July 10, 2025 MIR-25-28

# Contact of *Joe B. Wyatt* Tow with Fort Madison Bridge Protection Cell and Fendering System

On May 9, 2024, about 1312 local time, the towing vessel *Joe B. Wyatt* was transiting downbound on the Mississippi River near Fort Madison, Iowa, pushing 13 loaded hopper barges and 2 empty tank barges (see figure 1 and figure 2).[1] While transiting through the Fort Madison Bridge, the tow struck a protection cell and fendering system for the bridge and broke apart. There were no injuries, and no pollution was reported. Damage to the protection cell, fendering system, barges, and the *Joe B. Wyatt* was estimated at $3.28 million.[2]


**Figure 1.** The *Joe B. Wyatt* underway in May 2019. (Source: Warren Underwood, Marinetraffic.com)

[1] In this report, all times are central daylight time, and all miles are statute miles.

[2] Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. DCA24FM037). Use the CAROL Query to search investigations.

## Casualty Summary

| | |
|---|---|
| **Casualty type** | Contact |
| **Location** | Upper Mississippi River, mile 384, Fort Madison, Iowa<br>40°37.48′ N, 091°17.58′ W |
| **Date** | May 9, 2024 |
| **Time** | 1312 central daylight time<br>(coordinated universal time –5 hrs) |
| **Persons on board** | 8 |
| **Injuries** | None |
| **Property damage** | $3.28 million est. |
| **Environmental damage** | None |
| **Weather** | Visibility 10 mi, winds north-northwest 11 kts, air temperature 64°F, water temperature 87˚F |
| **Waterway information** | River; width 4,000 ft, river stage 526.5 ft at Fort Madison |


**Figure 2.** Area where the *Joe B. Wyatt* contact occurred, as indicated by a circled *X*. (Background source: Google Maps)

# 1 Factual Information

## 1.1 Background

The *Joe B. Wyatt,* previously the *Steel Challenger*, was a158-foot-long, steel-constructed inland towing vessel built in 1982 by St. Louis Ship and owned and operated by Ingram Barge Company LLC. The vessel operated under its company's towing safety management system (TSMS) and had a valid US Coast Guard-issued certificate of inspection documenting compliance with Title 46 *Code of Federal Regulations* Subchapter M. The vessel had two propellers, each driven by a 3,060-hp diesel engine. Steering rudders were installed behind, and flanking rudders ahead of, the propellers.

The Fort Madison Bridge was a double-decked swinging truss bridge that crossed the Mississippi River and connected Fort Madison, Iowa, and Niota, Illinois. Owned and operated by BNSF Railway, the bridge comprised a two-lane road that carried vehicle traffic on the upper deck and a double-track railway on the lower deck. The bridge opened by rotating on a pedestal. The bridge was protected by a central fendering system (which ran parallel to the bridge when opened), constructed mostly of wood, with a protection island made of concrete at each end (see figure 3). The central fendering system separated the river into two navigational channels: the 200-foot-wide primary channel, located toward the right descending bank of the river, and a 194-foot-wide alternate channel toward the left descending bank.[3] The bridge also had four protection cells and two protection islands on the right descending bank in a line—beginning next to a bridge pier—that funneled downbound traffic toward the primary channel. The protection cells were constructed of steel, concrete, and gravel. The protection islands were constructed of wood, rock, and concrete.

[3] The inland towing industry refers to the shorelines of Western Rivers as the left and right banks when traveling (facing) downriver. The left bank is called the *left descending bank*, and the right bank is called the *right descending bank*.

