

Where's the oil? Much of it may be gone

Model suggests a third may have evaporated



David Quinn / AP

In this May 6 photo, an aerial view of the northern Chandeleur barrier islands shows sheens of oil reaching land in the Gulf of Mexico. The islands rest 20 miles from the main Louisiana coastline.

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AP Associated Press

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NEW ORLEANS - For a leak that's spilled millions of gallons, the oil from the **Deepwater Horizon disaster** is pretty hard to pin down.

Satellite images show most of an estimated 4.6 million gallons of oil has pooled in a floating, shape-shifting blob off the Louisiana coast. Some has reached shore as a thin sheen, and gooey bits have washed up as far away as Alabama. But the spill is 23 days old since the Transocean Ltd.-owned, BP-operated rig exploded April 20 and killed 11 workers, and the thickest stuff hasn't shown up on the coast.

So, where's the oil? Where's it going to end up?

Government scientists and others tracking the spill say much of the oil is lurking just below the surface. But there seems to be no consensus on whether it will arrive in black waves, mostly dissipate into the massive Gulf or gradually settle to the ocean floor, where it could seep into the ecosystem for years.

When it comes to deepwater spills, even top experts rely on some guesswork.

One of their tools, a program the National Oceanic and Atmospheric Administration uses to predict how oil spills on the surface of water may behave, suggests that more than a third of the oil may already be out of the water.

About 35 percent of a spill the size of the one in the Gulf, consisting of the same light Louisiana crude, released in **weather conditions** and water temperatures similar to those found in the Gulf now would simply evaporate, according to data that The Associated Press entered into the program.

The model also suggests that virtually all of the benzene — a highly toxic flammable organic chemical compound and one of the chief **ingredients** in oil — would be stripped off and quickly vaporize.

The model was not designed for deepwater spills like the one at the Macondo well in the Mississippi Canyon now threatening the Gulf Coast. But experts said the analysis might give a close approximation of what is most likely happening where the oil plume is hitting the surface nearly 50 miles south of Louisiana.

The size and nature of the spill also has been altered by response efforts. So far, about 436,000 gallons of chemicals have been sprayed on the oil to break it up into smaller droplets and about 4 million gallons of oily water have been recovered.

Of that recovered mixture, at least 10 percent is oil, BP and NOAA said. Smaller amounts of oil also have been collected after washing ashore, and crews have burned a negligible quantity off the surface.

That would leave as much as 2.7 million gallons at sea as of Friday, with about 210,000 gallons coming up from the well every day.

The 210,000 gallons figure — specifically, about 5,000 barrels — comes from NOAA and has frequently been cited by BP PLC and the Coast Guard. Some scientists have said based on an analysis of BP's video of the leak that the flow rate is much higher, while others have concluded the video is too grainy to draw any such conclusions.

Even with **computer** models and history as guides, uncertainty reigns.

Doug Helton, the operations coordinator for NOAA's Office of Response and Restoration, said the agency was uncertain how much oil would sink to the bottom. For now, most of it is near the surface.

"This oil is coming from the sea floor and coming up to the surface in droplets and then once it comes to the surface it re-coalesces as a slick," he said.

Ed Overton, a Louisiana State University chemist who's analyzed the spill for NOAA, said he thinks most of the oil is within a foot of the surface.

"Ultimately, you could have a lot of oil on the shoreline. It won't be a black tide coming in, it will be globs coming ashore," he said.

"It's going to be a long, slow summer."

Wilma Subra, a chemist and MacArthur Fellow affiliated with the Louisiana Environmental Action Network, said there was a risk that the effort to break up the oil with dispersants would simply sweep it to the ocean bottom and contaminate the food chain, a possibility that has shrimpers on edge.

Merv Fingas, who has studied oil spills for 35 years and has worked for Environment Canada, that nation's environmental agency, predicted a bit of both: some would wash up, and some would stick to sediment and mud and sink slowly to the bottom, much of it likely settling near the spewing well.

"That's the fate of a lot of oil spills: sedimentation on the bottom," Fingas said.

Overton disagreed, saying the oil from the Deepwater Horizon spill is too light to sink all the way.

A common refrain among experts and officials is that every oil spill is unique.

Larry McKinney, director of the Harte Research Institute for Gulf of Mexico Studies at Texas A&M University-Corpus Christi, said the Deepwater Horizon spill reminds him of the last catastrophic oil flood in the Gulf.

In 1979, Mexico's Ixtoc I in the western Gulf blew out and spewed about 420,000 gallons of oil a day for nine months. Large quantities of oil did not reach Texas beaches.



David Quinn / AP

In this May 6 photo, massive sheens of oil are seen from an altitude of 3,500 feet over the Gulf of Mexico, off the coast of Louisiana.

"This was a problem we ran into with Ixtoc, we never found the oil," McKinney said. "But I think even today if you dig down in some sandy beaches you can find a layer of Ixtoc oil."

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