



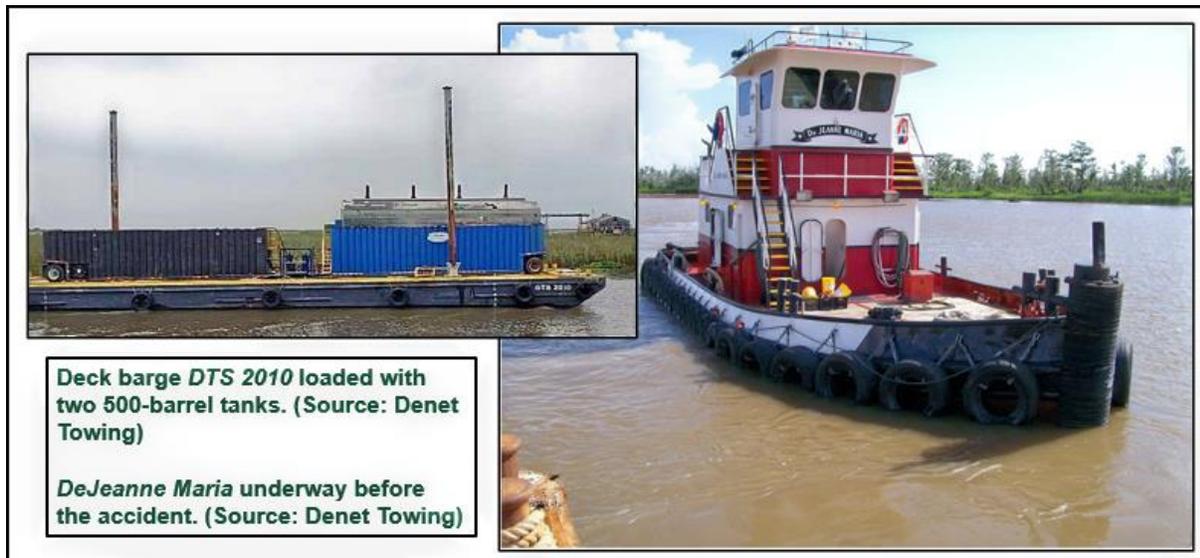
National Transportation Safety Board

Marine Accident Brief

Contact of Towing Vessel *DeJeanne Maria* with Submerged Dredge Pipe

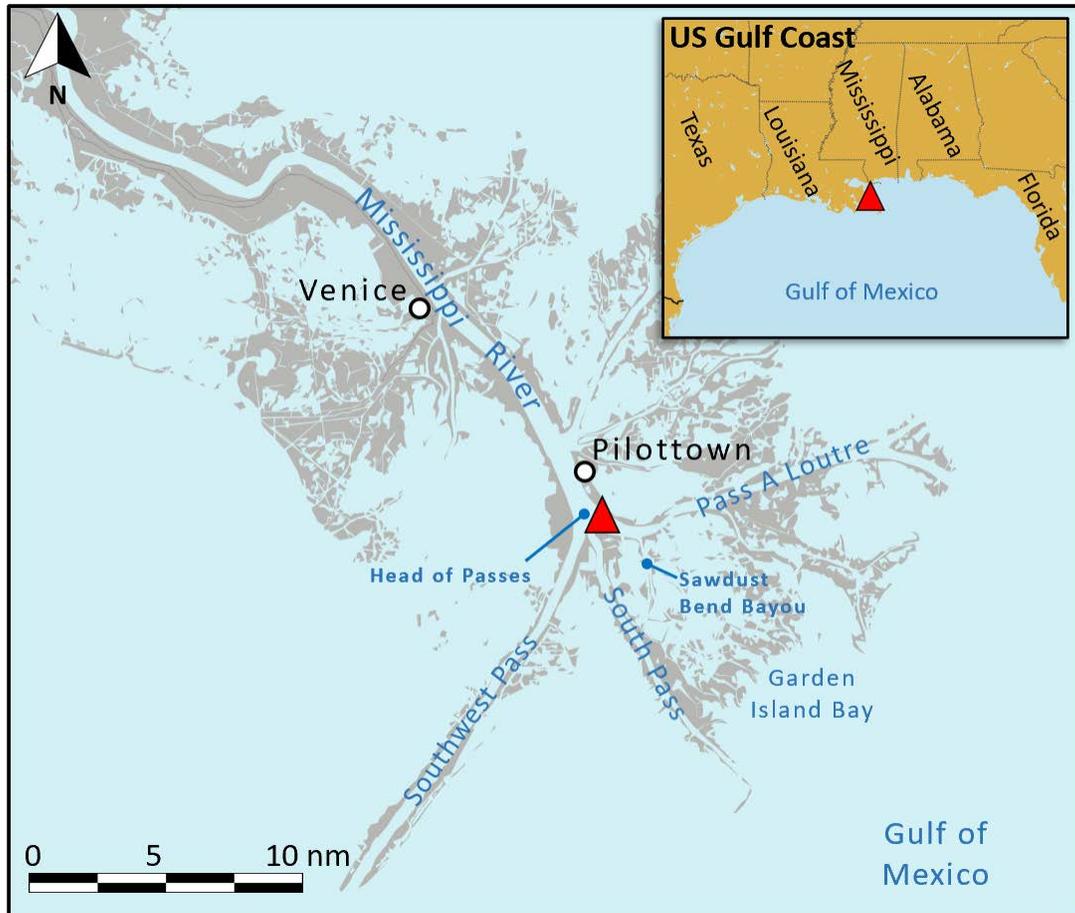
Accident type	Contact	No. DCA19FM030
Vessel name	<i>DeJeanne Maria</i>	
Location	Lower Mississippi River, mile 0, Head of Passes, near Pilottown, Louisiana 29°09.26' N, 089°14.86' W	
Date	April 15, 2019	
Time	0044 central daylight time (coordinated universal time – 5 hours)	
Injuries	None	
Property damage	\$650,000 est.	
Environmental damage	Oil sheen (diesel oil, estimated volume released 70 gallons)	
Weather	Visibility 10 miles, clear, winds north at 10 knots; air temperature 56°F, water temperature 75°F	
Waterway information	Mississippi River close to where it empties into the Gulf of Mexico where the river splits into three larger passes: Southwest Pass, South Pass, and Pass A Loutre. This area of large and smaller passes, taken together, form the delta of the river.	

On April 15, at 0044, the *DeJeanne Maria* struck the end of a submerged dredge pipeline on the Mississippi River in Pass A Loutre, 2 miles south of Pilottown, Louisiana, while pushing 2 spud barges to the Gulf of Mexico.¹ Following the contact, the three crewmembers abandoned the vessel to its barges and were rescued by a Good Samaritan vessel. The *DeJeanne Maria* later sank. There were no reported injuries, but 70 gallons of diesel fuel were discharged, and damage to the vessel was estimated at \$650,000.



