The Washington Post

Challenge of cleaning up Gulf of Mexico oil spill 'unprecedented' at such depths

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Saturday, May 15, 2010; A01

ELMERS ISLAND, LA. -- The oil spill in the Gulf of Mexico has not yet caused coastal damage on the scale of the Exxon Valdez disaster. But scientists say it is becoming something different and potentially much more troubling: the first massive U.S. oil spill whose effects so far are largely hidden underwater.

Three weeks after crude oil began billowing into the gulf, the spill has threatened the long-term livelihoods of thousands of gulf residents, enmeshed three major global companies in litigation and could destroy parts of Louisiana's ecologically valuable marshes.

The 1989 Valdez accident looks simple by comparison. No one questioned the cause -- an Exxon tanker that ran aground -- and the oil was released in one enormous but finite swoop into Alaska's pristine and remote Prince William Sound.

Now there seems to be much more blame to spread around, whether it's aimed at oil company BP, rigs operator Transocean, cementing company Halliburton or the Obama administration, which has come under fire for failing to prevent the spill and for its response to what National Oceanic and Atmospheric Administration Administrator Jane Lubchenco calls "an unprecedented, dynamic challenge."

Because the accident happened in the gulf's crowded commercial corridor, the impact could be much more costly and damaging.

With a half-dozen probes underway, lawmakers and outside groups are questioning who in the corporate and federal world is at fault and to what extent these officials might have vastly underestimated the seriousness of the spill's impact.

Because of the leak's extreme depth, and the effects of dispersants, the spill is breaking the maxim that oil floats. Instead, scientists fear it is settling on sensitive corals or poisoning ecosystems that produce shrimp, snapper and sport fish, all too deep for scientists to watch or help.

"This monster's turned invisible," said Plaquemines Parish President William "Billy" Nungesser on Thursday. "How do you fight that monster when it's invisible?"

The spill's impacts on underwater creatures might not be fully understood for years, said Ronald J. Kendall, a professor at Texas Tech University. "It's a massive eco-toxicological experiment underway."

The unusual behavior of the spill has left the Gulf Coast in limbo since April 22, when the burning Deepwater Horizon oil rig finally sank more than 40 miles off Venice, La. The oil, squeezed by intense geologic pressure, has been spewing out of the broken-off drill pipe at a rate that has defied estimation.

The leak appears to be growing far faster than the original estimate of 5,000 barrels a day. Some experts say the rate could be as much as five or 10 times that.

So every day, the threat hanging over Louisiana's coast gets bigger. But every day, the punch doesn't come.

This island, on an end-of-the-Earth stretch of Louisiana's coast, is one of the few places where oil has washed up. Dime-size wads of goo called "tar balls" are almost lost in a beach littered with shells, crab carcasses and garbage. Larger tar balls, some eight inches across, washed up on the beach nearby at Port Fourchon.

The reason for the oil's delayed appearance, scientists say, begins with the oil itself.

The Valdez dumped its crude at the water's surface. But this oil is flowing out nearly a mile underwater and takes, by one estimate, three hours to reach the surface. That trip changes the oil, mixes it with water and forms it into something that looks like molasses or chocolate mousse.

"There's no black tide out there," said Ed Overton, a professor of environmental science at Louisiana State University. He said that some of the most toxic compounds in the oil from this spill had weathered away after spending time at sea, giving the oil a less eye-watering scent and the color and consistency of cold fudge sauce.

That c*on*sistency, he said, means the gulf oil doesn't float on the water, but down in it. So it is less likely to be pushed toward shore by wind and more likely to be held offshore by the swirling water currents where the Mississippi River pours into the gulf.

"I think we lucked out," Overton said. "If we could stop the spill, time would be on our side."

Roughly 476,000 gallons of dispersant applied to the slick helped break it up and prevent it from becoming a major tide washing ashore. But that doesn't mean that the oil has disintegrated instantly.

The fact that the oil has not hit the shoreline with any force has led many, including executives at BP -- which was leasing the Deepwater Horizon when it exploded and sank -- to declare that they have managed to mitigate the spill's impact. The methods they have used to disperse the spill, they said, make it more likely that it will dissipate and be consumed by natural oil-eating bacteria.

But some scientists say they're troubled by how little they know about this spill. Oil on the surface can be spotted by planes and satellite images. But there is relatively little equipment in the gulf region that can tell where oil has traveled below the surface.

On Friday, Sen. Bill Nelson (D-Fla.) asked BP to bring "any and all" additional video it might have to Washington on Tuesday, when BP America's president, Lamar McKay, is scheduled to testify before the Senate commerce committee.

"By dispersing the stuff at depth, it creates essentially smaller globules of oil [and] it makes the oil more likely to be affected by even slow-moving currents," said James H. Cowan Jr., a professor of oceanography and coastal sciences at Louisiana State University. "We just don't know where it is, and we don't know where it's going."

They fear it could be settling on underwater formations far out on the gulf floor, places with such fanciful names as the Alabama Alps and the Flower Gardens. These include coral formations that can look like standing forests of trees and support populations of fish such as red snapper.

Or, they worry, the underwater oil might be absorbed or eaten by the small animals and plants at the base of the gulf food chain.

To the fishermen of south Louisiana, the enormous, indecisive, largely unseen slick is bad enough already. Many have been idled as fishing grounds are declared off-limits or closed off with floating booms meant to hold back the oil. On Thursday night in Cut Off, La., shrimper Clifton Billiot, 55, said there was little he could do to protect his livelihood.

This was all: "Pray that it don't come," he said. "And that you can stop that [expletive]" from spreading onto land.

English-speaking shrimpers usually call what's happening in the gulf "the oil spill." Billiot said Cajuns call it *déshonneur*, which, he said, means "disaster."

Eilperin reported from Washington.