

**New England Botanical Society
Graduate Student Research Award
2022 AWARD WINNER**

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**Conservation and restoration of *Lupinus perennis*,
a keystone pine barren pioneer**

Pine barren ecosystems are rare and disappearing along with the threatened and endangered species that call them home. *Lupinus perennis*, commonly known as wild blue lupine or sundial lupine, is one such species facing declines across its native range owing to habitat destruction and fragmentation. To effectively conserve remaining *L. perennis* populations in New England, the current state of the species must be assessed and guidelines for restoration efforts must be developed. I will use modern population genetic approaches to provide critical information for conservation of the species' most vulnerable populations. I will use these data to assess the need for *L. perennis* population genetic exchanges, augmentations, and restorations and will provide habitat managers with personalized information on compatible seed sources to effectively carry these out. The results from these analyses will provide critical information for the conservation of current *L. perennis* populations and support the active healing of fragmented pine barren and oak savanna ecosystems. As such, I will work closely with habitat managers and state Fish and Wildlife Departments to ensure translation of these recommendations into management practice whenever possible. Further, this research presents an opportunity for integration into recovery plans for species dependent on *L. perennis*, like the federally endangered Karner Blue Butterfly and the state endangered Frosted Elfin Butterfly.

The New England Botanical Society offers awards of up to \$3,000 to graduate students to support botanical research. The awards encourage and support botanical research on the New England flora (plants, algae, and fungi), including support for field, lab, and herbarium work, as well as travel to New England by those who would not otherwise be able to work in the region. The awards are made to the graduate student(s) submitting the best research proposal dealing with systematic botany, plant ecology, genetics, plant conservation biology, or related fields pertaining to the New England flora.