Spill study sees cloudy results

The chemical sprayed in the Gulf to break up the BP oil spill may not have been effective and could be damaging the ecosystem more than the oil alone, according to preliminary findings by University of West Florida researchers.

When mixed with oil, Corexit, the chemical dispersant used by BP, is toxic to phytoplankton and bacteria — crucial elements in the Gulf of Mexico’s fragile food chain, said Wade Jeffrey, a UWF biologist with the Center for Environmental Diagnostics and Bioremediation.

"That (effect) may cascade itself up through other larger organisms as you go up the food web," he said Tuesday. "It’s one of those small pieces of a big puzzle of effects. We can’t say if we’ve seen big shifts yet. I don’t know that answer yet."

Jeffrey was one of several scientists who presented preliminary research findings last week at a Florida Institute of Oceanography conference at the University of Central Florida.

BP dumped nearly 2 million gallons of the so-called dispersant chemicals in the Gulf, which saw more than 172 million gallons —
4.1 million barrels — of oil leak into the water in the wake of the April 20 Deepwater Horizon explosion.

Jeffrey and his researchers found in experiments that BP oil treated with Corexit broke down in seawater, coloring it brown and causing it to become more absorbed in the water.

BP claimed that the chemical would break up the oil and allow naturally occurring bacteria in seawater to eventually gobble up the harmful hydrocarbons.

Jeffrey's preliminary research contradicts BP's assertion.

"What we found in a couple of experiments is that when Corexit is included in the treatment it does not speed up the degradation of the hydrocarbons ....," he said. "it might have been better to not use it because it greatly increases the oil that is dissolved in the water instead of concentrating it at the top."

Jeffrey and other researchers are being funded by a $10 million grant provided by BP to study the oil's effects on the Gulf Coast's ecosystem.

Jeffrey said samples were taken from the waters around the state of Louisiana which saw the highest impact, from Pensacola which saw some, but not nearly as much oil, and from Apalachicola as an unpolluted control.

The finding was unexpected since Jeffrey's research was meant to focus on oil and Corexit's effects on phytoplankton, bacteria and the food web.

With the new finding, Jeffrey said his
research assistant will continue the research on whether the dispersant was effective or whether it was unnecessary.

"Her summer job is to work with me and one of the chemistry professors to really examine this in detail to see if it holds up under greater scrutiny," he said. "We need to make sure it's not a methodological result and whether it holds up under wider circumstances."

**Effects on sealife**

Susan Laramore, an assistant research professor at Florida Atlantic University, also presented findings at last week's conference. She is studying the effects of oil and dispersants on shrimp, oysters and conch from the larval stages through adulthood.

Her research found that test subjects in younger life stages are more sensitive than older ones, and that they were more sensitive to dispersed oil.

"The dispersants make the oil very much smaller droplets and they're very much more available to the animals," Laramore said. "The dispersed oil was supposed to be less toxic. That's how it's reported in a lot of literature."

The Associated Press reported last week that a south Florida researcher found that the spill might indirectly have contributed to the high number of young dolphins dying in the Gulf.

The oil and dispersants appear to have disrupted the food chain and prevented dolphin mothers from building up insulating blubber to weather the cold, the report said.
That could contribute to calves dying, though there are other possible explanations, said Graham Worthy, a University of Central Florida marine researcher.