

Land Management Annual Monitoring Report

325 Little Harbor Rd.
Portsmouth, NH

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PARTERRE
ECOLOGICAL

Work Completed 2022-2023

Spring to Fall 2023

Invasive Species Management:

During the Summer of 2023, followup invasive species management continued as native plants installed the previous fall established roots. Monthly IPM visits included hand-pulling small Glossy Buckthorn (*Frangula alnus*), Japanese and European Barberry (*Berberis*), Multiflora Rose (*Rosa multiflora*), and Bittersweet (*Celastrus orbiculatus*) seedlings as well as re-treating stems from larger shrubs/vines that resprouted. In the summer Black Swallowort (*Cynanchum louiseae*) in the main field was mown in June and September to prevent it from going to seed and spreading further. By the end of the season more than 90% of the invasive species have been eradicated. Japanese Knotweed showed no sign of resprouts in 2023.

Native Plant Restoration:

With a very wet summer installed plants were able to thrive and the majority were able to survive their first growing season. In November, the 1 dead Red Maple (*Acer rubrum*) and 4 dead Staghorn Sumac (*Rhus typhina*) were replaced with 7 Summersweet (*Clethra alnifolia*) and 1 Striped Maple (*Acer pennsylvatica*).

Spring to Fall 2022

Invasive Species Management:

During the Spring and Summer of 2022, the Parterre Ecological team managed extensive invasive species on site including Oriental Bittersweet (*Celastrus orbiculatus*), Japanese and European Barberry (*Berberis*), Multiflora Rose (*Rosa multiflora*), Black Swallowort (*Cynanchum louiseae*), Glossy Buckthorn (*Frangula alnus*), and Japanese Knotweed (*Fallopia japonica*). Woody invasive species were cut and chipped in the spring, then recut and treated with approved stem-based herbicide (Garlon 3a) in the summer. The small patch of Japanese Knotweed on site was treated in the summer with an approved foam-based herbicide applied directly to the leaves (Rodeo). Black Swallowort was mowed at specific times of the year to prevent it from going to seed. After the first season of management, approximately 75% of invasive species were eradicated.

Native Plant Restoration:

During Fall of 2022, Parterre Ecological installed native trees and shrubs per the approved planting plan within the Land Management Plan with modifications based on plant availability and suitability within the wetland buffer. Plantings were installed in pockets where dense invasive species were removed and deer fencing was placed around susceptible plantings. All plantings per the Land Management Plan were installed in 2022 and will be guided to establishment in 2023 and 2024.



Work Completed 2022-2023



Brush mowing of Black Swallowort in the meadow to prevent it from going to seed



Before and after Bittersweet resprouts growing on an apple tree. It was cut and retreated



Invasive Species Management 2023



*Before removal
of Barberry
and Glossy
Buckthorn*



*After removal
of Barberry
and Glossy
Buckthorn*



*Forsythia
reprints were
hand-pulled*



Native Plant Restoration 2023



Top Left: Dead Red Male replaced with Striped Maple

Top Right: Planted Witchhazel establishing well.

Left: Clethra alnifolia planted in place of Staghorn Sumac that didn't make it.



Invasive Species Management 2022



*Established
Multiflora Rose
and Bittersweet
along the
Pasture Fence
before cutting
and chipping*



*Established
Multiflora Rose
and Bittersweet
along the
Pasture Fence
after cutting
and chipping*



*Invasive species
were chipped
in the spring to
avoid fruiting
branches which
could further
spread of
seedlings*



Invasive Species Management 2022



Established European Barberry cut and dabbed allowing light to native Canada Mayflower.



Left: Treated stump of Oriental Bittersweet that was established in a Norway Spruce.

Right: Foam-herbicide treatment of Japanese Knotweed



Native Plant Restoration 2022:



Northern Bush Honey-suckle and Gray Birch installed along the forest edge



Summersweet installed where Barberry was previously established



Caging of Aronia melanocarpa



Proposed Management for 2024:

Building off the momentum for invasive species management and native plant restoration Parterre will continue seasonal management of invasive species

Spring 2024

- Monitor plant response and continue hand pulling and herbicide application methods on re sprouting invasive plant species

Summer 2024

- Monitor plant response and continue hand pulling and herbicide application methods on re sprouting invasive plant species
- Spot water native shrubs and trees through dry months for plant establishment
- Seasonally mow meadow to limit aggressive annuals and provide light to new seedlings

Fall 2024

- Continue utilizing control methods of invasive plant management to exhaust seed bank
- Followup treatment to Phragmites

2024

Ongoing Maintenance and Monitoring:

- After the treatments of 2024, the management plan should be re-evaluated. If management treatments have been successful, only monitoring and minimal hand removal should be required to keep species from being reintroduced



A healthy native woodland after invasive shrubs have been removed.

