

## Poster #10

### **Anecdotal evidence of Reproductive Abnormalities in Louisiana Estuarine Species**

Jennifer V. Lasseigne, Justin Getzinger, Jessica Occhinero, Lois Nelson, Gary LaFleur, Jr

Biological Sciences, Nicholls State University

Louisiana is currently losing an acre of coastal wetlands every 30 minutes. To reverse this natural disaster, large-scale restoration activities are being proposed which will divert water and sediments from the Mississippi River to the nearby swamps and marshes of the Barataria-Terrebonne National Estuary. A persistent question is whether these water diversions will introduce endocrine disrupting agents that will adversely affect the aquatic fauna of the estuary. To address this our lab has begun sampling fish and amphibians from the estuary to assess reproductive health and provide a basis for comparisons before and after diversions are opened. We are complimenting our anatomical analyses with efforts to develop biomarkers for oogenesis that will provide molecular indicators of estrogen induction. So far our vitellogenin and choriogenin biomarkers have been successful in amplifying orthologous cDNAs in several estuarine species including the saltwater teleost *Fundulus grandis*, the freshwater teleosts *Fundulus chrysotus* and *Gambusia affinis*, and the amphibians *Bufo valliceps* and *Amphiuma tridactylum*. Our preliminary surveys have uncovered the male synthesis of female biomarkers in both *Gambusia* and *Amphiuma*, with one *Rana* specimen showing signs of testicular abnormalities. In conclusion, our RT-PCR methods for amplifying reproductive biomarkers has provided us with material for comparative studies in reproduction as well as a method to assess reproductive health of estuarine animals. By combining molecular methods with field surveys and anatomical examinations we are making progress toward a characterization of reproductive health in this group of elusive estuarine inhabitants. Funding was received from NOAA, USGS, and La BoR.

jennlynn@atvci.net  
985-448-4715  
985-493-2496