

## RESPONSE OF GARLIC MUSTARD (*ALLIARIA PETIOLATA*) AND FOREST UNDERSTORY TO HERBICIDE AND PRESCRIBED BURNING

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Biological invasions of exotics are potentially disrupting and costly to native ecosystems. Invasive and exotic species may negatively affect a community by leading to decreases in population numbers, increases in species extinctions, or altering ecosystem function (Mooney and Drake 1986; Vitousek et al. 1996). The effects may be brought about by several factors, including increased competition pressures, predation, disease, or amensalism (Williamson 1996). One such invasive, garlic mustard (*Alliaria petiolata*), has been increasing in numbers in many midwestern habitats. Due to high propagule pressure and ability to thrive in a wide variety of sites, garlic mustard can degrade sites quickly if left unchecked. Methods to eradicate garlic mustard have produced varied results, with herbicide and prescribed burning the most effective. The study areas utilized for this project are located at Martell Forest, a Purdue University owned property in Tippecanoe County. Two study areas are used, and plots are established prior to treatments. Plots are 20 X 20 meters in outside diameter, and contain an inner 10 X 10 meter sampling and treatment area. For the herbicide and burn treatment area, the plots are divided in half, and treatments of herbicide or burn/no burn will be randomly assigned to either half. Arsenal® and Plateau® will be applied in several concentrations to the herbaceous layer, and separate burn events will take place in the study plots. Data collected on the mortality and regeneration of the garlic mustard and native vegetation after treatments will be integral to developing a long term management goal.

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