

Media Relations

UNH Researchers Probe BP Oil Spill's Effect On Biodiversity

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DURHAM, N.H. – A National Science Foundation grant to the University of New Hampshire's Hubbard Center for Genome Studies will help researchers better understand the effects of the Deepwater Horizon oil spill on some of the Gulf of Mexico's most abundant creatures. The \$200,000 grant was funded through the National Science Foundation's (NSF) RAPID program for quick-response research on natural human-caused disasters and similar unanticipated events.

The project looks at the effect of the oil spill on the richly diverse communities of minute organisms – nematodes, fungi, and larval-stage mollusks – that live in ocean sediments. In collaboration with Auburn University in Alabama and the University of Texas at San Antonio, the Hubbard Center for Genomic Studies (HCGS) project takes advantage of samples collected prior to the April oil spill to establish base-line information on these benthic, or sea-floor, communities. This data will inform future research that seeks to explore the impact of the spill, one of the largest human-generated environmental disasters in history, on these communities.

"The big push behind this project is that we know so little about these communities," says Holly Bik, a postdoctoral researcher at the HCGS working on the study.

"Quantifying the long-term impacts of the BP Deepwater Horizon spill will require a concentrated effort to characterize pre-spill biodiversity and typical community structures across the Gulf of Mexico," adds W. Kelley Thomas, Hubbard Professor in Genomics and director of the HCGS, principal investigator for the grant.

Using previously collected samples from 100 sites representing diverse habitats, HCGS researchers will use high-throughput sequencing to generate large datasets of DNA sequences. These DNA sequences can be used like barcodes to reveal which organisms are living in a sediment sample. This genetic information will be used in conjunction with traditional taxonomic methods focusing on the structure of these creatures to assess the diversity of all organisms from the sediment samples.

"Because these organisms are so abundant, they're going to be the base of the food chain in marine ecosystems," says Bik, adding that they also play key a role in nutrient cycling – critical to the breakdown of hydrocarbons like oil. The researchers hypothesize that the spill affected these organisms, but without establishing knowledge about their pre-oil spill status, informed mitigation and bioremediation would be challenging.

Bik is in the Gulf of Mexico now working with researchers from Auburn and UTSA to collect and analyze samples. She is blogging about her research at <http://deepseanews.com> (she's "Dr Bik") and tweeting her experiences at http://twitter.com/Dr_Bik.

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,200 graduate students.

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