

Oriental Bittersweet and Japanese Barberry Invasive Species Identified at Veterans Memorial Park in Watertown CT

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ABSTRACT

Oriental Bittersweet and Japanese Barberry are two invasive species that have a negative impact on native plant species in CT. The purpose of this project was to inventory the prevalence of these two invasive species in Veterans Memorial Park, Watertown, CT. A sampling area of the park was selected and an inventory was taken.

INTRODUCTION

An invasive species is any organism that is not native to any ecosystem and has the potential to cause damage to the native environment. Not all nonnative species are invasive (FWS, 2008).

Veterans Memorial Park is located in Watertown Connecticut. Veterans Memorial Park is a town park that is 100 plus acres in size and located on Nova Scotia Hill Road. This is a multipurpose park that includes a playground, gazebo, comfort station, walking trails, Latin's Pond for fishing, a pavilion, horseshoe pits, bocce courts, picnic tables. A wooded area was selected within the park to identify two invasive species Oriental Bittersweet and Japanese Barberry that are having a negative affect on native vegetation.



Oriental Bittersweet (NPS, 2009)



Oriental Bittersweet

The 3 pictures above are of Oriental Bittersweet; which is native to Eastern Asia, Korea, China, and Japan. Its scientific name is *Celastrus orbiculatus*. Oriental Bittersweet was introduced in 1860 to the United States as an ornamental vine used primarily in landscaping and was identified in Connecticut in 1916. This vine produces a distinct red-orange fruit that has a yellow covering prior to maturity. Oriental Bittersweet reproduces by seed production which is dispersed by birds such as blue jays, mockingbird, and European starlings. This invasive climbing vine can strangle native vegetation or smother by excessive shading. The native plant American Bittersweet is being out competed by the Oriental Bittersweet. There is also a concern that the native Bittersweet has hybridized with the Oriental Bittersweet reducing variation. These vines can be found in forested areas, woodlands, and coastal area. It can be found in shade but more often is found in sunny areas. The selling of this species in Connecticut is prohibited and punishable by a fine (UConn, 2009).



Japanese Barberry (Harmon, 2006)



Japanese Barberry

The 3 pictures to the left are of Japanese Barberry; which is native to Japan. The scientific name is *Berberis thunbergii*. Japanese Barberry was introduced to the United States in 1875 and was used in ornamental landscaping where it is still used today. This invasive plant is a woody deciduous shrub with green, bluish-green, dark red, or dark purple leaves which in the fall change to a yellow or red color. This shrub is tolerant to shade and can form thick stands which out compete native species. This invasive species is spread most often by birds and small mammals. Although it can spread by vegetative expansion because when any part of the stem touches the ground it will root (Harmon 2006). Japanese Barberry produces a yellow flower in early spring that becomes a bright red berry in late summer or fall. These fruits are present into the winter and when open are about 1/4 inches long. Japanese Barberry has 90% germination rate meaning it propagates easily. This plant affects the soil in variety of ways by changing the pH of the soil and changing the nitrogen levels. The fact that this shrub is shade tolerant and drought resistant giving it a competitive advantage which allows it to displace native plants. Japanese Barberry is still use in ornamental landscaping today (NPS, 2009).

MATERIALS AND METHODS

Methods

1. A wooded area within Veterans Memorial Park was selected.
2. Two Invasive Species were designated to be identified - Oriental Bittersweet and Japanese Barberry
3. An area of about 15 acres was measured to sample for specified species
4. The species were identified in the assigned area using Waypoint on GPS map 76cx instrument.
5. That information was then uploaded to ArcGIS.



Invasive species identified at Veterans Memorial Park
MAP KEY
■ Japanese Barberry
■ Oriental Bittersweet



Isaiah Identifying Invasive species in Veterans Memorial Park, Watertown, CT

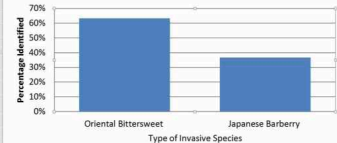
RESULTS

In the selected area of Veterans Memorial Park there were 71 invasive plants identified. Of the 71 plants identified 45 of them were Oriental Bittersweet and 26 of them were Japanese Barberry.

Invasive species identified at Veterans Memorial Park

Invasive Species	Number Identified
Oriental Bittersweet	45/71
Japanese Barberry	26/71

Invasive Species Identified at Veterans Memorial Park



CONCLUSIONS

In the selected sampling area of Veterans Memorial Park the invasive species, Oriental Bittersweet, was much more prevalent than the invasive species Japanese Barberry. The inventory was taken in late winter making the identification of the two invasive species more difficult. This fact as well as the fact that the sample size was very small would indicate more identification and research needs to be done. Specific analysis of the affect of Oriental Bittersweet and Japanese Barberry on the native species in the park needs to be a comparison study over time. Therefore, any conclusions drawn from this data will be limited.

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