



MAINE INVASIVE PLANTS

Common Buckthorn and Glossy Buckthorn

Rhamnus cathartica and *Frangula alnus* (Buckthorn Family)

Threats to Native Habitats

Although seedlings of both buckthorns invade apparently stable habitats, they grow most successfully where there is ample light and exposed soil. These buckthorns have long growing seasons and rapid growth rates, and resprout vigorously after being topped. In North America, both species leaf out prior to most woody deciduous plants, and can retain their leaves well into autumn. Buckthorns rapidly form dense, even-aged thickets. The large leaves and continuous canopy create dense shade. Even-aged thickets are common in both wetlands and in woodland understories. Common buckthorn invasion is greatest in thinned or grazed woods, along woodland edges, and in openings created by windfalls. Common buckthorn's tolerance of moist, dry, or heavy clay soils increases its success in many types of habitats. Glossy buckthorn sometimes invades similar woodland habitats but more often invades wetlands that are comparable to its European wetland habitats. North American wetlands invaded by glossy buckthorn include wet prairies, marshes, calcareous fens, sedge meadows, sphagnum bogs, and tamarack swamps. Natural community composition, especially of upland deciduous woods and of wetlands, may be altered due to invasion of common buckthorn and glossy buckthorn. These species can cause habitat degradation, shade out rare species, and give rise to declines in native species diversity. Both buckthorns have become widespread in North America due to various disturbances, such as drainage, lack of fire, and woodland grazing and cutting, which have created ideal habitat for seedling establishment. Dispersal is accelerated by the birds and mammals that feed on the fruit of these species.

Description

Common buckthorn is a deciduous shrub or small tree that grows up to 20 feet in height. Dull green leaves are oval, edged with fine teeth, and one to



Buckthorn (top) and Glossy Buckthorn (photos by Mary W. Walker and Chris Mattrick, courtesy of the New England Wild Flower Society)

two inches long. The leaves have several pairs of distinct veins that are curved toward the leaf tip. Leaf arrangement on the stem is alternate to nearly opposite. Twigs may be tipped with sharp, stout thorns. Small clusters of fragrant greenish-yellow flowers, each with four petals, grow from among the leaves. Like common buckthorn, glossy buckthorn is a deciduous shrub or small tree. It can readily be distinguished from common buckthorn by several obvious characters. Glossy buckthorn has similarly shaped leaves, but they are glossy or shiny and lack teeth on their margins. Flowers are also similar, but have five petals on glossy buckthorn. Plants of both species reach seed-bearing age quickly, and both produce drupes (berries). Care should be taken not to mistake the native alder-leaved buckthorn for

these non-natives. Alder-leaved buckthorn can be distinguished from common buckthorn by the lack of thorns at the end of its twigs, and it can be distinguished from glossy buckthorn by the presence of small teeth on its leaves.

Habitat

Potential habitats of common buckthorn are diverse and include open woods, thickets on exposed rocky sites, hedgerows, pastures, and roadsides. It grows in well-drained sand, clay, or poorly drained calcareous soils, but prefers neutral or alkaline soils. It is less vigorous in dense shade. Glossy buckthorn typically inhabits wetter, less shaded sites than common buckthorn. It grows in soils of any texture. Habitats include alder thickets and calcareous or limestone-influenced wetlands.

Distribution

Common buckthorn is native to Europe and grows in West and North Asia. Glossy buckthorn is native to North Africa, Asia, and Europe. In North America, common buckthorn is naturalized from Nova Scotia to Saskatchewan, south to Missouri and east to Virginia. Glossy buckthorn occurs from Nova Scotia to Manitoba, south to Minnesota, Illinois, New Jersey and Tennessee. These species were probably introduced to North America before 1800, but did not become widespread and naturalized until the early 1900s. In the past they have been cultivated for hedges, forestry plantings, and wildlife habitat. In Maine, common buckthorn is documented in nearly every county, while glossy buckthorn has only been documented in four counties.

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Control

Cultural controls that have been used for management include cutting, mowing, girdling, excavation, burning, and "underplanting." Repeated cutting reduces plant vigor. Mowing maintains open areas by preventing seedling establishment. Glossy buckthorn girdled with a two- to three-centimeter-wide saw-cut, completely through the bark at the base, does not resprout. Girdling may be done at any time of the year. A five-second flame torch application around the stem kills stems less than 4.5 centimeters in diameter. Seedlings or small plants may be hand-pulled or removed with a grubbing hoe. Larger plants may be pulled out with heavy equipment. Excavation often disturbs roots of adjacent plants, or creates open soil readily colonized by new seedlings. This technique may be most useful to control invasion at low densities, or along trails, roads and woodland edges.

References:

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