

Removal of Invasive Plant Species from John Lyman Elementary School Grounds

NRCA Student: Garret Basiel¹

Community Partner: Susan Michael²

¹Coginchaug Regional High School; ²Regional School District 13

INTRODUCTION

Invasive plants are detrimental to forested ecosystems. They can take over the forest canopy by shading out native species, and can fill vernal pool sites which can cause harm to native vegetation and wildlife.

Japanese barberry (*Berberis thunbergii*) and multiflora rose (*Rosa multiflora*) are particularly successful invasives that can be difficult to manage because they have sharp thorns. Both plants were introduced to the US as decorative plants. Land invaded by barberry is known to harbor over twelve times more ticks than non-invaded land does (Ward et al. 2010).

The purpose of this project was to restore the forest habitat and trails behind John Lyman Elementary School (Middlefield, CT) by manually removing barberry and multiflora rose. It was necessary to involve community volunteers because of the amount of work required, and to educate more people. All of the volunteers are now aware of Japanese barberry, multiflora rose, and the issues the plants can cause.



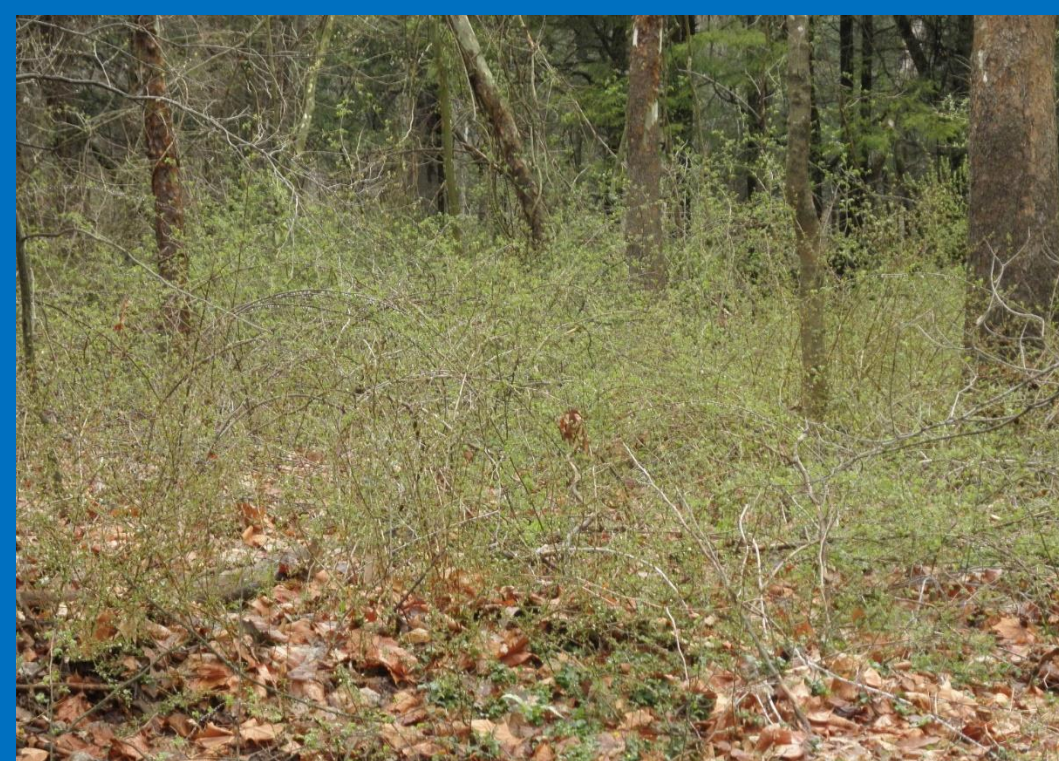
Barberry used ornamentally in a parking lot. Photo by NBC CT.



Multiflora rose thorn. Photo by Summer Botany.



Close-up of barberry thorns and berries. Photo by UConn Today.



Patch of barberry. Photo by Susan Michael

OPTIONS FOR REMOVAL

- Herbicides and controlled burns are common methods for barberry removal. However, since this was on school property they were not an option. Herbicides can also be detrimental to local amphibians.
- Mechanical removal is the best option for eliminating the roots to limit barberry regrowth. It was selected as the most appropriate removal option for this project.

