

KIRKHOF CENTER 2263

*Using GIS to Optimize Plant Diversity and Habitat Suitability*

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Landscapes rich in plant diversity are aesthetically pleasing and minimize risk of loss from disease and insects. GVSU has an ongoing tree project aimed at achieving these goals. Prior work began the process of identifying species and collecting data for height, diameter and global positioning system coordinates for location. The current study builds on this work, collecting information for maple and oriental pear trees. Also, observed limb cracks, breaks or other injuries which affect tree health or present safety hazards were recorded. Unique to this study is the use of digital photography and image processing software to create new tree layouts with different tree species, allowing the campus arborist to visualize how existing landscapes would look with the addition of new tree species. This process will give the ability to conceptualize various tree plantings.