

MVI
13 July 1954
(SUN VOYAGER - a-11 Ed)

From: Chief, Merchant Vessel Inspection Division
To: Commandant
Via: Chief, Office of Merchant Marine Safety

Subj: Marine Board of Investigation; F/V SUN VOYAGER, capsizing -
foundering off Galapagos Islands with loss of life, 9 March 1954

1. The SUN VOYAGER was a steel hull, motor-propelled fishing vessel of 294 g.t. built in 1947. She was of so-called tuna clipper construction fitted with 5 fish wells divided into port and starboard wells by the shaft alley and of low freeboard aft for fishing purposes. On 7 February 1954 the SUN VOYAGER departed from San Diego for the fishing grounds off Central and South America. After fishing in various locations the SUN VOYAGER arrived off Galapagos Islands on 8 March and after drifting all night began fishing the next day. The weather was calm and with a light breeze blowing. Five tons of fish were caught and placed in No. 4 port well, and both No. 4 port and starboard wells were ordered filled with salt water. This made 5 tons of fish in No. 4 starboard well and 10 tons in No. 4 port well. The port tank filled with water faster than the starboard, and free water of undetermined origin was observed in the shaft alley. The vessel listed to port, submerged a portion of her low freeboard deck, and capsized, sinking at about 1919 on 9 March 1954 in approximate position Latitude 3° 5' North, Longitude 90° 43' West. The filling of No. 4 port and starboard wells with salt water prior to emptying No. 3 port and starboard wells was contrary to instructions posted on the vessel. Of the 14 crew members on board, Douglas Climo, engineer, and Barney Krimski, cook, lost their lives as the result of this casualty.

2. Pursuant to the provisions of Title 46 C.F.R. Part 136, the record of the Marine Board of Investigation convened to investigate subject casualty, together with its Findings of Fact, Conclusions, and Recommendations, has been reviewed and is forwarded herewith.

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Commandant

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3. It is recommended that the Findings of Fact, Conclusions, and Recommendations of the Marine Board of Investigation convened to investigate subject casualty be approved.

(signed) P. A. Ounden

P. A. OUNDEN

FIRST ENDORSEMENT ON MVI memorandum of 13 July 1954

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From: Chief, Office of Merchant Marine Safety
To: Commandant

16 July 1954

Forwarded, recommending approval.

(signed) H. C. Shephard
H. C. SHEPHEARD

APPROVED: 19 JUL 1954

(signed) A. C. Richmond

A. C. RICHMOND
Vice Admiral U. S. Coast Guard
Commandant

7 May 1954
P6/C-2489

From: Marine Board of Investigation
To: Commandant (MVI)
Via: Commander, 11th Coast Guard District

Subj: MV SUN VOYAGER, Official Number 251366; foundering and total loss of with resultant loss of life on 9 March 1954 off the Galapagos Islands

Findings of Fact

1. The MV SUN VOYAGER, Official Number 251366, was an uninspected commercial fishing vessel of 294 gross tons, built of steel in the year 1947 by the Puget Sound Boatbuilding Corporation, Tacoma, Washington; owned by a group of persons of which Mr. Joaquin Theodore of 3157 Palm Street, San Diego, California was managing owner. She was equipped with radar; radio direction finder; Sperry automatic pilot; telephone and telegraph and a fathometer. Her machinery consisted of, in part, an eight cylinder, 520 horsepower, Washington Diesel engine; three six cylinder, Gray Marine, Diesel generators; two twelve inch, twenty horsepower, centrifugal bait pumps and two five horsepower centrifugal bilge pumps. The vessel was last drydocked in December 1953 at the Campbell Machine Company, San Diego, California, at which time her hull and underwater fittings were examined and found in good condition by a Marine Insurance Surveyor from the office of Mr. Arthur De Fever, 701 N. Harbor Drive, San Diego, California. As a vessel of over 200 gross tons, she was required by the Officer's Competency Certificate Convention of 1936 to have a licensed master and chief engineer in charge of the vessel and her machinery and so did employ Frank Marino, who holds a valid license as master of uninspected motor vessels, limited to 750 gross tons, as master and Douglas Climo, who held a valid license as assistant engineer of uninspected motor fishing vessels, limited to 500 horsepower, issued at San Pedro, California on 30 March 1951, as chief engineer. Dahl V. Cook, unlicensed and uncertificated by the Coast Guard was employed as assistant engineer and was at times in charge of the vessel's machinery.

