
Abigail Guinan

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Contact Info

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EDUCATION

University of Massachusetts Amherst

B.S., Biology & Natural Resources Conservation (Double Major), Expected Spring 2022

Commonwealth Honors College

Cumulative GPA: 4.00

RESEARCH EXPERIENCE

Integrated Concentration in Science (iCons) Member

Spring 2019 - Present

College of Natural Sciences

UMass Amherst

- Organized and led team project to model energy impacts of implementing green roofs on campus buildings at UMass Amherst
- Developed procedures to test for BPA presence in plastic products
- Collaborated with a team to produce a mathematical model to measure frog populations over time in response to climate change

how do i describe myself doing my thesis here

August 2021 - Present

Environmental Conservation Department

UMass Amherst

- Analyzed USFS survey data for plots containing silver maple and associated species in R
- Began developing a GIS project to associate silver maple communities with climatic conditions, generate planting recommendations

Research Assistant

Spring 2019 - Winter 2021

Environmental Conservation Department

UMass Amherst

- Conducted statistical analysis of river herring otoliths to determine relationship between extraction site and growth rate
- Assisted in measurement and analysis of river herring otoliths using ImageJ
- Used microscopy procedures to identify fish species and extract otoliths
- Reported results and project updates at bi-weekly lab meetings

WORK EXPERIENCE

Invasive Species Intern

June 2021 - August 2021

US Fish & Wildlife Service

Colville, WA

- Surveyed 309.5 acres for invasive plant species and compiled into intuitive ArcMap record
- Completed 5500 entries of bird observations and created a new database with 900 trail camera observations in Microsoft Access
- Used herbicides and mechanical removal to manage 102 acres of invasive species

Save the Bees Campaign Coordinator

September 2019 - May 2021

MASSPIRG

UMass Amherst

- Developed and executed a semester-long campaign plan using student volunteers to certify UMass Amherst as bee friendly under Bee Campus USA requirements
- Collaborated with landscaping department to host awareness events and implement pollinator workshops
- Organized and directed team in collaboration with Permaculture Initiative to research and construct a native pollinator hotel on campus

Franklin Permaculture Garden

September 2018 - Present

UMass Amherst Permaculture Initiative

UMass Amherst

- Developed and applied skills in horticultural techniques including propagation, seed collection, weeding, pruning, composting
- Assisted and instructed students in completing horticultural tasks, independently held instructional sessions for students to learn to complete tasks in garden

Historical Horticulture Internship

June 2019 - August 2019

Plimoth Plantation

Plymouth, MA

- Developed a GIS-based map to be used for invasive removal and native species restoration accompanied by a separately developed Excel database of native plants and appropriate growing conditions
- Independently surveyed soil and planting conditions for native species site suitability analysis
- Managed horticultural spaces for aesthetic and ecological purposes

Save the Bees Intern

September 2018 - May 2019

MASSPIRG

UMass Amherst

- Spearheaded pollinator garden initiative cooperating with landscaping department and permaculture to develop new pollinator-friendly spaces on campus
- Independently synthesized a catalog of native species to select for use as pollinator species on campus
- Organized and directed a group to draft a proposal persuading landscaping and administration to permit the construction of a new pollinator garden

Mount Warner Reservation, Hadley, MA

September 2018 - December 2018

Trustees of Reservations

Hadley, MA

- Participated in invasive species identification and removal within the reservation site
- Contributed to trail maintenance, development of flood diversion paths and smoothed over rough terrain, improved trail visibility

SKILLS

- Experienced in ImageJ
- Proficient in R, Java, HTML, Microsoft Office Suite, Google Suite, ArcGIS online, ArcGIS pro, ArcMaps
- Basic proficiency in Python