Feb 13th, 9:00 AM - Jan 13th, 10:00 AM

Oral Concurrent Session I: Biological Sciences I: Birds, Ticks, and Algae

Eric Walters
Old Dominion University

9:00-10:00 AM (ROOM 1310)
Biological Sciences I: Birds, Ticks, and Algae
Chair: Eric Walters

Diet Components of Waterfowl Wintering in Virginia
Anderson Miller (Mentor: Dr. Eric Walters)

Understanding the diets of waterfowl is critically important to the preservation and conservation of waterfowl on the eastern coast of Virginia. Diets of waterfowl have been intensely studied over the past century but the diets of Mallards (*Anas platyrhynchos*), Gadwalls (*Anas strepera*), and Canada Geese (*Branta canadensis*) have not been studied in southeastern Virginia, an important wintering stopover area for migrating waterfowl. The most common seed species found in all samples was Pennsylvania smartweed and Smith's bulrush. Waterfowl have high nutritional demands when migrating and a higher preference for natural grain because of its high carbohydrate and mineral content.

Survival Rate of Ambylomma americanum In Subzero Temperatures
Duke Kunzler (Mentor: Dr. Holly Gaff)

The predominant hypothesis is that ticks will survive more readily with snow cover than without if exposed to the same freezing temperatures. *Amblyomma americanum* were placed in microclimates and kept inside a freezer for up to seven days. The experimental groups without snow survived at a significantly higher rate than groups with snow.

Identifying the Plant Communities Preferred by Tick Species in Hampton Roads, Virginia
Leo Notto (Mentor: Dr. Holly Gaff)

Tick borne disease is the number one cause of vector borne disease in the United States. Understanding tick habitat is key to avoiding contact with disease. This study focused on mapping tick population density, herbaceous ground cover, and plant diversity on three different trails in Southeastern Virginia in the summer of 2015. Understanding how different tick species utilize plant communities will be important knowledge in the fight to prevent diseases.

Algal Community Composition and Water Quality in an Urban Tidal Tributary
Kathryn Wiesner*, W.S. Millman, and G. Clardy (Mentor: Dr. T.A. Egerton)

Knitting Mill Creek is an urban sub-tributary of the Lafayette River in Norfolk, VA prone to algal blooms and water quality impairments. Bloom initiation and phytoplankton succession were assessed by collecting water samples 2-3 times per week from May through August, 2015. Physical and chemical parameters (water, temperature, salinity,

pH, dissolved oxygen, Secchi depth, chlorophyll fluorescence, total nitrogen, and total phosphorus) were measured along with analyses of algal species composition. Significant heterogeneity in vertical structure was detected, with subsurface Chla 2-3x surface concentrations in some cases, indicating limitations of traditional surface monitoring. A total of 48 phytoplankton species were identified in Knitting Mill Creek during the study, dinoflagellates were the dominant group present, and among the dinoflagellates observed was the harmful algal bloom (HAB) forming species, *Cochlodinium polykrikoides. Cochlodinium* is responsible for extensive blooms throughout the lower Chesapeake Bay region when water conditions are favorable. *Cochlodinium* was present in Knitting Mill Creek for 10 weeks with peak blooms occurring mid-June, mid-July, and early August followed by a decrease in biomass. Further applications of this study could be used to monitor other urban tributaries to assess water quality based on algal species composition dominated by species that cause harmful algal blooms.