

How to beat BUCKTHORN

Buckthorn are invasive shrubs or small trees. Two species are found in Minnesota: Common Buckthorn (*Rhamnus cathartica*) and Glossy Buckthorn (*Frangula alnus*). This handout focuses primarily on Common Buckthorn as it's most often encountered on suburban properties.



A THREAT TO FOREST ECOSYSTEMS

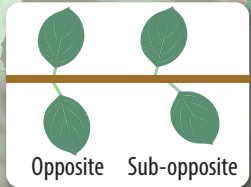
Brought from Europe for hedges, buckthorn spread, forming dense thickets in forests and elsewhere. This highly invasive plant displaces native shrubs and small trees, destroying habitat for songbirds and other wildlife.

HOW TO IDENTIFY COMMON BUCKTHORN

Common Buckthorn, *Rhamnus cathartica*

Leaf arrangement

Leaves are **opposite** or **sub-opposite** from each other.



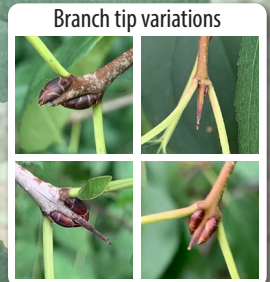
Leaf size varies, ranging ½ inch to almost 3 inches in length.

Leaf color is **dark green and glossy**. Leaves are some of the first to appear in spring and the last to drop in fall. Buckthorn leaves stay green into late fall.



Branch tip

Thorn may be long, short, or absent. **Buds** grow in pairs around thorn.



Leaf shape

Oval with pointed ends, similar to an egg or lemon.

Leaf veins

Lateral or side **veins** are **curved**, coming off the central vein like a wishbone.

Central vein

Leaf edge

Edge of leaf is **finely serrated** like a steak knife.

Fruit

Avg. size ¼ inch



Only females produce fruit, which is **pea-sized** and ripens from green to purplish black.

Bark



HOW TO IDENTIFY GLOSSY BUCKTHORN

Frangula alnus

Glossy Buckthorn prefers sunny, moist sites. You're more likely to find this shrub growing in wetlands, but it will invade upland areas also.



Glossy Buckthorn infestation in a wetland.

Leslie Mehrhoff, Bugwood.org



Ripe fruit

Leslie Mehrhoff, Bugwood.org

Leaf arrangement

Alternate along branch, like many native shrubs.



Alternating leaf arrangement

Leaf appearance

Very glossy, dark green, oval leaves with a **smooth edge** (no teeth).

Leaf veins

Lateral (side) veins are **slightly curved**.

Fruit

Unlike Common Buckthorn, Glossy Buckthorn has male and female parts on all shrubs. The fruit is **pea-sized** and ripens from green to red to black.

No thorns!

Despite having "thorn" in its name, Glossy Buckthorn **does not have thorns**.

Flowers

Tiny and green, similar to Common Buckthorn.



Peter Dziuk, mwwildflowers.info

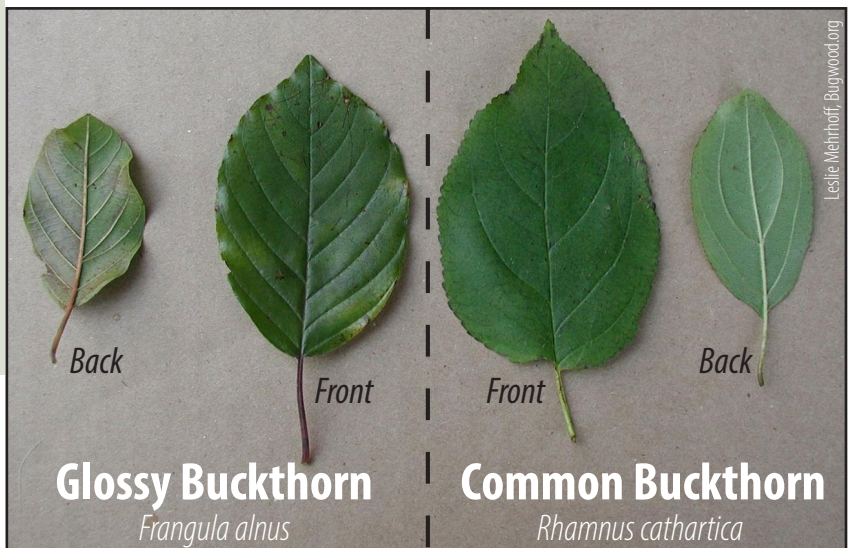
Bark

The bark of Glossy Buckthorn is similar to Common Buckthorn.



