marine Accident Report
  - Adopted by the Board
  - May involve a public meeting
  - May include Safety Recommendations
- January 2022 all reports will be referred to as Marine Investigative Reports (MIR)
Other products

- Switching to Marine Investigative Reports (MIR) in CY2022
- Annual Safer Seas Digest
- Special Investigative Report
  - Several accidents to support safety issue conclusions and recommendations
  - Parasailing
- Safety Studies
  - Completed by Research and Engineering
  - Assisted by modal offices, including Marine Safety
  - Vessel Traffic System
- NTSB Most Wanted List Advocacy
- Safety Alerts
- Safety Videos
Safer Seas 2020
Lessons Learned from Marine Accident Investigations

- Navigating through bridges
- Standard operating procedures
- Smoke Detection
- Voyage Planning and dynamic risk assessment
- Effective communication
- Operating in high current conditions
- Lithium-ion battery hazards
- Crew training
- Vessel speed
- Storage of combustible materials
- Fatigue
NTSB Marine Safety 2021

- Improve Passenger Vessel Safety
  - Fire Detection in accommodation/machinery spaces
  - Fire System water supply
  - SMS on Small Passenger Vessels
  - Roving patrols inspections
  - Emergency Egress
Lazarette

Engine room

Bunkroom

Shower room

Anchoring room
NTSB Marine Safety 2021

• Improve Fishing Vessel Safety
  • Applicable to commercial fishing vessels
  • 2010 Fishing Vessel Safety Forum
  • Need to review Stability Standards
  • Understanding of Stability instructions by crew
  • Need for Crew emergency training
  • Issue PLBs to persons employed on board
Referenced Fishing Vessel Accidents:

CFV Christopher’s Joy

CFV Destination

CFV Scandies Rose

CFV Emmy Rose
NTSB
MOST WANTED LIST
ROUND TABLE

Improve Fishing Vessel Safety

THURSDAY October 14, 2021
1:00PM – 3:30PM ET

Hosted by NTSB Chair Jennifer Homendy

STREAMING ONLINE http://ntsb.windrosemedia.com/
NTSB CFV Investigations:

- 2011-2021: 66 investigations involving Commercial Fishing Vessels
- FY 2021: 8 CFV investigations with 4 fatalities
- FY 2020: 6 CFV investigations with 8 fatalities
CFV Recommendations:

Fishing Recommendation Safety Issues

- Weather (related to fishing vessel safety)
- Submerged Pipelines / Underwater Hazards
- Flooding
- Drug and Alcohol Policies
- Marine Surveying / Inspection / Certification
- Fishing Vessel Safety (Generally)
- Crew Licensing, Manning & Training
- Fire
- Stability and Watertight Integrity
- SMS Elements
- Survival Factors / Lifesaving Equipment / SAR
## CFV Recommendations:

<table>
<thead>
<tr>
<th>Status and Numbers of “Fishing” Safety Recommendations</th>
<th>#</th>
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<tbody>
<tr>
<td>Open—Await Response (OAR)</td>
<td>6</td>
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<tr>
<td>Open—Unacceptable Response (OUA)</td>
<td>4</td>
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<tr>
<td>Closed—Exceeds Recommended Action (CEX)</td>
<td>1</td>
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<tr>
<td>Closed—Acceptable Action (CAA)</td>
<td>55</td>
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<tr>
<td>Closed—Acceptable Alternate Action (CAAA)</td>
<td>13</td>
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<tr>
<td>Closed—Unacceptable Action (CUA)</td>
<td>14</td>
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<tr>
<td>Closed—Unacceptable Action/No Response (CUAN)</td>
<td>2</td>
</tr>
<tr>
<td>Closed—No Longer Applicable (CNLA)</td>
<td>2</td>
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<tr>
<td>Closed—Reconsidered (CR)</td>
<td>3</td>
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<tr>
<td><strong>Total Number of “Fishing” Safety Recommendations</strong></td>
<td><strong>100</strong></td>
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The Coast Guard estimates that there are nearly 58,000 commercial fishing vessels in domestic service

