INVASIVE EXOTIC PLANTS

What is an invasive exotic plant?

An invasive exotic plant (IE) is one that has been introduced to an area from outside its native range, either purposefully or accidentally, and that expands its range into natural areas, disrupting and out-competing the native plant community.

Not all non-native plant species become a problem. Some exotic species do not expand into natural areas because conditions outside of maintained gardens are unsuitable. However, these garden plants, while not harmful, may be of limited or no value to native wildlife. Plant species that become invasive have the following characteristics:

- Produce abundant viable seeds that are easily dispersed by wildlife, wind, water, etc.
- Lack predators, pests, and/or diseases to keep them in check, thus allowing them to out-compete native plants
- Are fast-growing and thrive on disturbance
- Have longer growing seasons than native plants

It is important to be aware that IE plants may not spread “in place.” Seedlings are often pulled up because they look like other weeds in your garden or because they sprout in lawns and are killed by repeated mowing. However, their fruits and seeds may be eaten by birds and other wildlife, and dropped in other places. This is the reason why many areas In Pisgah National Forest and along the Blue Ridge Parkway are heavily infested.

Why should we care?

- IE plants **reduce biodiversity** of native plants and animals, and alter natural communities.
- Currently over 100 million acres of US land, or an area roughly **3 time the size of North Carolina, are infested with IE plants**. This figure is increasing at a rate of 3 million acres per year, an area 7 times the size of Buncombe County.
- IE plans **cost the U.S. $34.7 billion a year** on average. This cost includes loss of recreation revenue as well as maintenance, prevention, and control of IE plants.
- IE plants can also be **costly for landowners**: vines can damage and weaken siding; robust IE trees can quickly crack foundations; dense infestations can negate any prior landscaping efforts; weight of invasive vines can bring down native trees.

What are we doing about this problem?

The Town of Weaverville has pursued multiple approaches to the problem of IE plants. The Town- sponsored program that began in 2007 and resulted in Weaverville being named a Community Wildlife Habitat by the National Wildlife Federation included projects that replaced IE plants with natives, as well as the production of educational materials. One result of this effort

was to revise the Town landscaping ordinance, which applies to developments involving two or more residences, so that IE trees and shrubs may no longer be planted in these situations. The Weaverville Wildlife Habitat Team continues to encourage and assist with the use of native plants in landscaping.

In 2014, the Town completed work on a grant from the NC Department of Forestry that supported development of a plan to manage IE plants in Weaverville. This plan can be found on the Town website (Invasive Exotic Plant Management Plan for the Town of Weaverville). Because the Town can only implement control on Town-owned properties, this program is largely educational in nature. Under the auspices of Weaverville Wildlife Habitat and the Main Street Nature Park Steering Committee, the Town is actively involved in efforts to remove IE plants in Main Street Nature Park and replace them with native species. This is a slow process, given that it depends primarily on volunteers and is time-consuming and physically demanding. Anyone wishing to participate in volunteer workdays in the Park should send an enquiry to wwhabitat@gmail.com.

Weaverville's Top Offenders

An extensive array of IE plants can be found within the Town limits and on lands surrounding the Town. We list below the trees and shrubs that are most widespread within the Town limits. This list targets woody plants and does not include any of the numerous IE herbaceous perennials that find their way to every tiny nook and cranny. Additional photographs and information about our top offenders, including control techniques, can be found in The Management Plan, (link) beginning after page 11. There are also many publications about IE species, as well as online resources – for example, see the Invasive Plants Atlas, a site sponsored by the National Park Service and the University of Georgia (http://www.invasiveplantatlas.org/).

Privet (*Ligustrum sp*.)

Privet was introduced into the United States in the early 1800s. It is commonly used as an ornamental shrub and for hedgerows. It is spread primarily by birds, which eat the berries. If privet hedges are trimmed frequently, they are unable to flower and set fruit, but when left to grow unchecked, they will spread rapidly and form dense thickets. Some will reach tree size.

