

Invasive Species

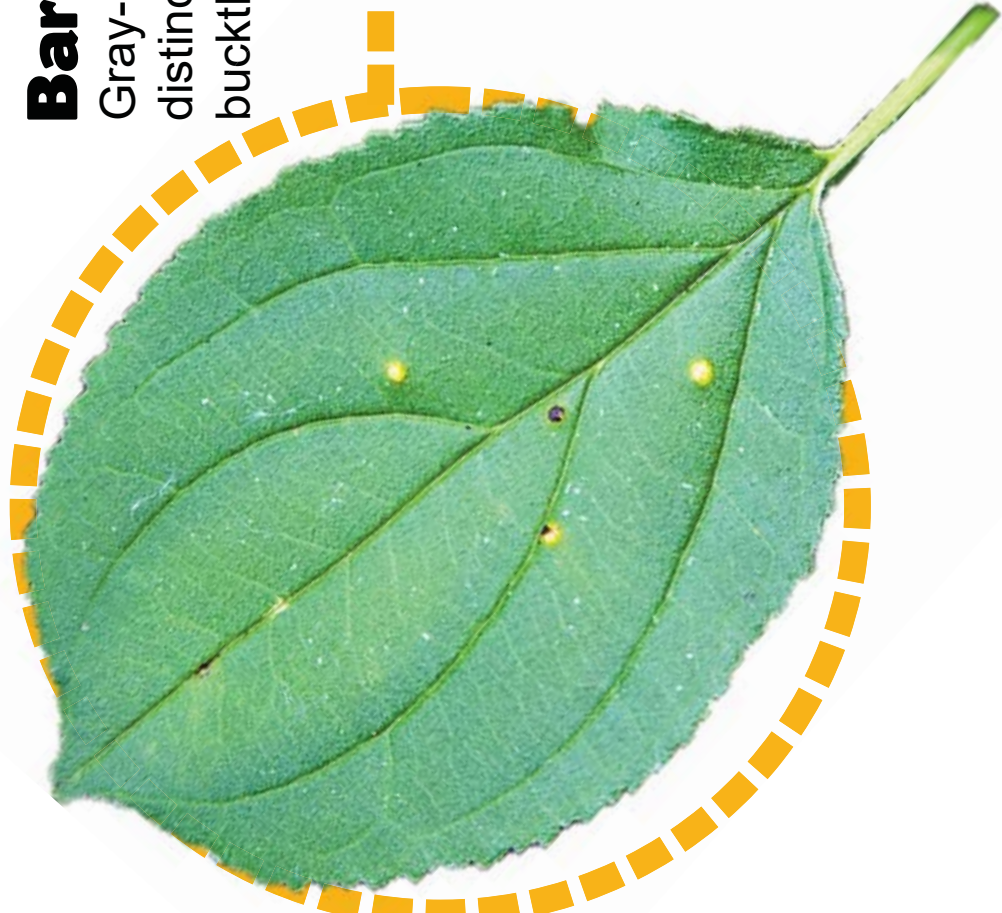
Invasive species are species that are not native to the local area and cause economic or environmental harm or harm to human health. Our local natural resources are threatened by a number of invasive species such as zebra mussels, Eurasian watermilfoil, common buckthorn, and emerald ash borer. Invasive species can occur on land or in the water. Below are characteristics and information on why buckthorn and zebra mussels are referred to as an invasive species.

Common Buckthorn

Common buckthorn (*Rhamnus cathartica*) was first brought to Minnesota from Europe in the mid-1800s as a very popular hedging material. Shortly after its introduction here, it was found to be quite invasive in natural areas. The nursery industry stopped selling it in the 1930s, but many buckthorn hedges may still be found in older neighborhoods throughout Minnesota. Common buckthorn can grow to be 25' tall.

Fruit

The fruit of the female tree is round, fleshy, black, and berry-like, (1/4" diameter) containing 3-4 seeds. Birds are very attracted to the fruit causing it to spread. Common buckthorn fruits are green hanging to black in fall and are retained long into winter.