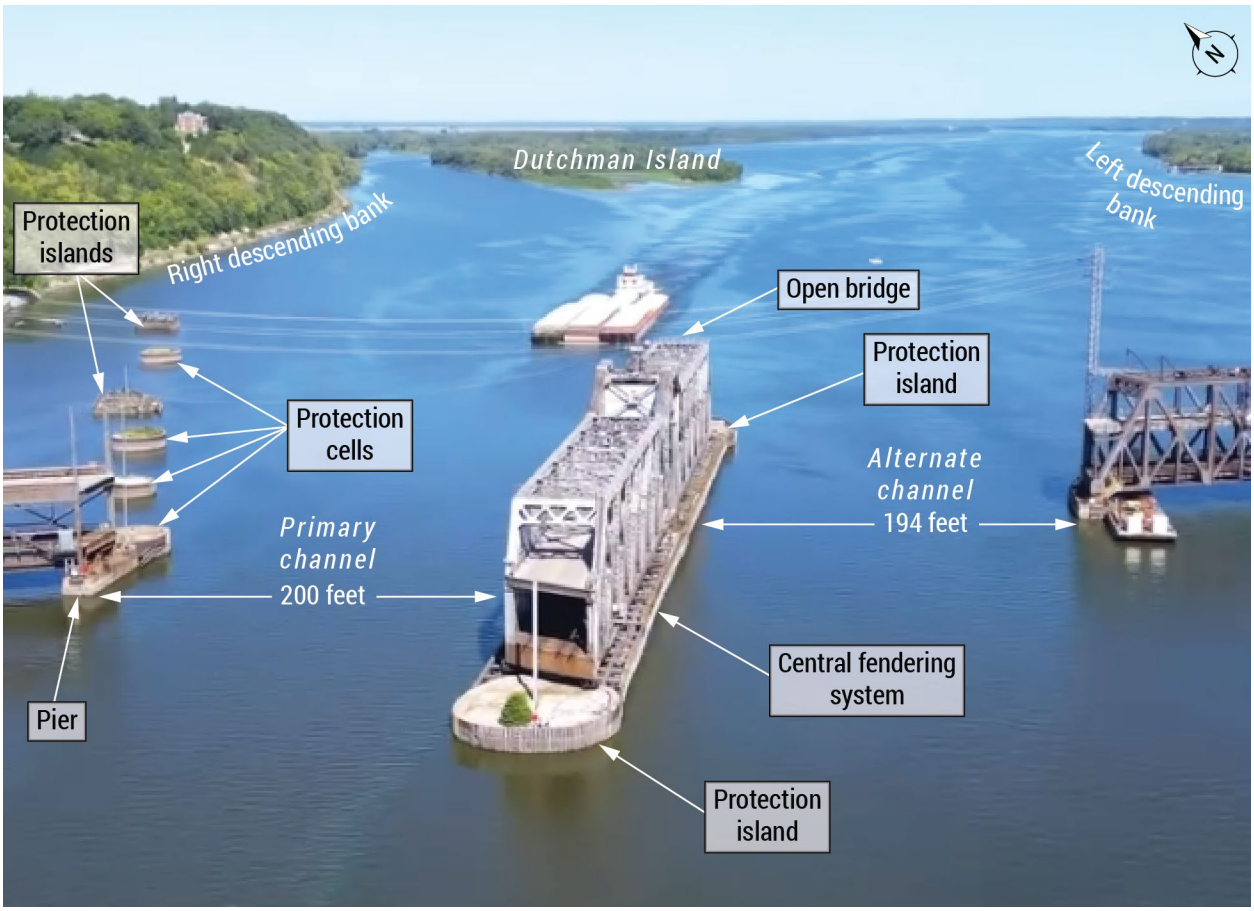


**Figure 3.** View, looking upriver, of the Fort Madison Bridge when opened, surrounded by protection cells, protection islands, and fendering system. Dutchman Island is in the background. Vessel/tow pictured is not the *Joe B. Wyatt*. (Background source: MP Rail Photography, facebook.com)

## 1.2 Event Sequence

About 0445 on May 9, 2024, the *Joe B. Wyatt* departed Consolidated Grain & Barge Co., near mile 418 of the Upper Mississippi River, pushing a tow of 15 barges downbound toward St. Louis, Missouri. The tow comprised three strings of five barges—two empty tank barges and 13 loaded hopper barges carrying various agricultural products, including corn, soybeans, and grain. The tow had an overall length of 1,153 feet and a maximum width of 105 feet (see figure 4). There were eight crewmembers aboard, including a captain and a pilot.[4]

[4] *Pilot* is a term used aboard towing vessels on inland waterways for a person, other than the captain, who navigates the vessel.

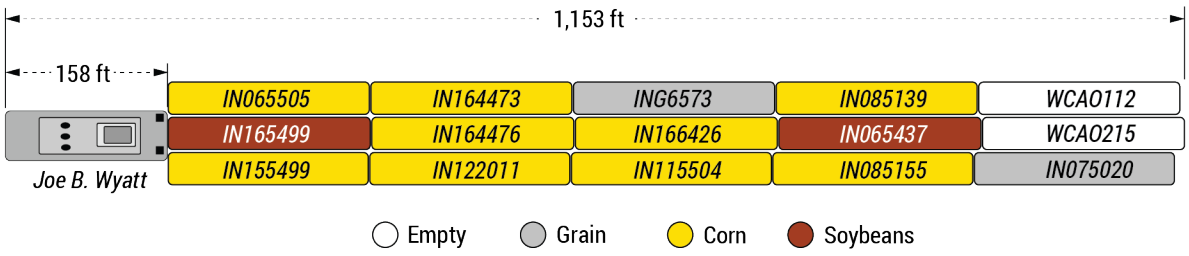


**Figure 4.** *Joe B. Wyatt* tow arrangement and cargoes. (Scale approximate.)

The captain and pilot followed a 6-hours-on/6-hours-off watch rotation at the helm of the *Joe B. Wyatt*, with the captain standing watch from 0515 to 1115 and 1715 to 2315 and the pilot standing watch from 1115 to 1715 and 2315 to 0515. The pilot had reported on board the previous day, May 8.

