The Star-Ledger

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THE WRECK OF THE LADY MARY

BY AMY ELLIS NUTT

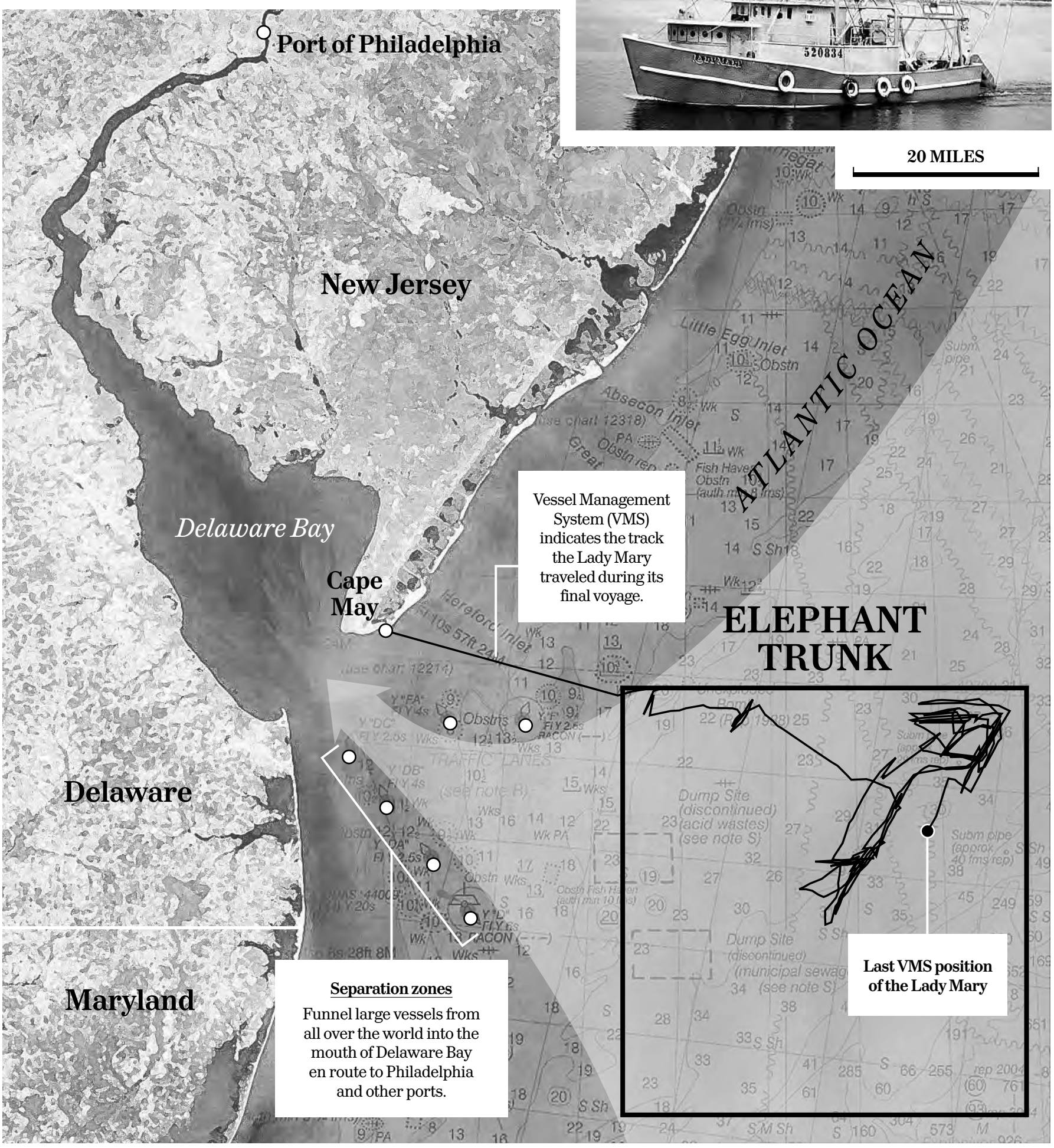
PHOTOS AND GRAPHICS

BY ANDRE MALOK

THE LADY MARY WRECK SITE

The Lady Mary left the port of Cape May on the morning of March 18, 2009. The vessel traveled southeast to the restricted scallop fishing area known as the Elephant Trunk. Sometime between 5:10 and 5:40 a.m. on March 24, the vessel sank and six of the seven on board were killed. Four of the six bodies eventually were recovered — two were lost at sea.

Lady Mary



Sources: NOAA Fisheries Service; New England Fishery Management Council

ABOUT THIS STORY

Reporting began in January after the U.S. Coast Guard finished its investigative hearings.

For the next seven months, Amy Ellis Nutt and Andre Malok made dozens of trips to Cape May, Philadelphia, Atlantic City and North Carolina. Those interviewed included: the co-owner of the Lady Mary; the boat's sole survivor; family members and friends of the six men who died in the sinking; scallop fishermen, especially those working within six miles of the Lady Mary the night she disappeared; the divers who explored the sunken wreck; officials from the Coast Guard and the rescue crew who saved José Arias; and the dock manager for Hamburg Sud, the shipping company that leases the container ship Cap Beatrice.

Some 800 pages of testimony from Coast Guard hearings were reviewed, navigation and vessel tracking records studied, and nearly two dozen marine experts interviewed, a number of whom had specific training in shipwreck forensics. Two sources with direct access to the investigation also provided documents the Coast Guard refused to make public because it has not yet released its report.

In addition to evidence from the sinking of the Lady Mary, The Star-Ledger also combed through more than 2,500 Coast Guard incident reports from 2002 through 2007.

In May, Nutt and Malok took two trips aboard the working New Jersey scalloper Kathy Ann. One of those trips was in conditions nearly identical to those encountered by the Lady Mary in the early morning hours of March 24, 2009. Immersion suits similar to those used by Arias and two other crew members were tested twice in the chilly water off Cape May to understand how they function when they are worn both properly and improperly.

The Star-Ledger twice visited the Packer Avenue terminal in Philadelphia when the Cap Beatrice was in port. The first time, Hamburg Sud allowed Nutt and Malok onto the ship, where they interviewed the captain and some of the crew, none of whom was working on the Cap Beatrice in March 2009. On a visit by The Star-Ledger three months later, Hamburg Sud allowed photos and video to be taken of the Cap Beatrice from the dock, but would not grant permission to board and declined to make available Vasyl Stenderchuk, the captain in charge of the ship in March 2009, or any of the crew for interviews.

Numerous attempts were made to speak with the European head of Reederei Thomas Schulte, the owner of the Cap Beatrice, but phone and e-mail requests for interviews, including those e-mailed in German, were refused.

Amy Ellis Nutt, left, and Andre Malok of The Star-Ledger.
Aristide Economopoulos/The Star-Ledger

AMY ELLIS NUTT has won numerous national honors for her writing and reporting, including the American Society of Newspaper Editors' Distinguished Writing Award. Her 2008 series "The Accidental Artist" was a finalist for the Pulitzer Prize. A graduate of Smith College, she holds master's degrees from the Massachusetts Institute of Technology (philosophy) and the Columbia University Graduate School of Journalism. She also was a Nieman Fellow at Harvard University in 2004-05. *Contact Amy Ellis Nutt: (973) 392-1794 or anutt@starledger.com.*

ANDRE MALOK is a videographer and graphic artist who has worked as a professional artist for 20 years. He joined The Star-Ledger in 1996 and has received a number of graphic and illustration awards from the Society for News Design and the New Jersey Press Association. In 2009, he won an Emmy Award from the New York Chapter of the National Academy of Television Arts and Sciences for an online video documentary. *Contact Andre Malok: (973) 392-4172 or amalok@starledger.com.*

WATCH THE DOCUMENTARY ABOUT THE LADY MARY

Go to **NJ.com/ladymary** to see a documentary video about the Lady Mary featuring interviews with family members and the survivor, photos of the wreck and a simulation of events based on months of reporting by The Star-Ledger.

Cover illustration depicts the Lady Mary out at sea.

CHAPTER ONE

A sudden jolt, then a frigid fight for life

By **AMY ELLIS NUTT**, Star-Ledger Staff / Photos and graphics by **ANDRE MALOK**, Star-Ledger Staff

Riotous waves pummel José Arias. In the frantic scramble to abandon ship, he zipped his survival suit only to his throat and now the freezing Atlantic is seeping in, stealing his body's heat.

The cold hammers him, a fist inside his head.

Seesawing across the ocean, he cannot tell east from west, up from down. At the top of a wave the night sky spins open, then slides away. Buckets of stars spill into the sea.

"Sálvame, por favor. Sálvame."

Save me. Please save me, he prays to Our Lady of Guadalupe.

In the chilly, early morning hours of March 24, 2009, 57-year-old José Arias fights for his life, floating in the water 66 miles from Cape May. The nearest lights are from another fishing vessel, which does not see him, anchored less than a half-mile away. A little farther out, a mammoth container ship steams toward Philadelphia.

Although Arias does not know it yet, all six of his friends and fellow fishermen are dead, and the red-hulled scalloper, the Lady Mary, is resting, right-side up, on the sandy bottom of the Atlantic. The mystery of what sank her, which continues to haunt the maritime world, has just begun.

For months, what happened to the 71-foot Lady Mary baffled the Coast Guard, marine experts, fishermen, divers and heartbroken loved ones — all of whom wanted to know how a sound and stable boat with an experienced crew could disappear from the ocean's surface in a matter of minutes and leave so few clues behind.

This story is about a tragedy no one lived to tell — except Arias, the only crewman plucked from the ocean alive, but who was asleep below decks when the sea suddenly began to swallow the boat. But from the tormented memories of its sole survivor, hundreds of pages of Coast Guard documents, the analyses of more than a dozen marine experts and the Lady Mary's own ghostly remains, a picture has slowly emerged.

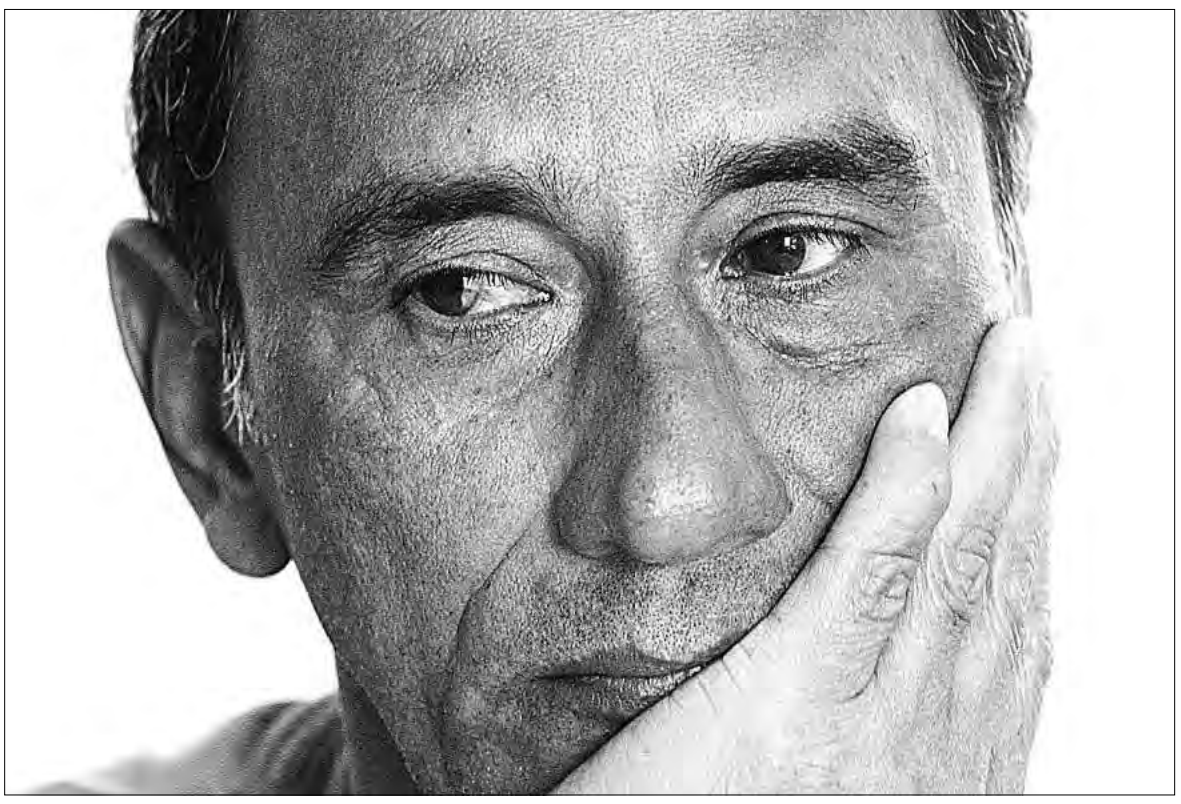
No single event doomed the six fishermen, rather a cascade of circumstances set in motion years earlier by a slip in penmanship on a vessel safety form, compounded by a clerical error. Darkness, deteriorating weather, a tired crew and an open hatch contributed to the vessel's vulnerability. Then, a floating behemoth 10 times the size of the little scalloper came plowing through the fishing ground at nearly full throttle.

The men of the Lady Mary were like thousands of others who earn their living from fishing, toiling in a Wild West sort of world, in hazardous, ever-changing conditions with scant safeguards and few legal protections.

On today's oceans, endangered whales have more protection than fishermen, though scores are killed each year.

And when fishermen die at sea, their deaths often remain unexplained, their bodies never found and their lives soon forgotten by the public.

As one mariner said, "There are no skid marks on the ocean."



José Arias, the only survivor of the Lady Mary, was asleep below decks when the scalloper began sinking. Before leaving land, he did something that would play a role in his survival.

'SEE YOU WHEN I GET BACK'

On the morning of Wednesday, March 18, 2009, a week before the Lady Mary disappeared, José Arias lingered on the dock of Cold Spring Fish & Supply in Cape May. Arias, like most commercial fishermen, lived frugally. He shared a spartan one-bedroom apartment in Wildwood with another fisherman and used a bicycle to get around town. A trip to the area known as the Elephant Trunk, the richest scallop grounds on the East Coast, meant he and the other six men aboard the Lady Mary might pocket $10,000 to $15,000 each — more for the captain — for a week to 10 days at sea.

The federal government strictly regulates commercial fishing, placing limits on the number of trips and the size of the catch. So at the beginning of each season, usually around March 1, fishermen are eager to get back to work.

Waiting for the rest of the crew to arrive at the dock that Wednesday morning, Arias noticed an 8-foot-long wooden plank leaning against the ice machine, not far from where the scallops are weighed and packed for shipment. Perfect, he thought to himself. He would use the wood to fix one of the bins in the boat's fish hold. Arias picked up the plank and carried it onboard, placing it on the bow, or front, of the ship, next to the life raft.

According to the vessel tracking system operated by the National Marine Fisheries Service, the Lady Mary cast off shortly after 10 a.m. Among the seven men were two brothers, Capt. Royal "Bobo" Smith Jr., 41, and Tim "Timbo" Smith, 39, the only children of 64-year-old Royal "Fuzzy" Smith Sr., who co-owned the boat with son Tim. One of Fuzzy's brothers, Tarzon, (nicknamed Bernie) 59, was also aboard, as was a cousin, Frankie Credle, 56. The other two members of the crew were 23-year-old novice Jorge Ramos and Frank Reyes, 42.

Pointing the boat east, Bobo picked up his cell phone and called Stacy Greene, his 39-year-old girlfriend and the mother of two of his three biological children.

A teller at Crest Savings Bank in Wildwood, Stacy couldn't answer, but she knew Bobo would leave a slew of messages.

"Babe, we're leaving. We're pulling away from the dock," he said after Stacy's voice-mail message played.

A few minutes later, according to phone records, he called again. The boat had probably cleared the lighthouse by then. Soon it would be out of range.

"Babe, got the outriggers out. See you when I get back, okay?"

When they were fishing, and well out of sight of cell-phone towers, Bobo often called Stacy on the satellite phone. Because they worked virtually around the clock, he sometimes dialed her at crazy hours, ringing her at 2 a.m. to ask what she was doing.

"What do you think I'm doing?" she'd say in mock anger.

Over the next six days, Bobo called Stacy on the satellite phone 10 times, not always reaching her. He called Fuzzy twice on Saturday, March 21. The first time was just after 2 in the afternoon, to tell him the crew was catching a good load of scallops and things were going well.

"Go bag 'em up, and don't be guessing how much you got," Fuzzy told Bobo.

He never liked to hear from his sons when they were out fishing, he just wanted them to get the job done and come home.

He worried about them, especially when they were on the same boat. Usually they took two boats and kept an eye on each other. When one of them called Fuzzy in the middle of a fishing trip, he always thought something was wrong.

At 10:37 that night, Bobo called his father back to tell him they had 200 bags of scallops — big ones, he told his father — and would probably be heading back on Tuesday, the 24th.

Three minutes later, Bobo called Stacy. The couple had broken up so many times over the years, often because of his drinking, but when he moved back into the house in Whitesboro in June of 2008, he quit and told her he wanted to be a real father to his kids.

The next eight months were blissful, according to Stacy. Bobo fixed breakfast for the children, attended every one of 8-year-old Jeremiah's basketball games — in fact, every one of his practices — and on weekends drove the kids to the Family Dollar Store in Rio Grande to buy them presents.

Of course, that was when he was just back from a fishing trip and had money in his pockets. When he did have cash, he spent it freely, usually on the kids, but sometimes on complete strangers.

The previous November, when they were all driving down to Virginia Beach for a big family reunion, Bobo spotted a homeless man wandering on the side of the road. He pulled over, handed him all the food they'd just picked up at KFC and gave him $10 in cash.

"Here you go, man," he said. "I hope you can make it."

When fishing season opened in March 2009, Bobo was broke again. Just before leaving on the first trip of the year, he stopped by Adele's Jeweled Treasures in Cape May and, according to store receipts, pawned the gold chain he always wore around his neck for $200.

Like Bobo, younger brother Tim was utterly and completely a fisherman. He even married a fisherman's daughter. Carinna often went down to the boat before a trip, clean sheets in her arms, and

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made her husband's bed.

She also liked to pack Tim's duffel and sneaked "sea letters" — love notes, really — into the pockets of his clothes. Each day, when Tim dressed, was like Christmas morning, and he tucked the little presents into his shaving kit for safekeeping.

"Tell (the Realtor) I'll have the money for the house when I come back in," he told Carinna right before leaving that Wednesday morning.

He was going to use his share from the trip to make a down payment on a new home.

On the same block in Whitesboro on which Tim and Carinna lived, 37-year-old Janet Rodriguez was reluctant to see Frank Reyes leave on his first fishing trip of the year. The two had been together 20 years and although they'd never married, they had three children. Janet and Frank met at a Christmas Eve party in Wildwood. She was 18 and had just arrived from Puerto Rico. He was five years older, and conscious of the age difference, so he allowed their relationship to develop slowly over the months. Eventually, they moved in together.

Reyes, 42, was a cook at the Lobster House in Cape May and loved his job, but during the slow winter months the restaurant cut back on staff. Fishing was one way to fill the gap financially.

"Don't go," she would say to him. "It's so dangerous."

And sometimes he wouldn't. Reyes never wanted his family to worry about him. So when he did go out, he never called his parents back in Puerto Rico and he always left before the kids were up. Personally he didn't much care for fishing, but he had no fear of the water. In fact he loved it. Nearly every weekend in the warm weather he would go swimming off Sunset Beach, at the western edge of Lower Township. Early in the season the water was always too cold for Janet and the kids, but not for Frank.

"Only God would separate us," he would tell Janet before leaving on a fishing trip, "so you have to trust me."

On the morning of March 18 she drove him to the dock and kissed him goodbye.

"I'm going to be home Monday morning," he said. "Take care of the kids."

On the first two days of fishing, the crew had little luck and kept moving, until they were at the outer edge of the Elephant Trunk, named for the shape of the sea's floor in that area. That's when they hit the mother lode, dredging up shells with plump scallops the size of half-dollars inside.

On Monday, March 23, Arias got up early, ate a breakfast of ribs and bacon, then spent the next 18 hours in the cut room, separating scallop meat from their shells. Two-hundred bushels later, he finally ducked into the forepeak bunk room, below the galley in the bow of the ship, and slipped into bed, exhausted. It was just after midnight.

The other six men continued to work: Capt. Bobo kept watch in the wheelhouse; Tim, Bernie, Frankie Credle, Frank Reyes, and Jorge Ramos were all either on deck dredging or in the cut room shucking.

The boat was about 60 to 70 miles east by southeast of Cape May and carrying close to a full load: 18,000 pounds of scallops packed neatly into 50-pound muslin bags. One more shift, and the Lady Mary would probably head for home.

The boat was well-equipped for long voyages and included up-to-date navigational and safety equipment, including a covered life raft and an Emergency Position Indicating Radio Beacon, or EPIRB, which automatically emits a distress signal when it's submerged in water.

Staggering their shifts, two men usually slept while everyone else worked. Arias and Timbo were scheduled to knock off at the same time, but Tim didn't turn in right away. At some point after midnight he smoked a little marijuana, probably with Bobo, according to a toxicology report, before finally heading to bed.

Ramos was supposed to wake Tim and José at 6 a.m. when it was his turn to rest, but Arias wouldn't have been surprised if Bobo told the others to take a break, too, then just let the boat drift for a few hours. It was getting difficult to work anyway. The seas were building and the wind was up.

In his bunk bed, Arias pulled a blanket up around his shoulders. He was used to the labored grunts of the engine and the high whine of the winches as they lowered and lifted the dredge, and though his hands and arms ached and the smell of fish and diesel fumes still oozed from the clothes he'd tossed in the corner, he fell asleep quickly.

One hundred and twenty miles to the north, the container ship Cap Beatrice was steaming from Antwerp, Belgium, toward the Port of Philadelphia at nearly 20 knots. Owned by the Reederei Thomas Schulte company in Hamburg, Germany, the Cap Beatrice was sailing under a Liberian flag and was leased by the Hamburg Sud shipping company, the 16th largest in the world. Since launching in 2007, her route was usually a 70-day round-trip to various ports between Australia and the United States.

For some reason in mid-March 2009, the Cap Beatrice had made a detour to Europe, perhaps for repairs, and on the 24th was headed to the United States, presumably to resume her loop to Australia and back.

Capt. Vasyl Stenderchuk, a 55-year-old Ukrainian, was in charge of the 728-foot-long ship, and spent most of his days in the wheelhouse, some seven stories above the deck. Radar, along with a sophisticated Automatic Identification System and other navigation tools, keep the officer on watch apprised of other ships in the area.

AIS, however, can only detect ships carrying the same system and virtually no fishing vessels carry the expensive equipment.

In the deteriorating weather, the 40,000-ton Cap Beatrice was headed straight for one of the most crowded fishing grounds on the East Coast of the United States.

