**Land Management, Monitoring, & Restoration Student Internships**
**Final Report**

During the summer of 2025, the Calder Center , Fresh Air Fund, Hudson Highlands Land Trust, and Vassar College hosted a collaborative program that trained six interns. The internships focused on invasive species management, monitoring, restoration, and outreach.

The interns identified and mapped populations of invasive species that are a high priority at individual sites and/or regionally. They worked to implement invasive species management plans in high priority conservation areas using best management practices and monitored the response of those populations to management. The interns also monitored populations in impacts of forest pests such as the spotted lantern fly, emerald ash borer, and beech leaf disease.

Throughout the internship they worked to educate the general public and targeted audiences about invasive species through social media posts, direct engagement, presenting at a PRISM meeting, and by creating videos.

This program created connections across the region that enabled the interns and host sites to serve as resources for each other. The internship marked the seventh summer of science-based invasive species across 3,300 acres of preserved land.

**Vassar College (VC)**

The two interns that are stationed at Vassar, Anna McFadden and Vera Boradowsky began work on May 29, 2025. They received training in GIS, GPS, plant identification, and insect identification. They studied an identification guide for emerging invasive plants to prepare themselves for surveying.

The first half of their internship focused on preparing for the Invasive Strike Force by conducting a broad survey of greenspaces to detect populations of Tier 2 and Tier 5 species. They revisited locations where emerging invasive management has occurred over the past 3 years and mapped remaining populations of *Acer pseudoplatanus* (sycamore maple)*, Akebia quinata* (chocolate vine), *Dioscorea batatas (*Chinese yam), *Kalopanax septemlobus* (castor aralia)*, Populus alba* (white poplar), *Symplocos paniculata* (sapphireberry)*, Syringa reticulata* (Japanese tree lilac), and *Viburnum dilatatum, Viburnum plicatum,* and *Viburnum sieboldii*.

They also visited the site of Tier 2 species (*Koelreuteria paniculata* [goldenraintree], *Sophora japonica* [Japanese pagoda tree]; Tier M species (*Cercidiphyllum japonicum* [katsura tree], *Styrax japonicus* [Japanese snowbell]); and Tier 3 species (Miscanthus sinensis [Chinese silvergrass] but did not find additional individuals.

The interns' work supported the management of early emerging invasives and protected conservation targets. While surveying, they managed emerging invasives at the time of discovery whenever feasible. They assisted the Invasive Strike Force with the management of populations of *Acer pseudoplatanus, Akebia quinata, Dioscorea batatas, Kalopanax septemlobus, Kolkwitzia amabilis, Populus alba, Sorghum halepense, Symplocos paniculata, Syringa reticulata, Viburnum dilatatum, Viburnum plicatum,* and *Viburnum sieboldi.* The interns helped to make space for a population of nodding trillium (*Trillium cernuum*) by regularly managing the common invasives in the vicinity.

In addition to surveying and mapping the high priority invasive species, the interns worked on several monitoring projects. They completed pretreatment vegetation surveys at sites where management occurred. They deployed spotted lantern fly traps and monitored them weekly.

The interns organized a volunteer day at the Preserve with other LH PRISM interns. They managed the water chestnut (*Eleocharis dulcis)* in Sunset Lake at the center of Vassar's main campus. The management activity gained a lot of attention and the interns answered questions from interested people passing by.

The interns helped to educate and create awareness about invasive species using a variety of platforms. They created content for 6 posts for our Eco_VC instagram account and created an educational video about water chestnut removal. They directly connected to the broader community by setting up a table at the Poughkeepsie Farm Project distribution. They educated community members about invasive species and informed them about our neighborhood invasive management program. They distributed native pollinator plants that were grown from seed collected on the Preserve. They also completed a site visit to a nearby property,

compiled a report detailing the invasive plants they found, and made native planting recommendations.

**Hudson Highland Land Trust (HHLT) & Fresh Air Fund (FAF)**

Kicking things off in mid-June, Land Management Interns Tim and Labibah served jointly with the Hudson Highlands Land Trust (HHLT) and the Fresh Air Fund (FAF), contributing to invasive species management, community outreach, and ecological monitoring projects across Granite Mountain Preserve, Humble Bee Hollow, and Sharpe Reservation. Their work embodied the collaborative mission of the LHPRISM internship, combining hands-on restoration with public education and long-term monitoring to advance regional forest health.

Tim and Labibah led 8 volunteer invasive removal days at HHLT preserves, engaging a total of 11 community members in manual removal of common species such as black swallow-wort (*Cynanchum louiseae*), bittersweet (*Celastrus orbiculatus*), Burning-bush (*Euonymus alatus*), Japanese barberry (*Berberis thunbergii*), and mugwort (*Artemisia vulgaris*). These volunteer events resulted in immediate visible improvements to site health and provided participants with practical conservation experience. The interns also conducted surveys to locate infestations of black swallow-wort and other aggressive invaders at Granite Mountain, contributing to site-specific management mapping.

