

SAMUEL HARBOL

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7711 Deerfield Drive
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EDUCATION

- MS** Cleveland State University, Environmental Science August 2021
Thesis: "Forest Management Opportunities at Working Woods at Holden Arboretum"
Advisor: Dr. Kevin Mueller
- BS** Saint John Fisher College, Biology May 2016
Graduated Cum Laude
Minored in Sustainability

RESEARCH EXPERIENCE

- MS Thesis**, Cleveland State University, Cleveland OH 2018-2021
Advisor: Dr. Kevin Mueller
- Chapter 1: Forest Canopy Structure Response to Less Intense Management
 - Focused on forest canopy measurements using hemispherical photography and LI-COR LAI 2200C measurements.
 - Chapter 2: Girdling as a Treatment for Promoting Tree Growth
 - Focused on dendrometer and diameter at breast height measurements aimed at monitoring growth response.
- Saint John Fisher College**, Rochester NY 2015 to 2016
Undergraduate Research Project
Advisors: Dr. Kaitlin Bonner and Dr. Michael Boller
- Analysis of the Genetic Variation of *Daphnia*
 - Performed field plankton collection and laboratory PCR and gel electrophoresis.

TEACHING EXPERIENCE

- Cleveland State University**, Cleveland Jan 2019 to Aug 2021
Teaching Assistant, Biology, Geological, Environmental Sciences
- Taught Human Biology Lab, an undergraduate nonmajor course averaging 40 students per semester, covering the following topics: human anatomy, enzyme function, microscopy and scientific measurements.
 - Taught Introduction to Biology Lab, an undergraduate major introduction course averaging 40 students per semester, covering the following topics: Graphing and quantitative techniques,

- Developed quizzes on lab material.
- Graded weekly quizzes and lab reports for scientific understanding and English writing conventions.
- Worked with supervising professor and 4 additional teaching assistants to assess student knowledge retention.

PRESENTATIONS AND INVITED LECTURES

Poster Presentation, “Effects of Forest Management on Tree Growth in a Post-Agricultural, Secondary Forest in Northeast Ohio,” 2021 Midwest Great Lakes Society for Ecological Restoration Chapter Meeting, April 27th 2021.

Poster Presentation, “Effects of Forest Management on Tree Growth and LAI in a Post-Agricultural Forest in Ohio,” Society of American Foresters 2020 National Convention, Date.

HONORS AND AWARDS

2nd place: 2020 NESOWEA Student Design Competition, Cleveland State University
Awarded for an Environmental Practicum course in presenting environmental design solution for a seasonal flooding issue.

Dean’s List, Saint John Fisher College 2015-2016
Awarded for 3.5 GPA or higher per semester. Awarded during the following semesters
Fall ’12, Fall ’14, Spring ’15, Fall ’15, Spring ’16.

SKILLS

Field Methods (in NY, and OH)

- Measuring tree growth using DBH tape and dendrometer bands
- Measuring forest canopy structure using hemispherical photos and LI-COR LAI 2200C
- Plant community assessment (e.g. quadrant method)
- Tree health assessments (e.g. physical damage assessment, form assessment)
- GIS application and navigation

Laboratory Methods

- Soil texture analysis hydrometer method
- LAI analysis using FV-2200 software
- Gap Light Analyzer for canopy openness measurements from hemispherical photos
- Gel electrophoresis
- DNA amplification using PCR

Statistics

- Collection and assembly of multiple large datasets using Excel and R Studio.
- Analysis of datasets using R studio functions for linear regression, multiple linear regression, ANOVA and ANCOVA models.