Arias slept soundly, even as the Lady Mary rolled and pitched with the waves. The wind continued to scoop up barrels of water and sling them over the gunnels. Heavy cables slapped against the deck and hull, and the sound of metal grinding was enough to wake the deepest sleeper.

Fishermen, however, get used to the movement and noise of a boat — or they don't stay fishermen for long.

At 5:10 a.m., the Lady Mary automatically reported her position to the fisheries service for the last time. The next electronic signal she sent was from her EPIRB hitting the water at 5:40 a.m.

The only other information that is known for certain is that a phone call was placed from the Lady Mary at 5:17 a.m.

What else happened between 5 and 6 Tuesday morning, March 24, 2009, has been reconstructed from vessel tracking reports, information from weather buoys, and interviews not only with José Arias, but with marine experts, other fishermen out there that night, as well as Fuzzy Smith, the co-owner of the Lady Mary, who knew the boat, the crew and the routine aboard the scalloper better than anyone.

AWAKENING TO TERROR

Around 5 a.m. something happened to the Lady Mary. Arias wasn't sure what, but he jerked awake. The boat had shuddered, lurched hard to the left, and nearly catapulted him from his middle bunk.

"Come on, José, the boat's sinking!" Timbo shouted as he dropped from his upper berth on the other side of the room. In emergencies, the crew is drilled to go to the wheelhouse on the upper deck. Arias and Smith were in the bow of the ship, the farthest point from the bridge.

They scrambled out of the bunk room and up the steps into the galley. The water was ankle-high as they sloshed across the kitchen to the port-side passageway. Moving slowly down the narrow hall, they braced themselves against the wall. The freezing water was now up to their knees. Through the cut room and out the double doors they finally emerged onto the deck. The Lady Mary was now leaning harder to port and a third of the stern was awash.

Frankie Credle, dressed only in black boxer shorts, banged a piece of pipe against the metal steps and yelled something up to Bobo in the wheelhouse, but Arias, who speaks little English, did not understand what he was saying.

At 5:17 a.m., about 80 miles away the phone rang in Stacy Greene's house. She was sound asleep, but her mother, Janet, a light sleeper, answered. The voice on the other end sounded like Bobo, but all she heard was, "Hey!" and then static.

"Hello? Roy?" she said, calling Bobo by his given name. When there was no answer, she hung up.

Reception from a boat that far out could be sporadic, and satellite calls from the Lady Mary were often dropped. Janet knew he'd phone again later, when he was closer to home, and went back to sleep.

Inside the wheelhouse, Bobo frantically tried to steer the Lady Mary. The engines were throttled up, but it seemed to Arias as if the boat was somehow stuck and not moving. Outside the wheelhouse, on the upper deck, Frank Reyes clutched the starboard railing with both hands, frozen in fear.

"José, José, Qué vamos hacer?"

What are we going to do? he pleaded.

The two men, both Spanish speakers, were friends. Neither drank or smoked, which was unusual in the world of fishermen. Arias enjoyed spending time with Reyes and his partner, Janet Rodriguez, at their home in Whitesboro and eating the dinners Reyes loved to cook: spaghetti, turkey and gravy, mashed potatoes, rice and beans. Afterward, the two men would trade stories about their hometowns. Reyes grew up in suburban Hatillo, Puerto Rico, just two blocks from the ocean; Arias was raised in the rural state of Chiapas, Mexico, one of the country's poorest regions.

Aboard the Kathryn Marie, several miles from the Lady Mary, Capt. Antonio Alvernaz was shucking scallops and keeping an ear out for the ship's radio. Around 5:15 a.m. it crackled to life.

"Mayday!"

That was all Alvernaz heard — one word, in a panicked voice.

He rushed back into the wheelhouse, hoping to hear the person identify himself or give the name or location of his boat. Instead, the next voice on

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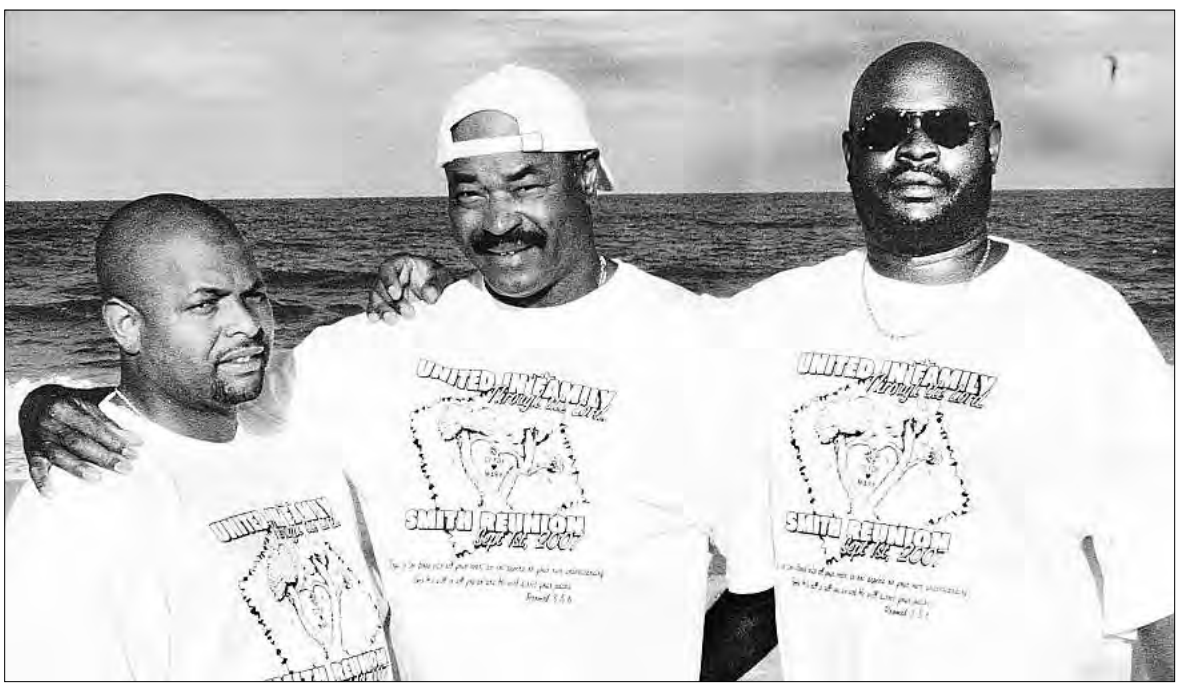

From left, Timothy "Timbo" Smith, Royal "Fuzzy" Smith and Roy "Bobo" Smith Jr. gather at a family reunion in Virginia Beach in November 2008. Fuzzy, who lost his two sons in the accident, co-owned the Lady Mary with Tim. *Photos above and below courtesy of family and friends of the crew*

Tarzon "Bernie" Smith, top, brother of Fuzzy Smith, and Jorge Ramos, the youngest crew member aboard the Lady Mary, both lost their lives March 24, 2009.

In an undated photo, above, Frank Reyes holds his newborn. Reyes preferred working as a cook, but fishing was a way to earn good money quickly. Frankie Credle, left, was one of Fuzzy Smith's cousins and the fourth family member to lose his life that day. Like Tim, Bobo and Bernie Smith, Frankie Credle was an experienced captain.

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Channel 12 was that of Capt. José Neves, aboard the Paul & Michelle, a few miles west of the Lady Mary.

"Come back with that more clearly," Neves radioed. "Come back with the name of your boat and position."

Nothing.

"I couldn't make out a thing," Neves radioed next, to anyone listening.

"It sounded like a mayday," Alvernaz responded.

Neither man could be sure, and with no name or location, there was no point in calling the Coast Guard. Both went back to work. Mayday hoaxes were an everyday occurrence, and Neves and Alvernaz didn't think about the aborted call until eight or nine hours later.

Six miles due west of the Lady Mary, Jim Taylor, on the Elise G., also heard a frantic voice over the radio, but couldn't make out what was said.

Taylor, 34, was first mate on the Elise G. and was keeping watch at the time. While the captain slept, the rest of the crew was dredging and cutting. For awhile Taylor had been watching a large ship on the radar — a container or cargo ship, he thought — as it crossed straight through the fishing grounds.

Only two vessels were within a mile of the Lady Mary, according to Coast Guard and Marine Fisheries records: The 278-foot container ship Cap Beatrice, and the 69-foot scalloper Alexandria Dawn, which was "laying-to" — using her dredge as an anchor — and so was not moving.

Other than the Cap Beatrice, the only other large merchant ships in the area were the Energy Enterprise and the APL Arabia, but they were 20 to 30 miles north of the Lady Mary, moving in opposite directions.

As Taylor hauled back on the dredge, he noticed to the east a huge ship suddenly turn on its deck lights.

"Like a Christmas tree, or a football stadium," Taylor said. "It was the first time I've ever seen that."

Anatoly Parayev, who later served as captain of the Cap Beatrice, said there is only one time he will turn on a ship's deck lights in the middle of the ocean — when overtaking a fishing boat.

"To scare them off," he said. "To warn them."

On the massive, window-encased bridge of the Cap Beatrice, there are three satellite phones, a large-screen radar system with a maximum distance of 55 miles, and two pairs of high-powered binoculars. Seeing other large ships, either electronically or with the naked eye, is no problem, but keeping an eye on smaller vessels is another matter entirely. With its deck stacked with metal containers and the wheelhouse set back 590 feet from the bow, according to Parayev, the person on watch is blind to everything on the surface of the water inside a quarter-mile from the ship.

Taylor, aboard the Elise G., has been fishing since he was 18 years old. To him, it appeared the container or cargo ship had slowed considerably, perhaps even stopped. Not far from the ship, he noticed the green mast-light of a fishing boat flickering in the dark. Normally, just below the green light, is a white light, part of a signal system that indicates to vessels in the vicinity that the boat is a fishing trawler and is underway. Taylor observed neither a white signal, nor the fishing boat's bright deck lights, which are usually turned on whether the vessel is dredging or not.

On the bridge of the Cap Beatrice, the AIS tracking system stopped transmitting the ship's position shortly after 5 a.m. By law, virtually all deep-draft vessels (ships of 300 tons or more) are required to continually report their location when transiting international waters, except where the ship's security is endangered. In these rare cases the nearest vessel-tracking service must be notified. Traffic monitoring is required by international law, mostly as a way for large ships to avoid hitting each other. AIS is a line-of-sight signal, and reception on land depends in large part on the height of the antenna.

That night there were no interruptions in the AIS transmissions from either the APL Arabia or the Energy Enterprise, according to the Coast Guard, although both were farther from shore than the Cap Beatrice.

ONBOARD THE LADY MARY

In the wheelhouse of the Lady Mary, Arias and the two Smith brothers pulled survival suits, also called immersion suits, out from under the captain's bunk. The vessel was now listing 45 degrees to port. In a few minutes she would be submerged.

Arias knew he had to get to the highest point on the boat. He left the bridge and pulled himself up to the starboard railing. There, leaning against the outside wall of the wheelhouse, he put one foot into his immersion suit, then the other. His friend Reyes was just a few feet away, still gripping the railing, a look of desperation in his eyes. On the side of the wheelhouse, Arias grabbed a life ring off its hook and handed it to Reyes.

"Agárralo," he shouted into the wind, "Te va salvar la vida."

Hold onto it. It will save your life.

The Lady Mary dipped and swerved, skidding down one wave, then hurtling up another. The boat tipped hard again to port. Suddenly the 30-foot starboard outrigger swung up out of the water and jammed itself behind its cradle, high on the mast.

The water had risen to Arias' waist. There was no time left, and no sign of Frankie Credle or Bernie or Jorge. Tim and Bobo had left the bridge, too, both in their survival suits. There was nothing more Arias could do for Reyes. He looked at his friend one last time, and let go.

A plunge into cold water, with the face unprotected, can set off a lethal series of physiological events. First, the shock of the frigid temperature causes a person to involuntarily gasp, which blocks the flow of air into the lungs. Drowning, more than anything else, is a kind of quick suffocation, and in frigid water the reflex to inhale can kill even the strongest of men in minutes.

Arias slid into the water on his back. He tried to move away from the Lady Mary as quickly as possible, using his arms like paddles and making sure to keep his face out of the water.

A few yards from the sinking ship, a voice cracked through the wind and waves. Someone was yelling, but Arias couldn't see him or understand what he was saying.

"Quién es? Dónde está?"

Who's there? Where are you?

No one answered. The bright deck lights of the Lady Mary blinked out. The engine sputtered to a stop. She was sinking quickly now.

Taylor, at the wheel of the Elise G., looked out the window to the east. It was, he recalled, five or 10 minutes since he'd spotted the container ship with its deck all lit up. The lights were off now, and the green light of the fishing trawler was nowhere to be seen. Taylor figured the boat was obscured from view behind the container and turned his attention back to dredging.

When the sea started to crest the wheelhouse, the only part of the Lady Mary still visible to Arias was the long arm of the starboard outrigger, pointing heavenward.

AN INCREDIBLE TWIST OF FATE

Rolling over the waves, his survival suit slowly filling with water, Arias hears nothing — no voice, no engine — only the wind thrashing wildly at the waves and the sound of his own heavy breathing.

Bobbing and weaving in the mountainous seas, he spots a piece of debris floating toward him and can't believe his eyes — it's the 8-foot-long board he picked up off the dock before the Lady Mary left port. After placing it on the bow of the boat, he'd never had time to use it to make repairs.

Now, reaching out, he lifts his arms wearily across the plank, then lets the waves take him where they will.

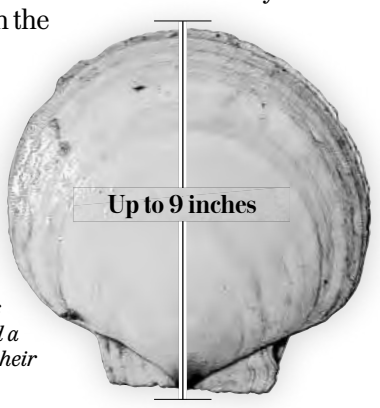
José Arias, a slender, middle-aged fisherman, a grandfather with graying temples, is alone in the middle of the Atlantic Ocean.

And dawn is still another hour away.

Corey Karch harvests scallops on the Kathy Ann out of Barnegat Light in May. Like Karch, the crew of the Lady Mary worked around the clock, dredging and cutting scallops. A trip to the rich scallop ground known as the Elephant Trunk can earn a crew member as much as $15,000 .

THE ATLANTIC SEA SCALLOP

The U.S. sea scallop fishery is the largest wild scallop fishery in the world. In 2009, 56 million pounds of sea scallop meat worth approximately $400 million were harvested. The two major fishing areas are Massachusetts and New Jersey. Although populations in the mid-Atlantic have been overfished in the past, all U.S. Atlantic sea scallop populations are currently considered healthy and abundant.



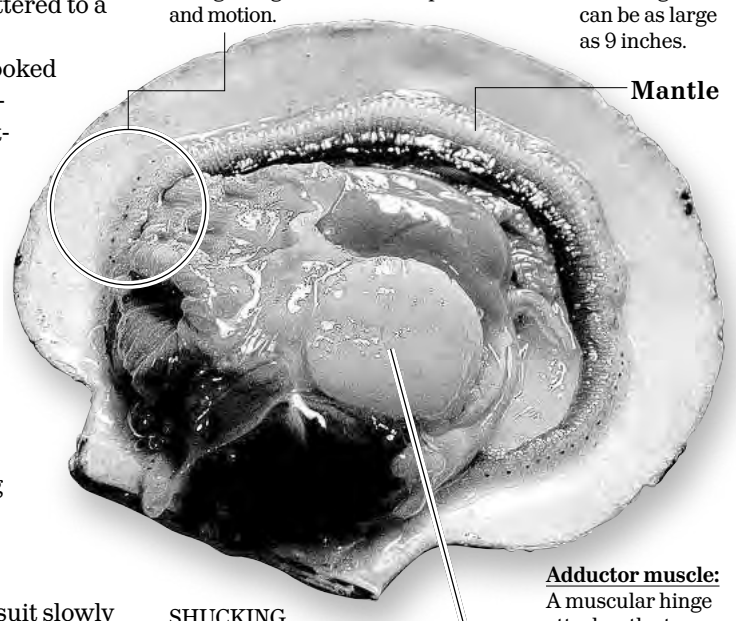
A DISSECTION

Scallops are bivalve mollusks that have two hard shells and a soft body, and spend most of their time on the sea bottom.

Eyes: Scallops have many primitive eyes. They can only sense change in light and motion.

Diet: Most are filter feeders, and eat plankton, which can also include scallop larvae.

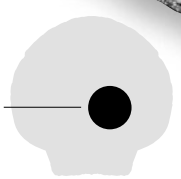
Size: Scallops typically will not exceed 6.7 inches in shell height but can be as large as 9 inches.



SHUCKING

Scallops are shucked at sea. The organs are removed, leaving only the adductor muscle, which is harvested. The remaining shell and organs are discarded into the ocean.

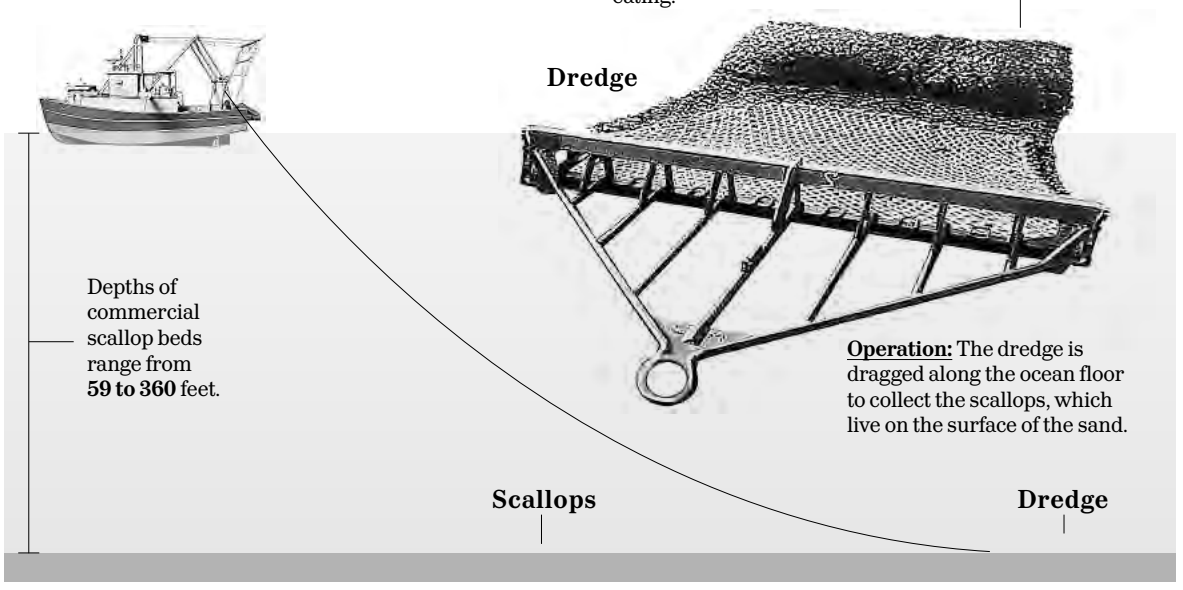
Edible: Only **12%** of the total weight of the scallop is saved for eating.



Collection: Scallops are trapped in a mesh bag at the end of the dredge.

HARVESTING

Scallops are typically collected from the ocean floor using large steel dredges towed by cables.



Source: National Oceanic and Atmospheric Administration. 3-D models by Pixel Eight

CHAPTER TWO

Fuzzy Smith stands in front of one of his three remaining boats. Usually his sons took two boats out, to keep an eye on each other in case there was trouble. But occasionally, on short trips, they would go out in just one. Smith now is selling his boats because he doesn't have the heart to fish anymore.

As precious minutes tick by, rescue delayed

All his life, Royal "Fuzzy" Smith has followed the sea. One of 13 children from rural Bayboro, N.C., he took his first fishing trip with his father when he was just 4 years old. By the time he was 18, he was working full time on shrimpers plying the Intracoastal Waterway, a 3,000-mile ribbon of inlets, rivers and bays that stretches south from the Jersey Shore to Key West, Fla., then up into the Gulf of Mexico all the way to Apalachicola, Fla.

From a young age, Fuzzy could read the water — where it ran warmer, faster or deeper — and knew the tides without checking the charts. He fished from October to June, at night, when the shrimp came out to feed in the shallows, and especially around a full moon, when they rode the currents out to spawn.

He followed the shrimp south, catching Georgia whites and Key West pinks, and then followed them up into the Gulf of Mexico, hauling in Pensacola reds and Texas brownies.

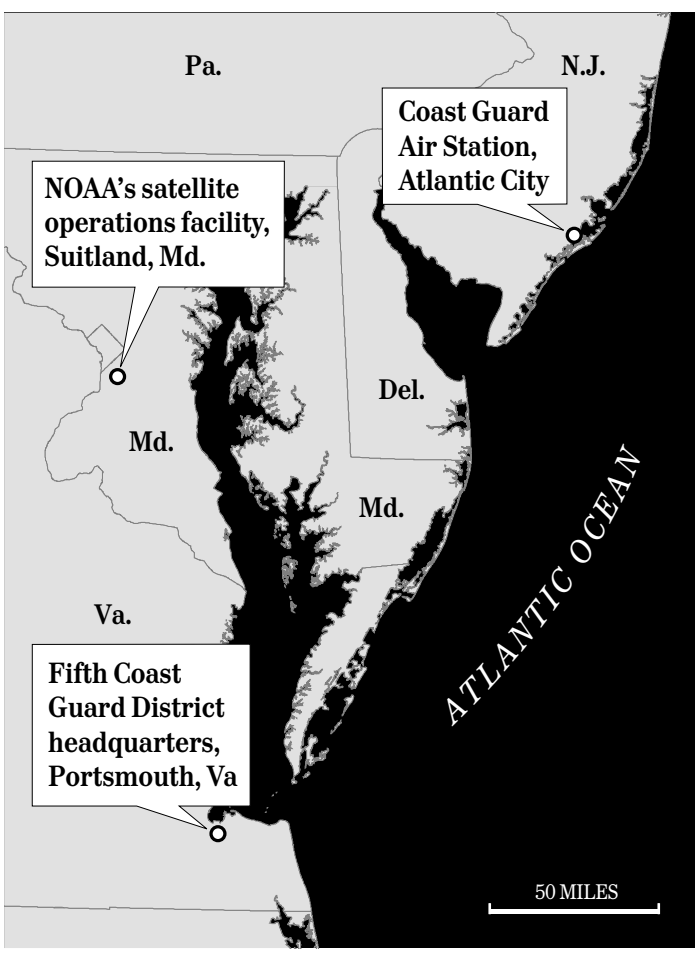
Over the years, Fuzzy moved from mate to captain to owner, and when scallops became the big moneymaker, he gave up shrimping and moved his boats from North Carolina to Cape May. By the time his sons Bobo and Tim were of age, Fuzzy had a fleet of scallopers and was content to let his sons do the fishing while he managed the business on shore.

