The Truth About Invasive Plants

The terms "nonnative", "invasive," "alien," "pest plant," "problem species," and "noxious weed" have been used for plants from other continents or distant parts of a large country which disrupt native plant communities and other desirable vegetation. Most non-native plants do not become problems, but too often plants out of their natural range crowd out natives and create adverse economic impacts.

You can help control known invasive plants and avoid introducing new threats by understanding the problem:

What characteristics make invasive plants a problem?

High productivity. More seeds mean more seedlings. Purple loosestrife produces hundreds of thousands of seeds or more, per plant. By prolific seed production they quickly establish in disturbed areas, crowd or shade out other plants, gradually spreading into less disturbed areas.

Seed dispersal. Exotics whose seeds easily get around tend to quickly surround. Sericea lespedeza seeds are eaten by birds, which deposit undigested seeds everywhere on the fly.

Growth period or seasonal advantages. When sunlight and soil conditions are right for growth, invasives will grow, even if the season is shifted from their home and the local natives aren't growing.

Lack of natural controls. Insects and plant diseases seldom travel to new habitats with their invasive host.

How do plants move from their natural range to new, distant places? Accidentally, and when well-intentioned people move them. Eurasian water milfoil seeds and plant parts traveled from Europe to the eastern U. S. coast in ship ballast, and then spread to the Midwest by waterfowl and boats. Invasive modes of travel: Ship ballast/boat bilge - Boat propellers- Bird ingestion - Floodwaters - Nursery sales contaminated fill soil - With agricultural seed

Whose problem is it? Invasive plant control costs millions of dollars each year. Herbicides, labor, and research top the bill in the fight against plants which threaten to clog waterways, ruin fisheries, turn pasture to wasteland, compete with agricultural crops, shade out forest regeneration and overrun natural areas.

How to stop invasives: Get to know the common invasive threats. Inform friends and neighbors. If you see these offered for sale, explain the problem to your nursery, grower or supplier. If you find any on your property, inform the Weed Control Authority. Support national, state and local efforts of early detection and rapid response to newly found invasive plants.

Some invasive plants to watch out for:

Known invasive plants well established in Lancaster County

*Musk thistle
*Leafy spurge
*Plumeless thistle
*Canada thistle
*Purple loosestrife
*Saltcedar
*Phragmites
*Knotweed
*Sericea Lespedeza

Known invasive plants with increasing populations in Lancaster County

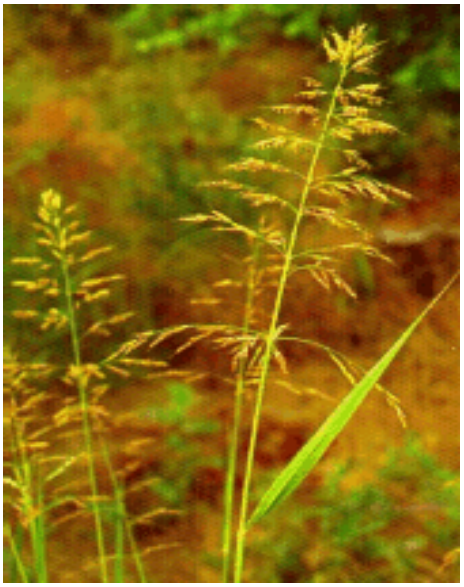
*Johnsongrass, Garlic mustard, Caucasian bluestem, Cut-leaf teasel, St. Johnswort.

Sericea lespedeza, *Lespedeza cuneata*

Description: A warm season, perennial herb in the pea family, or Fabaceae. It has an erect growth form, ranging from about 1.5 to 6.5 feet in height, and leaves that alternate along the stem. Each leaf is divided into three smaller leaflets, about 1 to 2.5 cm long, which are narrowly oblong and pointed, with awl-shaped spines. Leaflets are covered with densely flattened hairs, giving a grayish-green or silvery appearance. Mature stems are somewhat woody and fibrous with sharp, stiff, flattened bristles. Flowers are white or cream to yellowish-white, marked with purple or pink and emerge either singly or in clusters of 2-4, from the axils of the upper and median leaves.

