

Summary of Invasive Species Management Efforts at Underwood, Red Rocks, Wheeler Nature Park, & City Center Park

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The 2020 Growing Season

Land management efforts in 2020 were impacted by restrictions on group outings, public events, and the need for social distancing.

Volunteers continued to make significant contributions at the parks despite the cancellation of formally hosted trainings and events.

The Youth Conservation Corps (VYCC) did not perform stewardship work at Red Rocks and Wheeler as it had done in 2018 and 2019.

Visitorship was strong at the parks. Interest in the stewardship work and the program goals was common; people were clearly engaged.

The 2020 Growing Season, continued

2020 was an extremely dry year, similar to 2019; many plants exhibited signs of drought stress or reduced vigor.

Despite the conditions, there is clear evidence of successful transition underway at critical locations in both Red Rocks and Wheeler.

Early detection / rapid response continues to be a powerful tool with regard to certain high-impact species (Oriental bittersweet, multi-flora rose, garlic mustard).

Integration of the various management methods for brush control (pulling, brush-hogging, stump-cutting, girdling) remains a real and visible positive.

Summary of 2020 Actions in Underwood Park

Two visits (spring, summer) to monitor for wild parsnip and phragmites.

Two wild parsnip removed along road corridor, western boundary

No additional populations / colonizers detected in open spaces

Built on stump-cutting of non-native shrubs in two locations:

The southern boundary, focused on mature amur maple

The open shrubland area between the woodline and wetland

156 shrubs (primarily common buckthorn) cut and brush-piled, integrated with the broader brush-hog / mowing regime.

Cost of \$350, total of 8+ hours on site.

Total Effort, 2020 Growing Season

Red Rocks:

8 treatment days total, May thru October

Local group volunteer outings: 4 sessions, 3-4 participants

Cost of \$2840

Wheeler:

7.5 treatment days total, May thru October

Volunteer hours: 7 hours from 4 individuals

Cost of \$2600

Volunteers at Red Rocks and Wheeler

People frequently stop to converse with myself or volunteers performing treatment work at both parks; support and appreciation for the effort has been unanimous.

Individuals have contributed time at Wheeler and City Center Park, while an informal group from adjacent neighborhoods has organized multiple outings at Red Rocks (four outings, spring through fall, with typically three or four participants).

Jessica Rubin has mentioned and visited Wheeler in her thesis work at UVM.

Andrew Shatzer has grown local interest in plants at Wheeler and conducted a walking tour in October.

Volunteers have accomplished significant treatment work at both parks and are always urged to wear gloves and eye protection.

Species of Concern at Wheeler

Herbaceous species include wild parsnip, wild chervil, knapweed, burdock, mugwort and comfrey. Most are spreading from the western edge of the park downslope into the open spaces and wetland. Within the forest, three populations of garlic mustard are known; all are near trails and under intensive management.

Shrub or vine species of highest concern include glossy buckthorn, Oriental bittersweet, and multi-flora rose. These are in the shrubland spaces and the woodlands; they present either serious safety challenges or major propagation threats that would overwhelm native species.

Isolated populations of burdock and elecampane have been noted near or in the wetland. Control is in the initial phases of cutting and seed head collection.

Early Detection Successes at Wheeler

9 hotspots of Oriental bittersweet vines intercepted in early stages

3 garlic mustard populations under management on perimeter of park

546 wild parsnip pulls in 2020; patch has not expanded outward, no seed production for past three growing seasons

Treatment of isolated colonizers, single plants:

Multi-flora rose, burning bush, glossy buckthorn,

Oriental bittersweet, amur maple

Species of Concern at Red Rocks

Oriental bittersweet remains a top concern at Red Rocks. Three years of control work have reduced the threat of canopy damage, but weakened trees remain, and the hotspots are not yet eradicated.

Garlic mustard could thrive at select locations, and the trail system makes widespread transmission a strong likelihood.

Glossy buckthorn is contained but still dominant in some eastern sections; its ability to mature quickly with massive fruit production leaves little room for error.

Japanese knotweed and Oriental bittersweet are present on neighboring properties along the northern park boundary.

Early Detection Successes at Red Rocks

13 hotspots of Oriental bittersweet vines identified with follow-up cutting / pulling.

Multiple locations of multi-flora rose cut and pulled to break seed production; as more locations are uncovered, they are stump-cut and documented.

Garlic mustard in two locations is under management, one more has been reported on the eastern boundary.

One hotspot of burning bush (euonymous) has been discovered near the Wolf Pine. Hundreds of seedlings were pulled in 2020, more follow-up is required to continue pulling and strip the re-sprouting stumps.

Management Returns to City Center Park

Focus on monitoring and “Weed Control”

“Weed Control” refers to all manner of invasives, including: shrubs, vines, and herbaceous plants.

Greater light availability, public recreation, and regular maintenance visits involving equipment increase the risk of introducing wild parsnip, burdock, goutweed, and other herbaceous species.

Glossy buckthorn continues to be the dominant invasive plant in the park, with Oriental bittersweet establishing a quiet presence.

2020 Management at City Center Park



Seamus Abshere, South Burlington Weed Warrior

2 site visits by Mike Bald (spring & fall);
Significant volunteer contribution.

Focus on honeysuckle and buckthorn.

Little glossy buckthorn seed was
produced in the 5 acres surrounding
the central playground.

Volunteer effort focused on weekly
repeated cutting; cut vegetation left for
small mammal and bird habitat.

Future Management at City Center Park

With little seed production in the park, future efforts can continue right up to the property line (~1 acre of additional ground).

Significant work ahead to continue the suppression of invasive plants, but native species have begun to recover and reclaim space at the park.

With fewer seeds in the seed bank, the dominance of the invasive shrubs has been broken in the short-term.

No personal safety issues occurred during the season, and the success stands as a clear demonstration of positive volunteer contributions.

Typical Day of Manual Control Work

In managing invasive species, scouting and monitoring along trails and around the lead edges of known infestations is vital, but it may not result in many detections or pulls or cuts. Early detections, however, save big on resource needs.

When treating known locations and infestations, a trained individual can:

Pull 792 burning bush seedlings in a half day

Cut, pull, or strip 784 invasives (all target species) over the course of a day

Pull 320 target plants in a half day (shrubs and vines)

Treatment work weaves together different shrub management methods

Here, a brush-hogged
common buckthorn will
be stripped of re-
sprouts by hand. Close
proximity native species
are not damaged.



This is a startpoint benchmark photo of a “new” treatment area looking uphill from the open wetland area in Wheeler Nature Park. Subsequent photos will track progress over time as invasive species are suppressed or removed between the large oaks.



Heavy growth
of invasive
shrub species

Worker

Young
apple tree

Native species already present on the landscape are avoided and benefit from better resource availability once control is underway.

Gray dogwood shrubs no longer struggle for light against this stump-cut common buckthorn.



Four treatment visits in 2020 to flush-cut phragmites reeds gave the plants no opportunity to seed.

Phragmites once held strong footholds on both sides of Park Street, limiting sight lines and threatening biodiversity in the downstream wetland.



Decisions to Address Moving Forward

1. Control of high-impact herbaceous species in all parks
2. Agreement on priority of target species
3. Agreement on priority areas for volunteer contributions
4. How to address infestations of high-impact species on adjacent private properties
5. Where to focus additional efforts at Underwood