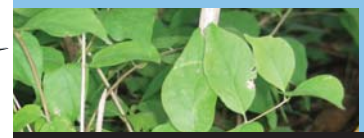
Drawings of the "dirty dozen" by artist Bob Waldmire



**Midewin National Tallgrass Prairie**
**30239 S. State Route 53**
**Wilmington, IL 60481**
**(815) 423-6370**
***www.fs.fed.us/mntp/***

Funding for this brochure was contributed by the Midewin Tallgrass Prairie Alliance and ExxonMobil.

Brochure design by Gammon Group



Midewin National Tallgrass Prairie

# Invasive Plants of Midewin

Midewin
National Tallgrass Prairie

Welcome to the Midewin National Tallgrass Prairie. Midewin was established in 1996 as the first national tallgrass prairie in the country. It is administered by the USDA Forest Service in close cooperation with the Illinois Department of Natural Resources and the support of hundreds of volunteers and partner agencies, businesses, and organizations.

The Illinois Land Conservation Act mandated four guiding purposes for Midewin's management:

- To conserve and enhance native populations and habitats of fish, wildlife, and plants;
- To provide for scientific, environmental and land use education and research;
- To allow agricultural use to continue under certain conditions; and
- To provide a variety of recreation opportunities.

As the largest portion of the peacetime conversion of the former Joliet Army Ammunition Plant, Midewin represents the largest prairie restoration attempted in the United States. Located just 40 miles south of Chicago, it also represents an unprecedented opportunity for urban dwellers to experience the wide open spaces that characterized the Prairie State 200 years ago.



# Invasive Plants of the Midewin National Tallgrass Prairie

Do you know that nearly one-quarter of the kinds of plants growing wild in Illinois are not native here; they come from somewhere else! Many of the plants we grow as crops, lawn, or garden flowers originate from Europe, Asia, or other places. Common wild plants, including dandelions, Queen Anne's lace, clover, and crabgrass were brought here from other lands. While most of these non-native plants are beneficial to us, or at least benign, some do cause problems; these are the non-native invasive plants.

Some of these plants cause obvious damage, such as the weeds that infest farmland or gardens, and some invasive plants have a more insidious impact. These plants harm our natural heritage by changing native habitats and, displacing native wildlife and plants. Invasive species (both plants and animals) are now considered the #2 threat to endangered wildlife and plants (#1 remains habitat destruction).

How did these non-native invasive plants get to Illinois? Some were brought on purpose and planted in gardens. Gardeners and nursery growers were unaware of the threat these plants posed and the plants have spread unchecked. Purple loosestrife, bush-honeysuckle, and buckthorn all originated as garden plants.

Other invasive plants were imported because of perceived benefits to wildlife or other natural resources. Autumn-olive and multiflora rose were planted to provide food and cover for wild game, and crownvetch was used to control erosion. Instead, these plants now degrade habitats and displace the native plants needed by wildlife for food and cover.

Invasive plants can alter wetlands by causing changes in water levels or shading out desirable vegetation. Reed canary-grass has taken over many wetlands and displaced all the native sedges, rushes, and wildflowers.

Why are these plants out of control? These plants have been brought here from somewhere else, and they left their natural enemies (especially insects and diseases) behind.

At Midewin, we attack invasive plants using many techniques. Restoring native habitats, such as tallgrass prairie, helps to provide competition for non-native plants. But for the natives to get a foothold, we often must reduce infestations by hand-pulling, mowing, cutting, cultivating, and using compatible herbicides. No one technique works 100%, and we often use a combination of the above methods.

This brochure features a representative "dirty dozen" of the nearly 50 non-native, invasive plant species at Midewin that threaten restoration, management, health, and safety.


# AMUR HONEYSUCKLE

(Lonicera maackii)

**Description:**

Amur Honeysuckle is a dense, many-stemmed shrub with shallow roots. Honeysuckle shrubs can grow up to 10 feet tall and as wide. The leaves and buds are opposite (arranged in pairs on the stem); the leaves are elliptical in shape, with a pointed tip. These shrubs often hold their green leaves until early November. Amur honeysuckle flowers during May and June; the flowers are fragrant and white, becoming yellow with age. Berries turn yellow, orange, then red in fall, and are in small clusters along the twigs. Many wildlife species (including deer and songbirds) eat the berries and distribute the seeds in their droppings. Other invasive honeysuckles are similar but do not have strongly pointed leaf tips; their berries ripen in early summer.

