

JEFFERSON EDUCATIONAL SOCIETY

Quick, Timely Reads
On the Waterfront

The Edmund Fitzgerald, Lightfoot, and Me

By David Frew

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Editor's note: In the wake of Gordon Lightfoot's death last week, we welcome you to revisit Dr. David Frew's classic "Waterfront" article "The Edmund Fitzgerald, Lightfoot, and me," which explored the 45th anniversary of the historic shipwreck and Lightfoot's classic ballad. It was first published on May 14, 2020. Dr. Frew will return next Wednesday with a special remembrance of singer-songwriter Lightfoot, who died in a Toronto hospital at age 84.

*'Does anyone know where the love of God goes,
when the waves turn the minutes to hours?'*

-- Gordon Lightfoot from "Wreck of the Edmund Fitzgerald"

This sailing season marks the 45th anniversary of the most devastating modern shipwreck on the Great Lakes. The year after the disaster, Gordon Lightfoot wrote a song that has become an anthem to the Great Lakes and to shipwrecks. My favorite lines from his song, "Wreck of the Edmund Fitzgerald," include words that I can relate to. They make me ponder the foolishness of being young and stupid. I have never had an experience as terrifying as the one that ended the shipping career of the Edmund Fitzgerald, but I have been offshore in

uncomfortable winds and waves, wondering how I could have been so stupid and how much longer it would take to reach the comfort of a home port. Sometimes my family was with me, adding to my feelings of foolishness. It was always a race, or a deadline. Someone “needed” to get back to work or school and stupidity convinced me to take an ill-advised trip.

My personal connection to the Edmund Fitzgerald happened the day after the monster Lake Superior storm. November 11, 1975. My sailboat was berthed at a ramshackle private marina on the Erie bayfront where I was “saving money” by paying only \$60 per year. I was also “economizing” by leaving the boat in for the month of November; saving money in my mind as I mentally divided the \$60 by an extra 30 days. Talk about stupid!

Our family listened to the news of the terrible storm on the night of November 10 and, as we listened, the low-pressure disturbance that had caused hurricane winds on Lake Superior had spun east and into Lake Erie. I had a fitful night’s sleep, wondering how my boat was doing and got up early to check. When I arrived at the “marina” what I saw made me think that my boat was doomed. The walkway to the boat was under three feet of water. Dock lines that had previously run up to cleats and metal posts that defined my boat’s stall space were running down instead of up and disappeared underwater. It was also clear from the howling winds buffeting the marina that at least one of the posts securing my boat was about to pull up and out of the bedrock that was tenuously holding it in place.

There were a half dozen other boats at the marina that day, even though it was so late in the season. Two were underwater, dragged down by lines that had been too short, and another was hanging on by only one remaining line and looked as if it might break loose at any moment and float away. As I stood in stunned disbelief, my next door boat neighbor, Father Bob Levis, arrived to inspect his boat that was berthed next to mine. After agreeing that both of our boats were in serious trouble, it was Fr. Levis who knew what to do. We jumped in his car, drove to Gannon, and rushed to the ROTC offices. After describing our dilemma, two ROTC officers put down their morning coffee, grabbed cadet volunteers, gathered giant spools of rappelling rope and tools, and led us to an army truck parked in their lot.

The operant term here was “lead.” In less than 10 minutes we were back at the marina and, to my amazement, the ROTC guys sprang into action. They were remarkable. In minutes they used a pneumatic tool to mount huge lag bolts in the concrete wall behind our boats and quickly ran rappelling lines from the anchors to our masts. Next, they used machetes to sever the tightening lines that were threatening to drag our boats under and replaced them with additional rappelling lines that were led to trees. As all of this was taking place, they were walking in water that was above the tops of their trousers. They must have deployed 300 feet of line that morning. Within minutes both boats were secure and Fr. Levis and I were headed back to Gannon with the ROTC officers and cadets. That weekend, I

pulled the boat out for the season and resolved to never be “in the water” again during November. And to move to a better marina.

