

Bucking a thorny invader

KELLY KEARNS

TAKE TIME THIS FALL TO TACKLE THAT HOSTILE 'WALL OF BUCKTHORN.'

John Henningsen

For more than 100 years, buckthorn has been an increasingly virulent scourge to much of the woodlands of Wisconsin and neighboring states. The invasive plant from Europe thrives in a variety of soil and light conditions and has no known insect or animal enemies. Buckthorn out-competes most native plants.

Over a period of decades, the forest affected by buckthorn is often replaced by a mass of impenetrable brush up to 25 feet high that is inhospitable to most wildlife and of no value to our ecological system. It becomes a "wall of buckthorn," snuffing out valuable native flora, degrading wildlife and negatively impacting hunting grounds. You can no longer enjoy a casual walk through the woods.

Two species of invasive buckthorn with several common characteristics grow in Wisconsin. Both common and glossy buckthorn leaf out early in the spring, retain their leaves until very late in the fall and produce black berries with seeds

that are spread by mammals, birds and vehicles. The seeds can survive for many years; the berries look like choke cherries and are somewhat poisonous, causing diarrhea in both birds and humans.

Effective control of each type of buckthorn is best accomplished by spraying with an herbicide formula containing triclopyr. Fortunately, this chemical is not harmful to animals and will not kill grasses, although it will kill other non-targeted broadleaf plants.

Identification of species

Both common and glossy buckthorn were originally introduced or sold as ornamental plants. The prevalence of one

or the other is likely related to which of the two was promoted in the part of the state where it is now most widespread.

Common buckthorn (*Rhamnus cathartica*) is the most prevalent species in Wisconsin. In older plants the bark is very rough, similar to a cherry tree. Younger plants have a smoother bark, often with short, horizontal, light-colored streaks, called lenticels, on the stem. All but very young stems have an inner bark with a very characteristic orange color when cut or abraded with a knife. Distal branches are often V-shaped with a terminal spine of variable length. Leaves have small saw-toothed edges and about five curved, sickle-shaped leaf veins. Berries turn from green to black in the fall.

Glossy buckthorn (*Rhamnus frangula*/*Frangula alnus*) is more commonly found in lowlands. The branches have no terminal spine. Leaves have a smooth edge and about eight slightly curved parallel veins. The top side tends to be shiny and the undersurface may have a hairy velvet appearance. Berries turn from a reddish brown to black in the fall.

Buckthorn control

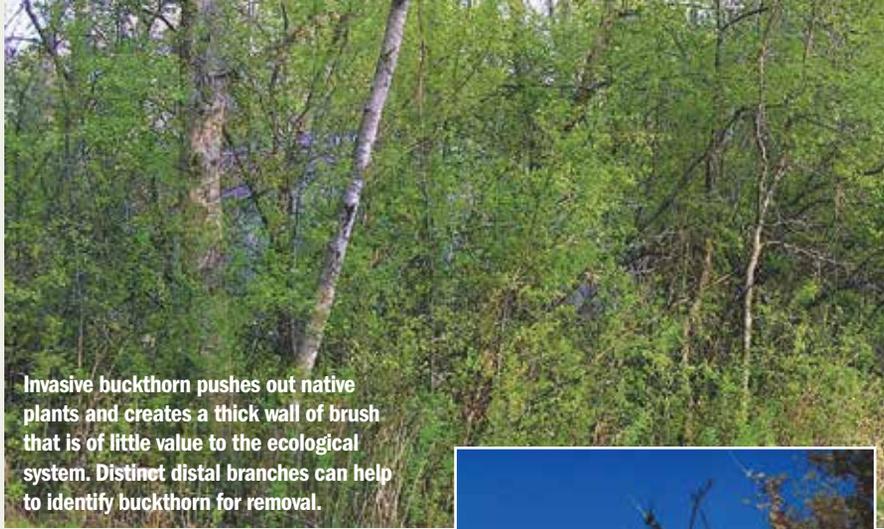
By far the most efficient and effective control methods for treating buckthorn utilize an herbicide spray containing triclopyr. A recently improved product also contains dicamba and MCPA and is effective against other invasives such as prickly ash, honeysuckle and garlic mustard, which can be sprayed at the same time as spraying for buckthorn.

Small seedlings of buckthorn can be pulled and removed by hand. However, except for very small patches, this and other mechanical methods of control are very labor-intensive and, therefore, are seldom used. Spraying has become the



Common buckthorn can be identified by berries that turn from green to black in fall and by inner bark that is orange in color when cut or scraped with a knife.