2. The MV SUN VOYAGER's hull was constructed of one quarter inch steel plate, fitted with four double bottom tanks, each tank subdivided into port and starboard tanks by a centerline bulkhead extending from the forward collision bulkhead aft to frame 47, or to three-fourths the length of the vessel, and all electric welded. These tanks, when 100% full, held 10,215 gallons or 32.5 tons of diesel oil. Forward of the collision bulkhead which is a stepped bulkhead, was a chain locker on the port side, and the

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remaining area used as a forepeak tank holding 10.5 tons of fresh water. The vessel was further fitted with five fish wells, extending from the inner bottom, or tank tops, to the main deck. These wells were subdivided into port and starboard wells by the shaft alley, and numbers one and five were combination tanks, i.e., could be used for both the carriage of fuel oil or fish, and numbers two, three and four could be used for fish or live bait. Aft of number five wells and extending to the stern, was a port and a starboard fuel oil tank whose combined capacity was 12.25 tons. Subsequent to completion of the vessel, the refrigeration and brine piping was removed from #5 port and starboard well and the well then used only for fuel oil; the fuel piping was removed from the after port and starboard fuel tanks (hereafter referred to as #6 tanks) and the tanks then used for fresh water only; and the bait circulating water overboard discharge from #4 port and starboard wells blocked off. Three steel fish and bait boxes were located aft, above the main deck on the centerline of the vessel, and extending to within five feet of the vessel's side on each side. Numbers one and two boxes were fitted to carry both fish and bait, and number three to carry only bait. The capacities of the above mentioned wells, tanks and boxes were as follows:

	WELLS AND TANKS						BOXES		
	1	2	3	4	5	6	1	2	3
FUEL OIL	35				37				
SALT WATER	42	63	59	63			28	30	10
FISH (short tons)	37	55	52	55			24	26	
FISH AND WATER	39	38	55	58			26	27	
FRESH WATER						14			

(All tonnages taken to nearest whole ton)

3. The bilge system consisted of two sumps, one in the engine room aft of the main engine (although a plan of the vessel shows this sump as being forward of the main engine) and another one in the after end of the shaft alley, at the boundary of #4 and #5 wells, each sump equipped with an automatic float type alarm. Wells one to five were fitted with three inch drain valves, draining into the shaft alley. One twelve inch bait line ran down each side of the shaft alley, with six inch, valve controlled,

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branch lines leading into each well at the bottom of the inboard side. All valves were operated locally and manually. The shaft alley was separated from the engine room by a hinged watertight door which opened into the shaft alley. Just inside this door was a vertical ladder leading to a shaft alley escape hatch on the main deck located between the after bulkhead of the galley and the hatches of #2 port and starboard wells. The main deck had considerable sheer forward and aft and the point of least freeboard was between #3 and #4 wells.

4. Carmelo Marino, employed aboard the MV SUN VOYAGER as fish captain and mate, and who holds a valid license as mate of uninspected motor vessels, first became associated with said vessel when he purchased 15% of the vessel in December 1953. The vessel was then in drydock at the Campbell Machine Company, San Diego, California, and Mr. Marino examined her underwater body and such internal parts as were accessible and found same in good and seaworthy condition. His brother, Frank Marino, was subsequently employed as master during the first week of February 1954. Neither man had ever been aboard the SUN VOYAGER before although both men have had numerous years experience aboard fishing vessels of similar size, but not constructed of steel. No repairs of a major nature were performed upon the hull of the SUN VOYAGER while the vessel was in the shipyard. The vessel was afloat when Douglas Climo and Dahl Cook were employed as chief and assistant engineer respectively. They examined and checked the vessel's machinery and internal spaces, where accessible, and found same in satisfactory condition.