At 1306, with the pilot at the helm, the *Joe B. Wyatt* tow passed the southwest end of Dutchman Island, about a mile upriver from the Fort Madison Bridge, at 8.2 mph. The tow was about 65 feet right (toward the right descending bank) of the charted primary sailing line. Between Dutchman Island and the right descending bank, a small portion of the river separated from the main body and reconnected after about a mile; this configuration could create a cross-current for vessels attempting to navigate through the Fort Madison Bridge. Anticipating that a current coming around Dutchman Island would set the tow toward the left descending bank, the pilot intentionally steered the tow to the right of the primary channel sailing line. The *Joe B. Wyatt* was as much as 226 feet to the right of the sailing line as the pilot made his approach to the bridge's primary channel.

While the pilot navigated the tow toward the bridge, two deckhands were positioned at the head of the tow on the port and starboard sides, relaying distances to the channel opening to the pilot. About 1308, the pilot realized the anticipated cross-current "wasn't holding [him] up" as he had expected and the tow was in danger of striking a bridge protection cell on the right descending bank side. With the tow traveling about 8 mph and the lead barge about 1,900 feet away from the bridge, the pilot increased the engine rpm (power) to attempt to maneuver the tow back toward the center of the channel. About 1311, the head of the *Joe B. Wyatt* tow was passing the eastern (upriver) end of the bridge's central fendering system, the *Joe B. Wyatt* was still right of the sailing line by about 210 feet, traveling 9.8 mph, and the pilot was attempting again to regain position toward the center of the channel (see figure 5).

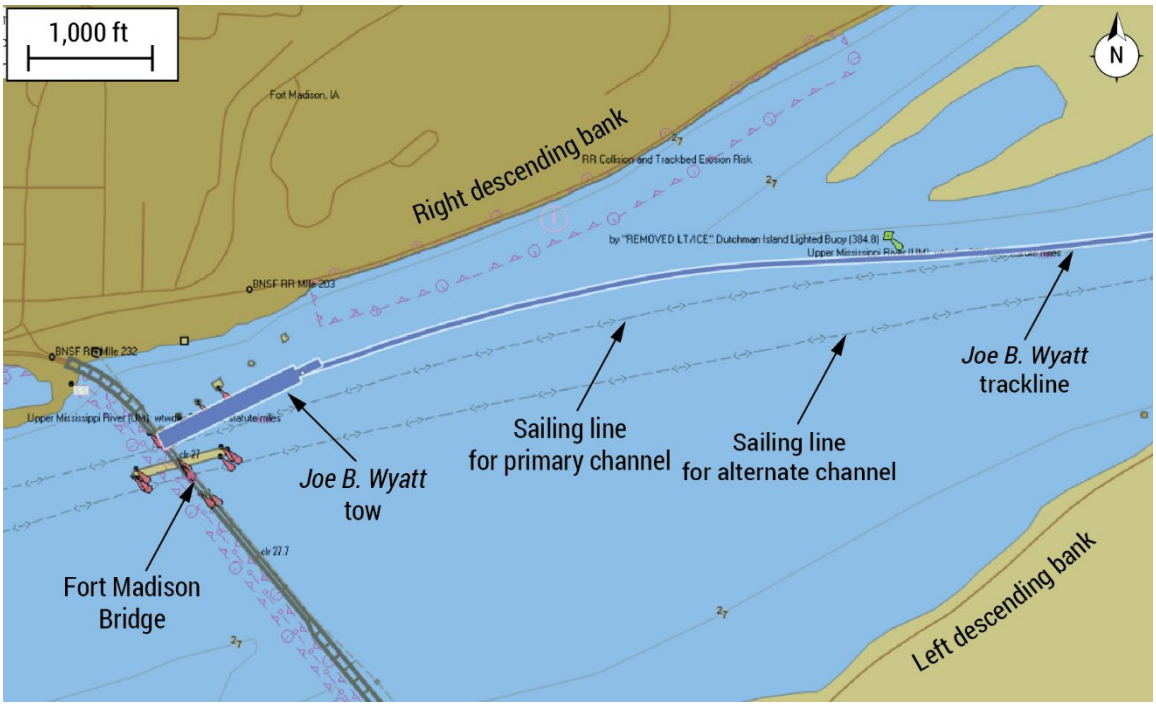


**Figure 5.** Track of the *Joe B. Wyatt* tow as it approached the Fort Madison Bridge at 1311 on May 9. (Background source: United States Army Corps of Engineers Inland Electronic Navigation Chart U37UM359 as viewed on Made Smart automatic identification system)

