



South Mountain Conservancy Forest Regeneration Internship



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Introduction

Over a ten-week period in the summer of 2025, I served as a Forest Regeneration Intern with the South Mountain Conservancy in Essex County, New Jersey. During this time, I primarily focused on the removal of invasive plant species within a 14-acre deer enclosure named The Wildflower and Forest Preserve (Fig 1). The Conservancy selects two interns each summer to support restoration efforts in the South Mountain Reservation with a focus on aiming to restore understory structure and ecological function by protecting native vegetation from the area's high deer pressure. The preserve consists of three different major ecosystems: forest, meadow, and vernal pond. My work focused on identifying, monitoring, and removing invasive plant species including:

- Multiflora Rose** (*Rosa multiflora*)
- Japanese Wineberry** (*Rubus phoenicolasius*)
- Japanese Barberry** (*Berberis thunbergii*)
- Oriental Bittersweet** (*Celastrus orbiculatus*)
- Winged Euonymus** (*Euonymus alatus*)
- Japanese Angelica Tree** (*Aralia elata*)
- Mile-a-Minute Vine** (*Persicaria perfoliata*)
- Japanese Honeysuckle** (*Lonicera japonica*)
- Japanese Knotweed** (*Reynoutria japonica*)
- Garlic Mustard** (*Alliaria petiolata*)
- Japanese Stiltgrass** (*Microstegium vimineum*)

Methods

Mechanical Removal

- Hand-pulling invasive plants, ensuring root systems were removed
- Disposing of root material away from soil contact points to prevent resprouting
- Bagging fruiting structures (e.g. berries) to minimize seed dispersal
- Using appropriate PPE (e.g. gloves) to handle thorny or irritant species

Chemical Treatment

- Testing a spray treatment of ½ gal 30% vinegar, ½ cup salt, 1 tbs of Dawn dish soap on Poison Ivy, Japanese Wineberry, Oriental Bittersweet, and Multiflora Rose to evaluate its effectiveness

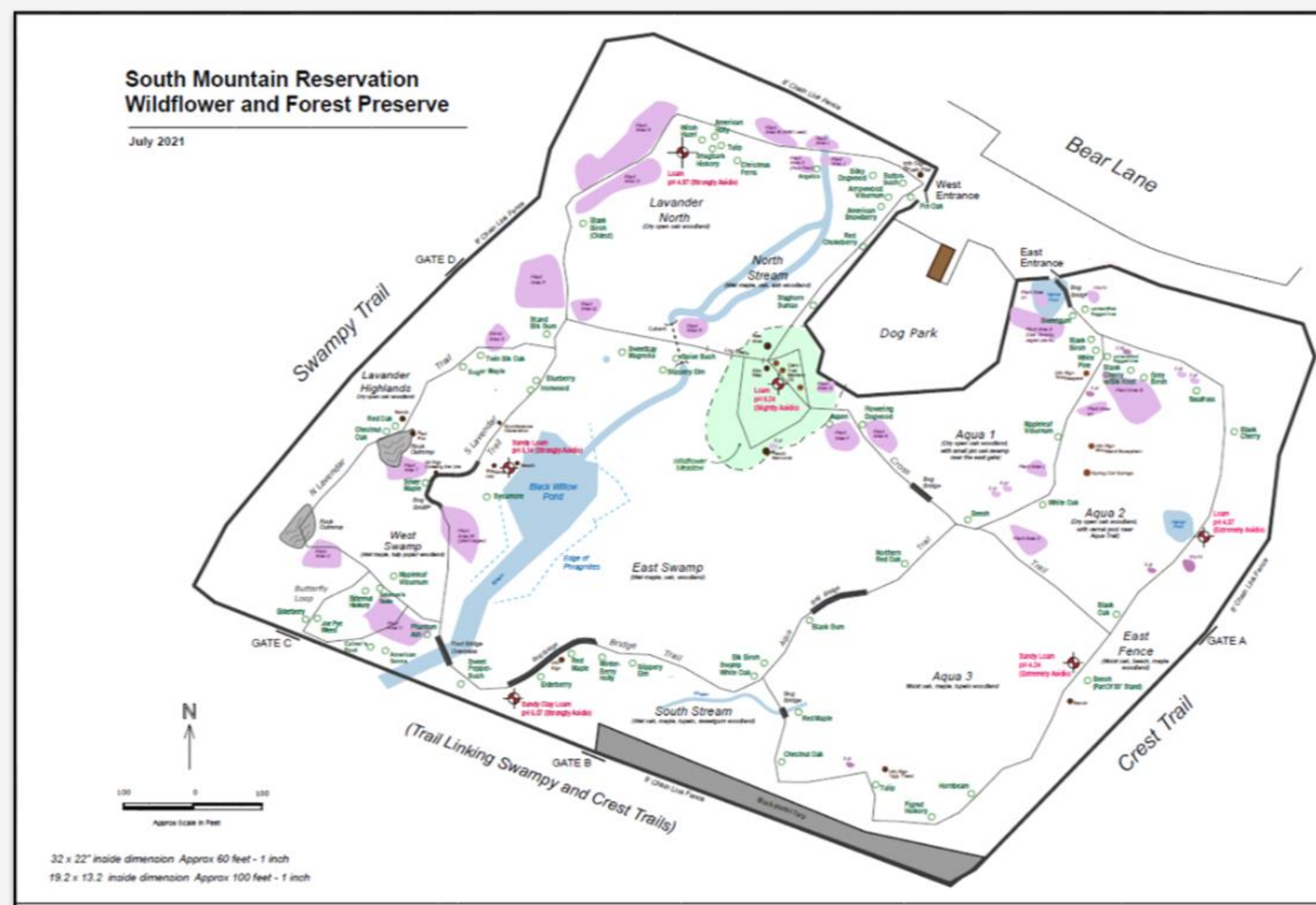


Figure 1: Map of the 14-acre deer enclosure at South Mountain Conservancy



Figure 2: Heavily overgrown understory dominated by multiple invasive species before (left) and after (right) clearing to promote native growth