¹ All miles in this report are statute miles.

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Area of accident where the *DeJeanne Maria* struck the submerged dredge pipe indicated by the red triangle. (Background source: Google Maps)

Background

At the time of the accident, the US Army Corps of Engineers was responding to active shoaling in the Mississippi River. Sediment had flowed and settled into the Head of Passes and Southwest Pass areas from the Mississippi River and its tributaries due to flood events, posing a hazard to navigation. Four commercial hopper dredges, two commercial cutterhead dredges, and one Corps of Engineers hopper dredge were working in or near the Head of Passes area close to the entrance to the Mississippi River near the Gulf of Mexico.² Hopper dredges deposited their sediment in the Hopper Dredge Disposal Area (HDDA). The cutterhead dredge *R S Weeks*, owned and operated by Weeks Marine, would then pump the sediment from the HDDA through nearly 7 miles of submerged and floating dredge pipe to the Sawdust Bend Bayou area of the Mississippi River Delta to restore coastal wetland habitat in the Pass A Loutre Wildlife Management Area.

² A *hopper dredge* is a self-propelled vessel equipped with a hold, called a hopper. The end of a suction tube(s) is dragged over the seabed, and the sediment is deposited in the hopper. A *cutterhead suction dredger* is a stationary dredger equipped with a cutter device (cutterhead) that excavates the soil before it is sucked up by the flow of the dredge pump(s).