**How it came here:**

Amur honeysuckle is native to eastern Asia; other shrub honeysuckles are native to western Asia and Europe. Amur honeysuckle was introduced to North America as an ornamental, for windbreaks, and to provide cover and food for wildlife. It is now locally abundant in forests, woodlands, fencerows, and fields of Illinois and the Midwest.

**Negative Impacts**

Amur honeysuckle exhibits high seed production and vigorous growth, forming dense stands even in total shade. In forests this shrub inhibits development of native species through crowding, shading, and depleting soil moisture and nutrients. Eventually it displaces native trees and plants that have higher value for wildlife and people.



# AUTUMN OLIVE

(Elaeagnus umbellata)

**Description:**

Autumn-olive is a hardy shrub or small tree with alternate leaves (leaves arranged singly on the stem or in clusters on short lateral branches). The leaves are often covered with silver-green or silver-brown scales that can be rubbed off, exposing green tissue underneath. It is one of the earlier shrubs to break dormancy (new silvery buds appear in April) and grows rapidly, producing fruit within 3 to 5 years. Autumn-olive flowers during May and early June with small, trumpet-shaped, fragrant, cream-colored flowers. The cherry-like fruits are silvery with brown scales when immature, ripening to speckled red during September and October. The fruit is eaten by birds or other wildlife, and the seeds are dispersed in animal droppings.

**How it came here:**

Native to China, Korea, and Japan, this tree was introduced in 1830. It was heavily planted for perceived wildlife benefits and for landscaping along interstate highways. Autumn-olive is now a common shrub in roadsides and open habitats throughout much of Illinois and the Midwest. Most states no longer encourage its planting.

**Negative Impacts**

Autumn-olive grows rapidly and produces large amounts of fruits and seeds. Because the seeds are easily disseminated by birds, autumn-olive quickly invades open habitats. This shrub can easily adapt to many sites and quickly converts them to dense shrub thickets unsuitable for native wildlife and plants.

# EUROPEAN BUCKTHORN

(Rhamnus cathartica)

**Description:**

Buckthorn is a shrub or small tree growing up to 20 ft tall; the trunk may reach 10 inches diameter in old specimens. Buckthorns develop a spreading, loosely branched crown that grows from one to several stems at the base. Bark ranges from gray to brown with light-colored or silvery spots or lines, and twigs often have thorn-like spurs. If a branch is cut, the outer wood layers are yellow and the inner wood layers are pinkish to orange. Leaves are smooth and round or oval-shaped with tiny toothed or serrated edges. The flowers are small, greenish-yellow, and have four petals. The berries turn from green to black as they ripen in September.

**How it came here:**

Buckthorn was introduced from Eurasia as an ornamental in the mid 1800s; it was widely planted as a hedge or garden plant. Buckthorn is now locally abundant in forests, woodlands, fencerows, and residential areas in northern Illinois. The Illinois Exotic Weed Act makes it illegal to sell, plant, or distribute buckthorn.

**Negative Impacts**

European buckthorn produces large amounts of berries, which are eaten by birds; the birds then spread the seeds over long-distances. Buckthorn can tolerate dense shade and invades nearly any upland habitat. Once established, it displaces native woodland and prairie plants through shading and chemical alteration of soils. European buckthorn can also be a pest in gardens and yards in residential areas.



# FIELD THISTLE

(Cirsium arvense)

**Description:**

Field thistle is a perennial, herbaceous plant that grows from seeds or rhizomes. No other common, weedy thistle forms dense colonies from rhizomes like field thistle. Plants grow from 18 inches up to 5 feet tall; the stems are slender, slightly grooved, and branch only at the top. The leaves are oblong and somewhat lobed with crinkled spiny edges; the spines are sharp but short. The purple flowers are borne on the branched upper end of the stem from June through September. After flowering the seeds ripen and the flower heads open up as "thistledown." With the attached down, the seeds are dispersed by mowing, wind, in hay or straw, or occasionally by water.

**How it came here:**

Field thistle is native to Europe (not Canada). Seeds or rhizomes were accidentally brought into Canada with contaminated soil, crop seeds, or livestock bedding, probably before 1850. Once established in Canada, field thistle then spread southward, where it is now widespread in fields, roadsides, and pastures throughout most of the northern USA.

