Partnership for Regional
Invasive Species Management
Capital Region

Cornell Cooperative Extension | Saratoga County
50 West High St.
Ballston Spa, NY 12020
(518)885-8995

COMMON BUCKTHORN

Rhamnus cathartica

IDENTIFICATION

Common buckthorn is a deciduous shrub/small tree that can reach heights up to 25 ft. Bark is gray to brown with lighter colored lenticels. When the bark is peeled back, it is yellow-orange colored. The leaves are oval shaped with deep, forward curved veins. Stems end in thorn.

Paul Wray, Iowa State University, Bugwood.org

REPRODUCTION

Small, inconspicuous, greenish-yellow flowers bloom in clusters at the leaf axil between May and June. Dark blue to black berries ripen between August and September and persist throughout the winter. The fruit is eaten by birds and other wildlife with facilitates seed dispersal.

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Jan Samanek, Phytosanitary Administration, Bugwood.org

HABITAT

Found in lightly shaded areas along roadsides and forest edges. Common buckthorn is tolerant of a variety of soil types and can invade both disturbed and undisturbed habitat.

THREAT

Dense stands can outcompete native understory plants for nutrients, light, and space. Also host to crown rust fungus and Asian soybean aphid, which are both agricultural pests.

Bill Cook, Michigan State University, Bugwood.org

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Integrated Pest Management for Common Buckthorn

Due to the threat of common buckthorn to local ecosystems, it is important to reduce the size and limit the spread of existing populations. Invasive species are controlled through prevention, eradication, containment and suppression. An integrated pest management (IPM) approach should be adopted to control unwanted species. The integrated approach is a combination of manual, mechanical, biological and chemical controls. IPM requires post treatment monitoring and treatment over a period of several years, leading to more successful outcomes (https://nysipm.cornell.edu/about/defining-ipm/).

Practices to Avoid

1. Do not leave bare soil after removal. Buckthorn seeds remain viable in the soil for up to five years, so it is important to plant native seeds or put in new fill to prevent regrowth.
2. Avoid manual and mechanical removal while in seed, as seeds can fall off and be easily spread during this time. Chemical treatment should also be avoided during the spring and early summer.
3. Avoid one and done removal efforts. It is important to monitor the site for at least five years after removal due to the potential having of dormant seeds in the seed banks.

Manual and Mechanical Control

Seedling and young plants can be easily removed by hand if the soil is moist. Larger, mature shrubs can be removed by cutting, mowing, or using a weed wrench. Cutting and mowing do not necessarily eradicate the plant but reduce seed production and prevent the infestation from spreading.

Biological Control

There are currently no biological control methods approved for the management of common buckthorn.

Herbicide Control

There are several methods for using herbicide to control common buckthorn. The most common method for controlling mature plants is the cut-stump method. The best time to treat common buckthorn is from late summer and throughout fall and winter. Please consult an expert or certified applicator when applying herbicides. Read and follow herbicide product labels as required by law. Seek out proper local, state, and federal permitting when applying herbicides.

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HERBICIDE TREATMENT FOR HOMEOWNERS/PRIVATE LANDOWNERS

TIME OF YEAR:

EXAMPLE CHEMICAL(S) TO USE: READ ALL PRODUCT LABELS AS REQUIRED BY LAW

Product names are listed as examples, and not as endorsement or recommendation. The suitability and details for specific use of these products are provided through their labels.

Chemical (Products containing)	**Timing**	**Application Technique**	**Notes**
Triclopyr Amine (Garlon 3a) Triclopyr Ester (Garlon 4)	October-March	Cut-stump Cut-stump or Basal bark	• Do not apply during spring sap flow • Selective for woody plants. • Oil based ester products can be applied in below freezing temperatures
Glyphosate (Round Up)	October-March	Cut stump	• Do not apply during spring sap flow. • Non-selective.

Terrestrial invasive species disclaimer: If there is water present near the infestation, a permit from the DEC is required. For more information regarding aquatic pesticide permitting, please contact the nearest DEC Regional Office: Division of Environmental Permits at (518) 357-2069 or visit: http://www.dec.ny.gov/permits/209.html.

Aquatic invasive species disclaimer: For aquatic infestations, a permit from the DEC is required. For more information regarding aquatic pesticide permitting, please contact the nearest DEC Regional Office: Division of Environmental Permits at (518) 357-2069 or visit: http://www.dec.ny.gov/permits/209.html

TIMELINE OF ACTION

May-June
- Flowering occurs.
- Do not chemically treat during this time.
- Hand pull small individuals.

July-September
- Develops dark fruit.
- Avoid manual removals while in fruit.

October-April
- Best time to perform chemical treatments.

For More Information Seek out the Cornell Guidelines for Pesticide Use:
The Cornell Guidelines offer the latest information on topics such as pest management, crop production, and landscape plant maintenance. Each title in the series is updated by Cornell University researchers and Extension specialists and is designed as a practical guides. https://www.cornellstore.com/books/cornell-cooperative-ext-pmep-guidelines

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Native Replacements

After removing or treating Common Buckthorn, it is important to reseed or plant the disturbed soils with native species common in the geographic area. Replanting will help restore the ecosystem and prevent old infestations from re-establishing. Consider using stress tolerant plants in harsh environments that are best suited to a given site. If pre-existing native plants are present on site, protect these species from harm, during management. The surrounding native species can then be used to aid in the heathy reestablishment of the area. More information about native plants, shrubs and trees can be found:

Alternatives to Ornamental Invasive Plants "A Sustainable Solution for New York State"

- https://nysipm.cornell.edu/sites/nysipm.cornell.edu/files/shared/documents/NYSIPM-alt-inv.pdf

NYSDEC Native Plant Factsheets

- https://www.dec.ny.gov/docs/lands_forests_pdf/factnatives.pdf

Westchester Community College Native Plant Center

- https://www.sunywcc.edu/about/npc/

Definitions:

Manual Control: a technique to remove small infestations. Some examples of manual control is hand-pulling, mulching, burning, digging, and removal of the entire plant, portions of a plant, nests, egg masses, or other life stages. This type of control is only economically feasible for small infestations.

Herbicide Control: a technique which uses chemicals to remove or decrease the population of a species. Herbicides are usually one of the last choices for control as they are usually expensive and have adverse effects to the environment. There are different methods to apply an herbicide. Some examples are: foliar spray, basal bark, bundle and cut, and cut-stump treatment.

Biological Control: a technique where an animal, insect, fungi or disease is used to manage a large invasive species population. This control species is studied intensively to see if there could be any negative effects for native species.

Foliar Spray: method of herbicide control where the chemical is sprayed directly on the leaves. Sprayers can be hand held, on a backpack or mounted on a vehicle. If a plant has a waxy surface, a surfactant may be needed to allow the herbicide to work.

Cut-stump treatment: method of herbicide control where the stem is cut, near the base of the plant, and an herbicide is applied. Water-based herbicides should be applied immediately following the stem cut while oil-based can be applied later. The herbicide can be applied use a sprayer or sponge/paint brush.

Selective herbicides: a type of herbicide which kills specific groups of plants but not others. For examples, a selective herbicide may kill broadleaf plants, like dandelions, but not grasses.

Non-selective herbicides: a type of herbicide which kills all types of plants. When using this herbicide, any plant that is sprayed will be effected.

DISCLAIMER
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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

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