

Project Spotlight



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What is the topic of your research within the CWC?

My research investigates the lasting effects of oil spills on the Marsh Rice Rat, which is a semiaquatic small mammal native to the coastal marshes of the Eastern U.S. We believe the Rice Rat is particularly at risk for exposure to contaminants due to its natural habits and diet. We are exploring changes in gene regulation and variation, as well as susceptibility to disease.

What methods are you using to answer your questions?

We have been trapping Rice Rats since 2013 at several sites in Plaquemines Parish, LA, collecting mark-recapture data, and blood and tissue samples. Samples are brought back to the lab for DNA extraction, processing, and analysis.

What results have you gotten thus far?

Although Rice Rat data is still pending, a recently published paper from our project (Bonisoli Alquati et al. 2016) demonstrated the incorporation of oil into the diet and tissues of another terrestrial vertebrate species, the Seaside Sparrow. We hope our work with the rice rats will shed further light on the connection between oil spills and land-dwelling species.

Did any of these results surprise you?

Still pending.

What are the next steps in your research?

Coming up in March is the beginning of our next field season where we will continue collecting data and samples for our long-term dataset. In the lab, next steps will include screening blood serum samples for disease and beginning to extract DNA from Marsh

What are the "big picture" implications of your study?

We hope that our research will help clarify the Interactions between pollution, genetic variation, and disease, which could be extrapolated to other pollution events, both locally and globally.

