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UCF scientists prepare for impact of oil spill

By Rachel Murphy

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As oil from the Deepwater Horizon disaster threatens Florida's Gulf coast, two UCF biology professors are ready to suit up and swing into action to assess the damage to the state's saltwater ecosystems.

Graham Worthy and John Fauth are contributing their expertise with other scientists and scholars from Florida's public universities as well as from four private universities in collaboration with the state Department of Environmental Protection.

"We have capabilities from academics in lots of different areas -- getting the folks who need the information in touch with the people who can do it," Fauth said of the Oil Spill Academic Task Force.

Worthy is particularly interested in the spill's impact on dolphins. Fauth is devising a cellular diagnosis system to study organisms injured by exposure to oil.

"When you get sick, you go to the hospital and they draw blood," Fauth said. "They look at your enzyme levels and make a diagnosis -- you can apply the same thing here because all enzymes are similar."

Fauth and Worthy aren't UCF's only professors ready to hit the beach.

Scott Hagen, associate professor of civil engineering and director of the coastal hydroscience analysis, modeling and predictive situations lab at UCF, said President John Hitt asked him to head the Academic Oil Spill Task Force for UCF.

Hagen and his team are feverishly working to bring an oil-spill website online identifying experts with specific capabilities and providing answers so that information and research can be dished out quickly by the task force.

While the task force wants to help workers who are faced with the daunting task of cleaning up the oil as it washes ashore, UCF scientists are also interested in assessing the long-term impact of the disaster.

"Before any word about how much money would be available for research came out, I was already contacting colleagues and we were already moving and getting things set up," said Fauth. "It's a case of 'we have a capability that would be useful in this is a crisis, we need to make sure that people see we are able.' "

Fauth is also working with colleges to develop a proposal for the National Science Foundation that would look at how to oil and dispersant and combination of the two will have an effect on coral and salt marshes.

"This is really bad and we have to get moving even before we are called upon by agencies," Fauth said.

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Once the grant money is received, research will begin immediately. He expects the turnaround on the proposal to take a few weeks.

"What we are trying to do at this point in time is when someone comes forward and says 'OK, we need to look at this,' that we will be in the best position to help," said Hagen.

Money is an issue. Worthy said UCF hopes to be in a good position to try and get part of the \$500 million that BP, the company that owns the well that is spewing oil, gave for research.

"\$500 million is a drop in the bucket, but it is a start," he said. "Not inexpensive work."

He said BP has already provided Louisiana State University with some of the funding, so he hopes for a quick turnaround but acknowledges it could be four to five months before anything happens.

Worthy has experience tackling oil spills. He was involved in research in the aftermath of the Exxon Valdez oil spill in 1989 in Alaska. Worthy, who emphasized that the Gulf disaster isn't going to be a "short-term thing," said researchers are preparing for the future.

"When my team is talking about putting in proposals, that is going to go on 10 years as far as monitoring and tracking what the impacts are."

The real effect of Deepwater Horizon -- environmentally -- may not be apparent for years to come, and Worthy stresses the importance of quickly beginning his research on dolphins.

"A naturally occurring bacteria will eat the oil and bacteria consuming oil will consume all of the oxygen in the immediate area -- tens of hundreds of square miles, which creates dead zones because nothing else can live there," said Worthy.

Hagen forecasts that by the time the oil gets into the loop current of the Gulf of Mexico and finally reaches the state's east coast, the oil will be in more of a clay form. He and his team want to monitor the path of these tar balls and tar mats once they intrude into the Indian River Lagoon and on beaches on the east coast.

How quickly will the oil show up on the east coast?

"Next week," he said, noting that the loop current travels at 3 to 4 mph.

"The loop current is constantly moving around in deep waters -- not like a river that has deep banks -- it's like a river trying to flow in a bigger water body, variations in temperatures as you go down in depths are what is really driving the loop current and variations in salt content of the water," Hagen said.

The start of hurricane season on June 1 brings even more concern and the need to quickly begin research, Hagen said.

"Well, it is probably just a matter of time before we will have a hurricane in the Gulf, and depending on the track of the hurricane event, a large quantity of oil is going to be blown and carried into the water and carried to the coast," he said. "Our models will help to understand and predict where that oil is going to end up."

Rachel Murphy is a UCF journalism student.

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