

# Invasive Species Management

## Southern New Hampshire University Arboretum

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#### Highlights

Invasive species removal and the utilization of mechanical management of Glossy Buckthorn and Oriental Bittersweet at the SNHU Arboretum.



#### Oriental Bittersweet (*Celastrus Orbiculatus*)

Native to temperate East Asia and introduced to the Atlantic Coast in 1971. Oriental Bittersweet is a vigorously growing vine that climbs over and smothers vegetation which may die from excessive shading or breaking.

#### Mechanical Controls:

Small infestations can be hand pulled, but the entire plant should be removed including all the root portions. For climbing vines: cut the vines near the ground at a comfortable height to kill upper portions and relieve the tree canopy.



#### Approach

Bring a group of volunteers to the SNHU Arboretum to hand pull invasive species, quantify the amount of biomass pulled and split the total collected into 8 equal sized piles.

**Results: Total weight of biomass collected in 1 hour.**

**Total Volunteers :** 13 people

**Hours of service:** 1 hour

**1/8 of biomass collected:** 21 lbs

**Total approximant biomass:**  $21 \times 8 = 168$  lbs

**Biomass collected per volunteer:**  $168/13 = 12.9$  lbs per person per hour.

#### Before



#### After



#### Next Steps:

It is crucial that the invasive species in the Arboretum are upkeep every year. Further research would include biomass per square area which for allowed for improved future management.

#### Highlights

#### Glossy Buckthorn (*Rhamnus Cathartica*)

Native to Eurasia and introduced to the U.S before 1800. Now found throughout central and northern U.S.

Glossy buckthorns are shrubs or small trees that readily invade natural areas, establishing dense, even aged thickets which crowd and shade out native plants.

#### Mechanical Controls:

Grubbing or pulling seedlings, mature shrubs, and repeated clipping of shrubs. Mechanical management requires commitment to cut or pull plants at least twice a year for a period of 3-5 years.



References: <https://www.agriculture.nh.gov/publications-forms/documents/glossy-buckthorn.pdf>  
<https://www.agriculture.nh.gov/publications-forms/documents/oriental-bittersweet.pdf>