**Negative Impacts**

Field thistle is considered a Noxious Weed in Illinois, because it competes with row crops and can reduce the value of forage and hay crops. Field thistle also invades native prairies and wetlands, and can reduce native species diversity in these habitats. In areas where prairies or other habitats are being restored, field thistle must be controlled prior to restoration work.


# CROWNVETCH

(Coronilla varia)

**Description:**
Crownvetch is a perennial herb in the pea family; the stems grow along the ground, but can form intertwined mats up to 3 feet deep. The leaves are dissected into 11-25 small leaflets; unlike other vetches, it has no tendrils. Crownvetch has a white to pinkish-purple, clover-like flower that grows on a leafless stem and blooms from June to August. The flowers produce upright, narrow pods that contain slender seeds. The pods are sometimes eaten by deer or other animals, which then deposit the seeds in their droppings; otherwise the seeds fall when the pods open.

**How it came here:**
The original range for Crownvetch includes Europe and the Mediterranean region. In the USA it was introduced for erosion control and forage, and was frequently used to control erosion along roads and waterways, and as a green fertilizer crop. Crownvetch is now locally common in roadsides and fields; it also spreads along stream banks.

**Negative Impacts**
Crownvetch proved to be a poor choice for erosion control on steep slopes; deep gullies often develop where crownvetch has excluded grasses and other vegetation. It often spreads beyond the original planting site from seed and creeping roots. Crownvetch invades remnant prairies, woodland edges, open fields, and the banks and gravel bars of streams.



# CUT-LEAVED TEASEL

(Dipsacus laciniatus)

**Description:**
Cut-leaved teasel is a large herbaceous plant that grows from seed to develop a taproot and flattened rosette of leaves in its first year. In its second year, it sends up a prickly stem from 3 to 7 feet tall. The leaves are in pairs, and are joined into a cup where they meet the stem. These leaves are also prickly and the margins are dissected. The flowers develop on the upright branches, which are arranged somewhat like candelabra. The prickly, egg-shaped flower heads develop at the ends of the branches and are covered with clusters of small white flowers from July to early September. After flowering, the plants slowly die, dispersing their seeds as they dry out. Teasel seeds are distributed by wind and mowing of dead plants, as well as by people picking teasel heads for decorations. Another non-native species, the common teasel (Dipsacus sylvestris) is less abundant; it has lavender flowers and the leaf margins are not dissected

**How it came here:**
Cut-leaved Teasel was introduced to North America from Europe in the 1700s. Teasels are sometimes planted as ornamentals and the seed heads are used in dried flower arrangements. Cut-leaved teasel has rapidly expanded its range in the last 30 years, spreading into new areas along interstate highways and from there into other open lands.

**Negative Impacts**
Cut-leaved teasel often forms dense stands that exclude other herbaceous vegetation. When it invades prairie remnants, cut-leaved teasel eventually forms pure stands that displace native prairie grasses and wildflowers.

# GARLIC MUSTARD

(Alliaria petiolata)

**Description:**
Garlic Mustard is a biennial herb that grows in forests, woodlands, fencerows, and shaded yards. In its first year, its leaves resemble a violet's leaves, but emit a garlic odor. In its second year, its flowering stem grows 12 to 45 inches tall with dark green, triangular, kidney, or heart shaped leaves with scalloped margins. Loose clusters of tiny white flowers appear at the top of the stem in April to May, and its seeds ripen and disperse in mid-June to late September. The seeds are distributed via wind, floodwater, humans (on shoes, or clothes), and animals (in fur, paws, and hooves). Deer or other animals that eat the ripening seedpods probably also disperse the seeds in their droppings.

**How it came here:**
Garlic Mustard is native to Europe and was purposefully brought to North America as an edible plant. It was historically eaten in winter and early spring as a potherb.

**Negative Impacts**
Garlic Mustard invades the understory of native forests and woodlands. Eventually garlic mustard becomes the most common understory herb, crowding out many species of native wildflowers. This loss of diversity also has adverse effects on native pollinators and soil invertebrates. Garlic mustard is also a pest in shaded gardens.