PROJECT GOALS

- 1) Remove invasive species to open up the forest canopy and encourage native plants to grow.
- 2) Make the trails safer for students to enjoy by removing the thorny barberry and multiflora rose, and reducing tick habitat.
- 3) Involve community volunteers in the removal process

MATERIALS AND METHODS

Planning stages

- Permission was granted from district officials (superintendent Dr. Kathryn Veronisi and school principal Mr. Tom Ford) to work on trails behind John Lyman Elementary. Supervisor of Buildings and Grounds, Mr. Rob Francis, was contacted to assist with safety training, project outline, and further discussion about the site.
- Project implementation was then planned with Mrs. Susan Michael.

Invasive removal

- Invasive removal days occurred between August and November, 2017.
 - Friends, family, and members of Coginchaug's ECO Club were recruited
 - Tarps, gloves, spearheaded shovels and spades, and clippers were utilized for removal
 - Average work day lasted 2 hours
 - Plants were put in piles around the site

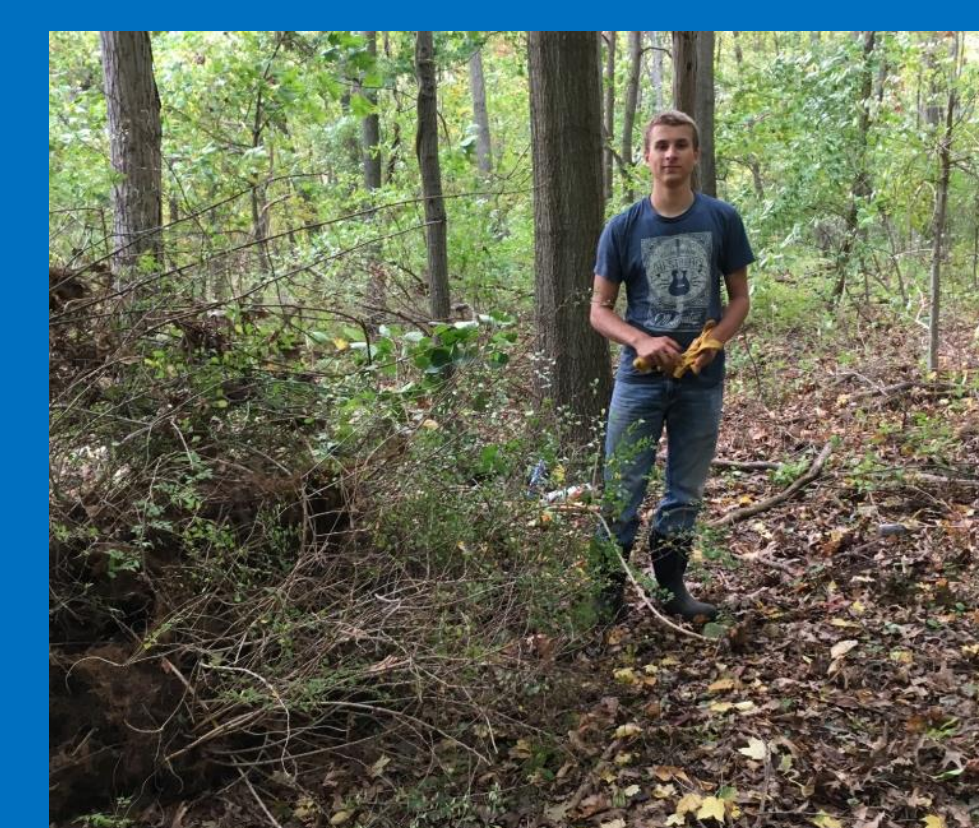
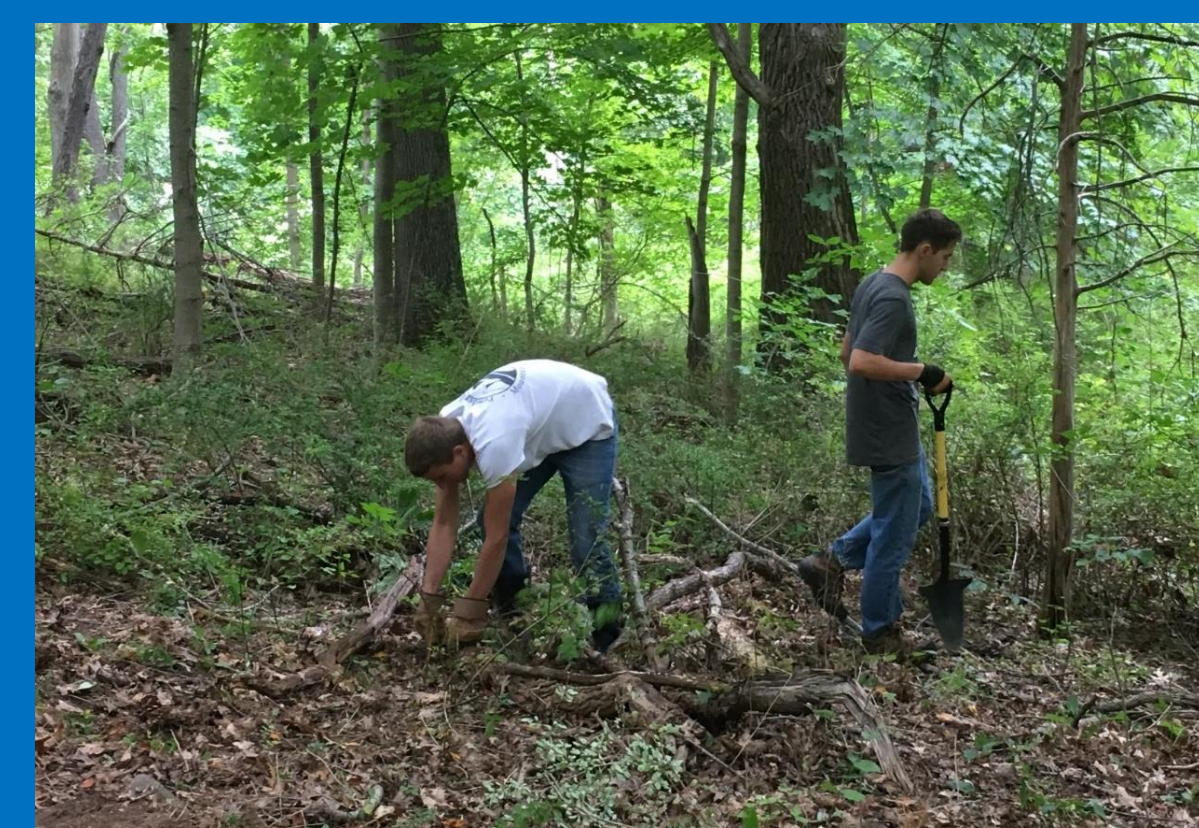


