The Coastal Waters Consortium Presents:

Scientist Spotlight

Dr. Kiva Oken

What is your role as a scientist for CWC?
I'm a postdoctoral scientist at Rutgers University. I use mathematical equations to describe connections between species in the saltmarshes, and then ask questions and tinker with my mathematical models to better understand how whole food web might respond to oil spills. It's a lot easier than testing hypotheses in real life!

Can you summarize your oil spill research and describe any surprising findings you have come across?
Effects of oil on single populations are sometimes unexpected because populations are actually all connected to each other. For example, even if oil is toxic to a species, it may not decline after a spill because its predators respond even more strongly. Others have found that fish populations didn't really decline after the Deepwater Horizon oil spill, so I'm trying to test possible reasons why.

What is your educational background?
I have a B.A. in math with a minor in environmental studies from Carleton College in Minnesota and a Ph.D. from the Quantitative Ecology & Resource Management program at the University of Washington.

What inspired you to become a scientist?
My parents are both scientists, and always encouraged me to ask questions growing up. I also loved spending time outdoors, especially on annual father-daughter backpacking trips. When I was in high school, I taught forest ecology to middle school students, and that piqued my interest in ecology and made me want to learn more. In college, I really enjoyed the math classes I took, and then realized how much math was in ecology.

Can you describe what you enjoy the most about conducting scientific research?
I like the opportunity to better understand how the world works, and use that understanding to try to balance the needs of ecosystems and people. I really enjoy working out puzzles, whether it's about understanding who's eating who, how to translate ecology into sets of equations and then back again, or simply figuring out how to get my computer code to do what I want. I also like that I get to do all of this with lots of other smart and curious people.

The Coastal Waters Consortium's mission is to assess the chemical evolution, biological degradation, and environmental stresses of petroleum and dispersant within Gulf of Mexico coastal and shelf ecosystems.

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