INVESTIGATING ANTIMICROBIAL PROPERTIES OF ATLANTIC WHITE CEDAR BARK EXTRACT. Alyssa Wilkinson & Janet C. Steven, Organismal and Environmental Biology, Christopher Newport University. Novel compounds for antibiotics are constantly in high demand, as bacteria evolve quickly and develop resistance to existing antibiotics. Many antibiotics come from the microbial natural products of actinomycetes (gram-positive soil microorganisms), fungi, and bacteria. Plants have been used in naturopathic medicine to cure ailments throughout history. Yet, their antimicrobial properties have not been capitalized upon for the creation of antibiotics, likely due to their complexity. Various conifers have been found to possess antimicrobial properties in their essential oils. The Atlantic White Cedar (AWC) tree is a conifer species that comprises a globally threatened ecosystem, AWC forests. The tree’s antimicrobial properties have not been studied in-depth before; to investigate these properties, compounds from the AWC bark were extracted and tested on strains of gram-positive and gram-negative bacteria using the Kirby-Bauer disk diffusion method. Initial results indicate weak antibiotic activity at low concentrations of steam-distilled essential oils. The study expands current knowledge of Atlantic White Cedars and their antimicrobial properties, leading the way for further research on this species and its unique compounds. As well as providing insight into its usefulness for antibiotic development, it is hoped that researching the tree’s properties can bring public awareness to the need for AWC forest conservation efforts. This work was funded by a VAS Undergraduate Research Grant to A.W. Author contact: janet.steven@cnu.edu.