CFV Exam and Decal Program CY 2020

<table>
<thead>
<tr>
<th></th>
<th>Initial CFVS Exam</th>
<th>Dockside Renewal Exam</th>
<th>CFVS Decals Issued</th>
<th>Exam Deficiencies Issued</th>
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</thead>
<tbody>
<tr>
<td>Fish Catching Vessel</td>
<td>762</td>
<td>2,892</td>
<td>3,551</td>
<td>6,138</td>
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<tr>
<td>Fish Processing Vessel</td>
<td>0</td>
<td>27</td>
<td>52</td>
<td>124</td>
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<tr>
<td>Fishing Tender</td>
<td>2</td>
<td>28</td>
<td>28</td>
<td>25</td>
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<tr>
<td>Totals</td>
<td>764</td>
<td>2,947</td>
<td>3,631</td>
<td>6,287</td>
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</tbody>
</table>
Top 10 Most Prevalent Deficiencies

- Drills/Instruction
- Collision/Grounding Avoidance
  - Navigation Lights/Day Shapes
- Lifebuoys

Certificates/Documents
Radio Communications
Lifejackets/PFDs
Immersion Suits
Piloting/Steering
  - Charts, Publications

Fire Fighting
  - Portable Extinguishers

Alarms/Indicators
38 years of improved CFV Safety

Commercial Fishing Vessel Statistics
Operational Vessel Losses and Related Crew Deaths
1982 to 2020

Changes in Fisheries Management Regimes

Stability Checks

Lost Fishing Vessels
Deaths
Vsl Loss AVG
Deaths AVG

CFIVSA Regulations

ACSA

Vol Loss AVG 92-2001, 132.7

Vol Loss AVG '02-20, 61.9

AVG Deaths 92-2001, 70.0

AVG Deaths '02-20, 29.95

Vol Loss AVG 82-91, 218.6

AVG Deaths 82-91, 49.8

Calendar Year

CFV Losses by Vessel Age

2010-2020 CFV Losses by Age

- Less than 10: 1%
- 10 to 25: 9%
- 25 to 50: 53%
- 50 to 100: 25%
- 100 Years and Older: 1%
- No Age: 11%

Active CFV Population by Age

- Less than 10: 3%
- 10 to 25: 10%
- 25 to 50: 21%
- 50 to 100: 48%
- 100 Years and Older: 17%
- No Age: 17%
Total Drug Tests is a combination of Post Casualty Drug Tests Taken and Postmortem positive drug findings by a Medical Examiner.
NIOSH Commercial Fishing Safety Research

Jennifer M. Lincoln, PhD, CSP
Samantha Case, MPH
NTSB Fishing Vessel Safety Roundtable
October 2021
Fisheries with the highest number of fatalities by incident type, 2009-2018

41% of all fatalities

- Gulf of Mexico Shrimp
- Alaska Salmon
- East Coast Scallop
- East Coast Lobster
- West Coast Dungeness Crab
- Alaska Cod

Legend:
- Vessel Disaster
- Fatal Fall Overboard
- Fatal Onboard Injury
- Fatal Diving Injury
- Fatal Onshore Injury

Number of Fatalities
Initiating events of fatal vessel disasters by vessel length, 2009-2018 (n=100)

- Flooding
- Instability
- Unknown Events
- Struck by Large Wave
- Collision/Allision
- Struck Rocks/Bottom
- Prop Entanglement
- Crossing Hazardous Bar
- Struck by Wind Gust
- Smoke/Fire/Explosion
- Gear Caught on Bottom
- Gear Caught in Current

Initial cause of fall overboard fatalities, 2009-2018 (n=124)

- Unknown
- Lost Balance
- Jumped
- Gear Entanglement
- Trip/Slip
- Knocked by Gear/Object
- Washed Over