Ecological Threat: Sericea lespedeza, is primarily a threat to open areas such as meadows, prairies, open woodlands, wetland borders and fields. Once it gains a foothold, it can crowd out native plants and develop an extensive seed bank in the soil, ensuring its long residence at a site. Established dense stands of lespedeza suppress native flora and its high tannin content makes it unpalatable to native wildlife as well as livestock.

Johnsongrass, *Sorghum Halepense (L.) Pers.*



Description: Johnsongrass is a perennial species over most of its range. Leaves are grasslike, up to 1 inch wide, with a prominent whitish midvein. The ligule is short and membranous with a hairy fringe; auricles are lacking. Stems can grow up to 8 feet in height, but our annual specimens will be closer to 3 or 4 feet tall. Large, open panicles are up to 1 foot long and emerge in midsummer. Spikelets are reddish in color and most are tipped by bent awns. Scaly, finger-thick rhizomes are produced from the crown.

Ecological Threat: Johnsongrass is an invasive grass that forms dense spreading patches that completely smother other grasses. Like all sorghums, Johnson grass can be toxic to livestock, especially during adverse growing conditions or periods of new growth. This grass is extremely difficult to control and can become a major problem in pasture and cropping areas.

Garlic mustard, *Alliaria petiolata.*

Description: Garlic mustard is a cool season biennial herb with stalked, triangular to heart-shaped, coarsely toothed leaves that give off an odor of garlic when crushed. First-year plants appear as a rosette of green leaves close to the ground. Rosettes remain green through the winter and develop into mature flowering plants the following spring. Flowering plants of garlic mustard reach from 2 to 3-½ feet in height and produce buttonlike clusters of small white flowers, each with four petals in the shape of a cross.

Recognition of garlic mustard is critical. Several white-flowered native plants, including toothworts (*Dentaria*), sweet cicely (*Osmorhiza claytonii*), and early saxifrage (*Saxifraga virginica*), occur alongside garlic mustard and may be mistaken for it.

Beginning in May, seeds are produced in erect, slender pods and become shiny black when mature. By late June, when most garlic mustard plants have died, they can be recognized only by the erect stalks of dry, pale brown seedpods that remain, and may hold viable seed, through the summer.

Ecological Threat: Garlic mustard poses a severe threat to native plants and animals in forest communities in much of the eastern and midwestern U.S. Many native wildflowers that complete their life cycles in the springtime (e.g., spring beauty, wild ginger, bloodroot, Dutchman's breeches, hepatica, toothworts, and trilliums) occur in the same habitat as garlic mustard. Once introduced to an area, garlic mustard out competes native plants by aggressively monopolizing light, moisture, nutrients, soil and space. Wildlife species that depend on these early plants for their foliage, pollen, nectar, fruits, seeds and roots, are deprived of these essential food sources when garlic mustard replaces them. Humans are also deprived of the vibrant display of beautiful spring wildflowers.

Garlic mustard also poses a threat to one of our rare native insects, the West Virginia white butterfly (*Pieris virginiensis*). Several species of spring wildflowers known as "toothworts" (*Dentaria*), also in the mustard family, are the primary food source for the caterpillar stage of this butterfly. Invasions of garlic mustard are causing local extirpations of the toothworts, and chemicals in garlic mustard appear to be toxic to the eggs of the butterfly, as evidenced by their failure to hatch when laid on garlic mustard plants.

Caucasian bluestem, *Bothriochloa ischaemum.*

Description: Caucasian bluestem is a small blue-grey graceful grass, with flowering stems that can reach 1 to 3 feet high. It forms dense tufts of blue-green smooth leaf blades, up to 12 inches long and less than ¼ inch wide with a thickened mid-vein. The nodes are purple-tinged and may be smooth or with short hairs. It blooms in late June to July, far earlier than our native bluestems. The inflorescence features side branches that are shorter than the central stem, and resembles a miniature version of Johnson grass (which blooms at the same time). Reproduction is by root and seed.

Ecological Threat: Caucasian bluestem alters soil function and biota by causing an altered carbon-to-nitrogen ratio that suppresses and inhibits growth of native grass. It forms much thicker sod than native grasses, making it unsuitable for quail nesting or cover. It can move from disturbed roadsides and pastures to high quality prairie and glade habitats, and is very difficult to eradicate once established. If left uncontrolled, it has the potential to completely take over our native grasslands.

