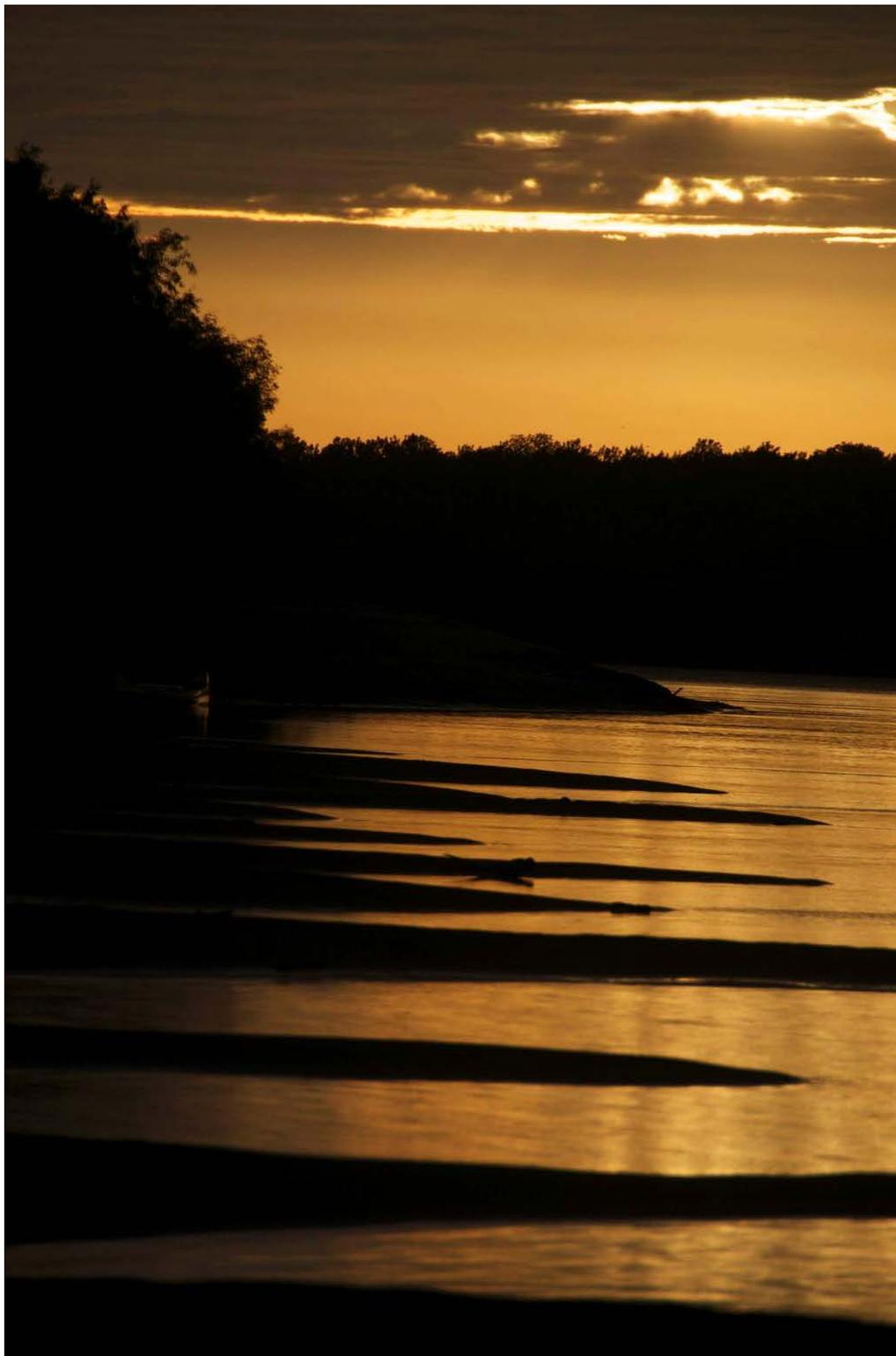


## *Lower Mississippi River Dispatch*

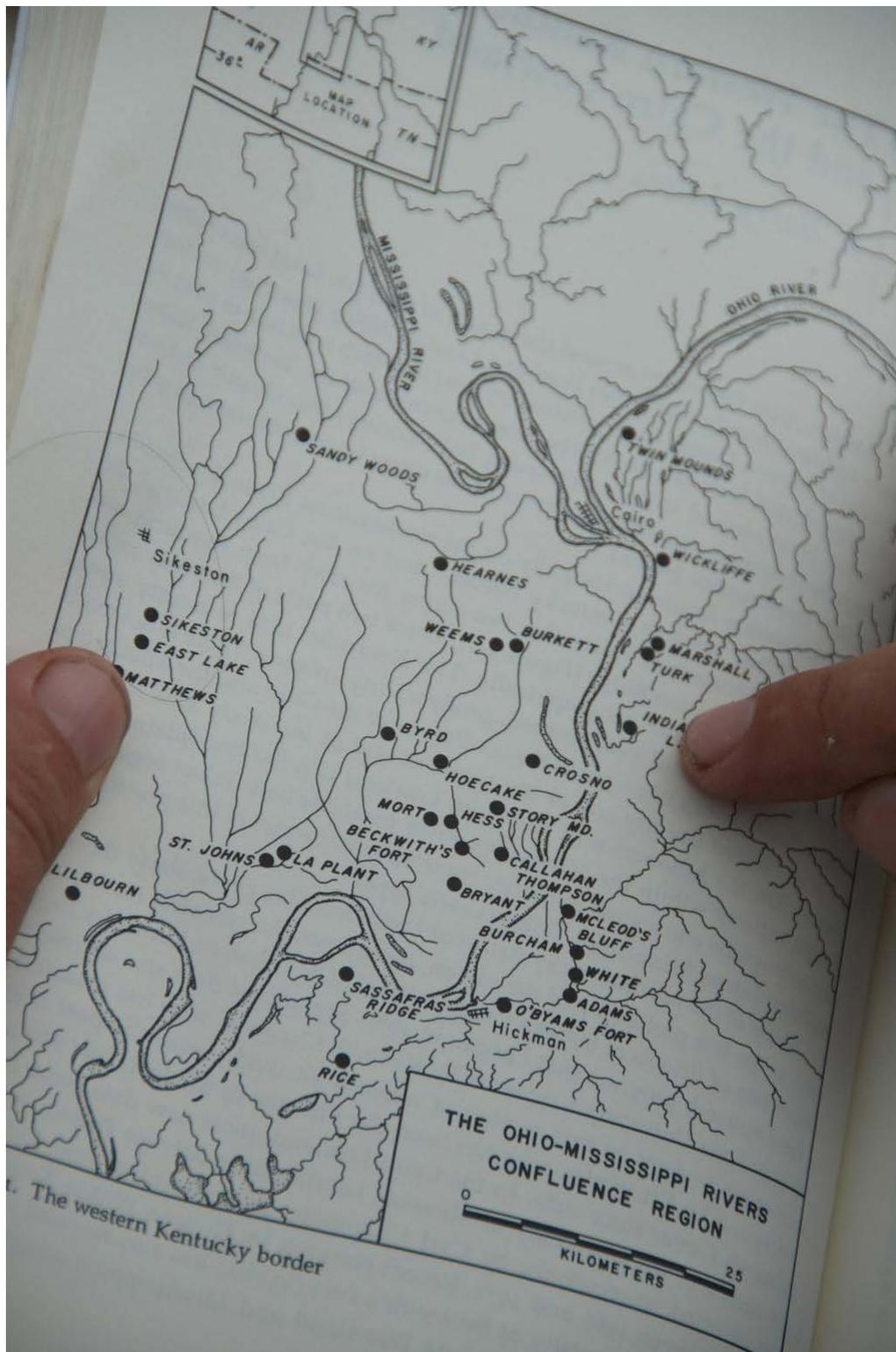
No. 305, Sept 14, 2015



*Serene River Channel and Island below Oil Spill location*

Missing: 120,000 gallons of Clarified Slurry Oil in

# Mississippi River near Columbus, KY



*Pointing to approx location of spill - near Columbus, KY  
(From McNutt: Prehistory of the Central Mississippi Valley)*

