

MS Thesis
Department of Environmental Science and Policy
College of Science
George Mason University

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Defense Date and Time: November 16, 2021 at 10:00 am

Defense Location: Johnson Center (Contact esgrad@gmu.edu for details)

Title: Water quality in a suburban stormwater pond: a continuous monitoring study

Thesis Director: Dr. R. Christian Jones

Committee: Dr. Karen Akerlof, Dr. Diego Valderrama

ABSTRACT

Stormwater ponds are not considered state waters under the Clean Water Act and remain an understudied area in aquatic ecology. These ponds are often assumed to be well-mixed, but they have been shown to experience eutrophication, which allows harmful algae to flourish, ultimately impacting both human health and ecosystems. To better understand the water quality of stormwater ponds, the seasonal and diel water quality patterns of the Potomac Science Center stormwater pond were discerned using weekly depth profiles, continuous monitors, light profiles, and local weather stations from July through October of 2020. Water samples were also collected for analysis of total suspended solids, chlorophyll a, and phytoplankton taxa.