There are multiple privet species originating in Japan, Korea, China, Europe, North Africa, and the Mediterranean area. In our region, they flower between April and June and begin producing fruit in July. The berries persist throughout the winter. This shrub is evergreen and can be easily recognized all year. Privet and English ivy are likely the most common and widespread invasive exotic plants in Weaverville.

Karan A. Rawlins
University of Georgia

Oriental Bittersweet (*Celastrus orbiculatus*)

This vine, with its very showy berries, was iintroduced from Asia in 1736. For many years, it was planted as an ornamental, for erosion control along highways, and for wildlife food and habitat. It was (and still is) sold in wreaths and other decorative flower arrangements, especially in fall and winter. It is spread by birds and other animals that eat the berries, but also by people who discard decorations. Unfortunately, Oriental bittersweet closely resembles the native American bittersweet (*Celastrus scandens*) and the two species may hybridize.

This climbing woody vine may reach a diameter of 4-5” and will grow up trees to a height of 60’. It occurs mostly at forest edges, forest openings, and along roadsides. It can smother herbaceous plants on the ground as well as tall trees and shrubs. Its sprawling growth monopolizes light and water resources. It can twine tightly as it climbs, constricting and eventually girdling shrubs, tree limbs or entire trees as both continue to grow. Tangled mats of vines in trees can make them top-heavy and increase their susceptibility to wind and ice damage.

Both oriental and American bittersweet have orange roots, so this character cannot be used to distinguish them. However, American bittersweet has elliptical rather than rounded leaves. The flowers and fruit of the female plants occur in a single clump at the tips of the stems rather than spread along the stems. Male flowers of the native vine may occasionally occur along the stems but will not produce fruit.

Native alternatives to oriental bittersweet include American bittersweet (*Celastrus scandens*), Virginia creeper (*Parthenocissus quinquefolia*), trumpet creeper (*Campsis radicans*), crossvine (*Bignonia capreolata*), and coral honeysuckle (*Lonicera sempervirens*).

Chris Evans
Illinois Wildlife Action Plan

John M. Randall
The Nature Conservancy

English Ivy (*Hedera helix*)

This evergreen woody vine was introduced from Europe in colonial times. It is still widely sold and planted as an ornamental. It can cover the ground in dense mats and will readily climb any structure in its vicinity. As long as it is confined to the ground, it will not flower and produce fruit. However, it will flower profusely when allowed to climb and can then spread because the berries are fed on by birds and other wildlife.

English ivy can climb to 90’ and like oriental bittersweet, it can smother and destroy shrubs and trees. It will also cling to buildings, to which it attaches by root-like structures that exude a glue-like substance to aid in adherence. The vines will damage houses by growing up under siding, where they are very difficult to remove.

English ivy thrives in open forests, but will grow under almost any conditions. It is toxic to humans when consumed and can also cause a contact dermatitis (like poison ivy) in susceptible individuals. For alternative native vines, see oriental bittersweet. If looking for a replacement ground cover, consider Canadian wild ginger (*Asarum canadense*) or green-and-gold (*Chrysogonum virginianum var. australe*).

Chuck Bargeron
University of Georgia

Japanese Honeysuckle (*Lonicera japonica*)

Although many of us grew up with the sweet smell of this flowering vine, it is a rampant invasive in much of the country. Native to eastern Asia, it was introduced to the United States from Japan in 1806. Widely used as an ornamental and for erosion control, it quickly spread out of control. It has all the undesirable traits of our other IE vines.

For native alternatives, see oriental bittersweet and English ivy.

Troy Evans
Great Smoky Mountains National Park

Exotic Bush Honeysuckles (*Lonicera sp.)*

There are at least four different species of invasive exotic bush honeysuckles in the southeastern United States. Bush honeysuckles are native to Asia and Western Europe. These species were brought to North America at various times between 1752 and 1875. Bush honeysuckles were promoted by state and federal agencies to improve wildlife habitat and as a popular ornamental. Birds and small mammals are the primary distributors of exotic bush honeysuckle seeds. It is thought that these honeysuckles suppress the growth of surrounding vegetation. These shrubs are generally found along forest edges and in abandoned fields.