# MULTIFLORA ROSE

(Rosa multiflora)

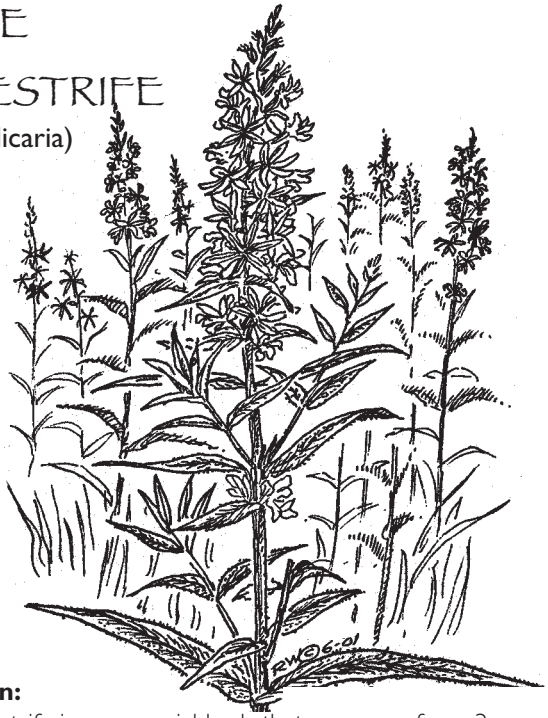
**Description:**
Multiflora rose is a dense, spreading shrub with reddish-brown, arching branches that are armed with curved thorns. The shrubs can reach up to 9 feet high, although they are usually shorter, and can spread to 10 feet across. The leaves are subdivided into 7 to 9 small oval leaflets with toothed or serrated edges. Multiflora rose blooms in late spring with numerous clusters of five-petaled flowers; the flowers are white to pinkish, and have a strong, over-powering fragrance. The flowers develop into small, rounded fruits called hips; these ripen to a red color in September and may persist into winter. The rose hips are eaten by birds and other wildlife, which disperse the seeds in their droppings. Multiflora rose can also spread through rooting from the tips of its arching branches.

**How it came here:**
Multiflora rose was introduced from Japan in the late 1800s as an understock for ornamental roses. In the middle of the twentieth century, this shrub was avidly promoted to control erosion, provide food and cover for wildlife, and as a living fence. Multiflora rose is now a noxious weed in many states. The Illinois Exotic Weed Act makes it illegal to sell, plant or distribute Multiflora rose.

**Negative Impacts**
Multiflora rose is now a major invader of pastures, open fields, prairies, and open woodlands. It quickly forms dense, impenetrable tangles that may render pastures and other open lands useless. Dense stands may completely displace native plants in prairies and savannas, lowering diversity and driving out many wildlife species.

# PURPLE LOOSESTRIFE

(Lythrum salicaria)



**Description:**
Purple loosestrife is a perennial herb that can grow from 3 to 7 ft tall. One plant can produce up to 50 flowering stems; the stems are four-sided with leaves in pairs. The upper portion of the stem produces numerous flowers in long spikes from July to September. The flowers vary from purple to magenta, and have 5 or 6 petals. Each flower develops into a capsule that produces up to 120 seeds each. A single plant may produce up to 900 capsules. The abundant, small seeds are usually dispersed by wind or water, can also be transported on birds, animals, or human clothing or shoes.

**How it came here:**
Purple Loosestrife was introduced to the United States from Eurasia in the 1800s as a garden perennial. Beekeepers sometimes planted purple loosestrife to produce nectar for honeybees. In some areas purple loosestrife is still promoted as a garden plant. The Illinois Exotic Weed Act makes it illegal to sell, plant or distribute purple loosestrife.

**Negative Impacts**
Purple loosestrife spreads readily into and through wetlands via seed and eventually displaces most other plants. Even pieces of the roots or stems from damaged plants will root in wet soil and form new plants. Native plant diversity is lost, as are the wetland birds, insects, and animals that depend upon native plant for food and cover. There has been some success in using biological controls (imported beetles) in controlling purple loosestrife, but this invader remains common.



