Final Performance Report
(reporting period: 12/1/04 - 12/31/06)

Project Number: T-9-P-1

Project Title: Information Management for Wildlife Habitat Enhancement

The IDNR entered into a Memorandum of Understanding with the University of Illinois, Urbana-Champaign Campus, to provide qualified person(s) to address the Objectives of this State Wildlife Grant project. The University was able to secure the services and expertise of Ben Dolbeare through the Illinois Natural History Survey as Associate Faculty on this project. Ben Dolbeare identified and evaluated invasive plant species that threaten wildlife habitats in Illinois and participated in several groups identifying plant species that have been identified in areas outside of Illinois that have the potential to become problematic in Illinois. Funding for generating maps showing the extent of invasive plant populations in Illinois is not available as of this time nor was it included in the scope of work for this project. However, since the end of this project on 12/31/06, Ben has continued seeking solutions for incorporating invasive plant distribution in Illinois within the IDNR database which in turn will permit detailed mapping of the invasive plants of Illinois. Ben helped establish the New Invaders Watch Program (NIWP) in northeast Illinois with plans to expand these efforts in other parts of Illinois. The purpose of the NIWP is to detect new invasive plants as soon as they move into Illinois and eradicate the species before it can be established. The NIWP utilizes a network of trained volunteers for detecting new invasions of exotic plant species. Already, the NIWP has detected the first invasion of Illinois by the Giant Hogweed in four locations; and it is believed that all four populations have been eradicated. Such early detection and rapid control/eradication of invasive plant species having adverse effects on habitats of animal species of conservation concern is important.

Ben helped modify the Cookbook for establishing Cooperative Weed Management Areas (CWMA's) in the eastern half of the United States. This in turn was a big help in the development of four CWMA's in Illinois with several more planned. The CWMA's are a very important link in the exclusion, management and control of invasive plant species having adverse effects on habitats of animal species of conservation concern. Cooperating members of the CWMA's include IDNR, IDOA, Illinois Farm Bureau, Illinois Nature Preserve Commission, NRCS offices of Illinois, Illinois Nurserymen's Association, Illinois Native Plant Society, USF&W, USFS, and many other federal, state and local agencies as well as non-governmental organizations (NGO's). The four CWMA's currently established in Illinois are the Gateway CWMA (a partnership effort between Illinois and Missouri for sixteen counties, eight in Illinois and eight in Missouri); the Lake-McHenry County CWMA; the Sangamon River Watershed CWMA and the River to River CWMA for eleven counties in southern Illinois. Establishment of Cooperative Weed Management Areas for the coordination of planning for the exclusion, management and control of invasive plant species with adverse effects on habitats of animal species of conservation concern is extremely important.

The greatest need in the effort to manage/control/eradicate invasive plants in Illinois is finding ways to educate the various land managers of Illinois of the need to control and manage invasive plants.

Ben is implementing programs to inform the public about the threats posed by invasive plants and ways these threats can be met head on. Identification cards for both the worse invasive plants already in Illinois and for potential threats of invasive plants not yet in Illinois have been printed and are available for both the NIWP volunteers and local land managers. Ben has been responsible for having several articles on invasive plants in various publications with the express purpose of educating the public on the damages from invasive plants. Articles on invasive plants have appeared in the *State Journal Register Newspaper* of Springfield, Illinois, the state wide publications of the Illinois Native Plant Society, *Growing Trends (*the official journal of the Illinois Nurserymen's Association), and *The Landscape Contractor* (The official publication of the Illinois Landscape Contractors Association); Ben either wrote or advised on all of these articles. He has also been active speaking to different groups on the problems of invasive exotic plants in various types of habitats in Illinois. He has presented workshops on identification of invasive plants and talks on the problems of invasive plant species in Illinois. Groups he has spoken to include the Springfield Chapter of the Illinois Native Plant Society and the Illinois State Foresters Association.

Not only is Ben a Charter Member of the Midwest Invasive Plant Network (MIPN), he is an active member of both the Steering Committee and the Education Committee of MIPN. He helped MIPN in the preparation of educational brochures on the damages of invasive plant species to habitat, another pamphlet explaining the damages caused by invasive plant species, a brochure on identification of the top ten invasive plant species of the Midwest, and a booklet titled "Why Should I Care About Invasive Plants".

Ben has identified and listed invasive plant species that threaten wildlife habitats in Illinois and plant species that have been identified in areas outside of Illinois with the potential to become problematic in the state. Funding for generating maps showing the extent of invasive plant populations in Illinois has not been available nor was it within the scope of this project. However, even though the grant for this project terminated on 12/31/06, Ben continues in the process of solving this problem.