5. The SUN VOYAGER, with eleven persons aboard, including Barney Krimski as cook, departed San Diego, California on 7 February 1954 for the International Fishing Waters off the coast of Central and South America via Ensenada, Mexico, where three additional crew members were picked up. Leaving San Diego the double bottoms and #1 and #5 port and starboard wells and/or tanks were full of fuel oil, the forepeak and port and starboard afterpeak tanks full of fresh water, the number 2 and 3 bait boxes were full of water; numbers 2, 3 and 4 wells and number one bait box were empty. From Ensenada, Mexico, the SUN VOYAGER proceeded to Guaymas, in the Gulf of Lower California, where #2 and #3 wells and all three bait boxes were filled with live bait. This left but two compartments empty, #4 port and starboard wells. Fuel was being consumed from port and starboard #5 and fresh water from the forepeak.

6. The vessel then continued on a southeasterly course along the coast of Mexico and when crossing the Gulf of Tehuantepec on or about 23 February

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1954 encountered very bad and rough weather. During the storm, the vessel was buffeted by winds of force 5 and by heavy seas which caused her to roll and pitch deeply and heavily and to labor and strain greatly. The vessel's speed was reduced and her course altered to bring the wind and sea astern. After the weather moderated, the master had his officers check the vessel for damage and none was reported. No appreciable difference in the amount of water in the bilges was observed.

7. The SUN VOYAGER proceeded on various courses in the search of fish, but with negative results. About 26 February 1954, when in the vicinity of the Gulf of Fonseca and Papagayo, the vessel encountered a second storm of greater magnitude than the preceding one. This blow lasted for approximately eighteen hours during which time the vessel was again subjected to winds of from 30 to 35 knots and heavy boarding seas of from 8 to 10 feet in height. The vessel's speed was reduced and her course changed to ease her position in the seas. As before, the master had his officers examine the vessel when the storm had passed and all was found to be in good condition. During both mentioned blows, the SUN VOYAGER behaved very well, was at all times in a stable and seaworthy condition, and suffered no visible damage.

8. The search for fish continued and the first few hundred pounds of fish were caught off Burica Point, Panama. They were divided equally between #4 port and starboard wells, dry, and brought under refrigeration. The temperature in these wells was then maintained at 29° F. Fishing was not too good and the vessel headed towards Malpelo Island and thence toward Galera Point, Equador, drifting and fishing in each area. A few more tons were caught, equally divided, and put down dry into #4 wells. The search for fish continued to Guayaquil Bank, arriving there about 4 March 1954. Shortly thereafter word was received of good fishing on a newly discovered fishing bank in the vicinity of Galapagos Islands, some 126 miles northeast of Culpepper Island, and the vessel departed for that position.

9. The SUN VOYAGER arrived at the previously mentioned bank at about 1700 hours, 8 March 1954, and drifted overnight. Also in the same area were the fishing vessels MARY JO, CAROL VIRGINIA, AZOREANNA and the HORNET. Fishing began early in the morning of 9 March 1954, and two or three tons more were caught and divided between #4 port and starboard wells, still dry. This brought the estimated total weight of fish in #4 wells to ten (10) tons. Work then stopped for the noon meal. Fishing operations were resumed in the afternoon with all hands, save for the chief engineer who was on watch in the engine room, in the racks. The weather was calm, with a light breeze, slight choppy sea, and the vessel steady. Approximately

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5 tons of fish were taken that afternoon and were on deck, ready to be placed in #4 wells upon completion of the day's fishing at about 1900.

10. The condition of loading of the vessel at this time, as is recorded in sworn testimony was as follows:

- (a). All double bottom tanks full of fuel oil
- (b). Forepeak tank empty
- (c). #1 port and starboard wells half full of fuel oil
- (d). #2 and #3 port and starboard wells full of bait and salt water
- (e). #4 port and starboard wells, approximately ten (10) tons of frozen fish.
- (f). #5 port and starboard tanks empty
- (g). #6 port and starboard approximately three-fourths full of fresh water.
- (h). #1 and #2 bait boxes full of bait and salt water
- (i). #3 bait box empty.