His office in Cape May is a one-room apartment in a squat, cinder-block building at the back of a parking lot across from the Lobster House. Photos of boats and family fill the room. The most recent is a picture of Bobo and Tim taken in November 2008 at a large family get-together in Virginia Beach. It's almost dusk, and the sons are framed against a cornflower-blue sky. They smile into the camera, both dressed in crisp, white "Smith Reunion" T-shirts inscribed with a quote from Proverbs 3:5.

"Trust in the Lord with all thine heart; and lean not unto thine own understanding."

From his desk in Cape May, Fuzzy kept watch over his boats and his boys. Looking out the window, he could see the clammers and scallopers huddled up against the dock and watch Bobo and Tim steer in and out of port. When they were on a trip for a week, two weeks, Fuzzy followed their progress using a special program on his computer, mainly to help them stay within the federally designated fishing grounds. If they strayed, fines would be levied.

But in truth, he was anxious about their safety. They usually fished together in two boats, so they could keep an eye on each other. But if it was a quick trip, it was easier to go out in one, and the best boat was the Lady Mary.



Those solo trips were when Fuzzy worried the most. If something went wrong, there was no second boat to help out. He kept the TV tuned to the Weather Channel, and when he couldn't sleep at night he'd get up, turn on his computer, and in the sea-green glow of its screen look for his two sons somewhere out in the Atlantic.

Fuzzy was good at all the nuts and bolts. Although he filed his mail in a tall kitchen garbage can, he knew where everything was — bills and boat records, tax papers, trip reports and safety equipment registrations.

He wrote everything out in bold, black letters and numbers — in print, mostly, not cursive — and if, on the hundreds of forms he filled out every year, occasionally a "C" looked like an "0," what could it possibly matter?

A CALL FOR HELP

At 5:40 a.m. on March 24, 2009, a geostationary satellite 22,236 miles above sea level wakes up. Its antennae have picked up a maritime distress signal from an Emergency Position Indicating Radio Beacon.

About the size of a large flashlight, an EPIRB is a required piece of equipment on most commercial fishing vessels. When submerged — that is, when a ship begins to sink — the device automatically releases from a bracket attached to the outside of a ship's cabin or wheelhouse and floats to the surface.

The EPIRB emits a distress signal, in bursts, every 50 seconds on a special radio frequency (406 megahertz), reserved for emergencies. Embedded in the signal transmitted in the early morning hours of March 24 was a unique 15-digit code identifying the Lady Mary and its owners.

The geostationary satellite is the first link in an electronic rescue chain, and it immediately notifies the nearest automated "local user terminal," which is an unmanned computer at U.S. Mission Control Center in Suitland, Md. The center is operated by the National Oceanic and Atmospheric Administration, and its Search and Rescue Satellite-Aided Tracking program, or SARSAT, is in the same building on the Suitland campus. Atop the flat roof of the office, radio dishes sprout like mutant mushrooms, scanning the skies 24 hours a day, 365 days a year.

Normally, the local user terminal attaches the EPIRB registration information to the electronic message it sends to the mission-control computer,

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and when the SARSAT computer receives the emergency data, it notifies a watch-stander — the officer in charge — at a rescue coordination center. In the case of the Lady Mary, that's the Fifth Coast Guard District's headquarters, or Atlantic Area command center. But there's a problem: The local user terminal can't match the signal coming from the Lady Mary's EPIRB with one of the more than half-million registered beacons in SARSAT's database. Without a matching registration, there is no vessel name, and without a vessel name, the mission-control computer takes the local terminal's information and "tables" it. The Lady Mary's EPRIB also did not have a GPS, which was not mandatory.

No other alert is sounded. No one is notified. With the lives of seven fishermen in the balance, and despite the most sophisticated communications technology in the world, those who could save the men of the Lady Mary remain oblivious to the unfolding disaster.

At 5:45 a.m., Petty Officer 3rd Class Lake Downham is still asleep in one of the second-floor bedrooms in the hangar of Coast Guard Air Station Atlantic City. The heliport is actually 10 miles from the city's neon signs and casinos, next to a commercial airfield in the Pine Barrens.

Downham's 24-hour shift will be up at 2:30 p.m. The previous day he flew a training mission, checked and rechecked his gear, then lay in bed and watched the Philadelphia Flyers beat the New Jersey Devils for their third win in a row. Shortly after 9 p.m., he turned off his light and went to sleep.

At age 28, the 6-foot-4, square-shouldered lieutenant has been in the Coast Guard for nearly a decade, the last three years as a rescue swimmer. Although he grew up in Pennsylvania, he spent summers with relatives in Ocean City, and the summer after graduating from high school worked as a lifeguard during the week and surfed on the weekends.

Almost every day as he sat in the lifeguard chair he would look up and see one of those orange-and-white Coast Guard helicopters zipping back and forth, either on a rescue or training run. Flying a chopper and making mid-ocean rescues seemed a lot more glamorous than blowing a whistle from the beach and occasionally pulling someone out of a riptide.

Tired of being a lifeguard and with little interest in filling out college applications, Downham joined the United States Coast Guard at the end of the summer of 2001. He spent the next few years as a boatswain's mate on a cutter in Hawaii, carrying a gun and inspecting fishing vessels. Two months before his enlistment was up, he rescinded his discharge papers after realizing he'd never followed through on what he originally joined the Coast Guard to do — save lives.

At NOAA's satellite operations facility in Suitland, Md., computers picked up a signal from a satellite after the Lady Mary's distress signal was activated. The computer, however, "tabled" the information because there was no name or contact information attached to the registration code.

After a second, low earth orbiting satellite picked up the EPIRB signal, a Coast Guard helicopter with a crew that included rescue swimmer Lake Downham rushed to the scene 66 miles off the coast.

ANOTHER CHANCE

Luckily, the high-altitude, geostationary satellite rotating in sync with the Earth is not the Lady Mary's only hope. A lower, earth-orbiting satellite can get a fix on her even without a beacon number or name, but there is only a small, 15-minute window of opportunity when the satellite passes directly overhead. By the time the EPIRB aboard the Lady Mary activates at 5:40 a.m., the low earth-orbiting satellite is 20 minutes beyond her and just out of range.

Not until it passes over this patch of ocean again — an hour and 16 minutes later — will the satellite have another chance to hear the ship's distress signal.

At 7:07 a.m., Petty Officer 1st Class Cullen Rafferty has been on duty as watch-stander at the Fifth Coast Guard District headquarters in Virginia for less than an hour. The morning has been slow, until a computer next to Rafferty clacks to life like an old teletype announcing breaking news. Rafferty prints out the distress message from mission control. No boat ID, no owner name, just a notice that an EPIRB signal has been detected by a low-orbiting satellite.

What will not be known for months is that a contractor for NOAA, which handles EPIRB registrations, made the tiniest of errors. In December 2006, Fuzzy purchased a new EPIRB and filled out the required paperwork from NOAA by copying the code that came with the device onto NOAA's form. On Jan. 18, 2007, a clerk working for NOAA transferred the ID from Fuzzy's form into the agency's system, but misread the 13th digit in the 15-digit code.

Instead of ADCD023C3542C01, the clerk wrote down ADCD023C3542001. Fuzzy's "C," the third to last digit, was just the slightest bit sloppier than the other letters and numbers, and the clerk copied it down as "0."

Just to the right of the code on the registration form Fuzzy filled out was a neatly typed sticker with the correct ID. The contractor, however, was trained only to look at the middle of the form — at the spaces filled out by the owner — according to the testimony of a NOAA official.

For more than two years, the wrong EPIRB code for the Lady Mary had been kept on file in NOAA's Maryland office. Which means that as the 71-foot scalloper sinks to the bottom of the sea, a half-billion-dollar satellite passing overhead is all but blind to her.

When the low-earth satellite finally does register an alert with mission control, a computer indicates there are two possible locations for the signal: Sac City, Iowa — or a point somewhere out in the middle of the Atlantic Ocean.

Eight minutes later — at 7:15 a.m. — the satellite resolves the ambiguity to latitude 38 degrees, 35 minutes, 42.8 seconds north; longitude 073 degrees, 41 minutes and 27.8 seconds west. The alert is coming from 66 miles east by southeast of Cape May. Rafferty's watch partner picks up the phone and calls Sector Delaware Bay in Philadelphia, which will contact the Coast Guard air station near Atlantic City.

Normally, an Urgent Marine Information Broadcast, or UMIB, is also sent out to all mariners in the area telling them to keep a lookout for a ship in distress. But at Sector Delaware Bay, the communications specialist responsible, Shayne Kendrick, who graduated from Mount Vernon High School in Virginia less than three years earlier, is feeling "overwhelmed" in his new job, which he later admits in a signed statement.

Forty-six minutes pass before Kendrick sends out the first UMIB at 8:01 a.m., and when he does, he makes a mistake. Petty Officer 1st Class Trista Fisher, also on watch, tells him to send the UMIB on two frequencies, VHF Channel 16 and HF Channel 2182, both reserved for emergencies. The signal emitted by VHF is line-of-sight, and only as good as an antenna is tall. Most recreational vessels and fishing boats will only pick up a VHF message when they're no more than 20 to 25 miles offshore. The newer, high-frequency channel, HF 2182, can transmit much farther, up to 3,000 miles.

When Kendrick finally punches the information into his computer, he sends it on Channel 16, but not on Channel 2182. The radio message disappears some 40 miles short of the two dozen fishing boats working near the stricken Lady Mary.

LEAPING INTO ACTION

Lake Downham is up and showered and has just spread his gear out on the long tables in the crew room when the station's Klaxon alarm goes off shortly before 7:30 a.m. — WHAAA-hoo! WHAAA-hoo! WHAAA-hoo!

"EPIRB signal 60 miles offshore," a voice over the intercom announces. "Put Ready Helo on line. Launch Bravo crew."

That means Downham. An aviation survival technician, second class, he's one of the guys helicopters drop into hellacious seas to save people's lives.

Downham quickly changes from his flight suit into his orange, waterproof and fireproof dry suit. While the pilot and co-pilot are briefed on weather and rescue coordinates, Downham repacks his mask, snorkel, fins, flashlights, three knives, gloves, extra batteries, extra straps for his fins, and several chem-lights — small, taffy-shaped flares.

Before heading out of the hangar to the helicopter, he also grabs breakfast — a chocolate protein shake — from the crew-room refrigerator.

Three hundred miles to the south in Virginia, Coast Guard Petty Officer Rafferty frantically makes survival calculations: air temperature offshore (33 degrees); water temperature (40.6 degrees). He feeds the information into a cold exposure survival model and what spits out is not comforting: Based on the approximate time of sinking and the height and weight of an average man wearing some protection from the cold, Rafferty gives the fishermen just 1 to 1.5 hours of functional time, which means the ability to move, and a survival time of 1.5 to 3.1 hours.

At the hangar, the pilot and co-pilot are briefed on weather conditions and the EPIRB coordinates, and the helicopter is slowly cranked up. Downham, along with the pilot, Lt. Cmdr. Tina Peña; co-pilot, Lt. Matt Tuohy; and the flight mechanic, Petty Officer 3rd Class Jason Oyler, are strapped in and ready for takeoff. Peña pushes down on the throttle of the Coast Guard MH-65C and slowly noses the helicopter up and forward.

At 7:53 a.m. they are airborne, lifting quickly away from Atlantic City. Peña banks to the left and whirls southeast out over the ocean at 140 mph. With a strong tail wind out of the north, they should be on the scene in less than 30 minutes. By that time, and if found right away, the men of the Lady Mary will have been in the water close to three hours.

A SUDDEN RUSH OF HOPE

Dawn arrives early out in the middle of the Atlantic, and sometime before 7 a.m., as José Arias continues to pray to Our Lady of Guadalupe, the first few cracks of light split the bruised horizon. He is losing feeling in his fingers and toes and struggles against exhaustion to keep his face out of the water.

Rising to the top of a wave, he suddenly catches sight of what looks like an enclosed orange life raft about 100 yards away. His vision is blurry and his mind confused, but he's sure of what he's seeing and a surge of hope makes him think the others might be alive. As Arias slides into the next trough, the raft disappears behind a wall of water.

"Tim! Frank! Bernie! Bobo!" he yells into the wind.

At the crest of the next wave, he sees the raft again and tries to kick his way toward it, but within seconds stops, exhausted and limp. Expending energy causes heat loss, and humans lose heat 25 to 30 times faster when they're in water than on land.

The blood flowing to Arias' muscles has thickened and slowed. Hypothermia is beginning to set in.

As the Coast Guard helicopter thunders across the ocean, it's too noisy inside for conversation. Downham sits uncomfortably on a pad on the floor — there is room for only three seats in the chopper, so the rescue swimmer is odd man out. The ride is bumpy as the helicopter is buffeted by the wind. Strapped to the inside wall of the craft, and left to his own thoughts, Downham stares out the window at the shifting mosaic of whitecaps below.

He's taken so many wasted trips — maybe 100 — when an EPIRB is set off either accidentally or by a raucous teenager, or someone on a boat who's had too much to drink. The crew has to launch on every alarm, but they never know until they arrive at the beacon's location whether it's a real rescue situation or not.

Since 2006 Downham has helped save a dozen or so fishermen from their boats or life rafts, two jet skiers stranded in a marsh, and the pilot of a Cessna airplane that went down in a blueberry patch not far from the hangar. None had life-

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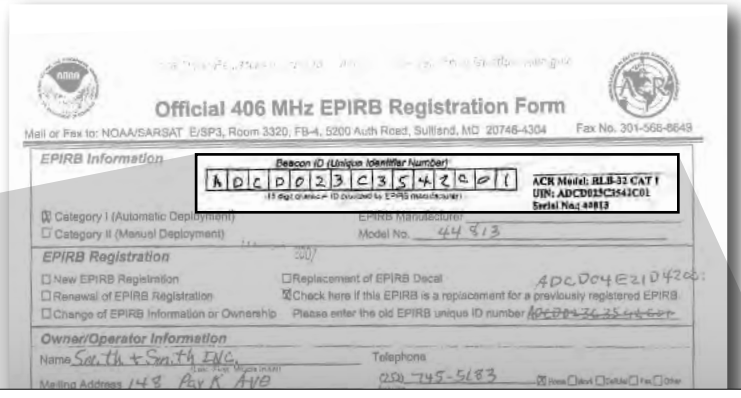
A TINY ERROR WITH HUGE IMPLICATIONS

Emergency distress beacons, known as EPIRBs, come with a "unique identifier number." Automatically activated when it hits the water, an EPIRB sends a signal to satellites, which "read" the code and transmit the name of the boat and owner to U.S. Mission Control in Suitland, Md. When Capt. Fuzzy Smith registered the Lady Mary's beacon number with NOAA, a contractor misread his handwriting. A clerical error — one wrong letter in a 15-digit code — meant the satellites could not identify the Lady Mary's distress signal, delaying the rescue.


Official 406 MHz EPIRB Registration Form

Mail or Fax to: NOAA/SARSAT E/SP3, Room 3320, FB-4, 5200 Auth Road, Suitland, MD 20746-4304 Fax No. 301-568-8649

EPIRB Information

Beacon ID (Unique Identifier Number): A D C D 0 2 3 C 3 5 4 2 C 0 1

(15 digit character ID provided by EPIRB manufacturer)

ACR Model: RLB-32 CAT I
UIN: ADCD023C3542C01
Serial No.: 44813

☒ Category I (Automatic Deployment) ☐ Category II (Manual Deployment)

EPIRB Manufacturer: Model No. 44813

EPIRB Registration

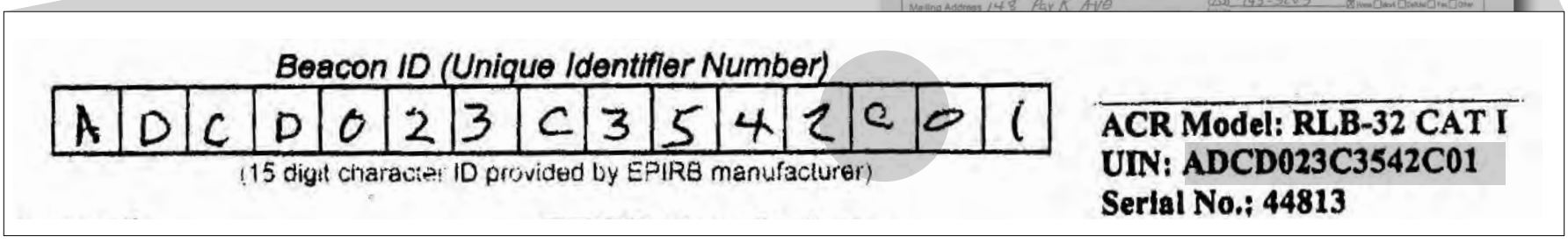
☐ New EPIRB Registration ☐ Renewal of EPIRB Registration ☐ Change of EPIRB Information or Ownership

☐ Replacement of EPIRB Decal ☒ Check here if this EPIRB is a replacement for a previously registered EPIRB. Please enter the old EPIRB unique ID number ADCD04E21D4200

Owner/Operator Information

Name Smith + Smith INC. Telephone (252) 745-5183

Mailing Address 148 Pay K AVE



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threatening injuries.

The visibility is better than 10 miles and the cloud ceiling high, but pilot Tina Peña and co-pilot Matt Touhy are having trouble with the chopper's new 406-frequency EPIRB direction finder. It keeps pointing back to land.

Peña decides to switch to an older direction finder 200 times less powerful. For it to work the helicopter must be within five miles of the source to pick up the signal.

By 8:20 a.m. the crew finally spots a debris field. If they're not over the spot of the distress call, they're damn close.

A couple of miles south by southeast of the life raft, José Arias sees the helicopter booming in from the east and frantically waves at it, trying to get the attention of the pilot.

During his nearly three hours in the water, he has been clutching the religious medal of Our Lady of Guadalupe that he wears around his neck and repeating to himself, "Me van a salvar. Me van a salvar." I'm going to be saved, I'm going to be saved.

The orange-and-white helicopter descends from the sky like a quetzal from the cloud forest. Arias' Mayan ancestors called the colorful bird "God of the air," and as the helicopter's rotors thump overhead, happiness floods the fisherman's heart.

"Gracias, Dios mío. Gracias," he says to himself. Thank you, my God. Thank you.

He tries to shout to the helicopter, but the wind scatters his voice. Ensconced in his immersion suit, he waves one arm, then the other, making sure never to let go of the board, but it's not easy. Even when dry, the survival suit weighs 12 pounds, but because so much water has seeped in, it probably weighs twice as much.

The helicopter, tightening its search pattern, moves a little north of Arias.

"Me ven, no?" They see me, don't they?

"That's a life raft, 3 o'clock!" Downham yells out. He's spotted a swatch of orange, bobbing in the heavy seas, and he thinks he can see an arm waving. It's 8:36 a.m.

The helicopter hovers, just 300 feet from the surface of the roiling sea. It is a delicate dance, trying to hold position in 35-knot winds above a moving, surging surface. An MH-65C helicopter normally carries 1,600 pounds of fuel, which it burns at a rate of about 600 pounds an hour when flying. When hovering, however, it burns more, as much as 750 pounds an hour.

All of which means Bravo crew has less than two hours — maybe a lot less — to make a rescue and get back to base.

Adrenaline surging, Downham removes his helmet and takes out the ear plugs that help save his hearing from the violent roar of the rotors and engine. He puts on his fins, mask and snorkel, and hooks onto the hoist that will lower him into the water.

When the flight mechanic, Jason Oyler, pats Downham on the chest — the "go" sign — he detaches himself from the safety belt tethering him to the inside of the helicopter.

Oyler uses the hoist to raise Downham a couple of inches off the floor to make sure the harness is secure, then swings him out and slowly lowers him into the sea.

Even in his dry suit, Downham is staggered by the cold. At 80 miles an hour, the rotor wash scalds his face, and with his flotation vest, lifting harness, radio, strobe light, pocket flares and knives, he has added another 45 to 50 pounds to his already considerable frame.

Disconnecting from the hoist, he is in essence a 300-pound man swimming toward a moving life raft, in 10-foot seas, half a football field away.

Before he gets to the raft, Downham realizes the "arm" waving at the helicopter is actually the flap over the entrance to the covered raft. Peeking inside, his spirits sink again. No one. Just a few supplies — food, a radio, the usual survival items, wrapped in plastic, unopened.

After radioing the information to the helicopter, Downham slits the lifeboat with his knife and deflates it. He can't leave the raft floating, since it would likely result in more alarms being called in to the Coast Guard by other vessels.

Once back in the helicopter, Downham removes his mask and fins. As Peña turns the craft in a circle around the raft, she loses her bearings for a moment.

"Where's the raft? All I can see is a red buoy down there," she says.

Downham, looking out the window, knows that's not right.

"I got a plank in the water, 2 o'clock and there's a survivor suit on it," he shouts out.

The survivor suit moves.

"There's someone in the water!"

Quickly, Downham dons his gear again, and about 8:40 a.m. is lowered on the hoist and swims out to the man in the water. Six-foot swells carry the rescue swimmer up and down the heaving seas. Every few seconds, José Arias catches sight of the man in the dry suit, his neon-yellow arms thrashing powerfully toward him.

"I'm a Coast Guard swimmer and I'm going to get you out of here," Downham announces to Arias, just like he's been taught. The middle-aged fisherman is still clinging to the piece of wood he carried onto the Lady Mary before the trip began.

"Thank you. Gracias. Thank you," Arias says, over and over, switching between English and Spanish. Downham struggles to pull the man's arms off the plank and push it away, but Arias resists. The piece of wood has saved his life. Downham will have none of it. His job is to rescue people in distress, and that's what he does, even if it means he has to manhandle them a bit.

A NEW, POTENTIALLY LETHAL DANGER

The fastest way up into the helicopter is the harness, or lifting strop, since it's secured under the arms and legs, but when someone has been in cold water for any length of time, it's also more dangerous. Hanging vertically from the strop, the body's blood will suddenly drain away from the core where it was redirected in the frigid water to keep the heart and lungs warm. Saved from hypothermia, the victim could easily go into cardiac arrest before reaching the helicopter door.

Downham gives Oyler a thumbs up, which means drop the 4-foot-long metal basket. Buoyant cushions attached to the top edges of the basket allow it to float, and Downham pushes Arias in, headfirst. The slack cable whips around both men, threatening to entangle them, so when Downham signals Oyler to start the hoist, the rescue swimmer clings to the bottom of the basket until the cable is taut, then drops 5 feet back into the water. Oyler will send the hoist down for him after Arias is safely aboard.

When both men are in the helicopter, Downham opens a special hypothermic blanket and drapes it around Arias' shoulders. Then Oyler taps Downham on the back. The flight mechanic points out the door of the helicopter, and down. Someone else has been spotted in the water.

José Arias displays a scallop charm and an Our Lady of Guadalupe medal. For nearly three hours he clutched the medal and prayed while desperately hanging on to an 8-foot-long board in the roiling waters of the Atlantic.