Planning for the exclusion, management and control of invasive plant species having adverse effects on habitats of animal species of conservation concern is in progress. Again, early detection with rapid response is an important component of this.

Information and materials for training personnel for the exclusion, management and control of invasive plant species which have adverse effects on habitats of animal species of conservation concern is still in progress. Cooperative Weed Management Areas, once established and functioning, along with the IIPSC will be instrumental in this process.

Ben is actively involved in the efforts of the Shawnee National Forest personnel to control invasive plant species threats throughout the national forest and the efforts of the personnel of the Chicago Botanic Garden in northeast Illinois to manage, control and eradicate invasive plants.

Ben established both the Illinois Invasive Plant Species Council (IIPSC) and the Illinois Invasive Plant Species Board during 2006. The Illinois Invasive Plant Species Board is composed of eight members from the green industry - nursery people, landscapers, commercial plant growers, etc., and eight members from the restoration side - Illinois Nature Preserve personnel, wildlife managers,

endangered species personnel, etc. This group will actively work to encourage nurseries to carefully screen the plant species they sell and look at ways to encourage landowners/land managers to use native plant species. IIPSC has agreed on a mission statement, goals and a Strategic Plan of Action and is beginning to implement their plan of action. The establishment of this board is a huge step toward preventing future introductions of new invasive plant species into Illinois with the potential to destroy the habitats of animal species of conservation concern. This board will also be instrumental in promoting educational programs for all citizens of Illinois. The Board is presently examining the different ways of predicting whether or not a plant new to the horticultural trade might become an invasive species in Illinois. The sale, management and control of invasive plant species with potential to damage the habitats of animal species of conservation concern is on the agenda for our next meeting.

Ben, with the help of several leading botanists from the state, has established a list of high concern invasive plant species already growing in the natural areas of Illinois. This list is under continual revision as we learn more about the exotic plant species in Illinois. The species on this list, if ignored, will replace the native species resulting in deterioration of habitats of animal species of conservation concern. He then established a second list of invasive that are not yet a big problem but should be watched carefully so as to prevent them from becoming a big problem. He generated a third list of species growing in nearby states that should be quickly eradicated if they should invade wildlife habitat in Illinois.

Specific management practices for indiviual species were not developed within the effective period of this grant as all the preceding actions simply absorbed all the work time. Such management practices will be developed outside of the effective period this grant, as time permits and more information on such management becomes available.

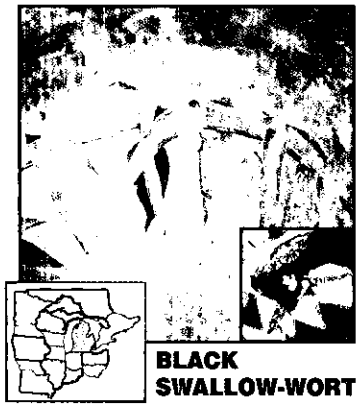
KEEP A LOOKOUT

for *New* INVASIVE PLANTS in the Midwest!

MIPN.org
Midwest Invasive Plant Network

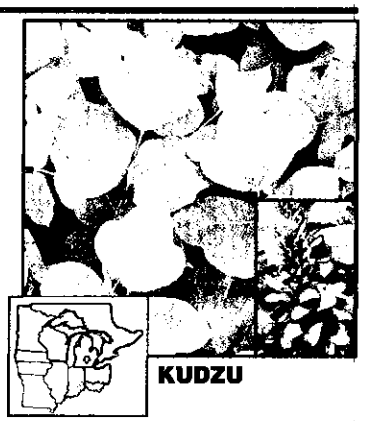
These species could be spreading in your area; ***early detection and eradication*** *can prevent an invasion.*

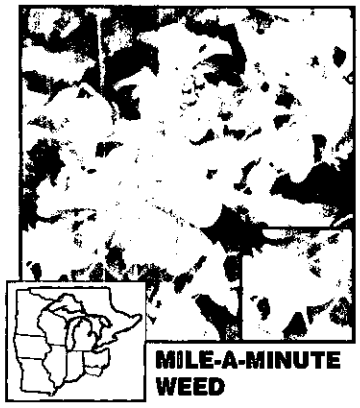
Current Midwest general distribution, including southern Ontario ☐ Not Known ☐ Isolated ☐ Locally Abundant ■ Widespread