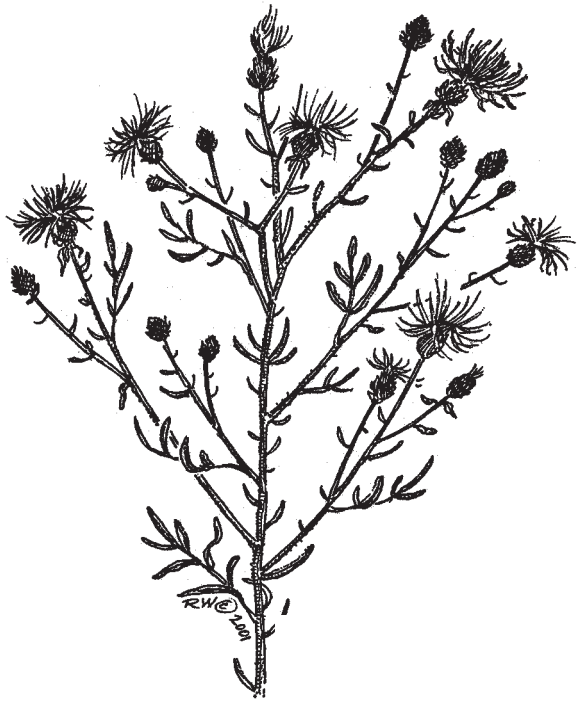
# REED CANARY GRASS

(Phalaris arundinacea)

**Description:**
Reed canary-grass is a tall, coarse grass that grows from 2 to 7 feet tall from a dense, shallow, creeping root system. Its stems are smooth with leaf blades 3 to 10 inches long and 1/4 to 3/4 inch wide. The leaf blades are flat and rough on both sides. The tiny flowers are grouped in pyramidal clusters at the tips of the stems; as the seed ripens these clusters contract into a narrow spike. The tiny flowers are purplish-green, fading to beige over time, and shed pollen from May to early July. Seeds are shiny brown and are shed throughout the summer; dispersed by wind, water, and sometimes on animal fur, human clothing, and mowing machines.

**How it came here:**
Reed Canary Grass is native to Europe, Asia, and northern North America (north of the Great Lakes). An aggressive European strain was brought to North America and has been planted since the 1800s for hay production in wet-soil pastures and erosion control. Reed canary grass is now widespread along drainage ditches and streams, and often forms extensive stands in wetlands.

**Negative Impacts**
This grass is one of the first to sprout in the spring and quickly shades out competition, especially where urban runoff floods wetlands. Reed canary grass spreads aggressively by its creeping root system, which forms dense mats of vegetation, or begins new colonies through spread of its seed. This grass often crowds out native species in wetlands and can clog streams and ditches as it collects sediment in its roots. Reed canary grass often actually promotes streambank erosion by allowing running water to wash out the soil underneath its dense but shallow root system. Large stands of reed canary grass are hard to kill without harming desirable native plants.



# SPOTTED KNAPWEED

(Centaurea maculosa)

**Description:**
Spotted knapweed is a biennial, or short-lived perennial, herbaceous plant. The plants grow from a tap-root and with several slender, hairy stems that reach 3-4 feet tall. The leaves are dissected, becoming linear at the top of the stem. The stems and branches each terminate in a single flower head; the flowers are creamy white to pinkish-purple, and have a comb-like fringe around the margins. Spotted knapweed flowers from late June through August; after flowering, the bracts reopen and the seeds are scattered by the wind.

**How it came here:**
Spotted knapweed appears to have been brought to the western USA with soil and forage seeds that were contaminated with knapweed seeds. This plant is now widespread in the western and north-central USA, and is actively spreading south and eastwards into the Midwest and Northeast USA.

**Negative Impacts**
Spotted knapweed takes over pastures, rangeland, and hayfields. In grasslands and other open habitats, it outcompetes native plants, lowering the diversity of plant species and reducing the value of the habitat for wildlife.



# WHITE SWEETCLOVER

(Melilotus alba)

**Description:**
White sweetclover is a biennial; the plants flower in their second year of growth and die after the seed ripens. The plants grow from a long taproot, developing a tall (3-5 ft) branched, smooth stem. The leaves are subdivided into three leaflets. White sweetclover blooms in June and July; the small, white flowers are in elongate clusters and are sweetly fragrant. The seeds develop in small, egg-shaped pods. Although the pods only hold 1-2 seeds, each plant produces hundreds of pods. The seeds may fall off the plant or be moved by wind and water; livestock or deer browse the seed heads and disperse the seeds in their droppings.

**How it came here:**
White sweetclover is native to Europe and western Asia. How and when white sweetclover reached North America is not known, but the plant has long been used to produce hay for livestock and nectar for honeybees. White sweetclover is sometimes planted to condition soil for other crops.

**Negative Impacts**
White sweetclover is a threat to prairies because it easily invades open habitats by overtopping and shading out native plants. Unfortunately, white sweetclover responds positively to burning, a management tool otherwise useful in keeping native prairie remnants free from invasive plants