As he's lowered a second time, Downham sees the orange survival suit is facedown, and he's worried he's too late. Swimming through the churning water, he can tell the man's eyes are open.

"Hey! Hey!" he yells as he turns the body face up, just as he's been taught. He rubs hard on the man's sternum with his knuckles to try to get a pain response. The technique can sometimes rouse a person from unconsciousness, but Downham's sternum rub produces no reaction at all. The victim's eyes are fixed, his mouth is open slightly and a white cable is wrapped around his legs.

Downham calls again for the basket, pushes and pulls the body into it, then gives Oyler the thumbs up. When it's his turn to be hoisted, Downham just reaches the helicopter door and sees Oyler again pointing downward — another survival suit in the water.

The helicopter has been hovering for nearly 20 minutes, quickly burning through its "bag" of gas. Before Downham is lowered again, co-pilot Tuohy gives him a sign: five fingers, or five minutes to "bingo," the cutoff time for the chopper to get back to land with a safe margin of fuel.

When Downham reaches the second body, it, too, is turned facedown, eyes open and unresponsive. It's clear from the stiffness of the arms and legs that rigor mortis has set in. Downham realizes he can't call for the basket — it's only 4 feet long and is meant for sitting. This man is at least 6 feet tall and has rigor mortis. He doesn't even know Tuohy has been unable to move the first body out of the basket. The strop is the only alternative.

This is his fourth time in the water, and Downham tries not to think about his screaming muscles. The cold is starting to numb his fingers, even though he's wearing special gloves, and he fumbles to secure the harness to the body. When he finally does, he hooks himself onto the hoist, just above the body, and the two are lifted together.

After he unhitches, Downham helps Oyler pull the body in, but the man's legs are so rigid they stick out the door of the helicopter. Peña has to head back — now — or she risks ditching the chopper in the sea. But she can't go until the door is closed. It takes all the strength Downham and Oyler have to bend the body and get the legs inside.

It's close to 9 a.m. when Peña points the helicopter northwest. They had a tail wind out. Now they're in a head wind. The trip back will not only take longer, it will use up more fuel.

After Downham removes his mask, snorkel and fins, he feels helpless for the first time. Neither body appears to have vital signs, but he can't just sit there. With Oyler's help, he reaches into the basket and pulls on the man's legs until his back is flat against the bottom, then begins CPR.

Arias tells Downham the man on the floor of the helicopter is Capt. Bobo; the one in the basket, Timbo.

Hunched over in the tail of the chopper, Arias watches solemnly as Downham unzips Tim's survival suit, then takes out his knife and cuts the suit at the waist to expose more of his chest. When he does, seawater gushes out. Downham flinches, worried all the saltwater might short-out the helicopter's electronics. After slicing through Tim's wet undershirt, and applying several conduction pads to Tim's chest, Downham tries to shock the fisherman back to life, twice.

Every time he looks up from his work, he catches Arias' eyes, and when he does, Arias asks, almost pleadingly, "He okay, yes?"

Downham pulls an oxygen mask over Tim's face and begins CPR: 30 compressions, then two pumps of the oxygen bottle; 30 compressions, two pumps, over and over for 45 minutes, all the way back to the air station.

When the helicopter lands at 9:30 a.m. with a nearly empty tank, two ambulances are on the tarmac. Arias, flopping around in his bulky survival suit, is escorted into one of them and taken to AtlantiCare Regional Medical Center, 12 miles away in the heart of Atlantic City.

Bobo is placed in a body bag and carried from the helicopter on a stretcher.

Tim, still cradled in the basket, is carefully lowered to the ground. The entire time, Downham continues CPR, even as Tim is lifted onto a gurney.

Both bodies are put in the second ambulance, to be taken to the morgue at Shore Memorial Hospital, nine miles from Atlantic City.

Finally, Downham stops the compressions.

"Is there anything else I could have done?" he asks the EMT.

"No," the man replies. "Nothing."

CHAPTER THREE

In agonizing bits, news spreads to loved ones

Edith Jones, longtime partner of Bernie Smith, lies on the couch in her apartment in Wildwood. It is 11 a.m., and Jones is expecting Bernie back the next day. On ABC, Channel 6 in Philadelphia, Rachael Ray has just finished interviewing the latest winner of TV's "The Biggest Loser" reality show. Jones is waiting for "The View" to start when Action News breaks in with a special report.

The Lady Mary, a fishing boat out of Cape May, appears to have sunk, the announcer says. One man is reported to be alive, two others are either dead or in very critical condition, and four are still missing.

Jones leaps off the couch and calls her daughter Rebecca.

"Bernie's boat went down!" she screams into the phone.

For 15 years, Jones, now 70, and Bernie, one of Fuzzy's younger brothers, lived together in a photograph-filled apartment in Wildwood. He was devoted to Jones, and when he wasn't at sea the two were rarely apart. Bernie, 59, cooked for her, even accompanied her to the laundromat, and when they weren't watching "Dancing with the Stars" or his favorite show, "Friday Night Smackdown," they were out dancing in Cape May. She often wore her red chiffon dress, he his red tie and tux. Even when they attended the First Baptist Church in Whitesboro every Sunday, they liked to wear matching outfits.

As Bobo did with Stacy, Bernie always called Edith after she dropped him off at the dock for another fishing trip as the boat was pulling out of port. Usually she wasn't even back home yet when her phone rang.

"I love you, honey" was always the first thing he said. The two talked for 15 or 20 minutes, past the lighthouse and the Coast Guard buoys, until reception was lost.

In 2007 Jones retired after 27 years as a housekeeper at the Crest Haven Nursing and Rehabilitation Center in Cape May Courthouse. Her first husband, Alford, died in her arms when he was just 58. Several years later she met Bernie. The love of her life, Bernie didn't mind when Edith said he and Alford were so alike they could have been twin brothers.

"Don't make no plans," Bernie joked with Edith on the morning of March 18 as the boat steamed east toward the Elephant Trunk. "We're going to Virginia Beach when I come back."

"All right," she said, but the line had already gone dead.

The Lady Mary was out of reach.

"Bernie" Smith and Edith M. Jones in and undated photo on their way to a New Year's Eve dance. When he was not fishing, the two were almost always together. *Photo courtesy of Edith Jones*

A DANGEROUS CALLING

Fuzzy wasn't expecting his sons back until Wednesday morning. That gave him just enough time to drive home to Bayboro, N.C., run some errands and see his wife, Hazel. A few hours later he'd turn around and be back in Cape May in time for the Lady Mary's arrival. There would be scallops to weigh and checks to cut for the crew.

The commute was a long one, 12 hours each way, but Fuzzy drove it 40, 50, 60 times every fishing season. He'd grown used to it, prizing the quiet time alone. He ran his Ford Lariat up onto the Cape May ferry, and when the boat hit the shore in Lewes, Del., 90 minutes later, he turned the truck south down the Delmarva Peninsula and across the Chesapeake Bay. Before he reached Bayboro, 200 miles to the south, he would thread his way through dozens of small towns stitched into the Virginia and North Carolina coastline.

The sky was high and cloudless — the kind of day air traffic controllers refer to as "severe clear" — and the good weather put Fuzzy at ease. Bobo and Tim would soon be hauling back and heading home.

Commercial fishermen always have risked life and limb to pursue a profession where a mere change in wind or a minor mechanical malfunction might mean they never get home. Every year throughout the 1800s, the village of Gloucester, Mass., the oldest seaport in the country, lost about 200 fishermen — approximately 4 percent of its population — to weather and accidents.

Advancements in navigational technology and boat design made the occupation safer and the industry profitable, but it also created crowded seas. Overfishing and environmental concerns eventually led to shorter fishing seasons and strict enforcement, all of which meant crews took more chances — going out in bad weather or overloading their boats with too much catch — to meet regulations and make deadlines.

In August 1985, 20-year-old Yale student Peter Barry died with five other crewmen aboard an Alaskan salmon boat. His parents — his father was a former congressman and a member of the staffs of two U.S. presidents — succeeded in pushing Congress to pass the Commercial Fishing Industry Vessel Safety Act of 1988. The new law mandated lifesaving and firefighting equipment on all fishing vessels, as well as survival suits and EPIRBs on vessels operating in certain waters.

Deaths declined by more than 30 percent over the next five years. But fishermen, notorious for their fiercely guarded independence, resisted many of the recommendations. Commercial fishing remained — and remains — the most dangerous occupation in America with a fatality rate 30 times that of the average American worker, according to the Bureau of Labor Statistics.

Between 1992 and 2007, 1,093 commercial fishing vessels and 934 men and women were lost at sea, the Government Accountability Office reported last year. Fully a third of those deaths were Atlantic Coast fishermen.

In New Jersey alone, more than 100 commercial fishermen have died on the job since reliable records began to be kept in 1931. Last year 11 died, the worst since the winter of 1999 when the same number was lost. In the aftermath of those deaths, a special Coast Guard task force issued a report and made 59 recommendations. More than a decade later, only a handful have been officially adopted.

The 80-page document opens with an 1816 quote from Sir Walter Scott, expressing a reality that is often still true, nearly 200 years later:

"It's not fish you are buying — it's men's lives."

'HAVE YOU HEARD?'

Fuzzy was nearly to the North Carolina border when his cell phone rang. It was Keith Laudemann, owner of the Lobster House.

"Fuzzy, where are you at? Have you heard anything about the Lady Mary sinking?"

"What!? No, no way."

Fuzzy immediately dialed Bobo's cell phone, then Tim's. Both calls went to voice mail. That wasn't surprising, he realized, they were still too far out. Heck, he talked to Bobo three days earlier and everything was fine. Fuzzy kept driving south toward Bayboro, running names and numbers through his head. Who could he phone to get more information?

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A half-hour later, Laudemann called back.

"Fuzzy, you better come on back here," he said. "Something's not right."

Without even thinking, Fuzzy U-turned across two lanes of traffic and gunned his truck north.

Around the same time, Carinna Smith, Tim's wife, was ironing a blouse for work when her phone rang, too.

"Have you heard from Tim?" Carinna's friend, Martha Crawley, asked.

"I'll hear from him soon. He's due this week."

"You know a boat went down, don't you?" Martha asked, gently.

"No, no. I'd hear from his dad if anything was wrong."

An hour later, at the Woodbine Developmental Center, Carinna's cell phone rang again. This time it was her pastor, Thomas Dawson, from the First Baptist Church of Woodbine.

"Carinna, have you heard from Tim?"

"No, I'm due to hear from him," she said for the second time that morning.

"A boat went down," Dawson said. "Do you know the name of Tim's boat?"

Carinna's mind raced in a million different directions. Why couldn't she remember?

"Well, they're all named after his grandmother, Mary something or something Mary."

"Lady Mary?" the Rev. Dawson asked.

"That's one of them."

Carinna couldn't believe it, didn't want to believe it. Tim was too good a fisherman, and he was with Bobo and Bernie and Frankie Credle. Together, they were four experienced captains. How could they sink? She remembered when they first met, the movie "The Perfect Storm" had just been released. The story of the six New England fishermen killed when their boat went down in one of the worst storms of the century frightened her, but Tim was reassuring.

"Baby, you know things are in place. I'm always watching the weather. If water gets in, alarms go off."

And when the weather wasn't good, he would call her and say, "Baby, I'm laying up." She trusted his judgment and several times actually went out with him on the boat when he went fishing. She loved watching him work the winches and steer the boat, bringing in a full load of scallops. She was proud of Tim, and so she learned not to be afraid when he was out.

In fact, she embraced Tim's love of the sea. Three hundred guests were invited to their wedding, and Carinna did the decorations herself for the reception at the Rio Grande fire hall. She collected hundreds of snail shells, boiled and bleached them, then dipped them in glitter and deposited one at every place setting.

THE TERRIBLE WAIT AT THE DOCK

If the sea was going to be her husband's life, it would be hers, too.

When Carinna hung up with Pastor Dawson, she immediately dialed Fuzzy.

"Dad, they said a boat went down!"

"I know," Fuzzy said. He was still driving north. "I'm trying to find out now."

Carinna remembered Tim telling her, "Baby, if I fall overboard this time of the year, it ain't good." She couldn't stay at work and she was too distraught to drive, so Crawley picked her up and drove her to Cape May.

Waiting at the dock was awful, and each new bit of information made it more so: A life raft had been spotted, but no one was inside. Three men had been recovered from the water, but only one was definitively alive.

Carinna kept Fuzzy apprised of all the reports. He was a fisherman, and he knew how bad it was. His sons were dead. Now he dreaded they'd never be found.

When word reached him that two bodies had been recovered, he prayed over and over: "Please God, let them two boys be mine." In his entire life, he'd never prayed for a single thing.

"I won't ever ask for nothing else," he pleaded. "Just let those boys they got out of the water be mine."

All afternoon, friends, relatives and fishermen gathered on the Cold Spring dock, as if hoping their presence might be enough to will the Lady Mary home safe and sound. Under an excruciatingly blue sky, they huddled and embraced and whispered encouragements to one another. But they all knew. How could they not?

Few survive the total loss of a vessel, especially that far out, and in water that cold. Most fishermen understand and accept this, but not their families, who for centuries have waited on shores for men who never came home.

For the most part, the other fishing vessels out in the Elephant Trunk still didn't know anything was wrong with one of the boats in their fleet. The Urgent Marine Information Broadcasts coming out of Sector Delaware Bay were sent out only on one frequency, which couldn't reach more than 20 or 30 miles out, and the rescue helicopter's few attempts to broadcast were thwarted by having to hover so low over the rough seas.

Not until late in the afternoon of the 24th did any of the other fishing vessels know one of their own had gone down. At 3:40 p.m., some 10 hours after the Lady Mary sank, and more than four hours after the Coast Guard ship Dependable arrived on scene, the cutter issued an urgent radio broadcast for all vessels to be on the lookout for "possible PIW" — "persons in the water."

Twenty minutes later, the scalloper Kathryn Marie radioed back to report she'd heard a short, frantic call about 5:15 a.m., but nothing else after that.

At 5:47 p.m. the fishing vessel Margaret Rose volunteered to help. Then Jim Taylor aboard the Elise G. offered to assist. Forty minutes after that, the fishing boats Miss Planters and Nancy Elizabeth joined the others in what would prove to be a fruitless search for the missing men of the Lady Mary.

At the Coast Guard air station, Lake Downham was back in the hangar's crew room by noon. High on the room's back wall are the testaments to the lives he and his fellow rescue swimmers have saved. The dozen or so life preservers and flotation

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ACCIDENTS ON THE HIGH SEAS

Below is a chronology of major collisions between U.S. fishing vessels and large commercial ships over eight decades.

NOV. 25, 1931
The fishing schooner Edith and Elinor and the freighter Gypsum Prince collide in fog in Nova Scotia's Bay of Fundy. **Dead:** 6

SEPT. 19, 1949
Collision between fishing vessel Corinthian, out of Gloucester, Mass., and steam freighter Mormacfir, 37 miles off Halifax in dense fog. Coast Guard found fault with captain of Mormacfir, citing him for negligence in using excessive speed and failing to take evasive action. In a civil suit, five families received a total of less than $50,000. **Dead:** 6

NOV. 28, 1951
Fishing vessel Lynn, out of Boston, hit by tanker SS Ventura, in Boston's outer harbor. Coast Guard cites tanker as being at fault. **Dead:** 13

JUNE 19, 1952
Collision between fishing vessel Albatross and tanker Esso Chattanooga, off Nauset Beach, Mass. **Dead:** 1

SEPT. 27, 1959
U.S. freighter Mormacpine rams West Coast fishing vessel Jane, off state of Washington. Coast Guard suspends the license of captain of Mormacpine. **Dead:** 2

APRIL 10, 1961
The 79-foot trawler Powhatan, from Virginia, is run over by the freighter South African Pioneer, in fog, 40 miles southeast of Cape May. Captain of Powhatan is only survivor. **Dead:** 4

OCT. 1972
The Rita and Lorene, a 95-foot fishing boat out of Wildwood, is sunk by unknown commercial vessel off Cape May. Pieces of wreckage are found off New Jersey and Ocean City, Md. **Dead:** 5

APRIL 12, 1983
Clam dredge Misty Blue, out of Cape May, sinks in calm weather, 30 miles southeast of Cape May. Coast Guard cites stability problems, but insurance investigators find paint scrapings on hull contain a type of paint used to coat the underside of large ships. **Dead:** 4

AUG. 28, 1990
Collision of Greek freighter Eurojoy with fishing vessel New England, 40 miles southeast of Nantucket, Mass. **Dead:** 3

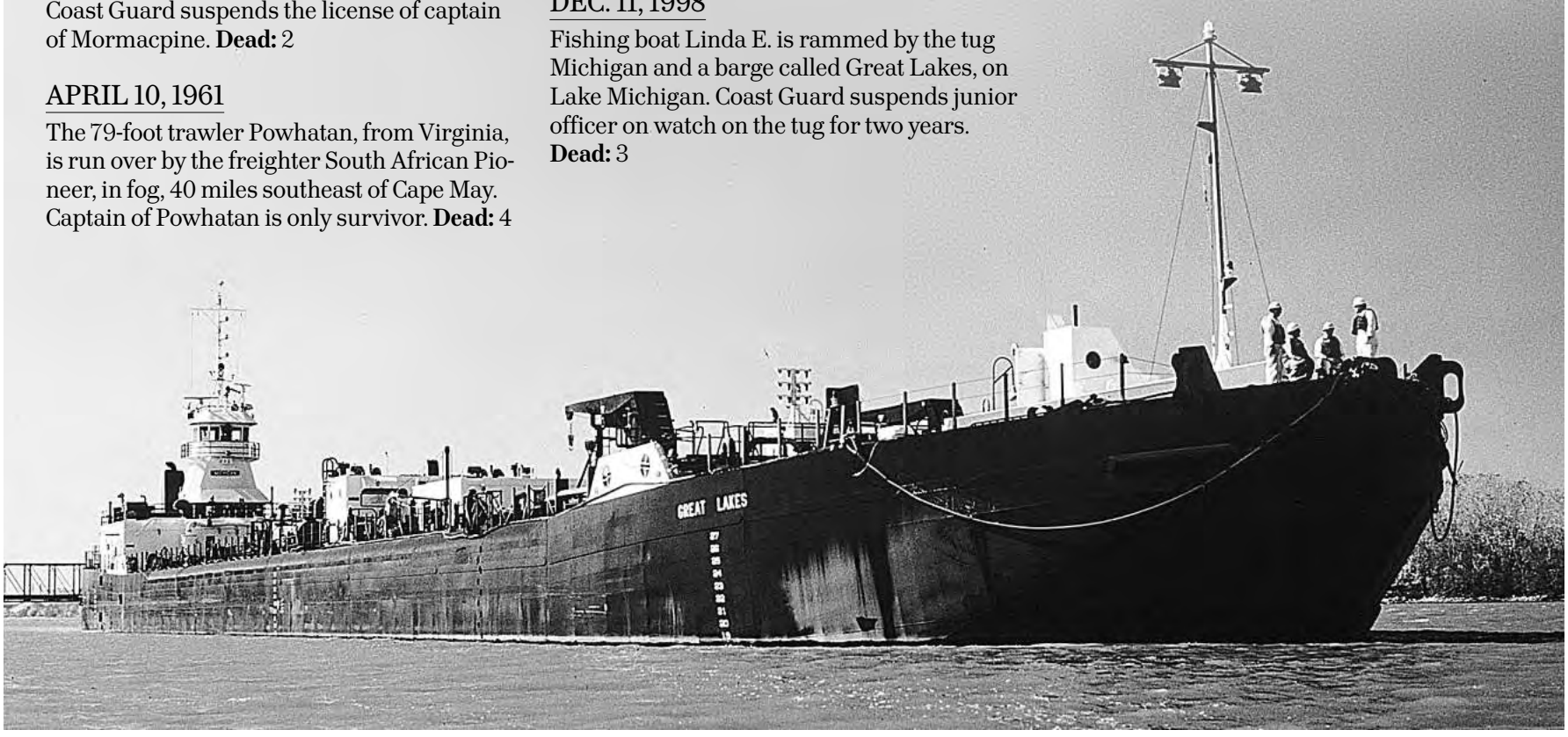
SEPT. 5, 1996
The fishing vessel Heather Lynne II hits the steel tow line between the barge Essex and the tugboat Houma off Cape Ann, Mass. Coast Guard suspends the license of Houma's first mate, who was on watch, for four months. **Dead:** 3

DEC. 11, 1998
Fishing boat Linda E. is rammed by the tug Michigan and a barge called Great Lakes, on Lake Michigan. Coast Guard suspends junior officer on watch on the tug for two years. **Dead:** 3

AUG. 5, 2001
The Russian tanker MT Virgo runs over Maine-based fishing vessel Starbound, 130 miles off the coast of Massachusetts. Only the captain, Joseph Marcantonio of Gloucester, Mass., survives. Canada arrests the crew of Virgo when the tanker arrives in port and charges three of its officers with involuntary manslaughter. The officers are jailed for 18 months until the Russian embassy persuades the Canadian government to release them and they return home. The Coast Guard determines the tanker struck the fishing boat and that the Virgo's officers should have seen the Starbound on radar and steered clear. No one aboard the tanker responded to the Coast Guard's calls for assistance after the fishing vessel sank. **Dead:** 3

APRIL 27, 2004
The towing vessel John 3:16, pushing six barges, sinks unnamed 23-foot crabber in the Gulf of Mexico's Intracoastal Waterway. **Dead:** 2

JUNE 29, 2006
Scalloper Alex Mac is sunk by barge Rockland, towed by the tug Jo Anne Reinauer III, six miles off Manasquan Inlet. **Dead:** 2



The tug Michigan helps the barge Great Lakes in Ohio's Maumee River in 2000. In 1998, the barge and tug were involved in a fatal collision with a fishing boat.
Photograph by Jim Hoffman

Carinna Smith grew up the daughter of a fisherman but really learned to respect the work her husband did when she occasionally went out on fishing trips with him. His truck is still parked in the driveway. Below is the couple on their wedding day. *Photo below courtesy of Carinna Smith*

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devices bear inscriptions, scribbled in black ink, with the vessel's name and the date of rescue or the persons on board (POB): "Killing Time," "Gypsy Blood (Aug. 2004)," "Tapped Out (5-12-08)," "The Chief (7 POB)."

A couple of his colleagues asked Downham if he was okay.

"Yeah, sure," he answered, although truthfully he wasn't sure.

Downham unpacked his gear and rinsed his equipment, then joined the co-pilot, Matt Tuohy, to hose down the inside of the helicopter. When someone dies during transport, or a body is recovered at sea, the helicopter must be specially cleansed.

After showering, Downham's shift was nearly up. Another rescue swimmer offered to take the rest of his watch. Inside his cherry-red Pontiac Grand Am, Downham flipped on the satellite radio and turned to Howard Stern.

