

SPATIAL DISTRIBUTION OF *ACER NEGUNDO*
IN PROXIMITY TO A WATER SOURCE IN A FLOODPLAIN FOREST

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ABSTRACT

Acer negundo, also known as boxelder, is a floodplain forest species. Its natural range is across the North American continent. The growth of individuals boxelder is affected by the proximity to a water source, if proximity to water affect the establishment or distribution by age of the *Acer negundo* community, if *Acer negundo* has a propensity to cluster, and if the growth of an individual affected by the proximity of others is the grouping. The study was located at Nahant Marsh, Davenport, Scott County Iowa. GPS locations of each boxelder were taken with a Garmin GPSmap 76 unit using NAD83 UTM Zone 15 coordinate system and mapped in ArcGIS 9.3. The core samples taken from the individuals were examined using a Velmex microscope and COFECHA. This study found that there are no significant differences from proximity to water on annual growth, age, and diameter at breast height or dbh. Clustering patterns within the population were attributed to the multiple stem nature of the species, and possibly due to light availability on the forest floor during seedling establishment. This spatial pattern causes intra-specific competition that typically causes a reduction in annual radial growth as the trees age and require greater resources for current needs and increase growth.