Legend:
- <50'
- 50-79'
- ≥79'
Northeast Fisheries Observer Program, NEFOP

NTSB Improving Commercial Vessel Safety
Observer Roles in Safety

- Must complete a Pre-Trip Vessel Safety Check (PTVSC) before every trip
- Equipment is to be present, of sufficient quantity, and with valid dates to deploy. If any items are not valid the observer will issue a Safety Deficiency Report (SDR) to the captain and send in a copy to the agency
- Observer cannot sail and boat cannot deploy until issue is resolved
- If vessel sails after an SDR is issued, OLE is notified and is further investigated

The “Big 6” & Decal
- Personal floatation devices/immersion suits
- Ring buoys
- Distress signals/Flares
- Fire extinguishing Equip
- EPIRB
- Survival Craft
Marine Offshore Safety Training

- Observers are required to attend Safety 1 training as part of their requirements to become certified.
- This is a combination of hands-on practical skills, and a written exam at the end of training.
- Observers must demonstrate they are able to perform the physical requirements to pass, including donning immersion suits and properly demonstrating water skills in the presence of an MSIT certified instructor.
- The hands-on skills include:
  - Firefighting training
  - Flare activation
  - EPIRB/PLB activation
  - VHF Radio usage – MAYDAY/Comms
  - USCG Dewatering pump – set-up/usage
  - Demonstrate proper configuration of safety equipment
  - Watch station bill
Observers Involved Incidents At Sea

- **F/V Langley Douglas - Capsizing**
  - Observer trained April, 2017: accomplishing 37 deployments over 49 days prior to the incident
  - Sept. 11, 2017 - 60 miles East of Cape Charles, VA
    - Large catch brought onboard including basking shark (35,000 lbs) spilled to port side and vessel then taking water from 6-8 ft seas on port side rolled vessel onto port side in a quick series of events
    - Crew and observer ended up in water with immersion suits in hand, donning in water – 3 crew by raft, 1 crew & observer on opposite side of vessel floating on cooler lid
      - Observer lost immersion suit with attached PLB on rigging, crew member gave her his suit
      - Observer credited Marine Safety Training from her initial training
        - “I kept hearing the instructor's voice in my head to improve my situation”
        - “We practiced donning the immersion suit while in the water in the pool.”
Observers Involved Incidents At Sea

- **F/V Donny C - Flooding**
  - Observer trained September, 2020: accomplishing 17 deployments over 124 days prior to the incident
  - Sept. 2nd, 2021 - 155 miles Southeast of New Bedford, MA
    - Vessel began taking on water in engine room, onboard bilge pump could not counteract flooding.
    - USCG was hailed, helicopter was en-route to F/V Donny C, but was diverted to F/V Andrea A for a medical emergency
    - F/V Temptress and CG Cutter Escanaba provided pumps, with the cutter escorting the vessel to port until flooding stabilized, vessel reached New Bedford, MA over ~20-21 hrs
  - Deployed observer used satellite texting device and a communication schedule was established
    - Observer said they were prepared to assist with USCG dewatering pump after using it in his initial Marine Safety Training
Conclusion

- NOAA Fisheries requires observers to get safety training a minimum of every 3 years.
- NE/Mid-Atlantic we have tighter standards and require safety training every 18 months.
- Multiple safety trainings offered yearly (pre-covid).
- While observers are not enforcement, they are highly trained in safety gear and configuration.
- Observers often identify items that are expired or expiring soon that the captain may not have been aware of.

Contacts

- **KB McArdle** – Branch Chief, Fisheries Monitoring & Research Division, Fisheries Monitoring Operations. katherine.mcardle@noaa.gov
- **Sarah Sullivan** – Safety Operations Specialist, Fisheries Monitoring Operations. sarah.sullivan@noaa.gov
- **Alex Post** – Assistant Safety Lead- Fisheries Monitoring Operations. charles.post@noaa.gov
• Fishing Safety Roundtable Takeaways
  • Training of personnel is highly effective
  • Material condition of vessels and safety items
  • Flooding/Stability is a recurring problem
  • Need to work collaboratively with industry for changes to achieve success
  • Age of vessels, construction, business impacts
  • PLBs work
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