Settling back, he stretched his well-muscled arms out toward the steering wheel. Both are covered in tattooed seascapes — violent ones, with skulls, lightning, ominous purple clouds and white-capped waves. Downham's mind wandered. He'd never seen a dead body, and he'd certainly never recovered one. He wondered, in an almost clinical kind of way, whether it was going to affect him. Would he be able to sleep that night? What would he feel like when he woke up the next day?

An hour later he pulled up to the house in Sea Bright he shared with his future wife, Alexandra. She was still at school, teaching, so Downham donned his wet suit, grabbed one of his surfboards, and headed to the beach. The wind had changed and the waves weren't particularly good. Still, he stayed out on the water for two hours.

BEHIND THE DOOR

When the local news reported three fishermen had been taken to the hospital, Carinna and Crawley got back in the car and drove to AtlantiCare Regional Medical Center in Atlantic City. A nurse told her only one of the men from the Lady Mary was there — José Arias. Two bodies, she said, were taken to Shore Memorial Hospital.

Not until their bodies were being transported from the Coast Guard air station to the hospital were Tim and Bobo Smith declared dead: Tim at 10:01 a.m., Bobo at 10:06.

Nine miles from Atlantic City, Shore Memorial's secondary ambulance entrance doubles as the drop-off for valet parking. This is also where the body bags are delivered, then wheeled down a serpentine series of hallways that dead-ends at the morgue. The doorknob-less entry is key-card only.

At 4 p.m., Ralph Henkel, from the Atlantic County Medical Examiner's Office, escorted Carinna, Crawley, Carinna's mother, Shirly Harris, and Pastor Dawson toward the door of the morgue. Fuzzy, having driven all the way back, joined them, but refused to go any farther. Harris stayed behind as well.

"Are you ready?" Henkel asked Carinna.

She nodded yes.

Inside the morgue, coroner Hadow Park stood between two gurneys. Lying on the one closest to the door was the body of Royal "Bobo" Smith Jr. and next to it, the remains of Timothy Smith. At first, Carinna could only see Bobo. He looked so peaceful, she thought, not a mark on his face.

When the coroner stepped to the side, Carinna inhaled sharply. There he was, her beloved Tim, lying side by side with his older brother. A wail of horror and grief could be heard on the other side of the morgue's thick wooden door and Fuzzy's legs buckled.

Carinna reached toward the body of her husband. His lips were so blue and when she bent to kiss them, so cold.

"I love you, Tim. I love you, baby," she said over and over. "I'll see you again. I promise. I'll see you again."

Crawley and the Rev. Dawson helped her out into the hallway.

"It's them!" she cried out to Fuzzy.

The two collapsed in each other's arms.

An examination of Tim's body revealed a distended stomach, the result of swallowing large amounts of water, and white, frothy fluid in the trachea, the larynx and the lungs — all consistent with asphyxia due to drowning.

Bobo's body, the coroner noted, had fully developed rigor mortis, which in cases of recent drowning was evidence of a brief, violent struggle to survive. In all likelihood, when Bobo's face hit the frigid water he involuntarily gasped, drawing water immediately into his lungs and sending him into a panic from which he couldn't recover. Cadaveric spasm — the rigidity of the arms and legs — is a kind of flash-freezing that occurs almost instantaneously when a victim drowns this way. The more Bobo battled to breathe, the less likely he was to live.

At 7:51 p.m. on Wednesday, nearly 37 hours after the search and rescue was initiated, the Coast Guard suspended the mission. Two helicopters, two cutters and a C-130 long-range surveillance plane had covered some 3,417 square nautical miles, but turned up nothing more than debris.

After his rescue, José Arias spent three hours at AtlantiCare Regional Medical Center. The doctors examined him head to toe, checked his temperature and blood pressure, and eventually deemed him well enough to return home. The board he'd clung to all those hours had kept his upper body out of the water, helping him to retain heat longer, thereby slowing the effects of hypothermia.

His problem now was that he was shoeless, and his only clothes — underwear really — had been ripped by the EMTs in the ambulance when they tried to check his body for injuries. From the hospital's special closet of secondhand clothes, a nurse picked out a pair of pants, T-shirt and sneakers. A young woman with the Coast Guard offered him a sweater and blue jacket, then drove him home to Wildwood.

Climbing the rickety staircase on the outside of his second-floor apartment, Arias was hungry and exhausted, his body thoroughly beaten down by the weather, the waves and his desperate struggle to survive. Alone now, the images piled up in his mind — the Lady Mary lurching to port, the helpless look of his friend Frank Reyes, then swimming free of the Lady Mary before she slipped under the waves.

Arias couldn't eat and he didn't want to think. He lay down on his bed, just a mattress on the apartment's small living-room floor, and closed his eyes.

Life preservers from previous rescues hang on the wall at the Coast Guard Air Station Atlantic City. This is where the helicopter returned with José Arias and the bodies of Tim and Bobo Smith.

CHAPTER FOUR

The Cap Beatrice, seen here docked in Philadelphia in March, was the nearest big ship to the Lady Mary around the time the fishing boat sank. What the Cap Beatrice was doing from 5 a.m. until reaching the Delaware breakwater 17 hours later is not known, even to the Coast Guard.

The baffling actions of the Cap Beatrice

Just before dawn March 24, 2009, on black, moonless seas, the container ship Cap Beatrice was steaming toward the Delaware breakwater where the bay and the ocean meet. Here, deep-draft vessels like the Cap Beatrice pause and take on a river pilot, who then guides the ship up the Delaware into the Port of Philadelphia. Occasionally a ship will wait at the breakwater if a berth in port is not immediately available, but containers, which often carry food and other perishables, normally do not.

From her position 66 miles off the coast at 5 a.m., the approximate time the Lady Mary sank, the Cap Beatrice needed only about three hours to reach the breakwater. It took her 17, according to the records of the area's river pilots association, as well as the Maritime Exchange for the Delaware River and Bay, which monitors the area's river and bay traffic.

"Generally, ships wait one or one and a half hours at the breakwater," said Capt. Dick Buckaloo, acting president of the Pilots Association for the Bay and River Delaware. "For containers, downtime is lost money for them. So it's odd when a container waits."

What the Cap Beatrice was doing remains unclear, even to the Coast Guard, which received no signal for six hours from the ship's Automatic Identification System, a tracking device that records speed, position and direction. Her last transmission was recorded by the Coast Guard at 35 seconds past the hour, 5 a.m. Eastern Standard Time.

Because of the missing AIS data, all the Coast Guard could conclude was that the Cap Beatrice "hung" around for seven or eight hours at the breakwater, said communications officer Timothy Marriott, who testified at the marine investigation into the sinking.

"That's unusual," said Capt. John Hagedorn, who teaches in the marine transportation department at the U.S. Merchant Marine Academy in Kings Point, N.Y. "Either there was some problem on the ship or someone shut it off."

A river pilot boarded the Cap Beatrice after she reached the mouth of the Delaware at 1:11 a.m. March 25, according to Paul Myhre, the director of

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This is the view from the bridge of the Cap Beatrice, which is set back 590 feet from the bow. Mariners say there is a significant blind spot, especially off the bow, making it difficult if not impossible to see small boats in close proximity to the ship.

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operations at the maritime exchange, and steered her the final 86 miles up river to the port. She arrived at the Packer Avenue marine terminal at 7:30 a.m., and longshoremen began to unload the ship at 10 a.m.

Technically, the investigation into the sinking of the Lady Mary was already 24 hours old. According to the Code of Federal Regulations, the Coast Guard's commandant or one of its district commanders, "upon receipt of information of a marine casualty or accident, will immediately cause such investigation as may be necessary," including taking possession of all voyage data and navigation records of vessels possibly involved in, or witnesses to, the casualty.

The Cap Beatrice left the Port of Philadelphia at 1:34 a.m. Thursday, March 26, 2009, heading south to Savannah, Ga., then back through the Panama Canal and eventually to Australia.

Although the Cap Beatrice was docked for nearly 18 hours, no one from the Coast Guard contacted her captain, Vasyl Stenderchuk, the shipping agency that leases her, Hamburg Sud, or the German company that owns her, Reederei Thomas Schulte. In particular, no one from the Coast Guard interviewed Capt. Stenderchuk or requested him to save the information on the ship's black-box voyage-data recorder, even though it could have filled in the missing AIS record.

Not until the Cap Beatrice returned from its trip to Australia did officials from the Coast Guard's marine investigation interview her captain and crew, and New Jersey State Police divers inspect her bulbous bow. By that time, the Lady Mary had been lying on the bottom of the Atlantic Ocean for two months.

Two days after visiting the Cap Beatrice, the Coast Guard announced it found no evidence of a collision between the Lady Mary and the container ship.

OUTDATED RULES

There are no road signs on the high seas, no speed bumps, traffic lights, cameras or cops. Most coastal countries designate traffic lanes in and out of their ports, and some, like the United States, impose speed restrictions on ships transiting parts of the ocean traveled by endangered whales. Otherwise, the biggest ships — or the fastest ones — usually have the right of way.

If the Lady Mary and Cap Beatrice collided, or came close to colliding, in the early morning hours of March 24, 2009, they were no match for one another. The 728-foot container ship is more than 10 times the size of the 71-foot fishing vessel and was traveling 20 times as fast. Yet both vessels were relying on antiquated rules of navigation pertaining to square-rigged sailing ships first outlined by Great Britain 170 years ago and signed into U.S. law under Abraham Lincoln.

If one ship is overtaking another it is generally the responsibility of the ship coming up from behind to change course, even if the overtaking vessel is much larger and therefore less maneuverable.

The mammoth ships that today transport 90 percent of the world's traded goods are far less nimble than even the clipper ships of the 19th century. The largest container ship in the world, Denmark's Emma Maersk, is 1,302 feet long — 52 feet longer than the Empire State Building is tall. The Cap Beatrice is a medium-size container ship, but her rudder alone contains enough steel — 25 tons — to manufacture 250 automobiles. Just to turn around takes 15 to 20 minutes and more than a mile of sea.

Because she was traveling at nearly 20 knots the morning of March 24, the Cap Beatrice — had she come close to or hit the Lady Mary — would have been a mile past the boat in just three minutes, according to Ron Betancourt, a licensed mariner and maritime lawyer in Red Bank.

A little more than a week after the Lady Mary sank in the Atlantic with four of her crew still missing, a vessel from the National Oceanic and Atmospheric Administration located her. Then, on April 29, the Coast Guard arranged for a small, unmanned submarine to take video of the wreck. The Lady Mary was sitting in 211 feet of water, on the sandy bottom of the ocean, right-side up, leaning slightly to port.

On April 14, 2009, the Coast Guard opened an official Marine Board of Investigation. The head of the three-member panel was Cmdr. Kyle McAvoy. The board's role, as McAvoy made pains to clarify on the first day, was not to assess blame, but rather to determine the causes of the casualties. In his opening statement, McAvoy said it was the job of the board to assess "whether any incompetence, misconduct, lack of skill or willful violation of the law ... caused or contributed to the casualty ... and to make appropriate recommendations in this regard."

During a recess in the hearings, a group of seven experienced wreck divers, all of them from New Jersey and Pennsylvania, volunteered to visit the Lady Mary. Their mission was to recover any bodies, but also to take detailed video and photos.

On May 12, 2009, in the chilly, early morning darkness, the divers left Cape May and headed east to the Elephant Trunk with navigation maps, air tanks, scuba gear — and several body bags.

It had been 49 days since the Lady Mary sank, and it took the divers five hours to get out to the site. They descended in teams of two, every 10 minutes. Steve Gatto of Sicklerville videotaped the outside of the wreck. In the ghostly green glow of the diver's light, the Lady Mary appeared whole, even untouched. With her stern slightly raised, she seemed to hover just above the bottom, as if at any moment she might start her engines and be on her way.

Gatto was astonished as he slowly swam down and around the bow. Most of the boat was unscarred. Across the hull he could clearly make out the name "Lady Mary," painted in neat, white script outlined in black; the windows of the wheelhouse were all intact; the winches wound and ready to dredge.

What could have happened? Gatto wondered.

Peering into the captain's bridge, he found the first signs of catastrophe: chairs overturned, cups and dishes scattered, a Bible wedged against the wall. Two satellite phones dangled from their cradles, and in the galley, colorful scallop-buckets floated like party balloons along the ceiling.

The only sounds were the hiss and bubbling of Gatto's scuba tank, and every now and then the "whoop-whoop, weeeee" of a distant whale.

Sliding down from the wheelhouse to the deck, Gatto panned the camera toward the dredge, full of scallops, lying in a heap in the back left corner of the boat. Fuzzy had painted two big white eyes on the metal net, the better to "see" all those scallops on the seafloor. When he swam out and around the corner of the rusty hull, Gatto was taken aback. The Lady Mary's stern was severely damaged, but locally, on the port side, and just below the waterline.

A ramp off the stern, once used to help haul up the dredge, was ripped and pushed down on the left, and nearly to the transom, the back wall of the boat. One of the thick struts connecting the ramp to the transom was buckled into an "S" shape and had punched through the transom into the stern storage compartment, called the lazarette.

The 6-foot-long rudder was sheared off at the

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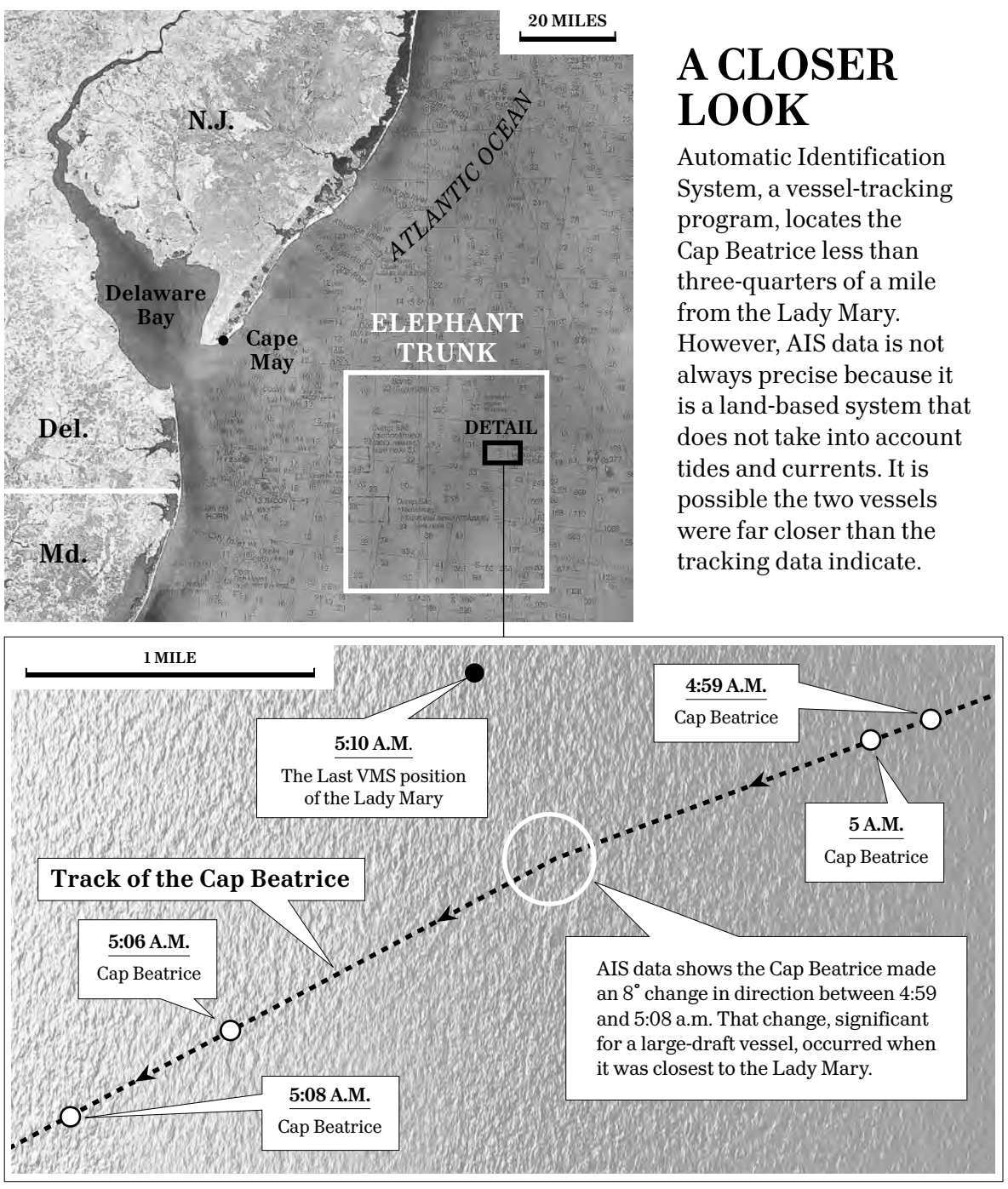
Steve Gatto inspects the Lady Mary. He was one of seven experienced wreck divers who visited the site May 12, 2009. Their mission was to recover any bodies and to take video and photos. *Bradley Sheard*



A CLOSER LOOK

Automatic Identification System, a vessel-tracking program, locates the Cap Beatrice less than three-quarters of a mile from the Lady Mary. However, AIS data is not always precise because it is a land-based system that does not take into account tides and currents. It is possible the two vessels were far closer than the tracking data indicate.

Sources: U.S. Coast Guard; NOAA Fisheries Service; New England Fishery Management Council

Gatto looks over the heavily damaged stern of the Lady Mary. None of the divers on the scene said they had seen this kind of destruction, despite having explored hundreds of wrecks. Experts who believe the fishing boat was struck by a large commercial ship point to this severe, localized damage. *Bradley Sheard*

/ CONTINUED FROM PAGE 13 /

weld and lay flat on the sand, connected only by a safety chain, and the 5-inch-thick, solid steel propeller shaft was bent straight down.

Gatto and the other divers had seen hundreds of wrecks up close, helped raise a couple of them and even recovered the bodies of fishermen from sunken vessels, but none of them had ever seen this kind of destruction.

"It was unreal," said Harold Moyers, owner of the dive boat Big Mac, "incredibly extensive."

Tom Packer, another volunteer, swam into one of the bunk rooms, lifted the mattresses, then picked through the scattered clothes and other debris. No bodies.

Joe Mazranni, a defense attorney from North Brunswick, was given the job of checking the cut room, where the scallops are removed from their shells. The cut room is accessed from the deck, and when Mazranni swam inside through the double doors he found a survival suit, out of its bag and partly unrolled. It was obvious someone had run out of time and been unable to get into the suit.

Mazranni then squeezed through a small opening and swam down 10 to 12 feet into the fish-hold below the deck. In the darkness all he could see was the small circle of space his flashlight illuminated — just bits and pieces of the room, really — so it was hard to get a sense of the space. He wondered if he was in the engine room by mistake. Then his light picked up a pile of boards. It was the fish-hold, all right. The boards were the removable slats of the storage bins.

Moving a couple of feet at a time, Mazranni next shone his light on what he thought was another survival suit — until he saw a pair of feet and legs. It was one of the missing fishermen and he was buried under the boards. All Mazranni could see of him was from the waist down.

The diver was almost out of oxygen and had to surface. When he came down the second time, however, Mazranni had trouble seeing through the silt he'd stirred up earlier. Like a blind person, he used his one free hand to feel for whatever was directly in front of him.

Suddenly his glove touched something soft. He instinctively recoiled. It was a man's head. Mazranni pushed back a bit and shone his light where his hand had just been — into the lifeless, wide-open eyes of a middle-aged man. Mazranni was relieved to find the flesh of the man's face relatively intact. Usually fish eat the softest tissue first, the eyes and lips, but the man's head, with its neatly trimmed white goatee, appeared remarkably unscathed.

'IT HAPPENS TOO OFTEN'

The Coast Guard keeps many records detailing

Based on what he saw while exploring the Lady Mary, Gatto is a firm believer the boat was struck by a large ship.

accidents and deaths at sea, but none specifically related to collisions between fishing boats and deep-draft vessels. Two years ago, when the Coast Guard issued a report on fishing vessel casualties between 1992 and 2007, it cited only four fatalities from all types of collisions, including passenger vessels, cruise ships and sailboats, during that 16-year period.

However, an analysis of 2,548 Coast Guard incident reports, all of them closed cases, in its Maritime Information Exchange, revealed that in just one six-year period between 2002 and 2007 there were at least 70 collisions between U.S. fishing boats and large commercial ships, and six deaths.

"Ships are so large and have so much mass behind them, it's like a bull swatting a fly," said Jim Kendall, a longtime fisherman and now executive director of New Bedford Seafood Consulting in Massachusetts. "It happens too often, way too often."

In the 20 months since the sinking of the Lady Mary, at least two commercial fishing vessels off the mid-Atlantic Coast have been hit by large merchant ships: On April 14, 2009, in heavy rain and fog, the 85-foot scalloper Dictator was hit by the 965-foot container Florida, 21 days after the Lady Mary went down and in the same fishing ground. On July 30 of this year the 72-foot Atlantic Queen, fishing 11 miles off Long Island, was hit by the 625-foot cargo ship Baldor, which sheered off 15 feet of the Atlantic Queen's bow.

No one was seriously injured in either incident.

Precise numbers on collisions are hard to come by because many fishing vessels are lost at sea with no survivors and no witnesses — just questions. Although at least six fishermen were killed in collisions with cargo ships between 2002 and 2007, another 39 died when 18 fishing boats sank, apparently with little warning, and all hands were lost.

"A lot of times a vessel goes missing and no one knows the cause," Kendall said. "When you have something that large coming down on you, they can ride right up over you and possibly they don't even know it."

When collisions do occur between large merchant ships and much smaller fishing vessels, the boats can sink quickly, according to Arn Heggers, former fishing vessel safety coordinator for Maine and New Hampshire and now a civil servant with the Coast Guard, specializing in emergency preparedness. When he instructs commercial fishermen about what to do in collisions, he warns them they will likely have no more than a few minutes to get into a survival suit or life raft, and in the case of a collision with a large merchant ship, "probably a lot less."

"When a larger vessel collides with a smaller one," Heggers said, "it pushes the smaller boat right under the water. Imagine you are driving on a highway — a large tanker would go right over the top of you."

When scientists at the Massachusetts Institute of Technology studied ship-transit risks more than a decade ago, they found three times as many collisions occurred in darkness as in daytime and the highest percentage — one-third — occurred between 4 a.m. and 8 a.m.

BACK TO LAND

With the help of his fellow divers, Joe Mazranni removed the debris from around the body in the Lady Mary's fish-hold. The dead man was dressed in sweatpants, a tight-fitting thermal sweater and socks, but no shoes. Mazranni had seen the photographs of the men still missing and believed he'd found Fuzzy's brother, Bernie. Using ropes, the divers pulled the body from the wreck and, while still underwater, placed it in a body bag, then lifted it to the surface.