The discomfort I experienced, however, did not even register on the scale of trauma surrounding the loss of the Edmund Fitzgerald and her crew of 29. “Big Fitz,” as she was known on the lakes, was one of the best and the fastest Great Lakes ore carriers. Launched in 1958, she was built to within a foot of the maximum size of the locks between Lake Superior and Lake Huron. She was designed to carry taconite (iron ore pellets) from the Lake Superior ports of Duluth or Superior to the steel mills of Lake Erie. At 729 feet long, she was the biggest ship on the lakes and built so close to the maximum lock size (730 feet) that her length became a sore point as she twice had accidental collisions in the locks, damaging control gates and other mechanisms. But her size also made her an amazing workhorse, setting cargo records as she completed an average of 47 roundtrips per season. Her hull capacity was an astonishing (at the time) 25,400 tons.

The modern Edmund Fitzgerald was the second ship of the same name. An earlier Edmund Fitzgerald, a 135-foot, two-masted, wooden schooner, was lost on Lake Erie at Long Point in November 1883.



*The Edmund Fitzgerald ore carrier
(Photo Courtesy of University of Wisconsin at Superior)*

On her fated, final trip, the Edmund Fitzgerald departed Superior, Wisconsin at 2:15 p.m. on November 9, 1975, fully loaded and bound for Detroit. She was under the command of experienced Captain Ernest McSorley. Heading east, the ship began to follow another ship, the Arthur D. Anderson, whose captain, Bernie Cooper, was a good friend of Captain McSorley's.

The weather forecast called for high winds but nothing like the storm that would eventually engulf both ships. As McSorley and Cooper worked their way east, winds steadily increased from the northeast. Talking to each other on ship-to-shore radios, the captains decided to veer north at 1 a.m. along Isle Royale and then toward the sheltering Ontario shore as they continued east. The weather

forecast called for increasing northeasterly winds, and both Isle Royale and the Ontario shore would have provided shelter.

The standard course from Superior (or Duluth) to Whitefish Bay, at the eastern end of Lake Superior, would have been down the center of the lake, splitting the difference between Isle Royale and the Keweenaw Peninsula (Copper Harbor) on the south side of Superior, followed by a slight starboard (southerly) turn toward Whitefish Bay. Taking a northerly course in a northeast wind was a common tactic so the course that they had agreed upon was not unusual. By hugging the north shore, both ships would have been sheltered from huge waves that would be building offshore. The Anderson had a head start but the Fitzgerald, which was faster, passed her to port at 3 a.m.

By 5 a.m., the northeast wind had begun to slow as McSorley guided the Fitzgerald past Isle Royale and began to turn toward the north shore. Aboard the Anderson, however, Cooper was beginning to have doubts about the wind and did not make as large a correction toward Isle Royale or the Ontario shore as the Fitzgerald. But he stayed within visual range of the Fitzgerald and continued down the lake. Progress against growing waves that were striking the Arthur Anderson directly on the bow was slow and tedious, but for the Fitzgerald the wind was more difficult as the big ship began to roll in cross seas. By 10 a.m., it was obvious to both captains that heading for the north shore, extending their time at sea, and exposing themselves to the new westerly wind that was being forecast would make things worse.

In westerly winds the rocky north coast of Superior becomes a dangerous lee shore. McSorley and Cooper both shifted courses to the south so that they were heading almost directly for Whitefish Bay. The Fitzgerald, being faster and having made a wider northerly correction, had placed herself in some navigational difficulties. To get back to the standard course, McSorley had to cross over Superior Shoal with the Fitzgerald and then avoid both Michipicotin and Caribou Islands, being careful to pass well to the west of both obstacles. Cooper watched the Edmund Fitzgerald move steadily south and back toward his course as the afternoon wore on and, by 1:30 p.m., the Edmund Fitzgerald had passed Michipicotin on a course that would eventually place her well ahead of the Arthur Anderson when they both reached the rum-line for Whitefish Bay.

The predicted northwesterly wind did not fill in slowly. It literally exploded at 2 p.m. Within minutes, the direction reversed to northwest and a low pressure front arrived with winds of 50 miles per hour. The new wind created a following sea for the Arthur Anderson but a troublesome cross-sea for the Fitzgerald as she steamed south and across the international line. Captain McSorley had often complained that the Fitzgerald was cantankerous and difficult to steer in cross seas. It would dive into a depression, roll, and take water over its beam, making it very hard to steer. Meanwhile, Cooper continued along the center line of the lake

as he watched McSorley fight his way back toward the American side of the International Line. Northwesterly winds built to 70 mph and waves were running steady at 25 feet as McSorley and the Fitzgerald approached Caribou Island.