A major accomplishment of the season was the establishment of a Lingering Hemlock Monitoring Plot at Granite Mountain Preserve. This long-term data collection effort will contribute to regional and national understanding of hemlock health, resistance, and potential treatment strategies. The interns also reviewed Hudsonia's Best Management Practices for priority invasive species and supported the implementation of manual management techniques tailored to HHLT's restoration goals.

To strengthen public awareness around invasive species, the interns developed a suite of creative educational materials. They designed an interactive game illustrating the real-world challenges of invasive species management and facilitated the game for camp groups at Sharpe Reservation. Tim and Labibah also had the opportunity to showcase their game while leading an outdoor program at the Desmond-Fish Library in Garrison, NY titled "*Invasive Species: Exploring Paths of Entry."* Additionally, Tim and Labibah created engaging tabling materials such as a recipe card for wineberry popsicles and a pamphlet comparing identification and reporting apps like iMapInvasives and Seek. These materials were showcased at outreach events including the Putnam County 4-H Fair, where they connected with visitors of all ages to promote stewardship and ecological literacy.

Both interns noted that direct engagement with the public, from volunteer events to tabling and educational programming, was among the most fulfilling aspects of the internship. They

highlighted the strong sense of community surrounding HHLT's preserves, where conversations with visitors reinforced the connection between people and the land.

Throughout the internship, Tim and Labibah participated in cross-site collaboration through the LHPRISM network, including a presentation at the July PRISM meeting. They worked closely with staff from HHLT, FAF, and partner organizations such as Wild Woods Restoration, gaining mentorship from professionals in the conservation field. They also took part in native plant potting-up days, expanding their knowledge of restoration planting and seed propagation.

In their self-evaluations, both interns emphasized the program's impact on their career growth, noting the development of practical field skills, plant identification expertise, and confidence in public engagement. They also provided thoughtful feedback for future program improvements, such as updating field tablets for better software compatibility and offering early-season invasive species identification training to streamline onboarding.

**Louis Calder Center (LCC)**

The PRISM interns, Karina Wesner and Angel Moreta Jr., at Calder began their internship on 9 June 2025. In the first week, they were trained in plant identification of both natives and non-natives, iMapInvasives, GPS and field sampling. Other resources on invasive species management, such as the NYS invasive tier, were made available to them for use. In the following weeks, the interns were involved in the following projects and tasks:

1. Monitoring and Reporting invasive species: The interns used iMapInvasives to identify high priority species in LH Tier 1 and Tier 2 categories that were reported within a 2km radius of Calder. They developed a sampling plan to survey edge habitats at Calder using a 1m x 1m grid and recorded every 20 meters. They recorded and mapped the distribution of Tier 2 species such as *Sorghum halepense* (Johnson grass) and *Brachypodium sylvaticum* (Slender False Brome), and others such as *Persicaria longiseta* (Oriental Lady's Thumb) and *Lolium arundinaceum* (Tall Fescue). The interns also set up 4 spotted lanternfly traps around Calder and collected samples weekly.

2. Invasive species removal and management: The interns also maintained and managed the pollinator garden at Calder by removing mugwort (*Artemisia vulgaris*), Japanese knotweed (*Reynoutria japonica*) and chocolate vine (*Akebia quinata*) weekly. The interns also continued testing several best management practices for mugwort that was initiated by the 2024 PRISM interns. Other invasive species such as the Japanese Angelica tree (*Aralia elata*) and Japanese barberry (*Berberis thunbergii*) were removed from the site in

which restoration efforts will begin in the fall of 2025.

3. Outreach and engagement The interns organized a volunteer work day at Calder for the other PRISM interns. The volunteers were tasked with removing invasive plants from three deer exclosures at Calder, including species such as burning bush (*Euonymus alatus*) that had heavily infested one of the exclosures.

   The interns also hosted two lunch and learn events at Calder — with the CSUR (Calder Summer Undergraduate Research Program) interns presenting on the importance of invasive species management and organised a game for learning to identify common invasive species; and the CSTEP program where they shared their experience at Calder as LH PRISM interns to high school students and introduced them to careers in ecology.

   The interns also participated in a career panel that was organized by TeaTown for high school students where they had the opportunity to discuss their experiences in the field of ecology, college and other career-related questions.

   The interns also tabled at the Putnam County 4H Fair in collaboration with the Cornell Extension. They prepared infographics and displays of spotted lanternfly in different life stages, herbarium sheets of common invasive species in the lower Hudson, samples of ticks (including common tick and invasive Asian Longhorned tick) in various life stages, and engaged visitors and landowners on invasive species management

**All Interns**

Although much of the work was completed at individual sites, the interns were part of a network and worked together throughout the internship. At the beginning of the internship, they all attended an orientation at HHLT where they learned about the NYNJTC, Lower Hudson PRISM, how to use visual media to tell a story, iMapInvasives, and how to monitor restoration sites. Midway through the internship they presented summaries of their work at the July Lower Hudson PRISM meeting. Each pair of interns also hosted a volunteer event at their site. These activities gave the interns exposure to the breadth of invasive species work occurring in the PRISM and supported strong connections between sites.