The four-hour ride back to Cape May was quiet. An overcast day turned sunny in the late afternoon, but at night it was a chilly trip in to port. Some of the men ate, others slept. In addition to recovering a body, the divers had taken extensive video and hundreds of photographs and along with written assessments of the damage they observed, turned it all over to the Coast Guard.

"Everyone's reaction was the same," Moyers said of the other divers. "That boat got hit."

Twenty miles from Cape May, the divers radioed the Coast Guard about the body they'd recovered and arranged to meet officials at the dock.

There was just one more call to make. Five miles from shore, Mazranni took out his cell phone and dialed Fuzzy.

"I think we got Bernie."

2010'S DEADLY TOLL OF CRASHES AT SEA

Fatal collisions between fishing vessels and large merchant ships, world wide, this year (to date):

Jan. 9
Unidentified freighter hits Chinese fishing boat Minshiyu 3785, off East China. **Dead:** 12

Jan. 13
Cargo vessel Junrong 9 and fishing vessel Zhelingyu collide in East China Sea. **Dead:** 5

Feb. 3
Chinese fishing boat and Chinese cargo ship collide in East China Sea. **Dead:** 7

April 1
Panama-flagged cargo ship Cheng Lu 19 and Vietnamese-flagged fishing vessel collide off coast of Vietnam. **Dead:** 1

April 2
Cambodian freighter Taiyo and South Korean fishing vessel Kumyang 98 collide off South Korea. **Dead:** 9

April 5
Maltese-flagged cargo ship Melina I and unidentified Chinese fishing vessel collide in East China Sea. **Dead:** 6

July 13
Panama-flagged cargo ship C.S. Ocean and unidentified fishing vessel collide off Hiroshima, Japan **Dead:** Unknown

Sept. 1
South Korean cargo ship Ocean Ace No. 6 and a Chinese fishing vessel collide off South Korea. **Dead:** Entire crew, unknown number

Sept. 29
Unidentified fishing vessel collides with unidentified tug and barge, off China's Zhejiang Province. **Dead:** 7

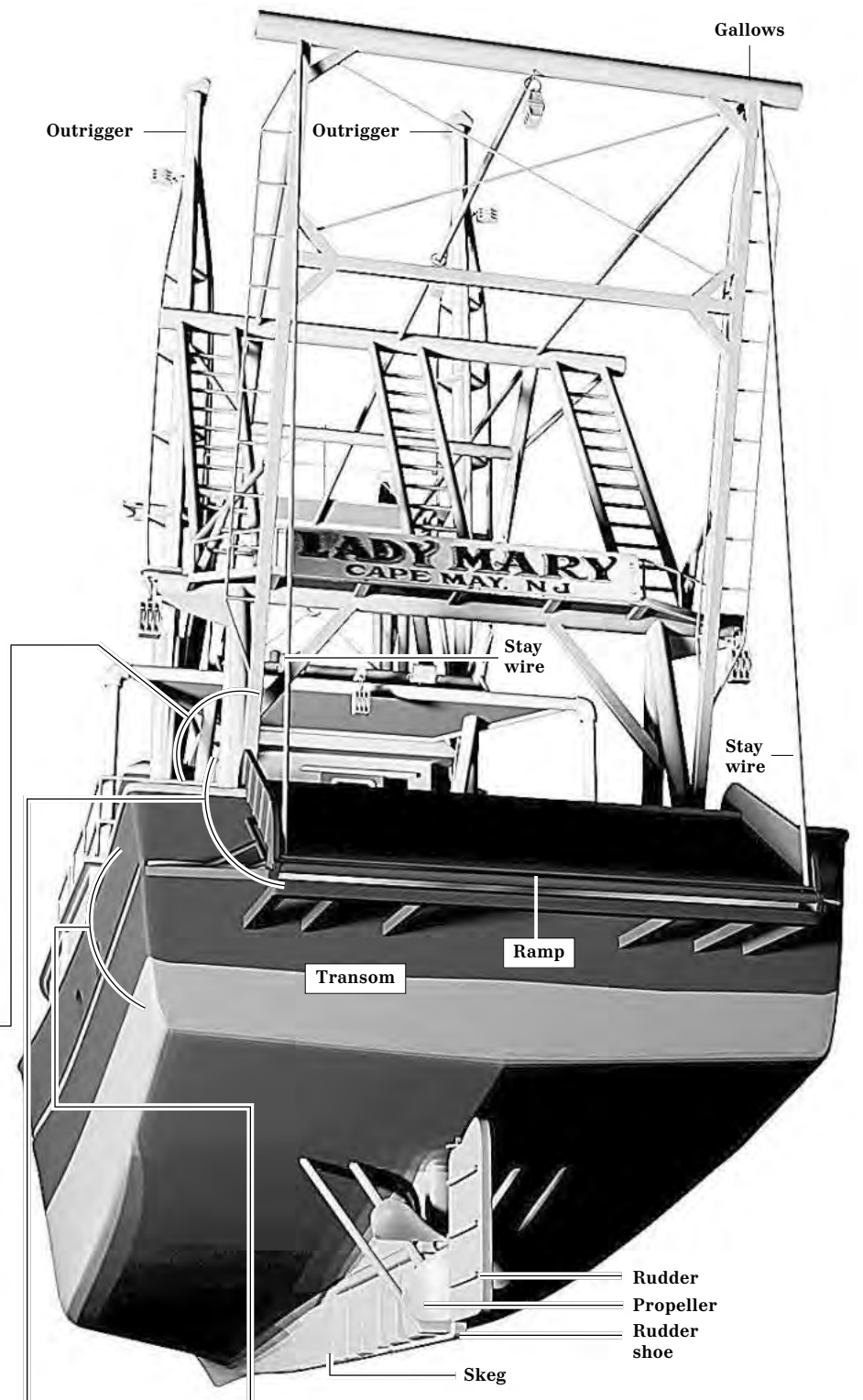
Oct.7
Unidentified fishing vessel collides with unidentified cargo ship in Straits of Malacca. **Dead:** 6

Total number of fishermen killed: At least 53

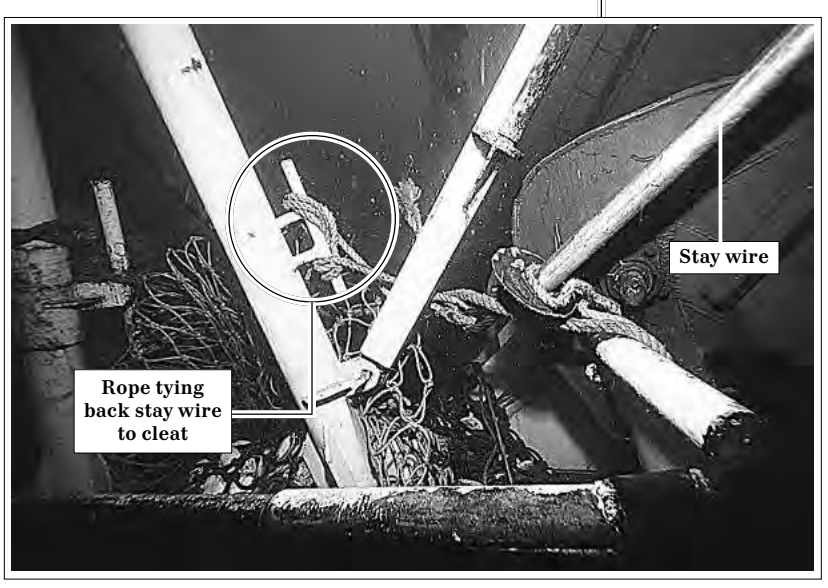
** Incident reports registered by the marine trade and transportation attorneys with Countryman & McDaniel, Los Angeles; Maritime Bulletin; Tradewinds Shipping Index; and Vesseltracker.com.*

ANALYZING THE DAMAGE

The 71-foot Lady Mary scallop boat sank in the Atlantic on March 24, 2009. The wreck was explored about six weeks after the incident by a volunteer group of divers aboard the Big Mac out of Cape May. The group would make two dives to recover the body of Tarzon "Bernie" Smith. The U.S. Navy eventually recovered the rudder for analysis. Video and hundreds of still photos were taken to detail the damaged areas, including the rudder, propeller, propeller shaft, transom and stern ramp. Damage to the port stern area of the vessel suggests two possible causes: a collision at the surface or contact with the ocean bottom. A team of experts from Robson Forensics in Lancaster, Pa., reviewed photos, exhibits and underwater video and came to the conclusion that the bottom hit did cause the damage. But not everyone agrees. The divers, Lady Mary co-owner Royal "Fuzzy" Smith, fishing boat stability expert and ex-Coast Guard safety inspector Bruce Belousofsky, and a team of marine forensics specialists believe the damage to the stern could only have come from a sudden, powerful impact with a large commercial ship and not by hitting the ocean bottom.



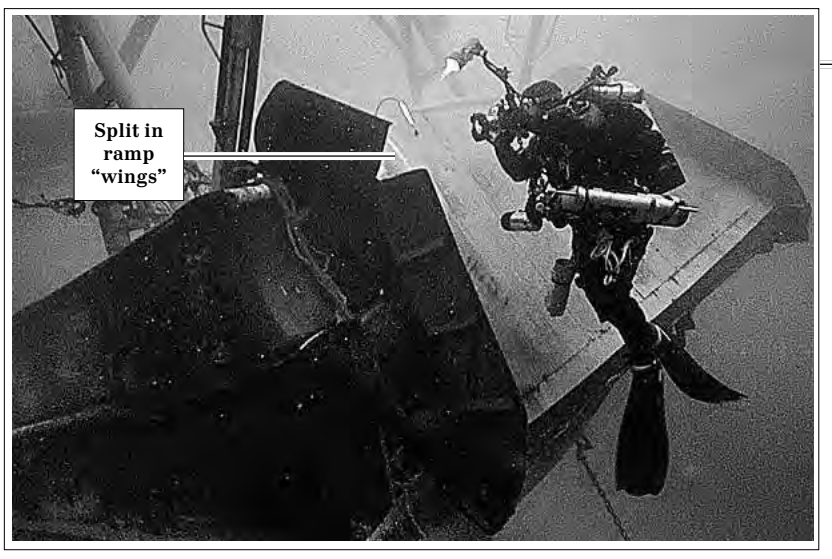
WHAT IT SUGGESTS



STAY WIRES

What they are: Steel cables connected to the ramp, anchoring the gallows frame.
What happened: Both wires were severed from the ramp and one was tied off with rope.

What it means: This may indicate a ship struck the stern of the Lady Mary and broke the wires. Presumably, the crew had enough time to tie one back hastily.



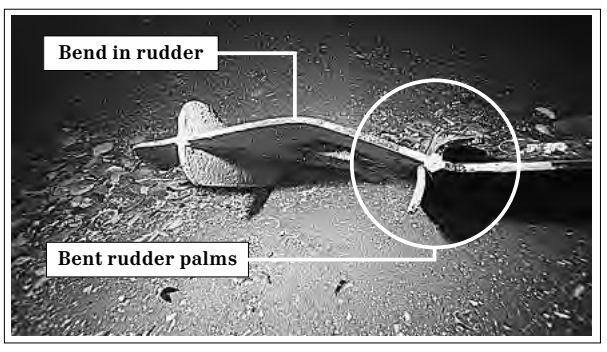
RAMP

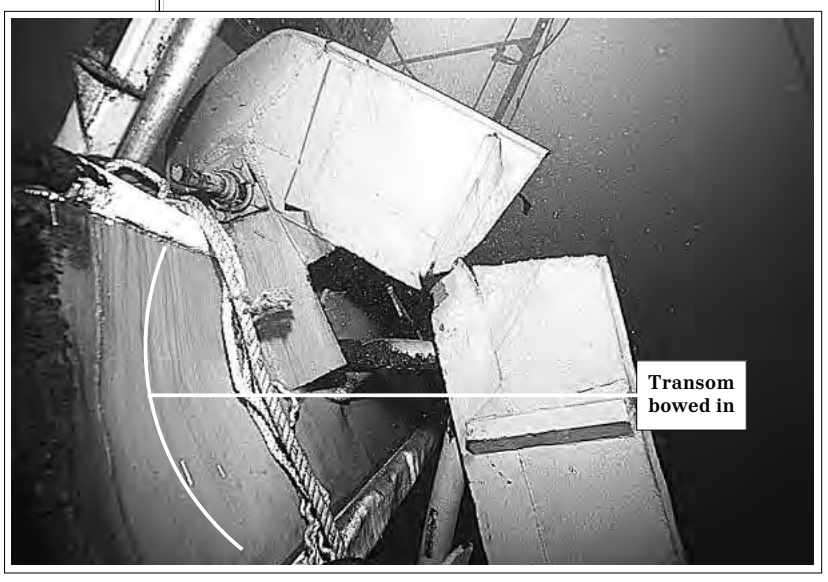
What it is: A steel ramp used to pull the dredge on deck. The crew normally did not use this ramp, but dredged over the port side.
What happened: The ramp was pushed in on the port side and the vertical wings were split, but not bent.

What it means: The stern striking the ocean bottom would likely have bent the ramp wings. The fact the wings remained straight and only split supports the idea of a localized impact at the surface.

RUDDER

What it is: A 5-foot-by-6-foot, half-inch thick steel plate weighing 600 pounds and used to steer the boat. Three horizontal steel palms reinforce the rudder.
What happened: The rudder was knocked from its mounting flange and driven up against the nut of the prop shaft, which punctured it. The rudder's support palms also were folded over in opposite directions.
What it means: Only the focused impact of a collision could bend and drive the rudder into the prop nut. The fact that the rudder palms were crushed in different directions may indicate the round shape of a ship's bulbous bow was the source of the impact.



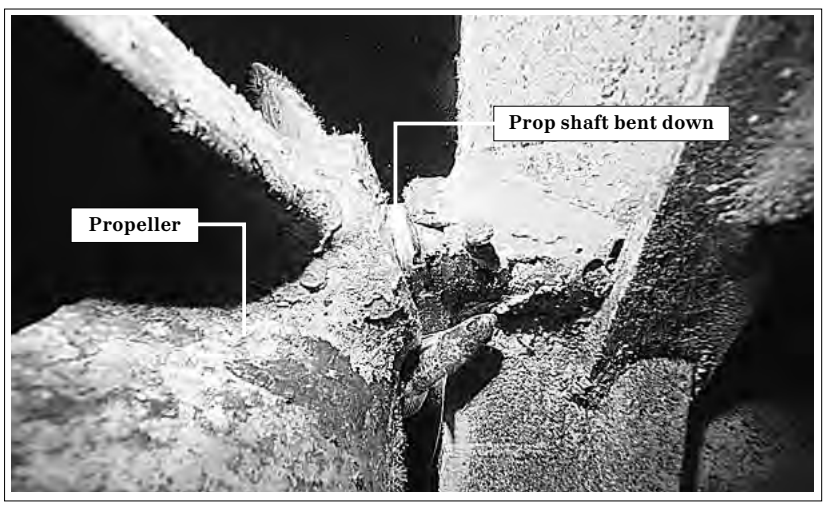


TRANSOM

What it is: Vertical "rear wall" of the boat's hull. The support struts beneath the rear ramp are attached to the transom.

What happened: The port side of the transom was bowed in and one strut punched through the transom.

What it means: The curved transom may indicate a strike from the bulbous bow of a large ship.



PROPELLER

What it is: Four curved steel blades that propel the boat.
What happened: The blades slashed the rudder when they were crushed together. Bits of bronze residue, likely from the propeller blades, was found in the rudder's gashes.
What it means: Engine was running and propeller turning when the accident happened, which likely suggests impact was on the surface.

PROPELLER SHAFT

What it is: A 5-inch solid steel cylinder or hub in the center of the propeller.
What happened: Shaft was bent down at a hard angle.
What it means: A collision would cause the shaft to bend down. Hitting the bottom would likely have caused it to bend up.

Sources: National Oceanic and Atmospheric Administration; transcripts from U.S. Coast Guard hearings; interviews with José Arias; analysis by marine architects and forensics specialists; and evidence and testimony provided by wreck divers. 3-D model by Pixel Eight; photos by Steve Gatto

CHAPTER FIVE

Why most experts say collision caused tragedy

A Coast Guard Marine Board of Investigation into the sinking of the Lady Mary convened in April 2009. Several weeks of hearings were held over the next eight months, with testimony from José Arias, the only survivor of a seven-man crew; Fuzzy Smith, the co-owner of the boat; and at least a dozen other witnesses, including Lake Downham, the Coast Guard rescue swimmer who pulled Arias from the water.

More than a year and a half after the accident, the marine board has yet to release its report, although Cmdr. Kyle McAvoy, the chairman of the three-member investigative panel, says it is largely written.

"We've worked very hard to address all the possibilities," he said. "It comes down to a few things: a weather event, some sort of event on the surface with another vessel, or a mechanical problem during the night that led to a slowly evolving problem."

As late as September, McAvoy said the agency was leaning away from the idea that the Lady Mary was the victim of a high-seas hit and run. Instead, the agency was considering the theory that the boat was swamped and the damage to her stern was the result of its impact with the sea floor. He has declined any comment since.

Two sources close to the investigation said the Coast Guard's final report may suggest several possible scenarios. These sources detailed the Coast Guard's thinking to The Star-Ledger on the condition they not be named because they are not authorized to speak about the investigation.

The scenarios being explored, according to the two sources, include some combination of human, mechanical and meteorological causes based on last year's hearing and the Coast Guard's own investigation. Among the factors:

■ The Lady Mary was an old boat, converted between 2001 and 2003 from a shrimper to a scalloper, and was never tested for stability because it was not required by federal law.

■ The wind was blowing hard and the waves were 6 to 9 feet the night of March 23 into the early hours of March 24, making conditions difficult for the Lady Mary.

■ A hatch on the back deck to the lazarette, a storage area, was always left open, which made the boat vulnerable to swamping in bad weather.

■ Blood tests on the bodies of Bobo and Tim Smith revealed marijuana in both men's blood, possibly impairing their ability to respond to an emergency. (A forensic toxicologist testified at the hearings he was unable to determine when the marijuana was smoked or how much was ingested.)

Some of the possible scenarios would seem to run counter to evidence presented at the Coast Guard's hearings. Coast Guard reservist Aldo Guerino testified the Lady Mary's safety equipment was up to code, had passed a voluntary inspection less than a year before she sank, and was well maintained.

Michael Duvall, a former captain on the Lady Mary, also testified "the boat handled great," even in severe weather.

"I could lay her in a trough, 15-16 foot trough ... with my coffee cup sitting right on the dash and never spill the coffee," Duvall said. "She was a good sea boat. (An) excellent sea boat."

About one thing there is general agreement among all the experts: The mystery of what sank the Lady Mary lies with a crushed ramp, a broken rudder and a bent propeller. What force could have mangled all that steel? Everyone acknowledges there are only two possibilities: She was either damaged on the surface in a collision, or she was damaged 211 feet down when she hit the sea floor.

For seven months The Star-Ledger investigated the wreck of the Lady Mary, examining internal Coast Guard documents and 800 pages of testimony from the Coast Guard hearings, observing fishermen at work on a scalloper similar to the Lady Mary and in similar wind and wave conditions as on the night she sank, and testing the buoyancy of survival suits in cold sea water, especially when they are not worn properly.

More than 100 interviews were conducted with some of the country's foremost naval architects, marine engineers, wreck divers, maritime forensics specialists, fishermen present in the Elephant Trunk when the Lady Mary was lost, mechanics who worked on her engine on land, as well Coast Guard officials and those involved in the rescue of José Arias.

In an undated photo, the Lady Mary, the middle boat, is berthed in Cape May. She was considered a sturdy scalloper and had made many trips to the Elephant Trunk. *Photo courtesy of Fuzzy Smith*

George Edwards, left, a naval engineer, believes in the collision theory. The Coast Guard's lead investigator, Kyle McAvoy, center, has not yet released his report. Bill Garzke, an expert in shipwreck forensics, also believes the likeliest scenario is a collision. *Middle photo by Danny Drake/Press of Atlantic City*

The Star-Ledger asked more than a dozen maritime experts — among them a fishing boat stability expert, a hydrodynamicist who studies how ships sink, a rudder designer, and one of the few marine forensics specialists to inspect pieces of the Titanic — to examine videos, photos and Coast Guard investigation documents. None of these experts concurred with the theory that the Lady Mary's stern was bent and crushed by the impact with the sea floor. Only representatives from one company believe this scenario.

"It's garbage for anyone to think the bottom caused all that destruction," said George Edwards, a naval engineer at CSC Advanced Marine Center in Washington, D.C. "It's just not possible."

The preponderance of opinion, and much of the evidence found by the newspaper, point to a collision with another, much larger vessel — something powerful enough to bend and rip thousands of pounds of steel and send the Lady Mary to the bottom of the sea before she could even shoot off a flare. Navigation records from that night show there was only one such merchant ship in the area at the time — the 728-foot-long container ship Cap Beatrice.

AN EXPERT'S OPINION

William Garzke is a pioneer in the field of shipwrecks. A long-standing member of the Society for Naval Architects and Marine Engineers, Garzke is also founder and chairman of SNAME's renowned marine forensics committee, which devotes its time to the scientific investigation of sunken ships. He has consulted on a number of Coast Guard investigations and is probably most well-known for his work analyzing pieces of the Titanic, after which he concluded a flaw in the design of the hull's joints likely doomed the "unsinkable" ship.

When Garzke and the 14 other members of the forensics committee, at The Star-Ledger's request, examined the video and photographic evidence of the Lady Mary and analyzed Coast Guard documents and navigational records, they all agreed about the damage to the fishing vessel.

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"It's hard for me to believe it was just the sand that caused it," Garzke said. "(It) was a collision with another object. That's the likeliest possibility."

Alexander Schulte, the head of Reederei Thomas Schulte in Hamburg, Germany, which owns the Cap Beatrice, has repeatedly declined to comment on the Lady Mary tragedy despite numerous calls and e-mails.

Oliver Kautz, the quality manager for OCEAN Shipmanagment, owned by Reederei Thomas Schulte, initially spoke about the incident, but later said he was told by his superiors to say no more. Kautz oversees the parent company's fleet. In earlier conversations and e-mails he said the company had conducted an "intensive internal investigation" in which it assisted the Coast Guard, but "unfortunately both investigations have not brought the case forward."

The dockside manager in Philadelphia for Hamburg Sud, the company that leases the Cap Beatrice, allowed The Star-Ledger to board the ship in April when she was in port and sailing under a new captain, but refused a second request in July when the Cap Beatrice returned once again under the command of Capt. Vasyl Stenderchuk, who was in charge the night the Lady Mary sank. Several e-mails sent to Stenderchuk's Linkedin.com profile also have gone unanswered.

As noted, not all the experts consulted by The Star-Ledger agreed with the collision theory. The professionals in the marine division of Robson Forensic in Lancaster, Pa., which provides investigative and consulting services to lawyers, concluded the Lady Mary was swamped — perhaps by a bow wake from a passing container ship — and that all her stern damage was the result of hitting the sea floor.