Watching the Fitzgerald on his radar screen, Cooper commented to the wheelhouse crew that McSorley was far too close to the reef that extended from the island. The water there was only 36 feet deep and “Big Fitz” drew at least 30 feet with the heavy load that it was carrying. In waves like that, clearance of only six feet would not have been adequate. His crew assured him that McSorley knew what he was doing and that the Fitzgerald would be fine. At 2:45 p.m., a blinding snow squall crashed into the windows of the Arthur Anderson’s pilot house and Cooper was no longer able to see the Edmund Fitzgerald. Neither man knew that the charts showing the reef near Caribou Island were incorrect.

Cooper continued to check on McSorley’s progress. At 3:30 p.m., McSorley reported that he was listing to starboard and had taken on water, but at 3:45 he assured Cooper that he was running his bilge pumps and that all was well. At 4 p.m., McSorley radioed Captain Cooper to say that he was slowing down and asked if the Arthur Anderson could close the distance between the two ships in case of trouble. Then at 4:15 p.m., McSorley radioed to say that the radar masts had been swept off the roof of the pilot house and that he was streaming blind without navigational instruments or the ability to see anything through the windows. Meanwhile, winds had reached hurricane force and were building. Cooper later reported gusts in excess of 100 mph.

At 6:15 p.m., with darkness closing on the Arthur Anderson, there was a sudden crashing sound as a huge following wave passed over the deck of the ship and smashed into the forward pilot house. The engineer reported that the wave had flattened the lifeboat that had been locked in place on the aft deck. Seconds later, a second and larger wave struck the Anderson from the rear. The second wave covered the roof of the pilothouse. Cooper knew of the “Three Sisters Legend,” which suggested that rogue waves came in sets of three. He braced himself, but the third sister never came. Once assured that his ship was well, Cooper remarked that he hoped that the rogue waves would not strike the listing Fitzgerald. At 7 p.m., he radioed McSorley who said that “they were doing as well as could be expected, but still listing.”

The last transmission from the Edmund Fitzgerald came at 7:10 p.m. Cooper had called to tell McSorley that he (Cooper) would guide the Fitzgerald into Whitefish Bay, using the radar aboard the Arthur Anderson. McSorley thanked him and signed off, saying that they were “holding their own.” At 7:15, an officer on the Anderson’s bridge reported that he could no longer see the Fitzgerald on the radar screen.

At 7:49 p.m., Cooper called the United States Coast Guard to express concern for the Edmund Fitzgerald. From that time forward, there was a constant effort to raise the Fitzgerald on the radio and to locate it on their radar screen. Finally, at 9:03 p.m., Cooper radioed the Coast Guard to say that he was sure that the Fitzgerald must have gone down. Given the weather conditions it was impossible for the Coast Guard to launch a rescue ship and, at 10:30 p.m., they asked Cooper to take the Arthur Anderson back out into the maelstrom to search for debris or crew members. In an incredible act of loyalty and bravery, Cooper turned his ship around after almost reaching the shelter of Whitefish Bay, this time heading directly into the hurricane force winds, to search for his friend. Another ship, the William Clay Ford, left its sheltered dock in Whitefish Bay to join the search. By dawn it was clear that the Edmund Fitzgerald was gone.



Lake Superior with Duluth/Superior on the west, Isle Royale near the top, and unmarked Whitefish Bay (Sault Ste. Marie) on the east. Caribou Island is a faint mark below (south) of Michipicoten Island, near the international line.

What happened that night? We will never know with certainty. There were a number of “official inquiries and reports,” but most were flawed by an internal motivation to shift blame and avoid legal liability. The general theme of early reports was that human error was to blame and pointed to the hatch covers as a probable root cause.

Early investigations were hampered by a lack of visual evidence because the wreck was in 530 feet of water. The remains were located within a few days by military aircraft using a magnetometer, and follow-up sonar scans showed the Edmund Fitzgerald to be in two pieces with the bow section separated from the stern. Given the technology of the time, however, it was impossible to acquire detailed images. The hauntingly famous Gordon Lightfoot song used early reports to create the stanza:

*When supertime came, the old cook came on deck
sayin' fellas it's too rough to feed ya.
At Seven p.m. the main hatchway caved in,*

he said fellas it's been good to know ya.