Bark and Branching

Gray-brown bark, yellow inner bark and orange heartwood are distinctive. Buds and leaves are mostly opposite in common buckthorn & has short, spike-like thorns at the tips of twigs.

Leaves

Elliptic to oval, mostly subopposite, hairless, dark green leaves (to 3" long) have 3-5 pairs of veins and toothed margins. Leaves retain green color long into fall, but eventually turn yellow.

Habitat

Common buckthorn occurs in uplands, mainly in the understory of oak woods, savannas, riparian woods but also in grasslands. It is often found in disturbed areas such as thickets, hedgerows, pastures, abandoned fields, roadsides and on rocky sites.

Glossy Buckthorn

Glossy buckthorn (*Frangula alnus*), also from Europe, has been sold by the nursery trade in three different forms. There are several variations of buckthorn, also called cultivars. The cultivar *Columnaris* has a narrow and tall form; the cultivars *Aspenifolia* and *Ron Williams* have narrow leaves that give them a fern-like texture. This buckthorn aggressively invades wetlands including acidic bogs, fens and sedge meadows. Glossy buckthorn grows to be 18' tall.

Fruit

Glossy buckthorn produces less fruit than common buckthorn. It has 2-3 ungrooved seeds that are red-brown, changing to black in late summer to early fall which fall rapidly when ripe.

Bark and Branching

Brown or gray in color, often with scattered short, horizontal, light-colored lines called lenticels. Older bark of common buckthorn can be rough, and strips of bark may curl. Glossy buckthorn is thornless; twigs are tipped with buds.

Leaves

Glossy buckthorn leaves alternate on stems, and are simple and oval shaped with toothless margins. Leaves are dark green and glossy, with 8-9 pairs of leaf veins that radiate out from along the central midvein. Undersides of leaves are smooth.

Habitat

Glossy buckthorn is an aggressive invader of wet or moist soils, but also grows well in a wide variety of upland habitats, including old fields, roadsides and dry woodlands.

Zebra Mussels

Zebra mussels are small, fingernail-sized animals that attach to solid surfaces in water. Adults are 1/4 to 1-1/2 inches long and have D-shaped shells, often with alternating yellow and brownish colored stripes. Female zebra mussels can produce 100,000 to 500,000 eggs per year. These develop into microscopic, free-living larvae (called "veligers") that begin to form shells. After two to three weeks, the microscopic veligers settle and attach to any firm surface using tiny fibers called "byssal threads." Zebra mussels are native to Eastern Europe and Western Russia and were brought over to the Great Lakes in the ballast water of ships. Populations of zebra mussels were first discovered in the Great Lakes in 1988

