

CONTROL METHODS

There are a variety of methods used in the control European buckthorn including hand pulling, girdling, cutting, herbicides and burning. It should be noted that there is no natural control for Buckthorn in North America.

Hand pulling or removal using hand tools is the removal of the stem and roots. This is done so that the shrub cannot sprout from the roots. This method is effective but extremely labour intensive and not practical in areas of high infestation. This method also produces a large amount of soil disturbance and creates an ideal site for the growth of new seedlings as well as disturbing the roots of surrounding plants.

Girdling is accomplished by encircling the stem at the base of the shrub with a 2 to 3 cm cut and removing the bark. This severely reduces the plants ability to circulate nutrients. This method is best done in the winter when the shrub is dormant.

Cutting is the removal of the shrub above the root collar. Due to sprouting or root suckering this method is only effective if carried out twice a year (early June or late August) for several consecutive years.

The use of herbicides such as *glyphosate*, *2,4-D*, *fosamine* and *Picloram* are an effective control method when used properly. Herbicides work best when applied in the late fall. This is done to minimize damage to native species, which are dormant. Extreme care and caution should be used when applying herbicides and where possible should be applied by a licensed pesticide applicator.

Burning is an effective control for European buckthorn when used over several consecutive years. Best results occur when one or two burns a year are carried out over a period of five or more years. This method is not always an option in some areas. Please check with your local government office before carrying out any burning.

ALTERNATIVE NATIVE SHRUB SPECIES

The following is a list of some common commercially available native shrubs:

- Pincherry (*Prunus pensylvanica*)
- Chokecherry (*Prunus virginiana*)
- Highbush cranberry (*Viburnum opulus*)
- Red osier dogwood (*Cornus stolonifera*)
- Nannyberry (*Viburnum lentago*)
- Saskatoon (*Amelanchier alnifolia*)
- Beaked hazelnut (*Corylus cornuta*)
- Hawthorn (*Crataegus succulenta*)

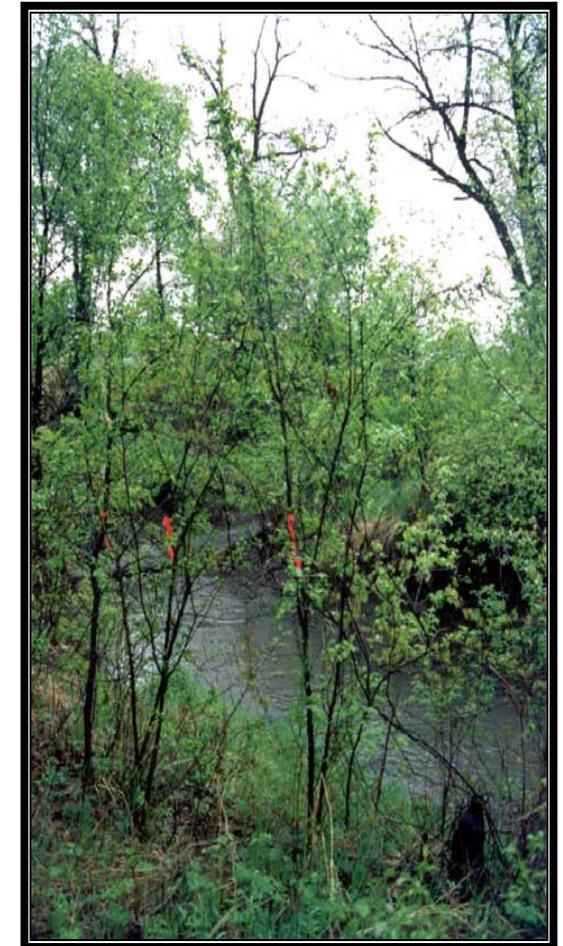
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EUROPEAN BUCKTHORN

Rhamnus cathartica L.



WHAT IS EUROPEAN BUCKTHORN?

European buckthorn (*Rhamnus cathartica* L.) is a deciduous shrub native to Europe, Asia and North Africa. This very hardy and adaptable shrub can be found growing in almost every type of terrestrial ecosystem. Its habitat ranges from open rocky outcrops to dense riverbottom forests but does best in areas of moist but not wet soils.

European buckthorn leafs out early in spring and does not lose its leaves until late autumn. This gives it a longer growing season than most plants. This extended growing season combined with a rapid growth rate, prolific seed production and diverse habitat allows it to quickly choke out and replace native vegetation especially in Winnipeg's riparian forests.

It has been speculated that European buckthorn also produces a substance that inhibits the growth and development of other understory plant species thus ensuring its success.



Berries



Leaves

HISTORY

European buckthorn became established in North America late in the 1800s but did not become wide spread until the 1900s. Introduced in the northeast as an ornamental shrub, it is widely used in hedgerows and shelterbelts. Due to the hardiness of the plant and a lack of natural controls, European buckthorn has spread unchecked from Nova Scotia to Alberta and as far south as Tennessee.

In the City of Winnipeg, European buckthorn was introduced around the turn of the century. It was planted primarily as a shrub or hedge in older residential areas and parks. This problem is most evident in the areas around Assiniboine Park, Kildonan Park and St. Vital Park. In these areas, Buckthorn has taken over large tracts of riparian forest replacing such native species as American elm (*Ulmus americana*), Green ash (*Fraxinus pennsylvanica*), Peach leaf willow (*Salix amygdaloides*) and Basswood (*Tilia americana*). In addition it restricts the growth of wildflowers such as Nodding trillium (*Trillium cernuum*) and Canada anemone (*Anemone canadensis*).

European buckthorn is also an alternate host for the virulent plant disease Crown Oat Rust (*Puccinia coronata*).

IDENTIFICATION

- Height: 2 to 6 meters
- Leaves: dull green, ovate-elliptical, alternate or sub-opposite, glabrous, minutely serrated, 4 to 8 cm in length, 3 to 5 strongly curved veins
- Flowers: greenish-yellow, groupings of 2 to 3, 4 petals and sepals, fragrant, bloom in late May or early June
- Bark: grey-brown to grey black, smooth becoming flaky with age, prominent horizontal lenticels
- Twigs: grey-brown to grey-black, may have a waxy covering, prominent lenticels, may have stout sharp thorns
- Buds: dark brown, 6 bud scales
- Fruit: black, ripens in August and September 3 to 4 grooved seeds, remains on the stem throughout the winter, bitter flavour, poisonous and strongly laxative.