In this Issue:

- 1) **Where did 120,000 gallons of clarified slurry oil go?**
- 2) **St. John's Bayou/New Madrid Floodway Debate**
- 3) **Mark River Blog: Dynamic Summer River Habitat**



*Cross on the Bluff, Wickliffe, KY*

*(15 miles above oil spill location. According to Pope Francis in his 2015 Laudato Si this oil spill - and all others -*

*should be considered sins against God by humanity for our failure to glorify and magnify his creation.)*

## Missing: 120,000 gallons of Clarified Slurry Oil in Mississippi River near Columbus, KY

*Photos and story by "Driftwood" John Ruskey with input from the LMRK Paul Orr, the USCG, Wikipedia, Countrymark, and various news sources*

120,000 gallons of clarified slurry oil disappeared into the Lower Mississippi River along the Kentucky shoreline below Cairo Illinois during the first week of September, 2015. Clarified slurry oil is a bottom-of-the-barrel petroleum product. Its compound types include asphaltenes, polar aromatics, naphthene-aromatics, saturated hydrocarbons and heteromolecules containing sulfur, oxygen, nitrogen and metals.

Clarified slurry oil is a dark or black-colored high viscosity liquid with a distinct petroleum odor, and a molecular weight in the range of 250 to 1000 (about the consistency and weight of molasses).  
**WARNING:** Hydrogen Sulfide (H<sub>2</sub>S) and other hazardous vapors may evolve and collect in the headspace of storage tanks or other enclosed vessels. Hydrogen sulfide is an extremely flammable and highly toxic gas. Incomplete combustion may form toxic materials: Carbon Dioxide and Carbon Monoxide, plus various unidentified organic hydrocarbons may be formed.

### **Emergency and First Aid Procedures for Clarified Slurry Oil:**

**IF IN EYES** - Flush with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.

**IF ON SKIN** - Thoroughly wash exposed area with soap and water. (NOTE – may need to use mineral oil to remove slurry oil effectively) Remove contaminated clothing. Launder contaminated clothing before reusing.

**IF INHALED** - If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, and get medical attention.

**IF SWALLOWED** - Do not induce vomiting. Keep person warm, quiet and get medical attention

(from Countrymark.com)

## Is it Safe to Swim?

Last year we shared the Mississippi River with 870 youth, many of whom waded in the water or took a swim at some point during their time on the water. Alone this month we will have 100+ kids out on the water for overnights, all of whom will want to swim, or at least wade in the water. This begs the question: Is it safe for us to swim around here, in the Mississippi Delta, about 300 miles downstream of the spill site? What will happen to the oil? It's heavier than water, so it will sink.

When it sinks to the bottom, will it remain there in pools, or does something else happen to it? What about city water systems below Columbus? Hickman, KY and New Madrid, MO, are close by. Memphis, the largest metropolitan area on the Lower Miss, is only 200 miles downstream of the spill site. Furthermore, what about the fish in that area, and below? Especially the giant fish that lay low in the river bottom, the big cats and big gar, and also the bottom feeders like the endangered pallid sturgeon. What about the fishermen of that section of river between Bluegrass Hills of Kentucky and the Missouri Bootheel? What about commercial fishermen further downstream near Osceola Arkansas and Dyersburg Tennessee?

So many questions, and frustratingly so few answers.

As always, it's a little difficult to decipher from available sources about what happened and where the oil is likely to go. But see stories below. We know it was a collision between 2 petroleum barges, somewhere near Columbus, KY. It could have been worse, the barges hold over a million gallons. But then again, it *should* have been better. This *never* should have happened.