About 1312, as the forward portion of the tow continued into the Fort Madison Bridge's primary navigational channel, the third barge (*IN115504*) in the starboard string contacted a protection cell located at the base of a bridge pylon and began to slide along its side. The front three rows shifted several feet to port. As the third barge from the head of the tow in the starboard string continued to slide along the cell, the corner of the fourth barge (*IN122011*) from the head of the tow in the starboard string dug into the side of the cell and abruptly stopped the forward momentum of the *Joe B. Wyatt*. After the impact, the pilot sounded the general alarm, and the captain came to the wheelhouse.

The force of the *Joe B. Wyatt* stopping broke apart the tow, sending 13 of 15 barges through the span and downriver, with both deckhands still aboard. Two barges (*IN122011* and *IN155499*) became lodged between the protection cell and the tug and remained upstream of the span. River currents caused barges *IN122011* and *IN155499* to drift across the channel.

The pilot noticed the aftmost barge (*IN155499*) taking on water and blocking the channel as it rested alongside the bridge's central fendering system (see figure 6 and figure 7). He pushed the sinking barge along the central fendering system through the span and grounded it on the right descending bank, about 1,920 feet downstream of the bridge.

**Figure 6.** Barges *IN122011* and *IN155499* immediately after impact blocking the primary channel. The *IN155499*, next to the central wooden fendering, sinking. The *Joe B. Wyatt* is visible in the background. (Source: Coast Guard)

**Figure 7.** The sinking barge *IN155499* being held in place by an assist boat. (Source: WQAD News 8, youtube.com)

About 1451, an assist boat recovered barge *IN122011*, which had remained alongside the pilings upstream of the bridge. Other assist boats recovered the 13 barges (with the two deckhands aboard) that had drifted downriver and moored them nearby. The *Joe B. Wyatt* moored at Hall Towing Barge Terminal Upper Wharf near mile 382 about 1550.

The barge *IN155499* eventually sank along the shoreline after river levels rose in the week following the casualty. The barge was later salvaged.

## 1.3 Additional Information

### 1.3.1 Damage

As a result of the contact, the hull plating, rub rails, tow knee pads, and deck fittings on the *Joe B. Wyatt* were deformed or damaged. The steel plating of the bridge protection cell was deformed. The central wooden fendering system was damaged as a result of the *Joe B. Wyatt* pushing the sinking barge through the bridge channel (see figure 8). Damage to the protection cell, fendering system, barges, and *Joe B. Wyatt* was estimated at $3.28 million.

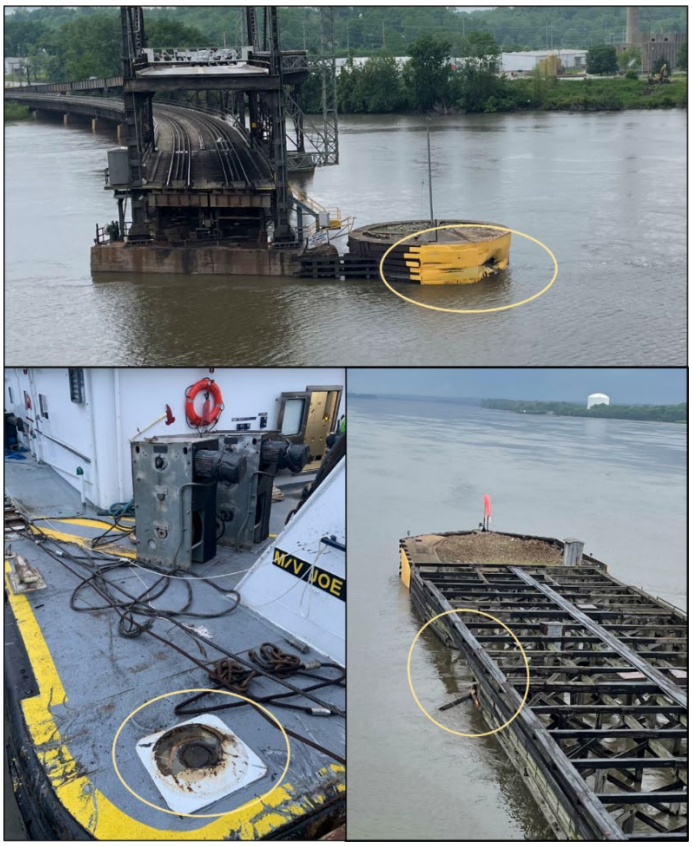


**Figure 8.** *Clockwise from top*: Damaged protection cell; damaged central wooden fendering of the Fort Madison Bridge; and severed bitt on the starboard bow of the *Joe B. Wyatt*.