Frank Marino, master, stated under oath that at this time he observed the bottom of the guard rail in the vicinity of #4 wells to be submerged approximately one (1) inch. The guard rail being four (4) inches in width then gave an estimated freeboard of the vessel, at this point, of three (3) inches.

11. Fishing operations stopped at 1900, 9 March 1954, at which time most of the crew commenced cleaning up and changing into dry clothes. Barney Krinski, cook, was observed in the galley preparing the evening meal. Carl Marino, mate and fish captain, then gave orders to the chief engineer to fill equally #4 port and starboard wells with salt water. The vessel was drifting, steady, and on an even keel. The chief went below and presumably commenced pumping salt water into #4 port and starboard wells. Dahl Cook, assistant engineer, began removing the hatch covers from these wells. The chief returned on deck and reported to both Frank and Carl Marino that he had tightly closed the drain valves to #4 port and starboard wells. As the water began entering the wells, all of the five (5) tons of fish caught that afternoon were placed in #4 port well by Frank Marino. This meant that there were now approximately five (5) tons of fish in #4 starboard well and ten (10) tons in #4 port well.

12. At about 1905 the master noticed the vessel had developed a slight port list of some four (4) degrees, and that #4 port well was filling faster than #4 starboard well. This condition was brought to the attention of the chief engineer who went below, via the shaft alley escape hatch,

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to correct the list, returning on deck immediately. The master, after observing #4 port well about half full of water, left the main deck for his quarters to change clothes. A few minutes after that the fish captain noted that #4 port well was full and shouted this information to the chief engineer. The assistant engineer, engaged in bolting on #4 starboard hatch cover, when hearing that #4 port was full checked #4 starboard and noted that it was about two-thirds full. The chief engineer again went below via the shaft alley escape hatch to secure pumping into #4 port but continue pumping into #4 starboard. This, in the eyes of the vessel's officers, should have tended to right the vessel, but by the time the chief engineer returned on deck the list to port had increased ten (10) degrees. The master, now out on the raised deck at the head of the ladder, observed about four (4) inches of water on the main deck in the vicinity of #3 and #4 port wells, and shouted to the chief engineer to do something about the list. The #4 port hatch cover, with vent plate open, was now secured in place and #4 starboard hatch cover, also with vent plate open, was almost completely secured. The time was estimated to be 1912.

13. All hands were now thoroughly alarmed at the condition of the vessel. The chief engineer ran to the escape hatch, looked down into the shaft alley, and immediately made for the starboard main deck door to the engine room, disappearing within. At the same time he shouted, "close the engine room door", presumably referring to the port main deck door. He was never seen again. The fish captain, standing alongside the shaft alley escape hatch, also looked below and observed the floor boards floating in the shaft alley. Both he and the master ran to the wheelhouse with the intention of starting the engine and putting the vessel in a hard left turn, thereby hoping to heel her in the opposite direction. Although they were successful in starting the engine it stopped almost immediately and at that precise moment, estimated to be at 1915, the vessel listed sharply fifty (50) to sixty (60) degrees to port, hung there for approximately ten (10) seconds, and turned completely on her side. At no time during the aforementioned happenings did the bilge alarm sound, although it had been tested almost daily and was said to be in good operating condition, nor did the vessel make any attempt to right herself.

14. All hands went into the shark infested water. The bait receiver, the large and small skiffs, speedboat, and various other deck gear broke loose and floated upon the surface of the water. Frank and Carl Marino, momentarily trapped among the controls in the wheelhouse, broke free and managed to board the larger skiff. The SUN VOYAGER was observed to sink bodily on her side at 1918 or 1919 in about 500 fathoms of water and in position Latitude 3° 5' N., Longitude 90° 43' W., or approximately 115 miles northeast of Culpepper Island. Eventually all of the crew got into the skiffs and speedboat

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and a check disclosed that Douglas Climo and Barney Krimaki were unaccounted for. A search of the area was started using the only light available, a flashlight from the speedboat. After several minutes of searching, it was decided to go over to the MV MARY JO, which was about one mile away and unaware of the disaster.