Interns in the field (Kelly pictured right)



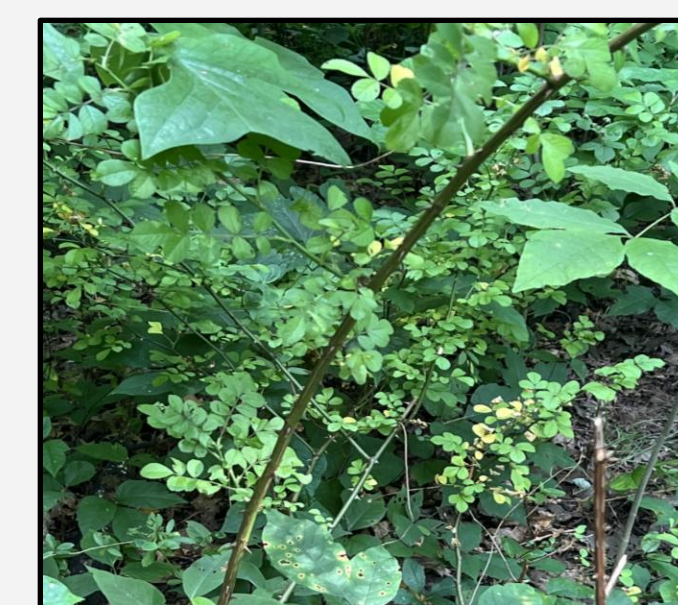
Japanese Knotweed



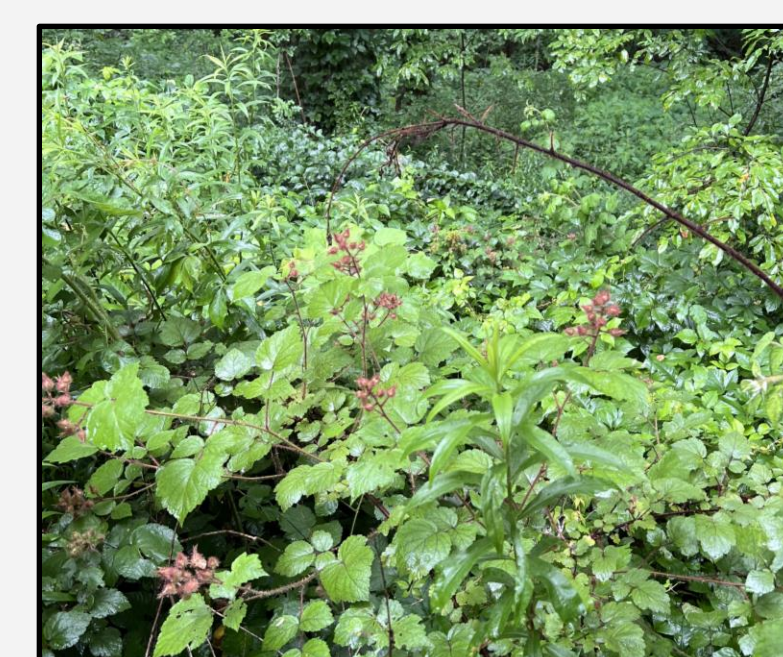
Japanese Barberry



Winged Euonymus



Multiflora Rose



Japanese Wineberry

Results

By the end of the internship, I developed the ability to identify a wide range of invasive plant species across juvenile and mature growth stages. All the listed invasives were found throughout the preserve, while some dominated in certain areas. Most were found in the juvenile stages, however there were some found in mature stages and in densely overgrown areas. A spray treatment was applied within a small, poison-ivy dominated patch, targeting both stems and leaves. After 24 hours, the treated area showed complete vegetation die-off, affecting both invasive and native species. Figure 2 illustrates a three-day removal effort in an area densely overgrown by **Oriental Bittersweet**, **Multiflora Rose**, **Japanese Wineberry**, and **Japanese Barberry**, resulting in significant understory clearing.

Discussion

This internship strengthened my ability to accurately identify a wide range of invasive plant species and deepen my understanding of their ecological impacts on native communities. Conditions inside the preserve demonstrated a noticeably healthier understory, highlighting the importance of reduced browsing pressure. Invasive species posed significant challenges by shading out native seedlings, competing for nutrients and moisture, and forming dense growth that could potentially limit natural forest recovery. The spray treatment used during the internship showed potential for controlling certain invasives. However, the complete die-off of both invasive and native vegetation indicates that further testing is needed before considering wider use. Future trials focusing on application methods, timing, and target specificity would help determine its ecological suitability. Overall, this experience provided a valuable opportunity to contribute to forest regeneration efforts while gaining field skills that support long-term ecological restoration and management.

Acknowledgements

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