Undergraduate Research Position Opportunity: Interactions among horseshoe crabs and intertidal oyster farms in the Delaware Estuary.

Project Summary: Shellfish aquaculture is viewed as a green and sustainable food-production industry. In New Jersey, oyster farming is concentrated in small portion of the Cape Shore, an area also used by red knots (*Calidris canutus rufa*), a bird recently federally listed as 'threatened', and horseshoe crabs (*Limulus polyphemus*) during spring migrations. A major data gap currently exists regarding possible interactions among farms and these iconic wildlife species. In particular, concern has been raised about the ability of horseshoe crabs to traverse intertidal rack-and-bag oyster farms to reach their spawning habitat, and how farms may alter shorebird foraging patterns and opportunities. Our primary goal in this project is to assess the ability of crabs to move around and among oyster farms to mate and spawn. The data generated will inform ongoing management discussions regarding wildlife management and farm regulations.

When: Spring 2018, before the crabs return. They typically return to spawn mid-May.

Where: Experiments and surveys will be conducted at the Cape Shore Research Lab, a factility located along the bayshore near Cape May, NJ.

What: Duties will include conducting experiments to test the ability of crabs to transit oyster farm equipment, and doing transect surveys of local farms to count number of crabs on and inshore of farms. Most of this work will be outside on intertidal mudflats, or in a seawater laboratory. Some physical work will be required. The student will be trained in experimental design, data collection, database management and preliminary statistical analysis.

A male crab walks towards an oyster rack with the Cape Shore lab in the background (left), and crabs surround racks with oysters in an intertidal slough on the Cape Shoreflats (right).

Interested Applicants: Please send a resume and short (2 paragraphs max) expression of interest to project PI Daphne Munroe (dmunroe@hsrl.rutgers.edu)