"If she develops even a slight port list, which is what we believe happened," said Bart Eckhardt, president of Robson Forensic, "then the Lady Mary could not shed water. When this happens, and there's wave action, the water becomes trapped between the bulwark and the house. ... The situation becomes catastrophic."

Eckhardt and his three-member team believe the Lady Mary sank, stern first, at a speed of 4 to 7 meters per second, basing their conclusions on the Coast Guard's assessment of the Lady Mary's terminal velocity — the speed she was traveling when she hit bottom. A copy of the assessment was obtained by The Star-Ledger and provided to various experts. Robson says that if the boat did have a port list and was traveling at the speed estimated by the Coast Guard she would have hit the sea floor at a 49 degree angle — which they believe accounts for the damage to the stern.

However, SNAME's marine forensics committee, which viewed those same Coast Guard calculations, believes they are flawed.

"(They) are very off-the-cuff and can't stand up to rigorous examination because there are too many vaguely qualified assumptions," said Sean Avery, a hydrodynamicist who models the various ways ships sink. "If you simulated the free fall through the water column 10 times, you would get 10 different answers. ... This is tricky to do right."

The experts who point to a collision say the following points support their conclusion:

■ The severity and direction of the damage, which suggests a sudden and powerful impact from a very large moving object.

■ The rudder stock, which appears to have been sheared off in a collision as opposed to breaking due to corrosion and metal fatigue.

■ The severely contorted propeller stock, which is bent down, as if from contact with a much heavier object, as opposed to up, which would be expected with a bottom hit.

■ The marks on the propeller blades, which indicate they were still turning when the propeller was pushed against the rudder. That scoring could only have happened on the surface, when the Lady Mary's engine was still engaged, say proponents of the collision theory. When she finally sank she lost all power, which means the propeller was no longer turning when the Lady Mary hit the sea floor.

■ The way the port side of the transom is bowed-in, indicating an impact from a rounded object, such as a container ship's bulbous bow.

One of the Coast Guard assumptions in the terminal velocity calculations, according to members of the forensics committee, is that the rudder buckled when the boat hit the bottom.

"I don't agree with that," said George Edwards, a committee member and naval engineer at CSC Advanced Marine. "That would only apply if the boat went down on a fairly even keel," that is, if it sank right-side up, such that the end of the rudder hit first and the rudder was vertical.

The problem with this scenario, he said, is that "sinking on an even keel also results in the lowest possible terminal velocity."

In other words, the slower the sinking, the softer the landing; the softer the landing, the less damage.

Instead, said the forensics committee, to even consider the possibility the Lady Mary crumpled when she hit the sea floor, she would have to sink stern first at a nearly vertical angle.

Like the other divers, Steve Gatto, who was in the first group to dive on the wreck of the Lady Mary, believes the vertical-hit scenario is improbable because of the pristine condition of the gallows, a large rectangular frame that supports the dredge. It rises high over the deck and is angled over the stern's ramp.

Three of Stacy Greene and Bobo Smith's sons, clockwise from top left, Jonathan, Jeremiah and Christopher. Jonathan says he has seen the spirit of his late father.

Stacy reclaimed the gold chain Bobo had pawned when low on cash, just before the trip. She often wears it around her neck in remembrance.

"If the Lady Mary sank nearly vertically, the gallows would have hit the bottom first," he said. "Yet we inspected it carefully and it had no damage whatsoever, not even a scratch."

Gatto has nearly 30 years experience diving on wrecks. He has helped raise sunken fishing boats and assisted in the recovery of bodies. If the Lady Mary struck the bottom either vertically or at a 49 degree angle as Robson suggests, he says, the propeller stock would have bent upward, not downward, as the dive photos and video show.

"With that angle and force, I'd expect to see the (propeller) blades bent back, too, maybe even broken, but they're not," he said. "The blow came from behind and pushed the boat down."

Robson said it used the Coast Guard's calculations to do a complete reconstruction, and it stands by its analysis, including the 49 degree angle of impact.

The SNAME forensics committee counters that a reconstruction entails far too many variables to be accurate and that the only thing that explains the damage done to the Lady Mary is a surface collision.

Another issue, says SNAME's Avery, is the rudder. If it was damaged when the boat hit the sand, its "shoe," the bracket underneath the rudder that holds it in place, should still be there, he says.

The divers, however, never found it.

The only plausible explanation for the shoe not being in the vicinity of the boat, says SNAME's marine forensics committee, is that it was knocked loose by impact on the surface.

"I've designed rudders for boats that size," Edwards said. "I've done the calculations for that type of rudder. What's left, where the rudder shoe came off, is consistent with it being hit from above and forced down."

The conditions out in the Elephant Trunk on the morning of March 24, 2009, were rough, but not excessive as far as commercial fishermen are concerned. According to the nearest offshore buoy, seas were 6 to 9 feet and the winds 25 to 30 mph, from the north by northwest.

What has puzzled many of those involved in the case was how quickly the Lady Mary appeared to sink. In the debris field there were unused survival suits, emergency flares and hand-held distress signals, and no one in the empty life raft.

For this reason, many experts find it hard to believe the Lady Mary simply foundered and sank. A boat without power, even in rough seas they say, does not go down in a matter of minutes.

"You can be dead in the water, it still takes time to sink," said Bruce Belousofsky, a retired Coast Guard commander, former vessel safety inspector and president of Blancke Marine Services, a naval architecture and engineering firm in Woodbury.

"Flooding in those conditions is a process, and there are high-water alarms. It's hard to be taken by surprise."

When he heard the Lady Mary went down, he thought it was unusual.

"It had to be something very, very dramatic to sink that vessel without giving those guys much time to get out."

A CRUCIAL CLUE

If there is a smoking gun in the sinking of the Lady Mary, divers Gatto and Harold Moyers believe they found it.

When they filmed the wreck underwater, each diver said he noticed that the stay wires on the stern ramp, which run from the top of the gallows to the lowest corners of the ramp, were broken at the welds. The port stay wire, encased in a steel sleeve, was tied back with rope, albeit haphazardly, to a cleat on the stern.

Gatto and Moyers believe that in rough seas, after a collision, and with the boat essentially dead in the water, the heavy cable would have been swinging around the deck "like a club." They theorize a crew member, perhaps Frankie Credle, quickly tied it out of the way.

The broken stay wires, which would have been mended if they had both suddenly broken on their own earlier in the trip, are the key for Gatto.

"You can't tie back a stay wire on the bottom of the ocean," he said. "Something happened before it sank."

Gatto, Moyers, Belousofsky and the SNAME marine forensics committee all believe the Lady Mary was moving — or trying to move — hard to port when she went down, perhaps trying to get out of the way of an approaching ship. Photos of the interior of the Lady Mary's wheelhouse and control panel, specifically the open throttle and the rudder gauge, said Belousofsky, appear to confirm the boat was turning when she foundered. The slashes in the rudder also seem to confirm this, he and the others say, because the prop had to be turning to gash the rudder in this way.

In a collision, with the boat trying to take evasive action, the rudder could have been pushed up against the propeller by the larger ship's rounded bulbous bow, according to these experts, at which point it would bend the propeller shaft downward and in the process stove in the transom.

In seas of 6 to 9 feet, say Gatto, Moyers, Belousofsky and the others, a collision with a ship 10 times the size of the Lady Mary could have pushed her stern down so far that her decks were awash in a matter of seconds.

A TWO-MONTH WAIT

In the course of its own investigation, The Star-Ledger also found possible problems with the Coast Guard inquiry.

It was not until Memorial Day 2009 — two months after the Lady Mary sank — that the Coast Guard finally contacted the Cap Beatrice on her way back in to the Port of Philadelphia. The ship anchored at the southern end of Delaware Bay where Coast Guard officials interviewed the crew, and scuba divers from the New Jersey State Police entered the choppy seas to examine the ship's bulbous bow.

Coast Guard officials offered no explanation as to why they waited to inspect the Cap Beatrice when she returned to Philadelphia, but 48 hours after the crew was interviewed, the Coast Guard released a statement announcing no evidence of a collision had been uncovered.

A number of people, including Belousofsky

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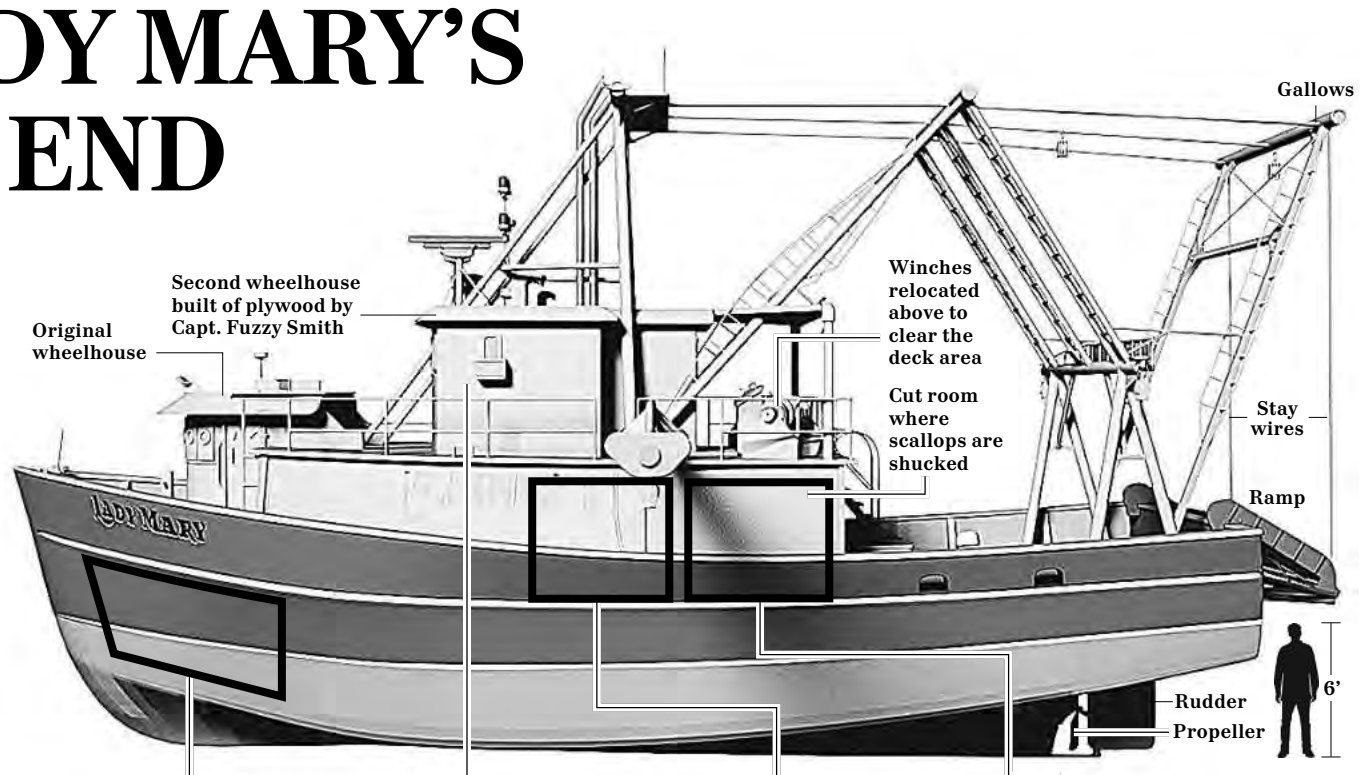
THE LADY MARY'S TRAGIC END

The Lady Mary was a shrimp boat built in Pascagoula, Miss., in 1969. The vessel was converted to a scalloper between 2001 and 2003.



ABOUT THE BOAT

Hull: steel
Weight: 105 gross tons
Length: 71.2 feet
Beam: 21.2 feet
Wheelhouses: 2, each has radar, computer and steering

CONDITIONS

Wind: 20-25 knots (23-28 mph)
Seas: 6-9 feet
Water temp: 40.6˚
Air temp: 33˚

Timothy 'Timbo' Smith

José Arias

Location prior to sinking: Smith and Arias were off duty and asleep in the forepeak bunk in the boat's bow

Roy 'Bobo' Smith Jr.

Location prior to sinking: Probably in the wheelhouse

Frankie Credle

Tarzon 'Bernie' Smith

Location prior to sinking: Probably asleep in the rear bunk room next to the cut room

Frank Reyes

Location prior to sinking: Shucking or asleep in the rear bunk room

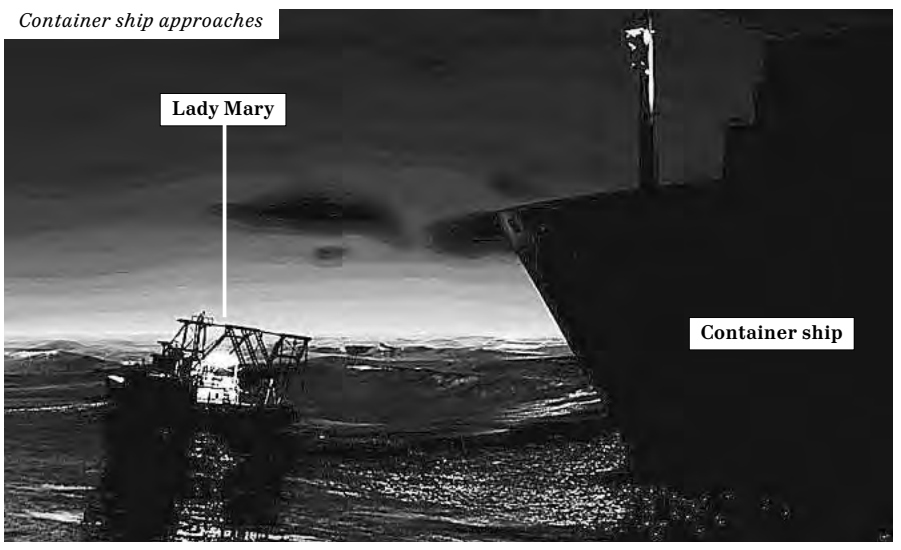
Jorge Ramos

Location prior to sinking: Unknown

THE COLLISION SCENARIO

Theories about the sinking of the Lady Mary range from capsizing due to mechanical failure that left the vessel dead in the water, to a rogue wave, loss of rudder, or cable entanglement with the rudder. However, photos and video taken of the stern damage from the wreck suggest an encounter or even a collision with a container ship passing through the busy scallop fishing grounds en route to Philadelphia. The following is one possible chain of events that lead to the sinking.

Container ship approaches



SHORTLY AFTER MIDNIGHT

1 José Arias went to bed in the forward bunk room. Tim Smith likely joined him several hours later. They had about 200 bags of scallops below deck in the fish hold and 10 to 12 more bags on the top deck. They were aiming for about 250 bags and intended to return to port later in the day.

5 A.M.

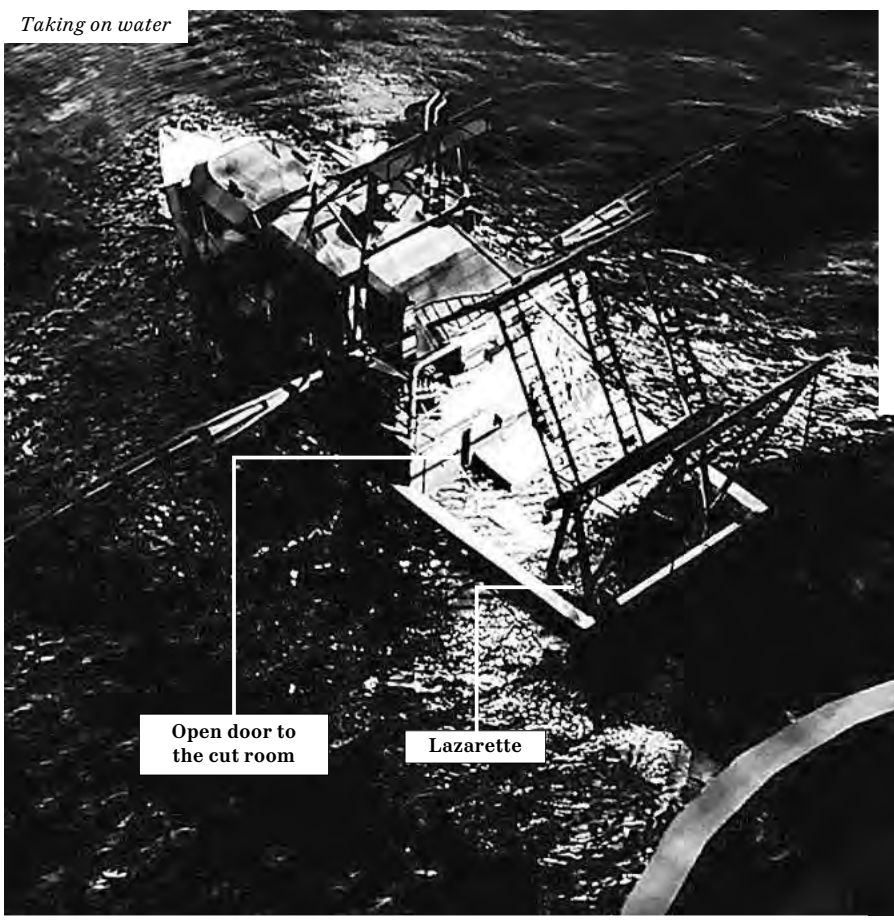
2 The Lady Mary is drifting in a south by southwest direction. The rest of the fishing fleet is 6 miles to her west. Only two vessels are within a mile: The scalloper Alexandria Dawn is at anchor. The 728-foot Cap Beatrice is steaming south by southwest at just under 20 knots.

5:10-5:40 A.M.

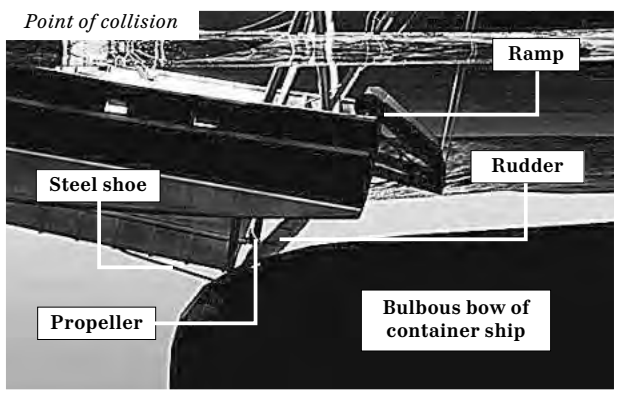
3 A container ship approaches from behind and to the port side of Lady Mary. The bow wake swamps the rear deck of the Lady Mary. Water flows into an open door into the cut room, where the scallops are shucked.

4 The bulbous bow of the large ship contacts the Lady Mary's rudder and ramp. The rudder shoe is lost, the rudder is pushed up against the steel nut of the prop, the prop shaft is bent down and the rudder is knocked from its mounting. The port-side strut on the ramp is buckled and is punched through the transom into the lazarette, the boat¹s rear storage area below deck.

Taking on water



Point of collision

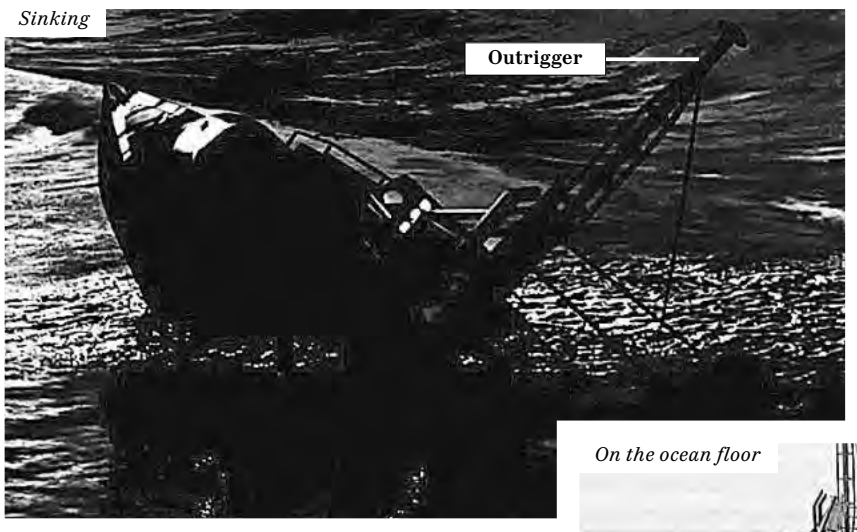


5 Water floods through the cut room and through the hole in the lazarette. As the Lady Mary lists hard to port, water washes down through an open hatch on deck into the lazarette.

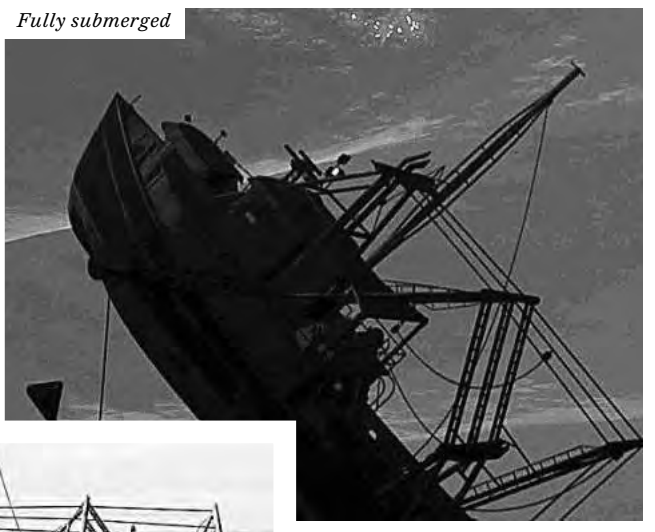
6 Within minutes the boat is nearly underwater. Outside the wheelhouse on the starboard side — the only part of the boat still above the surface — only three of the crew are in survival suits: Tim Smith, Bobo Smith and José Arias. Frank Reyes is dressed in only sweat pants and is paralyzed by panic, clutching the starboard railing. His is the last face Arias sees as the water rises to his chest and he pushes off from the Lady Mary.

7 Arias sees the lights go out and hears the engine go silent as the Lady Mary is completely submerged. For a few minutes he hears someone calling out and tries to answer, but he doesn't know who it is or what he is saying.

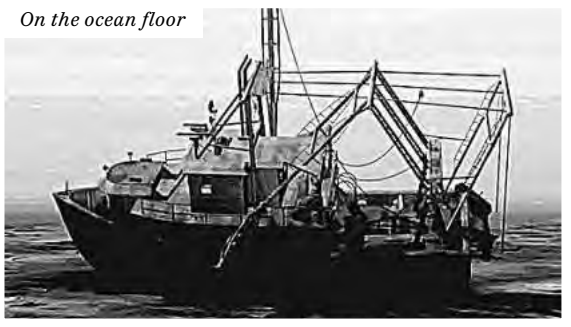
Sinking



Fully submerged



On the ocean floor



5:40 A.M.