This map shows the three acre area where invasive plants were removed.

Blue: The Nature Trail

Green: Area that was originally affected by barberry and multiflora rose.

Brown: Area where some barberry remains



Invasive removal in progress

RESULTS

- 15 volunteers spent over 65 total hours removing invasive species, spread over three months.
- About 85% of the barberry and multiflora rose was removed from the three acre area (see map).



Spearheaded Spade used for removal



Before



Barberry roots



After

MANAGEMENT RECOMMENDATIONS

Future management is necessary to make this project effective. Invasive species are often removed in two phases: killing the above-ground plant and then the new sprouts the following year. Making the trail committee aware of these needs is an important part of the project to ensure lasting effects. It is necessary to continue to engage community volunteers in this process so that the community stays aware of the problems that invasive species cause. I also plan on submitting information about my project to local newspapers to educate as many as possible.

ACKNOWLEDGEMENTS

I would like to thank my community partner, Mrs Susan Michael, for not only guiding me through all of the components of this project but for helping me remove the barberry. Special thanks to other removal volunteers Bernadette Basiel, Abby Beissinger, Katie and Maureen Hamilton, Laura Hinsch, Tommy Koba, Allie Lecza, Sean McMaster, Sheehan and Steve Michael, Sam Pietrzyk, Claire Sorenson, and Sam Titus.

REFERENCES

Ward, J., Williams, S., and Worthley, T. 2010. "Japanese Barberry Control Overview." University of Connecticut. Accessible at: www.ctforestry.uconn.edu/documents/CTBarberryHandout2010Jun.pdf.