-- Gordon Lightfoot from "Wreck of the Edmund Fitzgerald"

Much of what has been learned since then, however, would refute that hypothesis. Since the sinking, several wreck expeditions have revealed detailed photographs and video and there is no evidence of human error in "tightening" the hatch covers. One of the most well-known diving expeditions was led by Dr. Joe McInnis, who used a remote sub to carefully inspect and film the wreck in 1994. His investigations caused consternation because several government agencies imagined that he was violating international law just by performing the survey.

McInnis' dive and others also raised concerns among survivor families who worried that as more divers reached the wreck that they might violate the sacredness of a gravesite. It was clear from the onset that McInnis was motivated by the best of intentions. He hoped to honor the crew and their families by surveying the wreck but that did not calm the legal storms that surrounded his work.

In Michigan, a meeting was organized among the families, and it was concluded that one significant artifact should be brought to the surface and used as a permanent memorial to the crew. Following that meeting, a 1995 expedition was organized in which a diver in a one-atmosphere suit descended to the wreck and removed the ship's bell. By that time, controversy over the Steamer Atlantic wreck in Lake Erie had motivated legal actions that prohibited so much as touching a shipwreck in Canadian waters, much less removing something. The Edmund Fitzgerald lies in a location that is controversial since charting, which has changed since the time of the wreck, suggests that while much of the debris field is in Canada, parts of the wreck site are in United States waters. The Fitzgerald was an American ship, but the wreck was imagined to be under the jurisdiction of Canadian maritime law. Immediately after the removal of the bell, it was taken to be displayed in Sault Ste. Marie, Ontario as opposed to Michigan, where the survivor families had hoped that it would be placed.

There has never been a definitive explanation for the cause of her sinking but subsequent surveys of the wreck have revealed additional information and several potential explanations eventually emerged: (1) Water entered through the hatches; (2) The Fitzgerald touched bottom near Caribou Island and water invaded from the bottom; (3) A University of Michigan professor hypothesized that the ship touched bottom earlier at Superior shoal and was leaking for much of the entire day; (4) The Edmund Fitzgerald's hull fabrication, which was welded rather than riveted, made her unseaworthy; and (5) A rogue wave took the Fitzgerald to the bottom, possibly one of the waves that struck the Arthur Anderson.

It has also been suggested that the cause of the sinking could have been a combination of the leaks with the impact of a rogue wave, and that unless someone had been at sea for years, they (members of the various boards of inquiry) would have no idea of the existence, size and ferocity of such waves. Opinions differ regarding the time when the Fitzgerald broke into two pieces. Some of the experts seem sure that the ship broke into two pieces near the surface while others argue that it was driven underwater in one piece by its own propellers, slammed into the bottom of the lake and then broke.

Now that he has retired and has no vested interests in the conclusion, Captain Cooper has come to the defense of his friend, Captain McSorley, arguing that members of the investigative bodies, while experienced in administrative matters, did not have enough sea experience to have rendered opinions. In several interviews, Cooper concluded that, since the Fitzgerald was weighed down with water and listing, it would not have been able to withstand the rogue waves that his ship experienced, and that those waves probably hit the Fitzgerald. He is not sure if the Fitzgerald stuck bottom under its own power, but he is not an advocate of welded hulls and has noted that the Fitzgerald's sister ship, the Arthur B. Homer, which was also welded, was taken out of service in 1980 and scrapped in 1987. Riveted hulls tend to flex under strain with each individual rivet acting as a mini hinge.

In 2010, Port Dover diver Mike Fletcher dedicated an episode of his television program ("Dive Detectives" on The Canadian History Channel) to investigating the mystery. Fletcher was influenced by the testimony of Captain Cooper from the Arthur Anderson, who was the closest actual witness to the sinking. He was also disturbed by the implications of human error. Fletcher took the question of rogue waves to a modern simulation tank. Scientists at the Institute of Ocean Technology in St. Johns, Newfoundland set up a computer simulation of the storm and introduced a scale model of the Edmund Fitzgerald. Their analysis of wave sizes suggested that while the average height is a function of wind velocity and duration as well as fetch (the size of the body of water), the existence of much larger than average waves is entirely predictable.

