**Developing a focused, quantitative food web model of Louisiana salt marshes to explore ecological questions**

**Background:**

The McCann *et al.* (2017)publication that is already a product of CWC II funding generated a food web model of Louisiana salt marshes that helped to determine which marsh species are critical components of the food web by enumerating the trophic interactions each species has with other marsh species. The work found that blue crabs (Callinectes sapidus) are by far the most well-connected trophic group in the marshes; virtually every other species is either a predator or prey of blue crabs. However, in order for blue crab to be a true keystone species, it must be *strongly* connected to many other marsh species. CWC II has now generated an abundance of biomarker data that can help to quantify strength of interactions, rather than mere presence-absence, as the initial model does. Because blue crabs support one of Louisiana’s largest fisheries, understanding blue crabs’ importance in the marsh food web can be a first step in quantifying tradeoffs between harvest and conservation of the species. [or delete last sentence if it’s too focused?]

We are requesting funding to conduct a three-day workshop at Rutgers University Marine Field Station (Tuckerton, NJ) with the participants listed below to (1) better quantify the centrality of key species such as blue crabs in salt marsh ecosystems (2) begin development of a predator-prey model or limited food web model comprising approximately three functional groups to answer ecological questions about salt marsh ecosystems (3) synthesize insights gained on marsh food webs during and as a result of CWC II (i.e., since last workshop) into manuscript draft, and (4) discuss future directions for marsh food web work that could occur during CWC III

**Objective:** To develop a taxonomically constrained food web model that makes use of CWC II biomarker data

**List of CWC participants:**

Olaf Jensen, Paola Lopez-Duarte, Kiva Oken, Jill Olin, Craig Osenberg, Mike Polito, etc.

**List of possible outside participants and their expertise:**

Kim de Mutsert, Sarah Gaichas, Alida Bundy, Jameal Samhouri, Marc Mangel, [spitting names here]

**Date and Location:** Three days in Winter 2017-2018 (2018 pending no-cost extention) at the Rutgers University Marine Field Station (Tuckerton, NJ) with two additional days for travel

**Budget:** $8000 (travel and accommodations for ~14 participants during the workshop)

**Products:**

* Preliminary food web model that accounts for interaction strengths
* Manuscript draft
* Short article for the GoMRI newsletter