Yale SCHOOL OF THE ENVIRONMENT

New Haven Promise Internship 2024
Evaluating the Impacts of Emerald Ash Borer Infestation in Connecticut
PIs: Marlyse Duguid (YSE), Sara Kuebbing (YASSP/YSE)

June 3rd – August 2nd 2024 (start and end dates/weekly schedule flexible)
Schedule: Monday – Friday ~8:30am – 4:30pm (Dates and times may be flexible depending on weather.)

Note: This internship takes place predominantly outdoors. Candidates should be comfortable walking over uneven terrain and should be comfortable being outdoors for extended periods of time including in adverse weather conditions (heat, rain, etc.). Additionally, the field assistant will need to be comfortable in remote environments and diverse neighborhoods (always as part of a research team and never alone). The ideal candidate will be organized, adaptable, and have an interest in forest science or ecological fieldwork.

Seeking an individual interested in forest dynamics and ecology to assist in field and laboratory work across Connecticut (CT). This work is part of a long-term monitoring project evaluating the impacts of emerald ash borer (EAB) infestation on forest composition and successional dynamics in Northeastern deciduous forests. All fieldwork will be conducted in forested areas across CT in collaboration with researchers from the Connecticut Agricultural Experiment Station (CAES) and the CT Department of Energy and Environmental Protection (DEEP) from June–July 2024. All laboratory work will be conducted in Greeley Memorial Laboratory in New Haven, CT from June–July 2024.

Project Description: Within forested ecosystems worldwide, novel "invasive" insect infestations have expanded and can cause a cascade of adverse economic and ecological effects. The invasion of North America by the emerald ash borer (EAB, *Agrilus planipennis*) is one of the most pernicious forest insects to afflict the continent in recent history and has fundamentally changed the forests of Connecticut over the past decade. Significant knowledge gaps regarding how EAB affects rural and urban forests in the Northeast reflect a need for additional research. We will establish a collaborative network of permanent long-term forest monitoring plots across rural to urban gradients in EAB-affected Connecticut forests in collaboration with CAES, DEEP, and the city of New Haven. At each plot we will collect current baseline vegetation and ecosystem data on EAB-affected forests across Connecticut. This includes measuring metrics of overstory structure and composition, including the identity and diameter distribution of live canopy trees and snags, and the health condition of all ash trees. We will

also collect data on midstory composition and structure (shrubs and saplings), groundstory composition and abundance, groundstory light availability, soil cores for laboratory analyses indicative of carbon and nitrogen availabilities, and publicly available climatic and geospatial data from the Center for Land Use Education and Research at the University of Connecticut. By identifying the impact of EAB in both rural and urban areas, we aim to inform ecological management strategies and contribute valuable insights to urban planning.

Duties: The intern will work as a field research assistant with the primary investigators in all aspects of
data collection. This includes locating appropriate plot locations for permanent establishment, identifying, and measuring trees and other forest vegetation, and collecting soil samples. The field assistant will be responsible for data entry in the field and for organizing field equipment. Depending on the field assistant's interests they may also help with soil sample processing in the laboratory and data analysis.

Preferred Skills and Competencies:
• Comfort walking over uneven terrain and being outdoors for extended periods of time including in adverse
weather conditions (heat, rain, etc.).
• Good communication and teamwork skills.
• A positive outlook and interest in learning plant identification.
• An attention to detail and organized.
• Willingness to travel long distances in the car with the field team to sites.
• An interest in learning field skills in navigation and ecological measurements.
• Proficiency with Microsoft Excel and data management