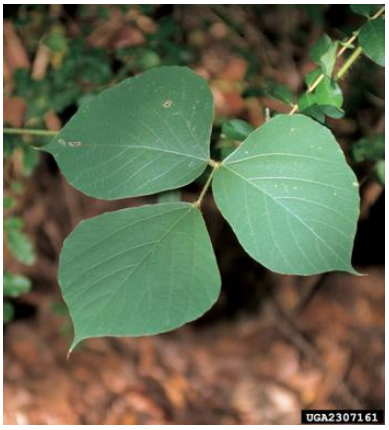
We also have some native bush honeysuckles in our area and identification is sometimes problematic for the non-botanist. One way of telling them apart is that the older stems of the exotic species are hollow, while those of the native species are solid.

Exotic bush honeysuckles are widely sold by plant nurseries and caution should be used in buying any species of bush honeysuckle. The native species in our area are the northern bush honeysuckle (*Diervilla lonicera*) and American fly honeysuckle (*Lonicera* canadensis). The latter is rare in the wild in North Carolina, but available in the nursery trade. In addition, many other native shrubs can be used in place of exotic bush honeysuckles.

John M. Randall
The Nature Conservancy

Kudzu (*Pueraria montana*)

Sometimes referred to as the plant “that ate the South,” this extremely aggressive vine was introduced to the United States from Asia in the late 1800’s for erosion control and livestock feed. Vines may reach 100’ in length and extreme persistence is required to control this plant. It is hard to imagine that anyone would actually consider planting kudzu, but if you are – under no circumstances should you bring this plant or any part of it on your property!!!



James H. Miller
USDA Forest Service

Multiflora Rose (*Rosa multiflora*)

Multiflora rose was first introduced to North America from Japan in 1866 as rootstock for ornamental roses. During the mid -1900s it was widely planted as a “living fence” for livestock control and as wildlife cover. It tolerates a wide range of environmental conditions and is able to invade many different habitats. It forms extremely dense thickets that exclude native plants. Its thorns make it a nightmare to control.

Like kudzu, it is now hard to imagine that anyone would consider deliberately planting this species. Our native rose is the Carolina rose (*Rosa carolina*). Unlike multiflora rose, its thorns are relatively small and weak, it does not have arching stems, and it is relatively small in stature.

Leslie J. Mehrhoff
University of Connecticut

Japanese Knotweed (*Fallopia japonica*)

Native to Japan, China, and Korea, Japanese knotweed was introduced as an ornamental plant in the late 1800's. It is listed by the World Conservation Union as one of the world's worst invasive species. It prefers streamside habitats, where it can reach heights of 15 feet or more and produce roots that are 50 feet in length. Root growth is so strong that it can penetrate foundations and crack sidewalks. While not widespread in Weaverville, any appearance of Japanese knotweed should immediately be tackled as aggressively as possible. This plant occurs along the streams in Main Street Nature Park and the Town has gone to considerable effort to control it. A large patch has been significantly diminished, but other infestations remain and will require many years of continuing effort to contain.

Steve Manning
Invasive Plant Control

Tree of Heaven (*Ailanthus altissima*)

The deciduous tree may grow to 80 feet in height. It colonizes new areas by root sprouts and seeds that are spread by wind and weather. Originating from China and Taiwan, it was introduced as an ornamental tree by a Pennsylvania gardener in 1748 but is seldom planted now. It grows in a wide variety of soil types, likes full sun, and is quite drought tolerant. Like Japanese knotweed, it has been known to damage pavement and building foundations in urban areas. It also appears to secrete a chemical that prevents other plant species from growing nearby. This tree gained a bit of fame as the species featured in the book “A Tree Grows in Brooklyn” by Betty Smith.

Tree of heaven strongly resembles our native sumac, but can be identified by the foul odor given off by the leaves or flowers when they are crushed. It also resembles black walnut, the leaves of which also have a characteristic odor when crushed, although the odor is not nearly so offensive.

Leslie J. Mehrhoff
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