	<b>PRELIMINARY MARINE ACCIDENT REPORT</b>	
	<b>Vessels</b> <i>DUKW 34</i> <i>Caribbean Sea</i>	<b>Date and Location</b> July 7, 2010 Delaware River, Philadelphia, Pennsylvania
	<b>NTSB Identification</b> DCA10MM025	<b>Accident Type</b> Allision


On Wednesday, July 7, 2010, the empty 250-foot-long sludge barge *The Resource*, being towed alongside the 78.9-foot-long towing vessel M/V *Caribbean Sea*, allided with the anchored 33-foot amphibious small passenger vessel *DUKW 34* in the Delaware River near Philadelphia, Pennsylvania. The *DUKW 34*, operated by Ride the Ducks, carried 35 passengers and 2 crewmembers. On board the *Caribbean Sea* were 5 crewmembers. As a result of the allision, the *DUKW 34* sank in about 55 feet of water. Two passengers were fatally injured, and 10 passengers suffered minor injuries. No one on the *Caribbean Sea* was injured.

K-Sea Transportation, operator of the *Caribbean Sea*, had been contracted by the city of Philadelphia to transport partially processed wastewater sludge, using two city-owned barges, from the city's Northeast Water Pollution Control Plant to the privately operated Biosolids Recycling Center in the city's southwest. About 1315 on July 7, the *Caribbean Sea* departed the pier near the recycling center, northbound (upriver) for the water pollution control plant to load wastewater sludge onto the empty barge. The barge was configured on the starboard side of the *Caribbean Sea*, which was being operated by the mate, with a deckhand and an engineer also on duty. Off duty and in their living quarters were the master and another deckhand. According to location data transmitted by the vessel's automatic identification system (AIS) and recorded by the U.S. Coast Guard, in the minutes before the accident the *Caribbean Sea* was near the center of the river's navigation channel and traveling at about 5.8 knots.

About 1330, according to witnesses, the *DUKW 34* master, with the assistance of company tour coordinators, embarked 35 passengers at Independence Visitor Center for his third tour of the day. Twenty-two of the passengers belonged to a tour group composed mostly of Hungarian tourists. After conducting a Coast Guard-required safety briefing, the master began a planned 70-minute tour of local historic attractions, which included about 20 minutes on the Delaware River. At 1415, the tour boat entered the river at a boat ramp just south of the Benjamin Franklin Bridge. The master said the vessel was operating normally when it entered the water.

As the *DUKW 34* turned south, the master turned operations over to the deckhand so that he could narrate the tour from the crew jump seat beside the operator's seat at the front of the boat. About 10 minutes into the voyage, shortly after the vessel had reversed course to begin its return to the boat ramp, the master smelled an odor and observed what he thought was smoke coming from the ventilation ducts for the engine cooling system. Believing that the vessel was on fire, the master resumed his position in the operator's seat and initiated emergency procedures, which included shutting down the engine and making a call on VHF radio channel 13 to alert other vessels in the vicinity that *DUKW 34* had broken down and lost propulsion.

The master ordered the deckhand to deploy the anchor to prevent the vessel from drifting with the current and used his mobile phone to notify a company manager on duty that he

	<b>PRELIMINARY MARINE ACCIDENT REPORT</b>	
	<b>Vessels</b> <i>DUKW 34</i> <i>Caribbean Sea</i>	<b>Date and Location</b> July 7, 2010 Delaware River, Philadelphia, Pennsylvania
	<b>NTSB Identification</b> DCA10MM025	<b>Accident Type</b> Allision

believed there was a fire on board and that he was taking emergency measures. The manager began making arrangements for another DUKW vessel to get under way to render towing assistance. According to a recording of marine VHF channel 13 made by the Burlington County Bridge Authority, beginning about 1436, a person can be heard calling out to the northbound tug (the *Caribbean Sea*) near Penn's Landing saying that he is *DUKW 34*, is broken down, and cannot maneuver. Over the next minute, he made several additional callouts to the northbound tug. The audio recording also indicates that other callers made callouts (after the *DUKW 34* callout) to the northbound tug that the *DUKW 34* was broken down. No response from the northbound *Caribbean Sea* can be heard on the recording.

About 1437, the bow of the barge *The Resource* struck the stern of the *DUKW 34*, overriding the *DUKW 34*, which resulted in the *DUKW 34* sinking. Rescue and emergency medical services for the 35 survivors were provided by a combination of first responders, including the U.S. Coast Guard, Navy, a nearby commercial ferry, and local police and firefighters.

The National Transportation Safety Board (NTSB) launched a team of investigators to the accident scene the evening of July 7. The team completed the on-scene portion of its investigation on July 16. The NTSB named the Coast Guard, K-Sea Transportation, and Ride the Ducks as parties to its investigation. Investigators interviewed crewmembers from both vessels, passengers aboard the *DUKW 34*, and other persons involved in the operation and maintenance of the vessels. All crewmembers on both vessels were interviewed except the mate (operator) of the *Caribbean Sea*, who invoked his Fifth Amendment right against self-incrimination and refused to be interviewed. Postaccident tests of the crews of both vessels were negative for alcohol and illegal drugs.

With oversight from the investigation team, Ride the Ducks (through its contractor) salvaged the submerged *DUKW 34* from the river on July 9. The NTSB team examined the salvaged vessel and documented the damage and the condition of the mechanical systems. Investigators plan to conduct additional interviews of management officials from K-Sea Transportation and Ride the Ducks and will continue to collect and examine other factual information.