Leslie Mehrhoff, Bugwood.org

Which Buckthorn is It?



Back



Front



Front



Back

Glossy Buckthorn

Frangula alnus

Common Buckthorn

Rhamnus cathartica

Leaf color: **Very glossy dark green**

Leaf shape: Squat oval

Leaf edge: **Smooth** (no teeth)

Leaf veins: **Slightly curved**

Location: **Prefers wet areas**

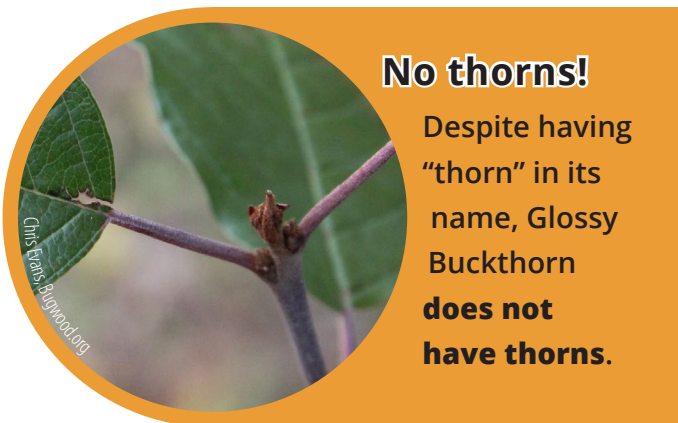
Leaf color: Glossy dark green

Leaf shape: Squat oval

Leaf edge: **Serrated** (toothed)

Leaf veins: Very curved

Location: Variable




No thorns!

Despite having "thorn" in its name, Glossy Buckthorn **does not have thorns**.

Chris Evans, Bugwood.org

HOW TO CONTROL BUCKTHORN

More than one method may be appropriate to control buckthorn on your property.


 Look for this icon for methods best for residential use.




Be Berry-Aware

Have a lot of buckthorn? Focus first on controlling fruit-bearing shrubs to reduce the seed load.

Non-Chemical Control Methods

 **Cut & Cover**



Best for: Buckthorn 2 inches or greater in diameter.

Timing: Any time

Notes: Cut stem near soil surface then cover with empty tin can or thick, black plastic bag (e. g. Buckthorn Baggie) to block sunlight.

 **Pull**



Best for: For shrubs less than 3/8 inch diameter, pull by hand. For larger shrubs, use a weed wrench tool.

Timing: Spring to fall. Easiest when soil is moist.

Notes: Minimize soil disturbance by tapping soil and native plants back in place after pulling.

Mow




Best for: Thick stands of small buckthorn in a large habitat restoration area. *Not appropriate for suburban yards.*

Timing: Winter (frozen soil)

Notes: Repeated forest mowing weakens buckthorn and allows native plants to take hold.

Graze




Best for: Habitat restoration in large areas such as parks. *Not appropriate for suburban yards.* Your city may prohibit or require a permit.

Timing: Spring to fall

Notes: Repeated grazing cycles weaken buckthorn and to knock it back and allow native plants to take hold.

Chemical Control Methods

 **Cut Stump & Treat**




Best for: Any size


Timing: Best time is fall; avoid spring.

Notes: Treat stump immediately after cutting (don't wait more than 2 hours). No need to treat center of stump.

Apply herbicide to the outer rings of a stump. This is where the sapwood is located, which will transport the herbicide down to kill the roots.



 **Spray Leaves (Foliar)**




Best for: Small buckthorn

Timing: Best time is fall; avoid spring.

Notes: To avoid herbicide drift, spray plants that are less than 3 feet tall.

Basal Bark Application



Best for: Buckthorn less than 3 inches in diameter.

Timing: Winter

Notes: Use carrier oil to penetrate bark. Apply directly to bark from root collar to 12 inches above ground.