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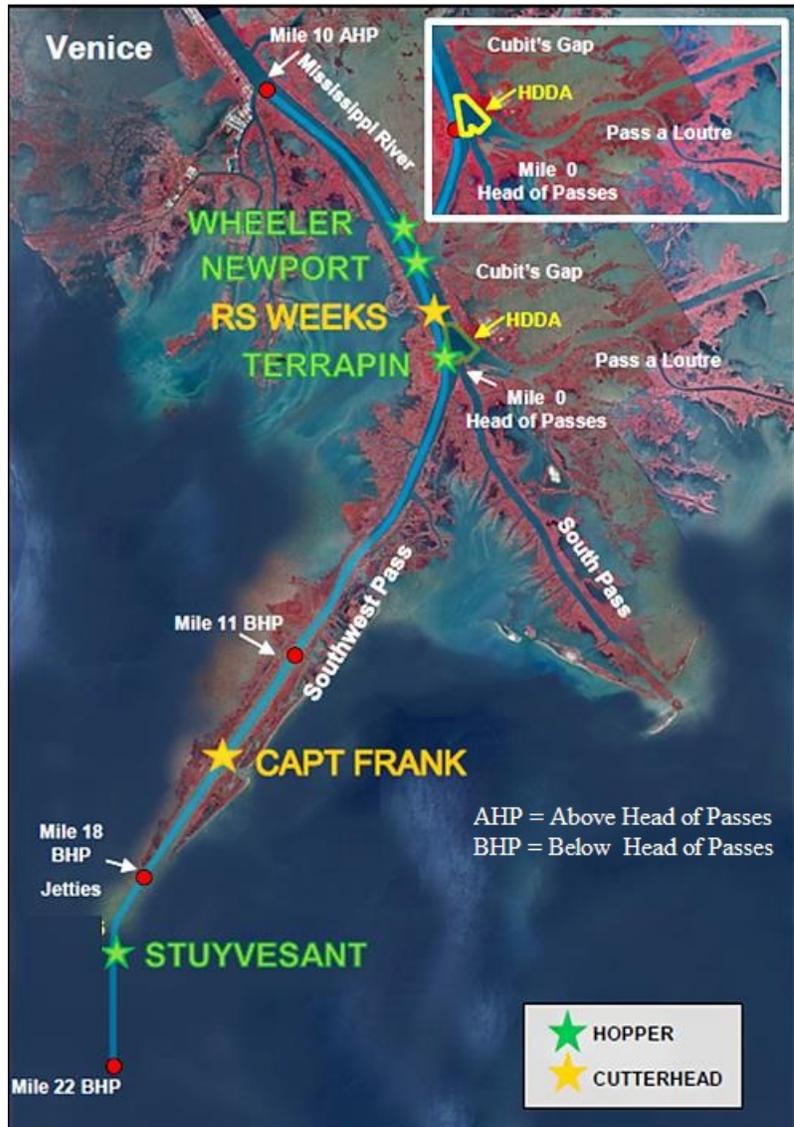
The New Orleans District of the Corps of Engineers alerted mariners to the upcoming congestion at the entrances to the Mississippi River in Navigation Bulletin No. 18-153. The bulletin noted that there would be dredging equipment, dredge pipeline, and support vessels extending from the Head of Passes into Pass A Loutre between late December 2018 and August 31, 2019. In addition, the Local Notice to Mariners 13-19 explained that “mariners are urged to transit the area at their slowest safe speed to minimize wake and proceed with caution.”

The *DeJeanne Maria* was a 55-foot, steel-hull, twin-propeller towing vessel powered by two diesel engines that produced a combined 900 horsepower. The vessel was built in 1981 and operated by Denet Towing Service Inc. The crew consisted of a captain and two deckhands.

Accident Events

On October 24, 2018, the dredge *R S Weeks* began dredging in the Mississippi River at the Head of Passes (mile 0) in the vicinity of Pilottown, Louisiana. The dredge relocated to remove sediment from the Southwest Pass on December 15. Before departing, Weeks Marine employees disconnected the discharge pipeline from the *R S Weeks*, let the 29-inch diameter pipeline sink to the bottom of the river at its location in the HDDA, marked it with buoys and white lights, and surveyed the area to document the depth of water above the submerged pipeline. Survey results showed the pipeline was at a depth of 24 feet.