15. The MARY JO immediately contacted other fishing vessels in the vicinity, returned to the scene of the casualty and commenced a search of the area. She was joined shortly by the AZOREANNA and CAROL VIRGINIA and the three vessels, using their searchlights, conducted a thorough search for the two men from 1930 until 0200 the next day. The search was resumed at daylight by the same three vessels and in addition by the MV CONTE BIANCO, MAURITANIA and HORNET. When three more hours had elapsed without finding any trace of the two men the search was abandoned and the men given up for lost.

16. Mr. James C. Potts, Marine Surveyor, was hired in 1947 to perform certain loading tests aboard the SUN VOYAGER. Perusal of his file on subject vessel, copies of pertinent parts herewith enclosed, and testimony given by Mr. Potts himself, indicates considerable concern over the construction of said vessel and her apparent lack of adequate freeboard. Many proposals were put forth to subdivide certain wells and seal off certain tanks, and although these proposals were carried out on a sister ship, the SUN KING, no appreciable changes were ever made to the SUN VOYAGER. Based upon his findings, and after approval by Mr. David W. Dickie, Engineer and Naval Architect, 112 Market Street, San Francisco, California, Mr. Potts drew up and had posted under glass in the wheelhouse and galley of the SUN VOYAGER, a list of instructions to the master, dated 26 February 1947, in order that the safety of the vessel may be assured at all times. Attention is directed specifically to instruction numbers 10 and 5 and are quoted as follows: "The first catch of fish must be stowed in #4 P & S but the following tanks must be empty before filling No. 4 P & S with cooling water: No. 3 P & S, No. 5 P & S, aft bait box, and No. 1 P & S one-half full of fuel oil."; "Do not at any time operate the vessel in such a trim that any part of the main deck would be submerged when the vessel is at rest in still water." These instructions were noted as being posted on a Report of Survey made by Mr. Potts on 24 April 1952 and by Mr. C. S. Sinclair on 10 April 1953. When the SUN VOYAGER was surveyed by Mr. Sinclair in April 1953, a request was made by the owners to alter these instructions but the request was denied after Mr. Sinclair determined that the instructions were still applicable and proper. In sworn testimony, both Frank and Carl Marino have stated that they were aware of these instructions and had read them.

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17. Also contained in the aforementioned file is a letter dated 24 February 1947, a copy of which is enclosed, indicating that the SUN VOYAGER had a Tons Per Inch Immersion of 5.833 tons. No. 4 port and starboard wells together contained 2210 cubic feet of area. At 1900, 9 March 1954 prior to filling #4 wells, they already contained ten (10) tons of frozen fish and the freeboard was estimated to be three (3) inches. Subsequently five (5) more tons of fish were placed in #4 port well and allowing 40 cubic feet per ton of dry fish, there remained 1610 cubic feet of space. Filling this space with salt water at 35 cubic feet per ton gives a total weight of 51 tons (5 tons of fish plus 46 tons of salt water) added after 1900 when the freeboard was observed to be 3 inches. Mr. Potts and Mr. Sinclair, testifying as expert witnesses, were both of the opinion that this additional weight, at the above stated T.P.I., increased the vessel's mean draft 8 3/4 inches and submerged the main deck at the lowest point of sheer by 5 3/4 inches. The reserve buoyancy was reduced to that remaining in the bow and stern sections and the vessel was placed in a highly dangerous and unstable condition, whereby any unequal distribution of weight, such as in #4 port well, would "flop" the vessel to either side.

18. The enclosed copy of a letter dated June 6, 1947 indicates on its first page a "report of heaviest condition" as stated by the chief engineer of the SUN VOYAGER and below this stated condition is the statement, "Water up to bottom of guard at lowest point", which conditions parallel exactly the situation just prior to the casualty. Attention is also called to the bottom half of the second page which states that the vessel is badly arranged from a loading point of view and as time goes by she will undoubtedly become heavier and deeper in the water, an accepted fact with almost all types of vessels. The last paragraph on this page emphasizes that the fishermen must abide by the instructions to the master.