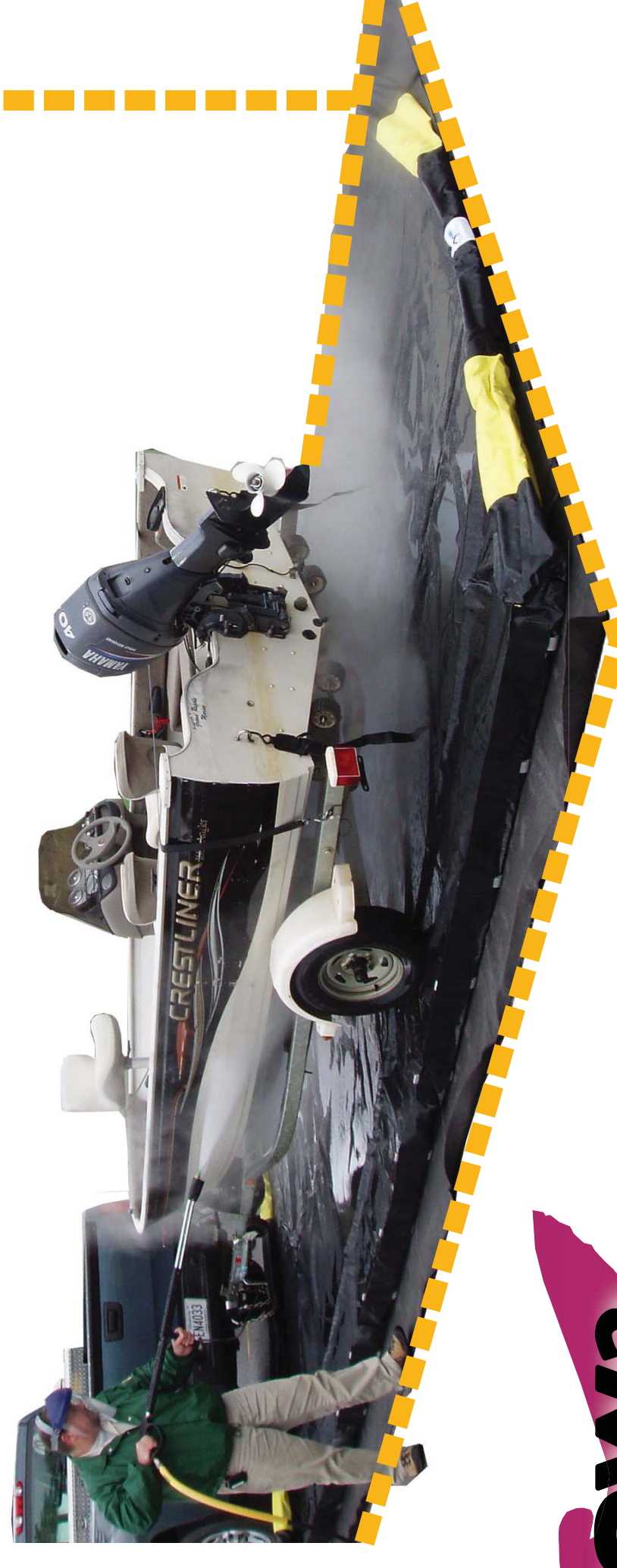


Above: Zebra mussels form massive colonies and will attach to anything submerged that is submerged in an infested waterbody including native mussels.

Impacts:

Zebra mussels can be a costly problem for cities and power plants when they clog water intakes. Zebra mussels also cause problems for lakeshore residents and recreationists; for example, they can attach to boat motors and boat hulls, reducing performance and efficiency, attach to rocks, swim rafts and ladders where swimmers can cut their feet on the mussel shells, and clog irrigation intakes and other pipes.

Zebra mussels also can impact the environment of lakes and rivers where they live. They eat tiny food particles that they filter out of the water, which can reduce available food for larval fish and other animals, and cause aquatic vegetation to grow as a result of increased water clarity. Zebra mussels can also attach to and smother native mussels.



Status:

Zebra mussels have spread throughout the Great Lakes, parts of the Mississippi River, and other rivers and inland lakes. They are established in Minnesota and were first found in the Duluth/Superior Harbor in 1989. See the infested waters list for more information on water bodies in Minnesota where zebra mussels have been found or water bodies that are closely connected to zebra-mussel-infested waters. The Red River is on Minnesota Department of Natural Resources infested water list for zebra mussels

How to prevent their spread:

Mussels attach to boats, nets, docks, swim platforms, boat lifts, and can be moved on any of these objects. They also can attach to aquatic plants. Attached adult mussels can survive out of water and spread from one water body to another. Microscopic larvae (veligers) can survive in water contained in bait buckets, bilges, ballast bags or any other water moved from an infested lake or river. In Minnesota, you must take the following steps to prevent the spread of zebra mussels:

Clean weeds and debris from your boats, and remove any attached zebra mussels,

Drain your boat, livewells, and baitwells, and keep all drain plugs out while traveling,

Dispose of unwanted bait in the trash, and

Dry docks, lifts, swim rafts and other equipment for at least 21 days before placing equipment into another water body.

DID YOU KNOW?

Invasive species are capable of causing extinctions of native plants and animals, reducing biodiversity, competing with native organisms for limited resources, and altering habitats.