

## Scientists Deeply Concerned About BP Disaster's Long-Term Impact

By Dahr Jamail

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GULFPORT, Louisiana, - Contrary to recent media reports of a quick recovery in the Gulf of Mexico, scientists and biologists are "deeply concerned" about impacts that will likely span "several decades".

"My prediction is that we will be dealing with the impacts of this spill for several decades to come and it will outlive me," Dr. Ed Cake, a biological oceanographer, as well as a marine and oyster biologist, told IPS, "I won't be here to see the recovery."

Cake's grim assessment stems partially from a comparison he made to the Exxon Valdez oil disaster and the second largest oil disaster in the Gulf of Mexico (BP's being the largest), that of the Ixtoc-1 blowout well in the Bay of Campeche in 1979.

"The impacts of the Exxon Valdez are still being felt 21 years later," Cake said, "The impacts of the Ixtoc-1 are still being felt and known, 31 years later. I know folks who study oysters in bays in the Yucatan Peninsula, and oysters there have still not returned, 31 years later. So as an oyster biologist I'm concerned about that. Those things are still affected 31 years later, and that was a smaller spill by comparison."

He is also concerned about deepwater habitats. Given that BP has used at least 1.9 million gallons of chemically toxic dispersants, the vast majority of the oil has remained beneath the surface, and much of that has sunk to the sea floor.

As an example, he cited "a new coral colony ecosystem" within 10 miles of BP's blowout Macondo Well, which was found by a pipeline company whilst it was producing an environmental impact assessment statement of the route of the pipeline.

"They found some amazing coral communities that no one knew about, and now they will be covered in oil," Cake said, "Those will not recover."

Dr. Stephen Cofer-Shabica, an oceanographer in South Carolina, focuses on the biology of barrier islands. He monitored the affects of the Ixtoc-1 oil disaster on Padre Island National Seashore in south Texas.

"You can go back now, 31 years later, and there's still oil in the sand there [Padre Island]," he told IPS. But his main concern is now about what the state of Louisiana is doing in response to BP's oil disaster.

Louisiana's Governor Bobby Jindal has authorised the dredging and building of sand berms near Louisiana's barrier islands in an effort to keep oil away from the shore. One area where the dredging project is still underway is the Chandeleur Islands.

"The Chandeleur project is totally futile and a waste of resources, and I can't believe they are still doing it," Dr. Cofer-Shabica said, "That's what I find totally unfathomable. There's oil floating around underwater, that has been dispersed and these barrier islands, as constructs, will not have any effect on that oil at all."

According to Dr. Cofer-Shabica, the so-called fix is actually a hugely destructive problem. "From an oceanographic perspective, this was biologically destructive, especially when you start digging up the bottom in shallow water, and building these barrier islands."

He added, "Louisiana is in a precarious position anyway because of the subsiding that is happening in the delta, and on top of that you have worldwide sea-level rise, so it has two physical factors that are working against its marshes. So building barrier islands to presumably keep oil out, amidst rising sea levels, makes no sense."

In addition to this, he said that the biological impacts of building islands "are larger than the physical impacts," and said this of dredging sediment from those areas: "You're in shallow water that is biologically rich with clams, worms, and bacteria, that will all be dug up and destroyed."

Dr. Cake is also worried about oil contaminating the oysters. He has seen much oil in Louisiana's marshes. "One of the experts with us worked for NOAA on the Exxon Valdez spill, and he told me if the oil is on the marsh grass, it's in the oysters."

BP and the Coast Guard are currently under scrutiny for having used so much oil dispersant, an industrial solvent that breaks up the oil so that it will sink below the surface.

For example, a 1979 report, "Effects of Corexit 9527 on the Hatchability of Mallard Eggs" in the Bulletin of Environmental Contamination and Toxicology, showed that even though dispersants are applied to minimise oil impacts to visible and charismatic species, Corexit actually enhances the lethal effects of crude oil on birds that are exposed.

Corexit 9527 penetrates eggshells and shell membranes as readily as crude oil. When applied to an eggshell near the embryo, the embryo would fuse to the shell membrane and die within 24 hours.

"Corexit breaks the oil up into micro-globules," Dr. Cake said, "That's the harmful part for oysters. Oysters are filter feeders, and they feed on a range of three to 12 millionths of a meter as particles. You can grind up graphite from a pencil in fine enough particles and they'll run it through their system. It's the same with the micro- globules of oil. They'll be taken in, but in going through the system, and in absorbing some of that oil, it'll cause lesions. So it's actually what the Corexit does to the oil that'll affect the oysters in the end."

According to Dr. Cake, his study teams have people watching and monitoring affected areas.

"In the past month, in Bretton and Chandeleur Sounds, oil was there during the day, it was sprayed with Corexit at night, and the next day it was gone. Where did it go? It went to the bottom, and that's adjacent to where these oyster farms are. So at that point, there's a lot less water for that Corexit to disperse into, and there may be an impact from that on the oysters."

Cake said that while scientists have found very large plumes of dispersed oil at depth, "I'm not sure that oil will ever get here as dispersed clouds. It's getting here as sunken clouds, because that's what they [BP] wanted it to do. Sink it, get it out of sight out of mind."

Chasidy Hobbs with Emerald Coastkeeper in Pensacola, Florida, is on the City of Pensacola Environmental Advisory Board and Escambia County Citizens Environmental Committee. Hobbs also directs the environmental litigation research firm, Geography and Environment.

"We're poisoning the entire Gulf of Mexico food web," Hobbs, who is also an instructor and advisor in the Environmental Studies Department at University of West Florida, told IPS. "It's crazy, and it's criminal. I'm deeply concerned with the long-term ecological and human impact."

Dr. Cake is among a large and growing group of scientists who are discussing a grim future for much of the Gulf of Mexico as a result of BP's disaster.

"The oil itself on the bottom is being eaten by bacteria. This has always been the case in naturally occurring seeps across the Gulf. But now we've introduced much more oil, and as the bacteria grow they are consuming the oxygen that is in that area. And that oxygen loss will result in dead/hypoxic zones, like the one off the West side of the Mississippi over towards Galveston where there's one that is 3,000 square mile area of dead bottom. Now we're looking at that along the eastern part because of the presence of so much more bacteria."

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