19. In accordance with Title 46 CFR Sec 136.09-25, Mr. Howard R. Harris, of the U. S. Attorney's Office, Complaint Department, 600 Federal Building, Los Angeles, California, was advised of the proceedings and he requested that a copy of the transcript and this report, including the Findings of Fact, Conclusions and Recommendations, be forwarded to his office for review.

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CONCLUSIONS

20. In view of the foregoing facts, it is the conclusion of this Board that:

1. The foundering and sinking of the MV SUN VOYAGER, with the loss of two lives, was due to the negligence of the master, Frank Marino, and Mate and Fish Captain, Carmelo Marino, in that they had allowed and ordered more weight aboard the vessel than the vessel would safely hold.

2. That this weight so overloaded the vessel as to cause her to lose her reserve buoyancy and acquire negative stability, the off-center weight in #4 port well listing the vessel to port until she turned on her side and sank.

3. That the order given to fill #4 port and starboard wells with salt water prior to emptying #3 port and starboard wells was a direct violation and contrary to item No. 10 of the posted instructions to the master.

21. No satisfactory explanation can be offered as to where the water came from that was observed in the shaft alley. It has been developed by sworn testimony that the flooding in the shaft alley must have occurred after the time the chief engineer returned on deck from securing the filling lines to #4 port well, during a maximum interval of time of two (2) minutes. The contention of certain persons that the heavy weather encountered during the voyage materially weakened the inboard bulkhead of #4 starboard well to the point where it collapsed, allowing the water to flood the shaft alley in a mass shifting of weight, has no foundation of fact. Neither the Board nor the persons interviewed had knowledge of any such case on record. The fact that the temperature of the #4 wells was at 29° F. when sea water of 83° F. was admitted has been determined to be of no consequence.

22. The theory has been advanced of the possibility of the 12 inch bait line carrying away and flooding the shaft alley. It has been estimated, using the enclosed plan of the vessel, that the shaft alley, below the level of the floor boards, contained approximately 640 cubic feet of space. Allowing 50% reduction for pipe lines, valves, etc., and 7.5 gallons of salt water per cubic foot, the capacity of the area below the floor boards can be estimated at about 2400 gallons. If the bait line carried away in such a manner as to permit a clear, unobstructed flow (which is highly improbable), and at the estimated maximum rated capacity of the bait pump of from 600 to 800 gallons per minute, it would take, at the very minimum, four (4) minutes to flood the shaft alley. The Board therefore declines to accept this explanation.

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23. If it can be assumed that either of the structural failures described in paragraphs 21 and 22 above took place, the Board still feels that had #3 port and starboard wells been emptied before starting to fill #4 wells, the vessel might have retained sufficient stability long enough for corrective measures to be taken.

24. Although not contributing directly to the sinking of the MV SUN VOYAGER the master of that vessel violated Section 4, R.S. 4438a (46 USC 224a) by having an improperly licensed officer perform the duties of chief engineer and an unlicensed person in charge of a watch in the engine room.

25. The owners of the MV SUN VOYAGER violated Section 5, R. S. 4438a (46 USC 224a) by engaging and employing an improperly licensed officer as chief engineer, and an unlicensed person as engineer in charge of a watch.

RECOMMENDATIONS

26. It is recommended that:

1. Frank Marino, License No. 175855, Master of the SUN VOYAGER and Carmelo Marino, License No. 175854, Fish Captain and Mate of the SUN VOYAGER be charged with negligence as outlined in Paragraph 20 above.

2. That Frank Marino, License No. 175855, Master of the SUN VOYAGER be charged with negligence for permitting an improperly licensed officer to perform the duties of chief engineer and for allowing an unlicensed crew member to take charge of the watch in the engine room.

3. That the owners of the SUN VOYAGER be cited for violating Section 4 of R. S. 4438a (46 USC 224a).

(signed) George R. Leslie
GEORGE R. LESLIE
Captain, U. S. Coast Guard
President

(signed) A. W. Wall
A. W. WALL,
Lieutenant Commander, U.S.Coast Guard
Member

(signed) W. C. Schafran
W. C. SCHAFRAN,
Lieutenant, U. S. Coast Guard
Recorder