### 1.3.2 Pilot Information

The pilot of the *Joe B. Wyatt* had over 24 years of experience working on inland waters and Western Rivers, with 6 years of experience on the *Joe B. Wyatt*. He had previously transited the Upper Mississippi River near the Fort Madison Bridge about 15 times, according to his statements. The pilot had reported on board the day before the casualty and, according to his work/rest history, he had received 12 hours of rest in the previous 24 hours.

After the contact, the pilot was tested for alcohol and other drugs. All results were negative.

# 2 Analysis

While attempting to transit through the Fort Madison Bridge on the Upper Mississippi River, the *Joe B. Wyatt* tow contacted a bridge protection cell and fendering system, breaking apart.

There was no evidence that the pilot was fatigued, impaired, or distracted before or during the casualty.

After passing Dutchman Island, the *Joe B. Wyatt* pilot expected a cross-current coming from around the island to set his 1,153-foot-long tow to port before reaching the primary channel of the Fort Madison Bridge. In anticipation of this current, the pilot maneuvered the tow off the sailing line and toward the right descending bank during his approach. The *Joe B. Wyatt* tow, with a following current, was making about 8 mph over ground, typical of a downbound tug and tow of that size. The pilot had decades of experience maneuvering tows, and he had steered tows through the Fort Madison Bridge many times. Based on this experience and his anticipation of a cross-current in the area, he maneuvered the *Joe B. Wyatt* over 200 feet off the sailing line toward the right descending bank. (At the time of the casualty, the river level was rising, but the pilot did not express concern about the river level.) However, the cross-current, if present at the time, did not have the effect the pilot had anticipated. By the time the pilot noticed that the cross-current "wasn't holding [him] up" and the tow was in danger, the head of the tow was only about 1,900 feet away from the bridge. Because the pilot overcompensated for the anticipated cross-current, the tow was out of position as it approached the bridge.

Given the vessel's speed at the time (8 mph), the following current, and the number of barges, there was likely not time for the pilot to prevent the contact with the protection cell by backing the tow. Had he attempted to back the tow, it may have contacted the protection cell head on, endangering the two deckhands stationed at the head of the tow. Instead, the pilot increased the engine rpm to attempt to maneuver the head of the tow back toward the center of the channel, but the third barge in the starboard string contacted the protection cell, and the tow subsequently broke apart, with 13 of the 15 barges drifting downriver. Thus, the vessel's speed and proximity to the protection cell, as well as the following current, prevented the pilot from maneuvering the tow sufficiently to avoid striking the protection cell.

# 3 Conclusions

## 3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the contact of the *Joe B. Wyatt* tow with a protection cell and the fendering system of the Fort Madison Bridge was the pilot overcompensating for anticipated river crosscurrents during the tow's approach to a bridge.

## 3.2 Lessons Learned

### Sailing Line

Generally, a sailing line is assigned to a known safe route used by commercial vessels. A sailing line is developed with consideration of channel depth, current patterns, and any other known obstructions to navigation. A charted sailing line provides for a safe and successful transit when used as a guide, along with the mariner's own experience and assessment of the existing circumstances.

## Vessel Particulars

| Vessel | *Joe B. Wyatt* |
|---|---|
| **Type** | Towing/Barge (Towing vessel) |
| **Owner/Operator** | Ingram Barge Company LLC (Commercial) |
| **Flag** | United States |
| **Port of registry** | St. Louis, Missouri |
| **Year built** | 1982 |
| **Official number** | 647464 (US) |
| **IMO number** | N/A |
| **Classification society** | American Bureau of Shipping (Third-party organization) |
| **Length (overall)** | 157.5 ft (48.0 m) |
| **Breadth (max.)** | 45.0 ft (13.7 m) |
| **Draft (casualty)** | 9.0 ft (2.7 m) |
| **Tonnage** | 775 GRT |
| **Engine power; manufacturer** | 2 x 3,060 hp (2,282 kW); GM 16-645E7B diesel engines |

NTSB investigators worked closely with our counterparts from **Coast Guard Marine Safety Detachment Quad Cities** throughout this investigation.

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