According to the latest from the US Coast Guard report the thick slurry oil sunk to the bottom in the immediate vicinity, and can be scooped or vacuumed off the bottom of the river along with the sandy, muddy substrate it has come to rest over. How exactly this will happen remains to be seen.

Veteran of oil mishaps, Lower Mississippi Riverkeeper Paul Orr ([www.lmrk.org](http://www.lmrk.org)) confers: "I'm not sure exactly what happens to it. But, if I had to guess I would say that it probably sticks together with other sediment and detritus and gets deposited downstream like any other flotsam of similar density. Theoretically microbes should consume it... eventually..."

Paul has seen many, many, many examples of this kind of oil and many others, in spills, leaks, and pipeline breaks, not to mention oil platforms exploding in the Gulf of Mexico. He summarizes our feelings with a simple statement: "We need to move beyond fossil fuels ASAP!"

To read more about clarified slurry oil, visit **Wikipedia**, or the **Countrymark** fact sheet linked below:

### 1) Wikipedia: Fluid Catalytic Cracking

[https://en.wikipedia.org/wiki/Fluid\\_catalytic\\_cracking](https://en.wikipedia.org/wiki/Fluid_catalytic_cracking) is a pretty in depth explanation of the process that results in slurry oil which is basically the stuff left over from fluid catalytic cracking of crude oil.

### 2) Countrymark fact sheet:

[http://www.countrymark.com/countrymark/Portals/0/documents/Slurry\\_Oil\\_December\\_2012.pdf](http://www.countrymark.com/countrymark/Portals/0/documents/Slurry_Oil_December_2012.pdf)



*Near the bottom end of the St. John's Bayou/New Madrid Spillway*

## **St. John's Bayou/New Madrid Floodway Debate**

Meanwhile nearby the oil spill site, the St. John's Bayou/New Madrid Floodway continues to be debated.

### **Why do we need to allow rivers places to flood?**

Not only do floodplains create buffer zones for flood protection, but they also strengthen the overall health of the entire Lower Mississippi Valley by creating valuable habitat not possible on main channel. And a healthy river means a healthy environment for the 13 million people who live along her shores, and the other 53 million who live elsewhere in her drainage!

## Dynamic Summer River Habitat

**by Mark River**

This has been an unique summer for the Mississippi River and the animals that thrive in its complex ecosystem. The high water levels that lasted well into August created an interesting boom in the reproduction of fish, reptiles, and amphibians, as well benefitting mammals and birds.

An early trip on the Arkansas River opened my eyes to the importance of high water periods and the advantage it gives to all species. I watched 50 foot tall willows, and 100 foot tall cottonwoods and sycamores effortlessly slide into the river, as the current plowed away the ground underneath its roots, and then sucked them into the depths of the channel. Long tall willows were cracked and snapped like toothpicks. These trees create valuable fish habitat, which in turn give smaller fish valuable cover so they can mature. Many trees float down the river. The birds hitch a ride, eating insects and invertebrates from its root ball. The cut-banks left behind provide nesting for cliff swallows and belted kingfishers. High water is especially good for beavers. They love to feed from the water. It's safer and they can easily reach the young flooded willows. They also have a plan for creating habitat. They select certain trees to drop and those same trees sprout 6 to 8 saplings, which grow straight up. They are later covered by sand, appearing to be 6 to 8 different trees. When you see willows growing really close together in a straight line along the river, it's usually one tree with its trunk buried by silt. Young flooded willows are also the favorite nesting and roosting spot for the red-wing blackbird.

High water refills and replenishes the oxbow lakes. The flooded forest on the inside of the lakes provide important spawning grounds for all fish. They act as nurseries for young

schools of fish not quite ready for the powerful current of the river. We paddle through local oxbow lakes, Millwood and Desoto (themselves old channels of the Mighty Mississippi), and the front of our canoe cut through millions of fry suspended in the lake. At Smith Point, just north of Rosedale Harbor, a small back channel stream gets formed in the highest of waters separating the sandy point from the mainland. This peninsula is covered with puddles full of frog eggs and fish. Raccoon and skunk tracks litter the areas around the puddles. We spooked two does feeding in the tall grass. They like high water also, because it makes water more accessible, keeping them out of sight. Suddenly, a big splash! A huge buck swims to the island created by the stream. It's a perfect place for a lone buck. If he stays, he has a chance to make it through hunting season.