Herbicides to control buckthorn

Source: MnDNR

Brand name examples	Active ingredient	Concentration of active ingredient	Use
Ortho Brush-B-Gon	Triclopyr amine	Ready to use/do not dilute	Cut stump
Ferti-Lome Brush Killer & Stump Killer	Triclopyr amine	Ready to use/do not dilute	Cut stump
Garlon 3A, Vastlan	Triclopyr amine	Mix 1 part Garlon 3A with 3 parts water for a 25% solution. For Vastlan, follow label directions.	Cut stump
Garlon 4 Ultra, Element 4	Triclopyr ester	Mix 1 part Garlon 4 with 3 parts basal bark oil to achieve a 25% solution.	Cut stump
Pathfinder II	Triclopyr ester	Cut stump: 25% active ingredient Basal bark: 5% active ingredient	Cut stump or basal bark
Roundup, Accord	Glyphosate	Cut stump: At least 25% active ingredient Foliar: 2% active ingredient	Cut stump or foliar spray



Treating near water? Use an herbicide labeled for aquatic use.

Always follow label directions!

When selecting a ready-to-use herbicide, look at the label to see if the product has the correct concentration of active ingredient.

Active Ingredient	
Glyphosate.....	25%
Other Ingredients....	75%
TOTAL.....	100%

FIND MORE RESOURCES: rpbcwd.org/buckthorn

COMMON BUCKTHORN Lookalikes



COMMON BUCKTHORN:
Squat oval leaves **opposite** or nearly opposite along branch. Green flowers.



GLOSSY BUCKTHORN:
Squat oval leaves that **alternate** along branch. Green flowers.



MOST NATIVE SHRUBS:
Longish oval leaves that **alternate** along branch. White flowers.

NAME

LEAVES

FLOWERS

FRUIT

Common Buckthorn

Rhamnus cathartica

INVASIVE

Leaves: Opposite or nearly opposite; egg-shaped with finely toothed edge; side veins distinctly curved

Flowers: Tiny, inconspicuous yellow-green clusters

Ripe fruit: Dark purplish-black



Blooms
June-July



Gray Dogwood

Cornus racemosa

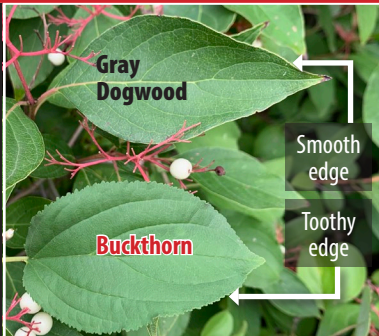
NATIVE

Leaves: Alternate, edge is smooth and often wavy

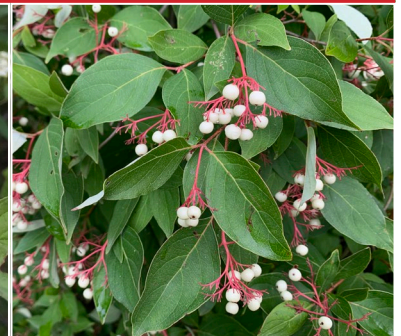
Flowers: Rounded white clusters

Ripe fruit: White

Note: Stems may be red



Blooms
June-July



Black Cherry

Prunus serotina

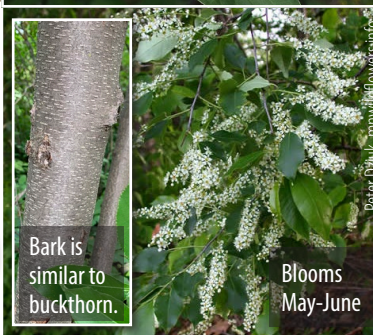
NATIVE

Leaves: Alternate; blunt-tooth edge; leaf length much longer than wide

Flowers: Long white clusters on stalk

Ripe fruit: Dark purplish-black

Note: Look for orange or yellow fuzz on back of leaf. Bark of Black Cherry is similar to buckthorn.



Bark is
similar to
buckthorn.

Blooms
May-June



Chokecherry

Prunus virginiana

NATIVE

Leaves: Alternate; finely toothed edge; side veins only slightly curved.

Flowers: Long white clusters on stalk

Ripe fruit: Dark reddish-black



Blooms
May-June



Black Chokeberry

Aronia melanocarpa

NATIVE

Leaves: Alternate, finely toothed edge; widest above middle of leaf

Flowers: Rounded white clusters with pink centers

Ripe fruit: Dark purplish-black



Blooms
May-July

