**Disease Ecology of the Parasite *Hematodinium perezi* in the Maryland and Virginia Coastal Bays**

Lycett, KA1

1Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne, MD 21853

Chung, JS2 and Pitula, JS1

2 University of Maryland Center of Environmental Sciences at the Institute of Marine and Environmental Biotechnology, 701 E Pratt St, Baltimore, MD, 21202

[kalycett@umes.edu](mailto:kalycett@umes.edu), [chung@umces.edu](mailto:chung@umces.edu), [jspitula@umes.edu](mailto:jspitula@umes.edu)

The blue crab makes up one of the largest commercial crustacean fisheries in the US yet recent population levels have fluctuated and annual catch has declined. These fluctuations are likely the result of many factors including mortality due to infections by *Hematodinium perezi*, a dinoflagellate parasite. In conjunction with the National Park Service and the Maryland Department of Natural Resources, we are conducting a long term study monitoring *H. perezi* within the Maryland and Virginia Coastal Bays. Through qPCR, we are able to identify parasite DNA in environmental samples and crab tissues. Our environmental data showed similar trends in water column abundance of parasite DNA between 2014 and 2015, with spring and summer peaks. We also saw similar trends in infection between both years, with infections peaking in August and tapering off in the fall. Previous studies have suggested smaller crabs have higher infection rates, though our data shows the opposite. This may have more to do with molting than size, so samples were assayed for molt hormone levels to investigate this relationship. Ultimately, improved knowledge of this disease system can be used to better manage the blue crab population and fishery.