

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

Candidate: Ryan McIntyre

Defense Date and Time: November 7, 2024 at 6:00pm

Defense Location: Potomac Science Center, Room 3102

Title: Phenology of Two-Horned Water Chestnut Following Three Management Strategies: Herbicides, Harvesting, and Water Level Drawdown

Thesis Director: Dr. Cynthia Smith

Committee: Dr. Joshua Davis, Dr. Nancy Rybicki

ABSTRACT

Two-horned water chestnut (*Trapa bispinosa*) is an invasive freshwater macrophyte recently introduced to the DC Metro region. Several groups are working to control the plant, each using a different methodology. This study developed a standardized monitoring protocol to establish the effectiveness of each management technique, including manual harvesting, herbicide application, and water level drawdown. Plots treated with manual harvesting or the herbicide Flumioxazin were able to recover and still have mature fruits by the end of the growing season. Water level drawdown and the herbicide Fluridone yielded 0% cover in experimental plots by the end of the season.