The *R S Weeks* was scheduled to return from the Southwest Pass and reconnect to the submerged line on or about January 31, 2019, but was delayed. On April 13, 2019, in preparation for the dredge’s return to Pass A Loutre, Weeks Marine employees attempted to lift the pipeline with a crane barge to prepare it to reconnect to the *R S Weeks* when it returned. The crane applied 70,000 pounds of lift to move the pipe, but was unsuccessful because of the amount of dredge spoils the hopper dredges had deposited on top of the submerged line. The crew did not apply more force, because doing so could have bent the pipe. Since they were unable to connect to the end of



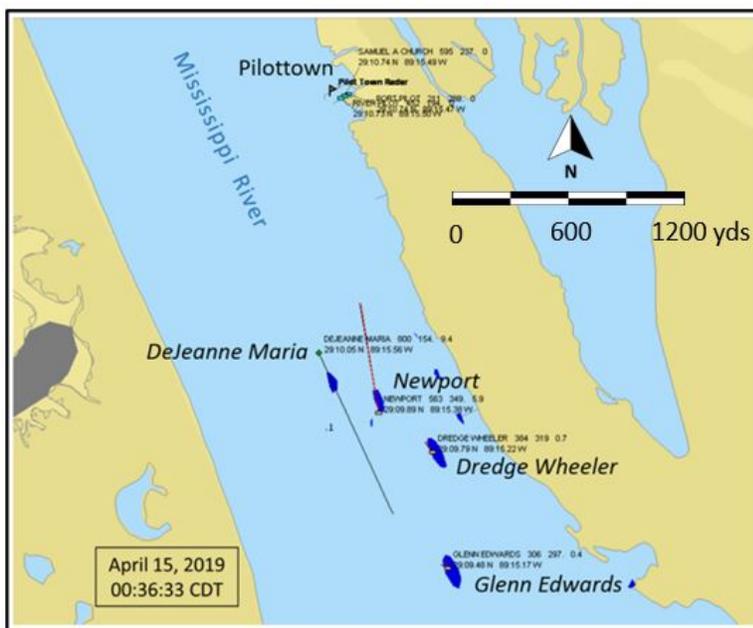
Dredging Activity on March 12, 2019, about a month before the accident, but similar to ongoing activity the day of the accident. (Source: Corps of Engineers)

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the submerged line, Weeks Marine laid a new section of pipe connected to the submerged line, further downriver in Pass A Loutre.

On April 14, a bathymetric survey was conducted by the crew of the 44-foot-long survey boat *Trinity*, which had a draft of a little over 4 feet; the survey determined that hopper dredges had deposited an estimated 16–20 feet of dredged material since December 15, covering the dredge pipes and reducing the water depths around the end of the pipeline to 6.8–10 feet.

In the late evening of April 14 at 2320, the *DeJeanne Maria* departed Venice, Louisiana, faced-up and pushing two flat-deck, 130-foot-long spud barges: the *DTS 2007* and the lead barge, the *DTS 2010*, strung out ahead. The towboat was drawing 6 feet, while each barge had a draft of 1.5 feet. The tow was en route to offshore facilities in Garden Island Bay in the Gulf of Mexico, where the captain of the *DeJeanne Maria* would spend three or four days loading fracking water into tanks carried on each barge.



DeJeanne Maria passing dredges. (Source: US Coast Guard)

About 0037 on April 15, the *DeJeanne Maria* entered the project area and began passing three hopper dredges assigned to the project: the 265-foot-long *Newport*, the 384-foot *Dredge Wheeler*, and the 390-foot *Glenn Edwards*. As the tow neared the entrance to Pass A Loutre at 0043, the captain and the two deckhands were in the wheelhouse. The captain steered the tow close to a buoy line of “yellow, big drum-like buoys” that marked the pipeline previously used by the *R S Weeks* on his starboard side. He was familiar with the dredging operations in the vicinity of the Head of Passes, the notice to mariners, and had traveled through

the same area the week before on another vessel. The captain “was pretty confident that it was safe to pass on that side of that buoy line [buoy line to starboard].” He used a search light to sight the buoys that marked the dredge equipment. Five minutes after turning on the search light, he “came to a hard, abrupt stop.”