The Mississippi River finally drops in the middle of August leaving beautiful sandbars and hundreds of blue holes full of trapped fish. Giant debris piles of trees congregate in the areas where eddies were formed. Crickets hatch by the thousands in the debris piles, while frogs gobble them up. Water snakes patiently wait in order to ambush the frogs. Eagles, egrets, and herons feast in the blue holes during the day; scavengers feast by night. Everyday the pools get more shallow and more approachable. They eventually turn into mosquito ponds, which benefit the cliff swallows, bats, and dragonflies. The debris piles are great low water homes for beavers and otters.

Man-made structures built for navigational purposes can stop natural habitat development along the main channel, but some species like the white bass, stripe bass, and hybrid bass use wing-dikes to break the current. Revetment along the outside of the meanders save landowners valuable property, but stops natural habitat development and are hard on turtles. They capsize trying to move between the boulders, and sometimes get stuck, causing a slow painful death. Fortunately, as long the tributaries are left to flourish naturally, they will provide needed habitat for the main stem, and we will continue to watch all species thrive within the Mississippi River Watershed.

- Mark River



*St. Louis born Mark “River” Peoples is a river guide and youth leader with the Quapaw Canoe Company. Mark grew up hunting and fishing along the river with his father. After attending Missouri Central State University, and becoming defensive back with the New York Giants, Mark left a career in professional football for the river. Mark is a writer for the Lower Mississippi River Dispatch and shares his intimate & nature-filled musings about river life on Big Island ([www.bigmuddyisland.org](http://www.bigmuddyisland.org)). He is the 1 Mississippi Southern Region intern ([www.1Mississippi.org](http://www.1Mississippi.org)) and also serves on the board of the Lower Mississippi River Foundation. When not on the water, Mark mentors Delta youth and educates them on the importance of the protection and preservation of our national treasure for generations to come. Mark works hard on changing the perception of our great River and its tributaries. Through river trips, cleanups, and workshops, Mark’s goal is overall systemic health of the Mississippi River.*

## **Oil Cleanup to Begin Soon on Mississippi River**

**By Bill Hughes**

COLUMBUS, KY - River traffic resumed Saturday on the Mississippi River after an oil spill, but cleanup work is just getting set to begin.

The collision between two towboats and their barges last Wednesday spilled more than 120,000 gallons of clarified slurry oil into the river.

The U.S. Coast Guard is overseeing all agencies and contractors who have responded to the spill, and Petty Officer 2nd Class Ryan Tippetts in the Coast Guard's 8th District Public Affairs office said preparations are underway to begin cleanup.

"We don't have a timeline right now on how long the cleanup process is going to go on," Tippetts said. He also did not have an estimate for how long it would take, but indicated that multiple contractors and agencies will be on the scene.

Kevin Strohmeier of the Kentucky Department of Environmental Protection said they have had personnel onsite to monitor activities, and they will be involved through the entire process.

"Since it is Kentucky water, we're the ones who pretty much are giving final approval to all plans, in conjunction with the Coast Guard and the responsible party," Strohmeier said. He said KDEP has provided scientific and regulatory assistance, advising those parties about permits and applications that must be filled out, and helping with data interpretation from the scene.

Fly-overs and shoreline assessments took place almost immediately after the incident, but they showed no contamination on the surface. Strohmeier said underwater divers, sonar, and snare samplers were used to locate the spill.

He said, "It's actually pretty much where it spilled out when the collision occurred, so it didn't go very far. So, we're really fortunate on that."

Strohmeier said the river has been allowed to reopen because most of the recovery operation is out of the channel. He said the spilled oil hasn't spread because of its unique characteristics.