8 An Emergency Position Indicating Radio Beacon (EPIRB) signal is detected by a NOAA computer in Maryland. Due to a clerical error, one digit in the 15 digit EPIRB registration number is wrong and the NOAA computer cannot identify the signal. It takes 87 minutes before a second satellite picks up the ship's location and notifies SARSAT (search and rescue).

8:36 A.M.

9 A life raft is spotted by a Coast Guard helicopter. Although no one is inside, Arias is soon spotted a short distance away clinging to a piece of wood. After he is rescued, the bodies of Tim and Bobo Smith are recovered.

8:47 A.M.

10 The Coast Guard helicopter heads back to Cape May. José Arias is the only survivor. The Lady Mary sits in 211 feet of water.

Sources: National Oceanic and Atmospheric Administration; transcripts from U.S. Coast Guard hearings; interviews with José Arias and analysis by marine architects and forensics specialists. Animation stills and 3-D model by Pixel Eight

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and Garzke, are critical of the Coast Guard's investigation.

In June 2009, Gatto invited Cmdr. McAvoy to a meeting of the SNAME forensic committee in Washington, D.C., which McAvoy accepted. The committee made a number of recommendations, including the necessity of raising the rudder, and also provided McAvoy with a copy of its guide to marine investigations, because, Garzke said, McAvoy seemed "mystified about forensic techniques."

McAvoy says he has spent his entire 20-year Coast Guard career in the field of marine safety, specializing in inspections and marine casualty investigations. He also has two master's degrees in the field of marine engineering from the University of Michigan.

Much of his experience, he says, has been with large commercial ships, freighters, tankers and passenger vessels. Now based in Washington, D.C., at the Coast Guard's Office of Traveling Inspections and National Centers of Expertise, McAvoy says he has taken part in 20 to 24 casualty investigations over the past two decades — none involving sunken fishing vessels.

The requirements to become a Coast Guard marine investigator include a three-week course in Yorktown, Va. A number of performance qualification standards must also be met, such as "initiating an investigation" and "generating a timeline."

A 2008 audit of marine casualty investigations by the Office of the Inspector General found 68 percent of the casualty investigators the panel interviewed and tested were "substandard."

McAvoy was interviewed five times by The Star-Ledger. He discussed the process — and progress — of the investigation of the Lady Mary, as well as his background, but would not speak about the specifics of the case. When McAvoy was contacted last week, Lisa Novak from Coast Guard public affairs in Washington, D.C., spoke for him. "We are not giving any interviews until the investigation is over," she said, but could not predict when that would be.

The Star-Ledger also uncovered evidence of problems during the search and rescue mission.

Testimony at the hearing suggests the Coast Guard might have been hampered by the fact the helicopter crew was unfamiliar with the use of its new 406 EPIRB direction finder when trying to locate possible survivors. Instead, the crew had to rely on an older device with less range, potentially delaying the first sighting of the life raft.

After then locating José Arias in the water, the helicopter was too low to radio back to land information about how many fishermen were still missing. That meant another delay before the officers at Sector Delaware Bay could send an urgent marine broadcast.

Finally, when a Coast Guard communications officer in Philadelphia eventually did radio all the mariners in the vicinity of the sinking, the officer failed to use the frequency most likely to reach them — a mistake he acknowledged in a Coast Guard report.

In addition to the Coast Guard, the National Transportation Safety Board, which assisted in the investigation, has declined further comment until their official reports are made public.

A BODY IN THE NET

When the phone rang inside Coast Guard headquarters in Cape May at 10:35 a.m., Wednesday, May 20, 2009, it was Richard Gibbs, captain of the scalloper John & Nicholas, on the line. He had a grim message. Under a tarp on the back of his boat lay a body.

The John & Nicholas had been fishing in the Elephant Trunk, a few miles from where the Lady Mary sank. When they lifted the dredge after a run they found tangled in the net, among the fish and shells, the partially decomposed body of an African-American male.

Gibbs was pretty sure he knew who it was: Frankie Credle.

At age 56, Credle had been fishing for more than 40 years. The 13th of 14 children from Mesic, N.C., he was Fuzzy's cousin and the two grew up just a couple miles from one another. When he was in his 20s, Frankie helped Elwood Jennett build the Sea Pal, a 50-foot fishing boat, behind the Mesic service station. One day when they were out shrimping in Pamlico Sound in rough weather, the Sea Pal capsized. Credle saved Jennett's life by helping him swim out from under the boat, and if Frankie hadn't been such a strong swimmer, both would have died.

With the confirmation the body in the net was Frankie Credle, two men from the Lady Mary remain missing: Frank Reyes, so panicked he could not get into an immersion suit before the boat went under, and Jorge Ramos, the youngest fisherman, whom Arias never saw in those last, desperate minutes before the Lady Mary disappeared into the black Atlantic.

In July, however, the John & Nicholas, the same boat that scooped up Frankie Credle's body from the chilly depths, plucked Reyes' driver's license from the sea.

The men of the Lady Mary were not the only New Jersey fishermen who died last year. On Nov. 11, 2009, just days after the Coast Guard announced it was stepping up inspections of safety equipment aboard commercial fishing vessels, the 44-foot

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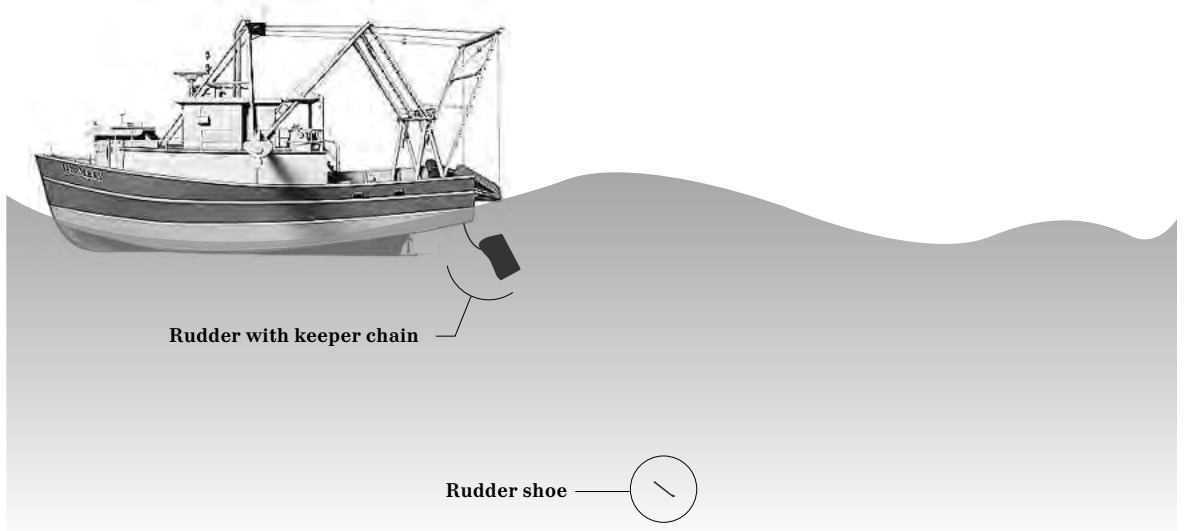
A DETAILED LOOK AT EACH POSSIBLE CAUSE

Several scenarios could occur at sea that might sink a commercial fishing vessel. Weather conditions during the early morning hours on March 24, 2009 were rough. Seas were 6 to 9 feet with winds from 20 to 25 knots (23 to 28 mph). There were, however, more than 20 other fishing vessels in the restricted scallop fishing area at the same time and none turned for home. The accident occurred shortly after 5 a.m. Visibility due to the weather and time of morning would be limited. Following are possible causes of the Lady Mary tragedy and the reasons that the cause is — or is not — plausible.



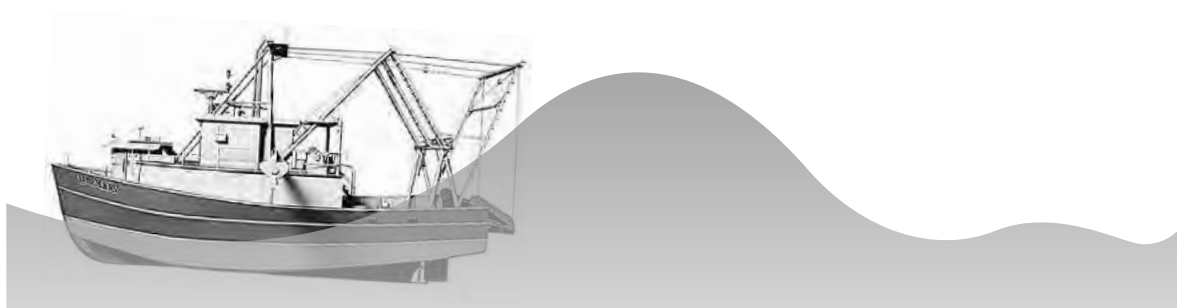
LOSS OF RUDDER

WHY IT'S PLAUSIBLE

Fishing boats endure harsh conditions and are in a constant state of repair. The rudder stock (shaft), could have been weak from metal fatigue and broke. The shoe that supports the bottom of the rudder would likely come off as well, leaving the boat unable to be steered and vulnerable to large waves.

WHY IT'S NOT PLAUSIBLE

Marine forensics experts say the break pattern on the Lady Mary's rudder indicates a sudden, powerful impact, not metal fatigue. If she had lost steering, there likely would have been radio communication from the crew asking for help. The only transmission from the Lady Mary was a garbled, rushed mayday.



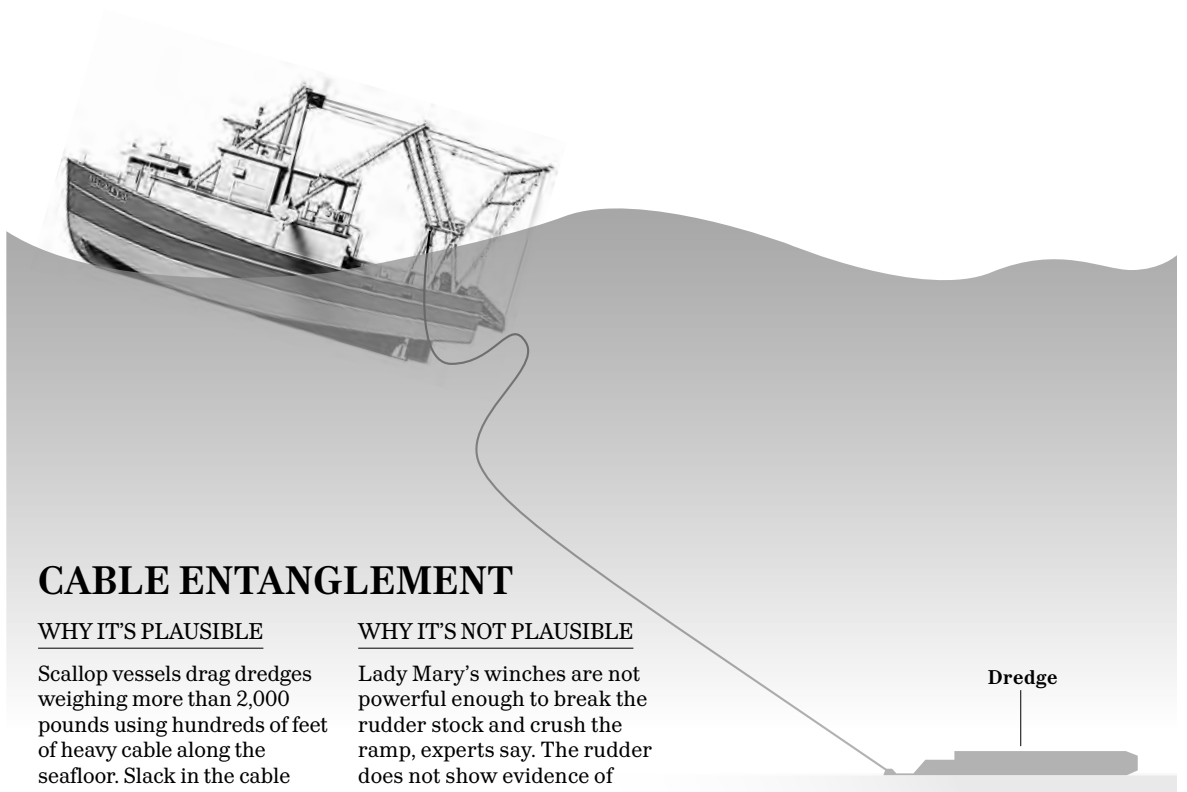
SWAMPING

WHY IT'S PLAUSIBLE

With seas from 6 to 9 feet, it is possible that a bow wake from a passing ship or a rogue wave of greater height could have hit the Lady Mary and pushed it onto its port side. If enough water were forced onto the deck and into the cut room, engine room and other compartments below deck, the boat could have had difficulty recovering.

WHY IT'S NOT PLAUSIBLE

A rogue wave almost always breaks the windows of the wheelhouse. The windows of the sunken Lady Mary are intact. Fishermen familiar with the boat say it performed very well in rough seas. It also appears the Lady Mary sank quickly. A swamping would have likely given the crew more time to communicate via radio and put on immersion suits to save themselves.



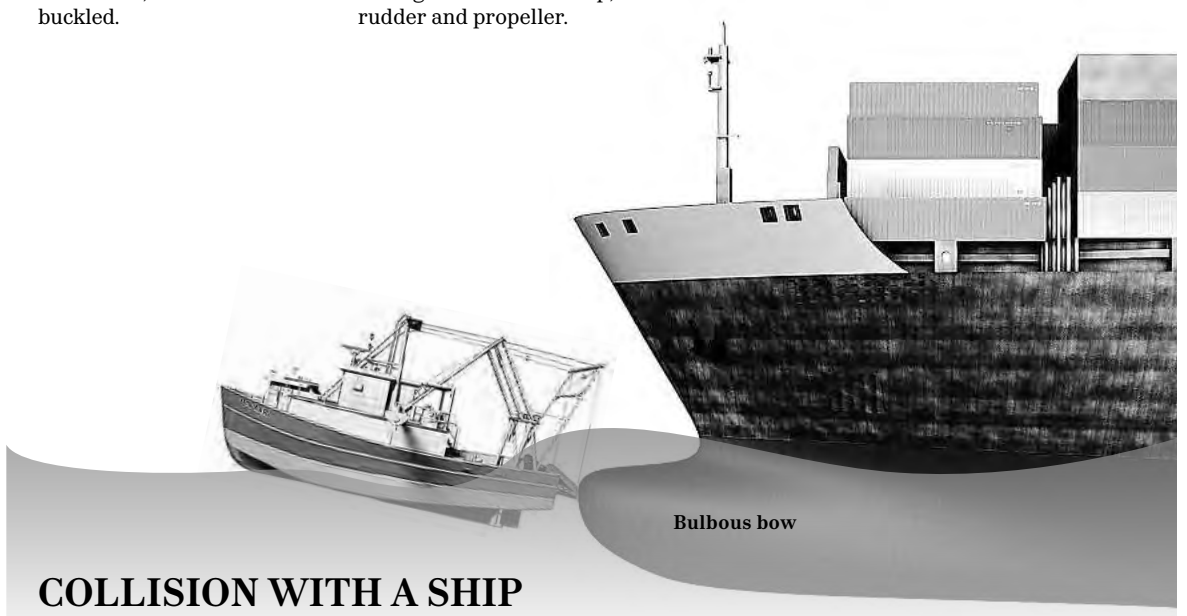
CABLE ENTANGLEMENT

WHY IT'S PLAUSIBLE

Scallop vessels drag dredges weighing more than 2,000 pounds using hundreds of feet of heavy cable along the seafloor. Slack in the cable could have wrapped around the rudder and when winched in, crushed the ramp, broke the rudder stock and pushed the rudder against the propeller. When the boat hit the bottom, the rudder buckled.

WHY IT'S NOT PLAUSIBLE

Lady Mary's winches are not powerful enough to break the rudder stock and crush the ramp, experts say. The rudder does not show evidence of buckling. If it did buckle, the boat had to sink on an even keel or upright. But sinking on an even keel, which slows a boat's descent, would not have resulted in the kind of damage seen on the ramp, rudder and propeller.



COLLISION WITH A SHIP

WHY IT'S PLAUSIBLE

The Lady Mary was fishing in a heavily traveled shipping lane. Close calls happen all the time, especially in poor visibility. The damage to the Lady Mary appears to be from a focused impact from the submerged bulbous bow of a large ship whose wake first swamped the Lady Mary's deck.

WHY IT'S NOT PLAUSIBLE

When Coast Guard officials and New Jersey State Police divers interviewed the crew and inspected the Cap Beatrice's bulbous bow two months after the sinking of the Lady Mary, the Coast Guard announced there was no evidence of a collision. The ship's AIS data indicate that it was more than a half-mile away when the Lady Mary went down.

Sources: National Oceanic and Atmospheric Administration; transcripts from U.S. Coast Guard hearings; interviews with Jose Arias; analysis by marine architects and forensics specialists; and evidence and testimony provided by wreck divers. 3-D models by Pixel Eight

/ CONTINUED FROM PAGE 19 /

scalloper Sea Tractor sank in a storm off Cape May. Three men, including a father and son, were lost.

Six weeks later, the 38-foot Alisha Marie went down with two of its three crew.

When 2009 finally came to a close, 11 commercial fishermen had lost their lives in the waters off New Jersey. Within months, changes in safety practices in the fishing industry were being considered.

This past March, the NTSB issued a recommendation to the Federal Communications Commission regarding EPIRBs. Although the Lady Mary's device was incorrectly registered, it also lacked a $100 GPS transmitter, which could have been attached to the EPIRB and would have identified the location of the boat, if not its identity. Currently, the GPS transmitter is not required, but the NTSB cited the Lady Mary as a reason why the law should be changed.

"If a rescue helicopter could have been launched after the first EPIRB signal was received," the NTSB's letter reads, "(it) is possible that the two victims found in the water wearing immersion suits would have still been alive when the rescuers arrived."

NOAA also has instructed its contractors when recording EPIRB registration forms to now read the printed code on the manufacturer's label — if it is provided — not just the handwritten code copied onto the form by the owner of the vessel.

Recently, a bill mandating safety inspections of all commercial fishing boats, and safety training for all vessel operators, passed both the U.S. House of Representatives and Senate. The legislation needs only President Obama's signature to become law.

Hazel Smith, wife of Fuzzy Smith, at her home in North Carolina, where sons Bobo and Tim are buried in the backyard, along with Bernie's ashes. She visits the graves every day and often brings balloons to mark occasions such as birthdays. Hazel says she needs to remain strong for her husband.

COPING

In the meantime, many of the families of the men who died continue to struggle with their grief. The day before the Smith brothers were buried in North Carolina, Stacy Greene, Bobo's longtime girlfriend, answered a call from Adele's Jeweled Treasures in Cape May. The consignment shop wanted her to know it was the last day to reclaim Bobo's gold chain. Stacy raced down and paid the bill.

Ten-year-old Jonathan, one of Stacy and Bobo's sons, believes he's seen his father.

"I was walking around the yard and I looked up above the house and saw my Dad. His arms were spread out and he flew down and hugged me."

Carinna Smith, Tim's wife, still keeps her husband's truck parked in the driveway and every now and then sneaks out of the house just to sit in the driver's seat. Tim's Bible is still there, and the little sea horse he once caught still hangs from the rearview mirror.

Before Bernie's body was found, Edith Jones would lie in bed every night and call his cell phone just to listen to his voice-mail message from somewhere out in the ether.

José Arias, the only survivor of the wreck of the Lady Mary, has lost weight since the accident and still needs medication to sleep. The TV at the foot of his bed is always turned to a Spanish-language station, a kind of white noise to distract him from his thoughts.

His eyes pool with sadness when he speaks. Through an interpreter, he says he has worked a bit on the docks since the accident, but not on a fishing boat, and that he won't, not ever again.

A NEED TO KEEP MOVING

Fuzzy brought his sons home to Bayboro to be buried in his backyard, and that's where he finally buried Bernie's ashes, too. Hazel, his wife, says she's out there "from sunup to sundown." She puts fresh flowers on the graves every week and keeps an eye on Bobo and Tim when she's on her exercise bicycle in the shed next to the graves.

"There's my babies," she'll say. "I love you, babies."

Sometimes she even hums to them.

For Fuzzy, who lost his only children as well as a brother and a cousin, nothing gives him comfort.

"It's like somebody punched a hole through me," he said. "I get up and get ready to go, but instead I look out the window. My energy is like seeping through a crack."

A descendant of slaves, his ancestry can be traced to Elizabeth Jennett who survived the shipwreck of the English bark Good Intent off Cape Hatteras in 1767. Most of the 300 Africans being brought to America to be sold into slavery perished that day, but Jennett survived.

The sea gives and the sea takes.

Fuzzy says he has to keep moving. He drives mile after mile, hour after hour, back and forth between Bayboro, N.C., and Cape May, though none of his remaining fishing boats goes out anymore. On one of those trips home to North Carolina, right after the accident, he pulled off the highway into a Burlington Coat Factory to buy a suit and pair of shoes to bury Bobo in — the socks came two in a pack, he said. The other pair remain in the back seat of the truck.

He doesn't have the heart to fish anymore, Fuzzy says, but every couple of weeks he still hits the road in his Ford pickup anyway, just to check in on his other rusting boats.

"It feels like someone pushing at me," he said. "Doesn't matter how many trips I take on the ferry and come back, it's going to be the same. It took me awhile to figure that out. ... Now I get to where I don't want to be neither place."

Fuzzy has always known what to do on the sea. "You work on the boat with the motion of the boat," he likes to say. It's how to be on land that's hard for him to figure out.

Last summer he bought a new lawn mower and to fill the time spends warm weather weekends cutting his lawn in Bayboro. When he first bought the machine he not only trimmed his own grass, but also the empty lot across the street, then his neighbor's lawn, then the town square. A few days later he received a letter from the mayor who wanted to thank him for making the town look so much better.

For the most part, though, Fuzzy avoids friends and acquaintances.

"When I go places where I don't know people, I feel better," he says. "I quit going to the place where I get my oil changed because he was too nice. ... It's not so much what they say, it's what they're thinking."

For Fuzzy, life now is entwined by the vocabulary of loss. So on many days, in the quiet before dawn, he gets in his truck and heads north again, past Credle's Salvage, past the Play Boy Barbershop, past the Original Free Will Baptist Church, until all that he's left behind is swallowed by darkness.

More than a year after the sinking of the Lady Mary, José Arias remains haunted by the face of Frank Reyes, his last recollection before leaving the boat. He has worked only intermittently on the docks since the accident and has refused every opportunity to go out to sea again. *Natalia Jimenez/The Star-Ledger*

WATCH THE DOCUMENTARY ABOUT THE LADY MARY

Go to **NJ.com/ladymary** to see a documentary video about the Lady Mary featuring interviews with family members and the survivor, photos of the wreck and a simulation of events based on months of reporting by The Star-Ledger.