The captain stated that he “experienced a strike on the starboard side that kind of made the vessel swing to the starboard and popped the [starboard] cable [facing wire] on the tow.” He went to the engine room and found it flooding. After returning to the wheelhouse, he made a cell phone

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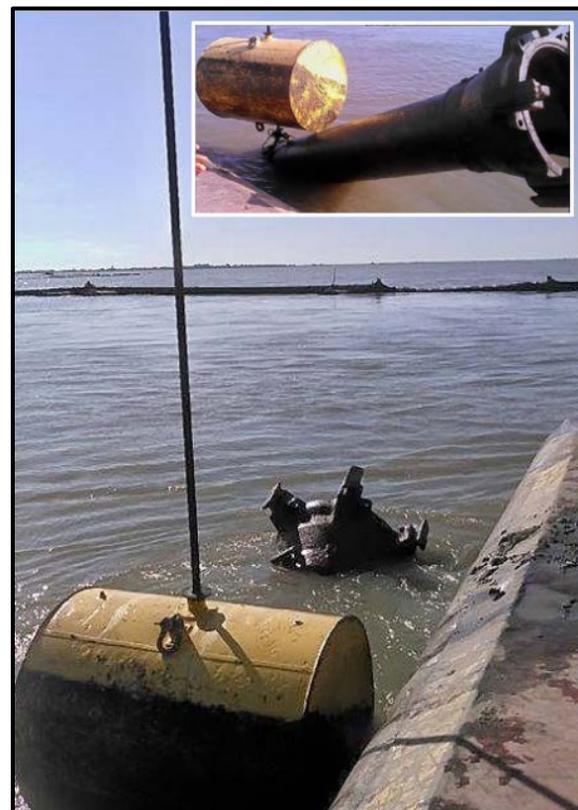
***DeJeanne Maria* during recovery. Punctures to the vessel's hull are shown circled in white. (Source: Central Maritime, L.L.C.)**

deckhands abandoned the vessel to the barge *DTS 2007*. The captain said that he climbed over the handrails of the vessel and then along the port hull to get to the barge. Before he reached the barge, the water around him was “knee high.” The captain said that it took about ten minutes for the *DeJeanne Maria* to sink, except for its bow, which was held above the water by the port cable connected to the barge.

About two hours after the strike, the crew boat *Able Responder I* arrived to take the *DeJeanne Maria* crew ashore. About the same time, the towing vessel *Papa D*, also operated by Denet Towing Service Inc and working at a drilling rig nearby, disconnected the barges from the *DeJeanne Maria* and took them in tow. Both vessels had responded after receiving calls from the employee that the captain had called before abandoning the vessel. The *DeJeanne Maria* sank and remained on the bottom of Pass A Loutre until it was salvaged on April 25, 2019. The vessel incurred a 2-foot-by-7-inch hole in the starboard side shell plating of the engine room and starboard fuel tank, and a 10-by-7-inch hole in the lower starboard-side shell plating of the engine room.

The submerged object that damaged the *DeJeanne Maria* was not discovered until three weeks later, when, on the afternoon of May 6, 2019, a Weeks Marine towing vessel working in the