"It has a consistency of thick molasses. When you pour it into the water it pretty much drops straight to the bottom. It's very cohesive and it stays together almost like a bead of mercury would. Even (with) fairly strong agitation in a jar, if it breaks up at all it re-congeals," Strohmeier said.

He said the cleanup will involve removal of the oil and a small amount of the river bottom, but there is not much likelihood of soil contamination.

Strohmeier said equipment and contractors will probably arrive Friday or Saturday, and they expect to begin on Sunday or Monday. He said the best estimate he can give is a couple of weeks for cleanup work, and KDEP doesn't expect much long-term testing after that.

"Our agency is pretty pleased with the response that everybody has done. I think everybody's done a good job of addressing this and getting it cleaned up as soon as possible," Strohmeier said.

As for the cost of response and cleanup, he said the company that had possession of the spilled material is typically responsible for it. A trust fund set up after the Exxon Valdez spill allows rapid response to any incident, and Strohmeier said the Coast Guard will pursue reimbursement.

<http://www.westkentuckystar.com/News/Local-Regional/Western-Kentucky/Oil-Cleanup-to-Begin-Soon-on-Mississippi-River.aspx>

## **Flyover used to spot Mississippi River oil spill**

### **More than 120,000 gallons of oil spilled into the river after tow boats collided in Kentucky earlier this week**

September 4, 2015 4:35PM ET

The U.S. Coast Guard used aerial observations of the Mississippi River on Friday to try to determine the location of more than 120,000 gallons of oil that spilled after two tow boats collided, prompting the closure of that part of the river.

More than 30 vessels were backed up along the busy waterway by midday Friday as cleanup crews tried to locate the clarified slurry oil that leaked into the river. A flyover of the area was meant to help determine the extent of the cleanup.

"We're doing the overflights to get a better idea of where most of that oil is to see what we can recover, if anything," said Coast Guard Chief Petty Officer Bobby Nash.

The collision Wednesday evening near Columbus, Kentucky, damaged at least one barge carrying the slurry oil. The cargo tank ruptured, causing tens of thousands of gallons of oil to spill into the river, the Coast Guard said.

No injuries were reported.

The river was closed from mile markers 939 to 922, Petty Officer Lora Ratliff said.

The barge was carrying approximately 1 million gallons, but the breach was only in one area, affecting just one of its six tanks, Ratliff said. That tank holds 250,000 gallons, and Coast Guard Lt. Takila Powell said a little more than 120,000 gallons spilled into the river.

Slurry oil is heavier than water, so it sinks below the surface, Nash said. Oil has not been seen on the shorelines, he added.

"It goes below the surface and then it tends to collect in columns just below the surface, which has made cleanup efforts difficult," he said Friday. "The overflight was to determine what pockets are recoverable, if any."

Nash said there were no reports of fish kills.

The Coast Guard said it was working with the barge owner, Inland Marine Services, and an oil spill response organization. An Inland Marine Services spokesman has not returned calls seeking comment.

Both tow boat operators had been interviewed by Coast Guard investigators and underwent drug and alcohol testing, but results weren't back yet, Powell said.

The Coast Guard determined five barges were damaged in the collision, but nothing other than the oil leaked into the river, Powell said.

The tow boats were moored on opposite sides of the river, and a long gash was apparent in the smaller vessel.

Powell said cleanup efforts had started with the barge and that crews put a boom around the ruptured cargo tank to prevent any residual oil from leaking into the river.

The collision happened in the middle of the river channel near Columbus, Kentucky, the Coast Guard said. The cause was under investigation. The closure stretched 17 miles south to the city of Hickman.

A July 2008 spill caused by a collision between a tugboat and a barge carrying oil on the Mississippi River in New Orleans sent 282,000 gallons into the water and caused the closure of the river.

The Associated Press

<http://america.aljazeera.com/articles/2015/9/4/flyover-used-to-help-spot-mississippi-river-oil-spill.html>



*The "White Cliffs" below Oil Spill location Columbus, KY*

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