RYAN VAN LANDUYT



Invasive buckthorn pushes out native plants and creates a thick wall of brush that is of little value to the ecological system. Distinct distal branches can help to identify buckthorn for removal.



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treatment method of choice. Commercial spraying is available but woodland owners can readily do it on their own.

Three commonly used modes of herbicide application — all using triclopyr — are very effective. The application of triclopyr differs largely on the basis of plant size and, secondly, on what kind of base liquid is used, usually water or diesel fuel. The goal of treatment is to get the triclopyr into the plant's vascular system.

The following mixture examples have been very successful. Please note, however, that federal law mandates herbicide users must always read and follow the herbicide label.

- **Foliage spraying** is for smaller plants as it requires spraying on 90 percent of the plant leaves. The mixture is 6 ounces of triclopyr to 1 gallon of water. MSO (methylated seed oil) mixed at 1 ounce per gallon can be added to aid absorption into the leaves.
- **Bark spraying** is for larger plants up to roughly a 4-inch stem diameter. It involves the circumferential spraying of the lower stem bark with about 4 inches of vertical spray coverage on the stem for each 1 inch of tree stem diameter. The mixture used is 20 percent triclopyr (one part) to 80 percent (four parts) ordinary diesel fuel. Or use bark oil instead of diesel — it is more expensive but doesn't smell as bad.
- **Cut stump spraying** is for trees larger than 4 inches in diameter. A chain saw is commonly used to cut the tree, followed by spraying the top of the stump. The mixture of triclopyr is the same as for bark spraying.

When using diesel fuel in any of the above applications, it's best to leave clothes and boots outside until washed and the smell dissipates. Domestic tranquility is thereby preserved.

Spraying is effective any time of year. However, because buckthorn holds on to its green leaves longer than most other plants, spraying is best done in late fall when the plants can easily be seen and identified in the woods. In addition, the herbicide-laced sap flows into the roots at that time of year and non-targeted plants have reached relative dormancy and are less affected by the herbicide. Look for the above-mentioned chemicals at any agricultural product store.

Using these suggested regimens, buckthorn plants will most certainly die within one year. Follow-up treatment is critical, however, because plants are always missed on the first go-around and new plants will germinate from dormant seeds. This new growth of small plants can be treated with the foliage spray the next year.

Infested areas usually require at least two to three successive years of treatment, with each year being easier. Subsequent monitoring is necessary indefinitely into the future. After the first year of treatment, an option is to carry two hand sprayers, one with foliage spray for smaller plants and one with bark spray for larger ones. A variety of sprayers can be used.

Make a plan — and stick to it

It's easy to get disheartened about treating buckthorn if your land contains several areas of infestation or the infestation has advanced into a "wall of buckthorn." If you appreciate that control is a long-



BUCKTHORN TRAINING VIDEO

Want to learn more about tackling this nasty invasive? A volunteer army of buckthorn warriors called the Cedar Lake Control Project is the recipient of donations and grants from the Department of Natural Resources. A DNR Invasive Species Grant was used in part to produce a buckthorn eradication training video. The video was developed by students from the Northern Lakes Regional Academy in Rice Lake, and coordinated by the Cedar Lake Buckthorn Project and an advisory committee of concerned citizens. Visit their website at <https://cedarlakebuckthorn.wordpress.com/history-and-proliferation/buckthorn-training-video/>

term process, the sooner you start, the easier it is, even if only a small area can be treated each year. Readers are encouraged to develop a practical, individualized multi-year plan.

The first priority in such a plan is to identify and treat the female berry-producing plants regardless of the tree size. Once they are killed, you can move on to treat the rest. It also may be helpful to treat smaller areas completely before moving on, even if you have to delay treating some places until future years. As areas are treated, they can be identified by some sort of boundary such as trails, fences or other obvious landmarks.

For even greater advantage, share the treatment plan with your family. It can have spin-off rewards of intergenerational bonding, education and pride. 🍷

John Henningsen lives in Rice Lake and has extensive experience treating tracts of land that have been variably infested with buckthorn. He has received advice from many experts. Questions? Contact him at jthenningsen@charter.net.



MORE INFORMATION

This article is intended to provide general guidance for landowners to protect their woods from invasive buckthorn plants. Before treating, readers are encouraged to consult guidelines on herbicides and seek advice from professionals such as provided by the DNR and UW-Extension. Visit dnr.wi.gov or hort.uwex.edu and search "buckthorn."