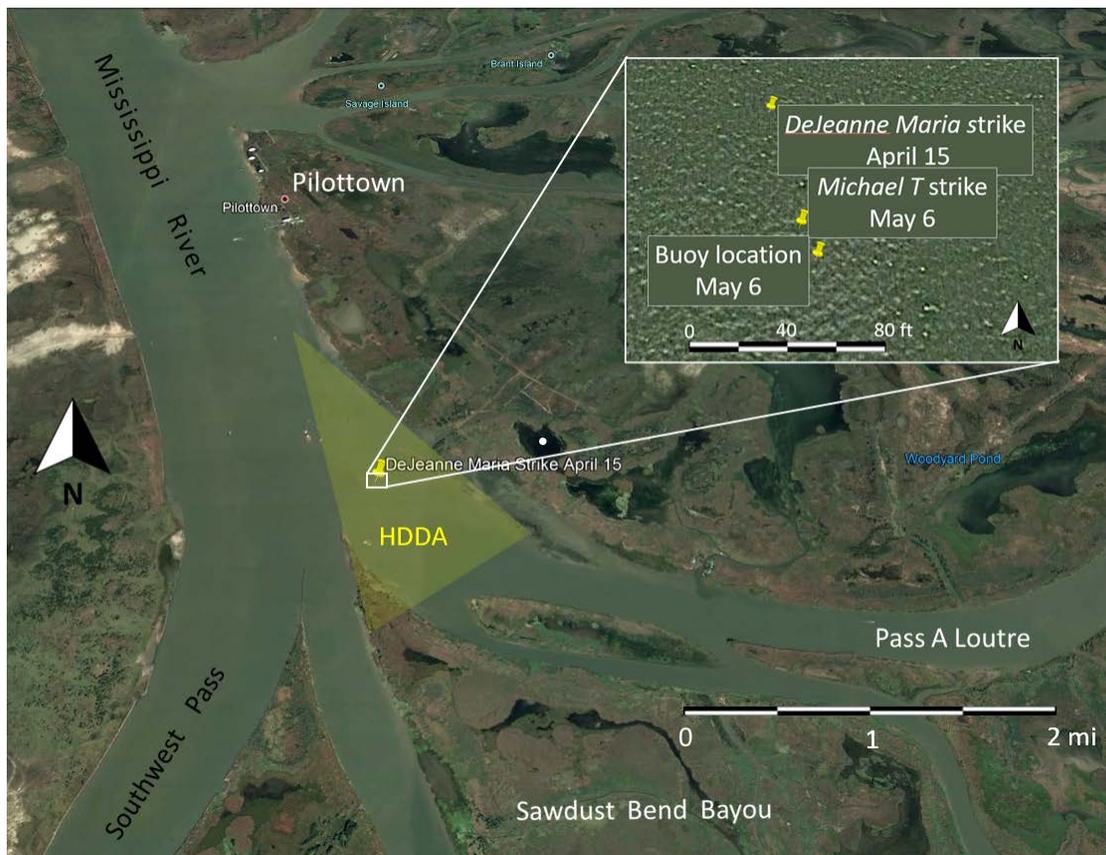
call to one of his shoreside employees and told him to call the Coast Guard. He observed the vessel listing to starboard and felt it was sinking faster than he had originally thought, and, noticing that the cable to the *DTS 2007* on the port side was still connected, increased the vessel speed in order to swing the barges alongside the *DeJeanne Maria*'s port side. With the vessel listing to starboard, the captain and the two



End of the submerged pipeline and its buoy. (Source: Weeks Marine)

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HDDA, the 49-foot *Michael T*, struck what was identified a few hours later as the end of the submerged pipeline. The pipe measured 29 inches in diameter and nearly 48 inches in diameter at the bell end. The end of the pipe was located 5 feet beneath the river's surface and 1,035 feet from where the *DeJeanne Maria* was recovered from the bottom of the river. The buoy marking the end of the submerged pipe was floating 75 feet downstream from it.



Area of the Mississippi River, Head of Passes, where the *Michael T* and *DeJeanne Maria* struck the submerged dredge pipe. Inset: Close-up view of accident location. (Background source: Google Earth).

Additional Information

The captain of the *DeJeanne Maria* held a license as master of towing vessels upon Western Rivers since 2002 and had serviced the Garden Island Bay oil rigs and platforms since that time.

The buoy that marked the end of the pipeline was secured to the pipe 15 feet from the bell end by a 90-foot-long cable, which was also used to lift the pipe end to the surface. The Department of the Army's Safety and Health Requirements Manual (EM 385-1-1) contained requirements for marking the end of the pipeline. The manual applied to Corps of Engineers elements and its contractors. Per the manual, the buoy marking the beginning (and end) of a submerged pipeline should include a flashing yellow light and be marked "DANGER SUBMERGED PIPELINE" (Section 19.G.03).