During a long-duration storm on a large body of water, one in 1,000 waves would be expected to be two times the average wave size, and one in 100,000 would be three times the average. Thus, the longer a ship is at sea, the more likely that one or more monster waves will be encountered. In a simulated computer test, they predicted the likelihood of the enormous waves that Captain Cooper had reported and a rogue wave sunk the model ship instantaneously. If the ship had taken on water, as we know that it did (regardless of the reason for the leak), they concluded that a Lake Superior rogue wave would have driven the Fitzgerald down in exactly the way that the remains on the floor of the lake suggest.

Much has been learned from the sinking of “The Titanic of the Great Lakes.” Weather forecasting has improved significantly. Special weather forecasts for each lake are broadcast continually and now include wave height predictions. Ship captains are far less likely to head out into storms. Instead of impressing owners by pushing through heavy weather to deliver cargo, they remain in port or seek sheltered anchorages. Overloading as in the case for the Fitzgerald has ended, charting of Lake Superior has improved, crew members are provided with survival suits, and ships are required to carry depth sounders. The recommendation that ships be required to have separate watertight cargo holds has not been followed.



Ship's Bell from the Edmund Fitzgerald are exhibited at the Great Lakes Shipwreck Museum in Whitefish Point, Michigan.

At Whitefish Point, Michigan, the ship's bell recovered by the second McInnis expedition was placed on display at the Great Lakes Shipwreck Museum after the Canadian government finally decided to release it from its display in Sault Ste. Marie, Ontario.

In Orillia, Ontario, singer-songwriter Gordon Lightfoot watched Mike Fletcher's Dive Detectives episode on television and decided that the line that he wrote about the “hatchways giving in” was both incorrect and insensitive. Later, he publicly announced replacement lyrics for that stanza of the song and promised never to perform the old version live again.

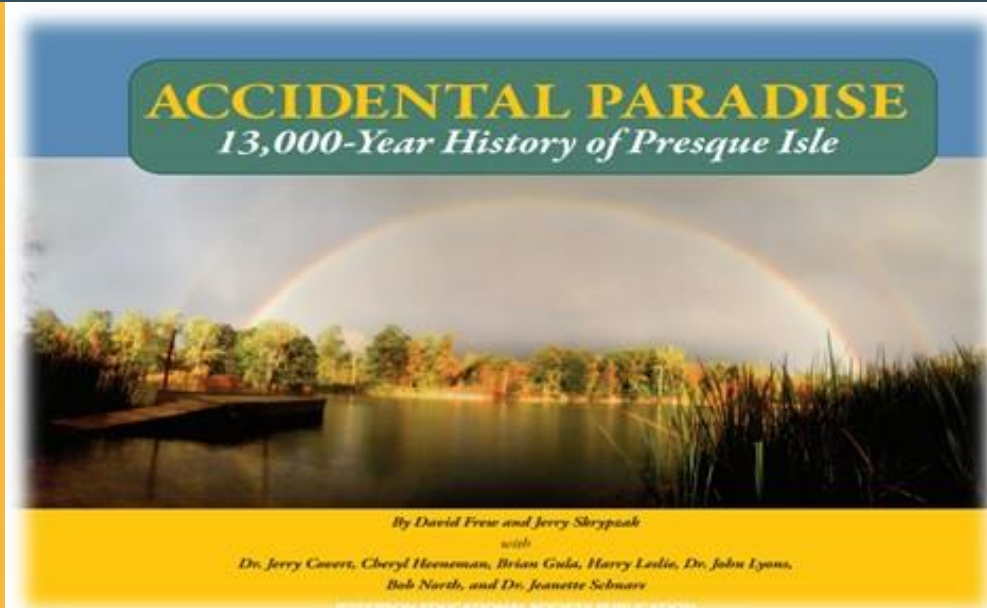
In Erie, Pa., a college professor learned that the “Witches of November” were far smarter and more powerful than he had realized. He now removes his boat from the water, faithfully, each October.

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by Dr. David Frew and Jerry Skrypzak



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ABOUT THE AUTHOR

Historian and author David Frew, Ph.D., is a Scholar-in-Residence at the JES. An emeritus professor at Gannon University, he held a variety of administrative positions during a 33-year career. He is also emeritus director of the Erie County Historical Society/Hagen History Center and is president of his own management consulting business. Frew has written or co-written 35 books and more than 100 articles, cases, and papers.



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