Cut-leaf Teasel, *Dipsacus laciniatus*.

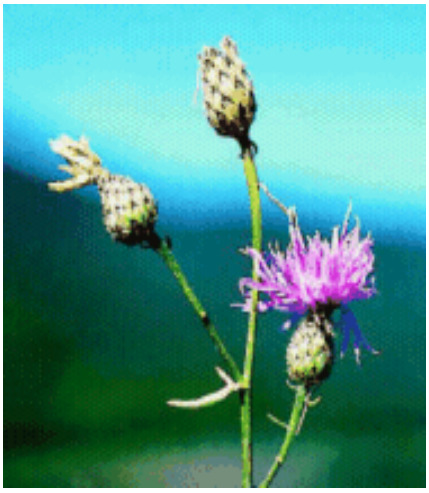
Description: Teasels are nonnative biennials or short-lived perennials that grow as a rosette for a minimum of one year, send up a tall flowering stalk and then die after setting seed. During the rosette stage teasels develop a large taproot that may be over two feet in length and an inch in diameter.

When flowering, teasels can reach a height of 7 feet. Both species have flowers packed in a dense oval shaped inflorescence on top of a spiny stem. Common teasel has pink or purple flowers, undivided leaves and bracts that are longer than the flowering head. Cut-leaved teasel has deeply lobed leaves and white flowers. A single teasel plant can produce approximately 3,000 seeds.

Ecological Threat: Cutleaf teasel grows in open, sunny habitats preferring roadsides and other disturbed areas, although it can sometimes be found in high quality areas such as prairies, savannas, seeps, and meadows. Cutleaf teasel was introduced from Europe in the 1700's and spreads by producing abundant seeds. It has been found in Lancaster county and the surroundings areas and should be eradicated if found. Cutleaf teasel is a noxious weed in Missouri, Colorado and Oregon and is on Nebraska's "watch list" for new invasive species.

Known invasive plants with few or no plants found in Lancaster County

Spotted and Diffuse Knapweeds, *Centaurea sp.**



Description: Each plant produces up to 25,000 seeds that are dispersed by wind, animals, and people. Seeds may remain viable for 8 years. Spotted Knapweed is a biennial or short-lived perennial. Mature plants may be 3 feet in height and are much branched. The weed forms a basal rosette the first year and stem leaves are pinnately divided. Flower heads are abundant, 1.5 cm long, and generally solitary on branch tips. Flowers are pink to purple, or occasionally white, and appear from midsummer to fall. Each stiff flower head bract has a dark comblike fringe resembling a black spot at the tip. Seeds are dark brown to tan and are tipped by plumes that fall off at maturity.

Ecological Threat: As an aggressive and hearty plant, knapweed is able to become established rapidly in new environments. Knapweed out competes native plant species, reduces native plant and animal biodiversity and decreased forage production for livestock and wildlife. Knapweed is also known for releasing a toxin into the soil as it grows, which can effect growth of native plants even after the knapweed has been removed.

Eurasian watermilfoil, *Myriophyllum spicatum L.*

Description: The exotic Eurasian watermilfoil is submersed. It tolerates a wide range of water conditions, and often forms large infestations. Eurasian watermilfoil stems are reddish-brown to whitish-pink. They are branched and commonly grow to lengths of six to nine feet. The leaves are deeply divided, soft and feather-like. Leaves are about two inches long. The leaves are arranged in whorls of three to six leaves about the stem. The flowers of Eurasian watermilfoil are reddish and very small. They are held above the water on an emersed flower spike that is several inches long.

Ecological Threat: Eurasian watermilfoil can form large, floating mats of vegetation on the surface of lakes, rivers, and other water bodies, preventing light penetration for native aquatic plants and impeding water traffic. The plant thrives in areas that have been subjected to various kinds of natural and manmade disturbance.

Designated noxious weeds in Nebraska

- **Canada thistle**
- **Musk thistle**
- **Plumeless thistle**
- **Leafy spurge**
- **Diffuse Knapweed**
- **Spotted Knapweed**
- **Purple loosestrife**
- **Phragmites**
- **Saltcedar**
- **Japanese Knotweed**
- **Giant Knotweed**
- **Sericea lespedeza**