Pass A Loutre is a waterway used by smaller vessels. Oceangoing vessels calling at New Orleans and other Mississippi River ports use the Southwest Pass.

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Analysis

Three water depth surveys were conducted in the area of the end of the submerged pipeline: in October 2018 after the pipeline was originally laid, in December 2018 when the *R S Weeks* disconnected to temporarily relocate, and again on April 14, 2019, following the unsuccessful attempt to lift the pipe from the river bottom to reconnect to the *R S Weeks*. The *DeJeanne Maria*, with a draft of about 6 feet, was transiting through Pass A Loutre in the area only a day after the April 14 survey. That survey showed water depths of 6.8–10 ft, which was adequate for the *DeJeanne Maria* and its two barges. The damage to the side of the *DeJeanne Maria* was consistent with striking the bell end of the submerged pipeline, which, after the strike, was found to be only 5 feet below the river's surface.

When the *R S Weeks* disconnected from the pipeline in December 2018, the pipe sank to a depth of 24 feet, where it rested on the bottom, based on the depth survey conducted by the *Trinity*. Over the next few weeks, the hopper dredges continued to deposit sediment in the area, burying the pipeline. The pipe remained there until April 13, when the crane barge applied 70,000 pounds of lift 15 feet from the end of the 7-mile stretch of pipe. Though the pipe did not reach the surface, the lift likely raised the end of the pipe such that when the crane released it, the pipe dropped to or remained on top of the sediment. Although the area was surveyed the next day, the end of the pipeline was not identified. Three weeks after the *DeJeanne Maria* strike, the *Michael T* also struck the end of the submerged pipeline, based on the location of the pipeline's end and the vessel's damage.

Even though the submerged pipeline's buoy markings had a white light and were therefore not fully compliant with standards (flashing yellow light), due to his experience in the area, the captain of the *DeJeanne Maria* was aware that the buoy and others marked a submerged pipeline. When the end of the pipe was discovered on May 6 due to a second vessel strike, its buoy was sighted 75 feet downriver. Buoys are often not located directly over what they mark; adequate scope in a down line is needed to prevent the river current from snapping the line, lifting the pipe off the bottom, or submerging a buoy. Based on calculations, when the pipe and the attached cable moved closer to the surface, the buoy scope would have increased from 4:1 to 15:1, but the buoy would have only moved about 3 feet further down river. The crew that surveyed the location on April 14 based the survey area on their best understanding of the location of the northern end of the submerged pipe in relation to the buoy marking it. While the survey results did find depths of less than 6.8 feet in the vicinity of the end of the pipeline, the survey vessel did not pass over and chart the end of the pipeline that was later found to be only 5 feet below the water surface.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the contact between the towing vessel *DeJeanne Maria* and a submerged dredge pipeline end was the last bathymetric survey not detecting the hazard, which had been brought to just below the surface due to an unsuccessful lift the day before.

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Vessel Particulars

Vessel	<i>DeJeanne Maria</i>
Owner/operator	Denet Towing Service Inc.
Port of registry	Venice, Louisiana
Flag	United States
Type	Towing Vessel
Year built	1981
Official number (US)	644051
IMO number	N/A
Classification society	N/A
Construction	Steel
Length	55 ft (16.8 m)
Beam/width	23 ft (7.0 m)
Draft	6 ft (1.8 m)
Tonnage	74 GRT
Engine power; manufacturer	2 x 450 hp (336 kW); Detroit Diesel 671 diesel engines
Persons on board	3

NTSB investigators worked closely with our counterparts from Coast Guard Sector New Orleans, Louisiana, throughout this investigation.

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA19FM030.

Issued: April 15, 2020

The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under Title 49 *United States Code*, Section 1131(b)(1). This report is based on factual information either gathered by NTSB investigators or provided by the Coast Guard from its informal investigation of the accident.

The NTSB does not assign fault or blame for a marine casualty; rather, as specified by NTSB regulation, “[NTSB] investigations are fact-finding proceedings with no formal issues and no adverse parties . . . and are not conducted for the purpose of determining the rights or liabilities of any person.” Title 49 *Code of Federal Regulations*, Section 831.4.

Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by conducting investigations and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. Title 49 *United States Code*, Section 1154(b).