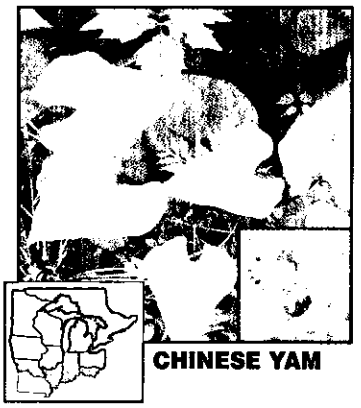

BLACK SWALLOW-WORT

PALE SWALLOW-WORT

JAPANESE HOPS


KUDZU


MILE-A-MINUTE WEED

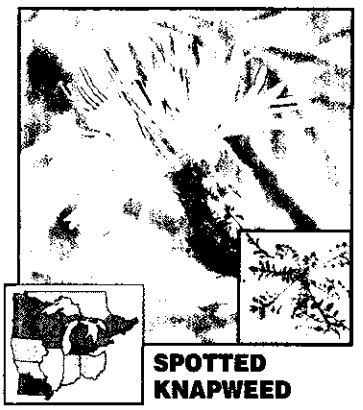

CHINESE YAM

ASIAN BITTERSWEET

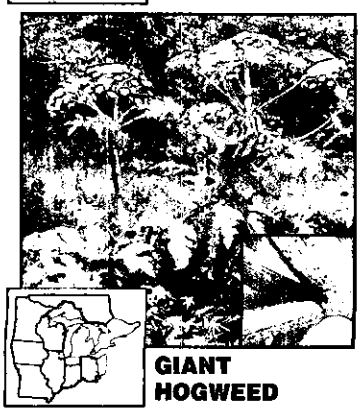
TREE OF HEAVEN

JAPANESE KNOTWEED

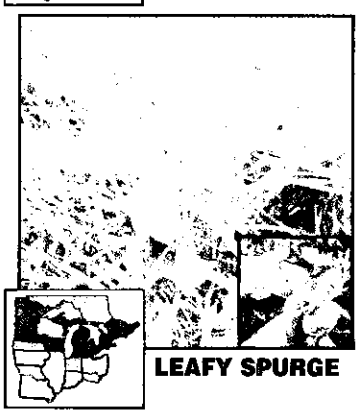
JAPANESE STILT GRASS


SPOTTED KNAPWEED

CUT-LEAVED TEASEL


GIANT HOGWEED

JAPANESE HEDGE PARSLEY


LEAFY SPURGE

FLOWERING RUSH

To report a sighting, please contact: www.mipn.org/EDRRContacts.html

New INVASIVE PLANTS in the Midwest

MIPN.org
Midwest Invasive Plant Network

BLACK SWALLOW-WORT *(Cynanchum louiseae)* Herbaceous, perennial **vine** twines 3 – 8 feet high. **Leaves** opposite, 2 – 5 inches long, toothless, narrowly to broadly oval, pointed tips, dark green and shiny. **Flowers** tiny, dark purple with 5 pointed, downy, triangular petals that are as long as wide. **Seedpods** milkweed-like, slender and tapered, 1.5 – 3 inches long. **Seed** on silky filaments. Threatens woodlands, forests, grasslands and savannas.

PALE SWALLOW-WORT *(Cynanchum rossicum)* Herbaceous, perennial **vine** twines 3 – 6 feet high. **Leaves** opposite (similar to black swallow-wort). **Flowers** maroon to pink with 5 pointed, hairless, triangular petals that are twice as long as wide. **Seedpods** milkweed-like (similar to black swallow-wort). **Seed** on silky filaments. Threatens woodlands, forests, grasslands and savannas.

JAPANESE HOPS *(Humulus japonicus)* Herbaceous annual **vine** twines counter-clockwise. **Leaves** opposite, 2 – 5 inches long, toothed, palmately divided usually with 5 lobes. **Leaf stem** as long or longer than leaf length. **Leaves** and **stem** with hooked climbing hairs. **Flowers** mid to late summer, male and female flowers on separate plants. Threatens floodplains, wet forests, stream banks and lakeshores in sun or shade.

KUDZU *(Pueraria montana var. lobata)* Semiwoody, perennial **vine** climbs 30 – 90 feet. **Leaves** alternate, compound with 3 unlobed to deeply lobed leaflets, hairy beneath and up to 4 inches wide. **Flowers** purple, pea-like, grow from leaf axils in long hanging clusters, bloom in late summer. **Seedpods** brown, flattened and hairy. Threatens forest edges, woodlands and savannas.

MILE-A-MINUTE WEED *(Polygonum perfoliatum)* Annual, herbaceous **vine** that climbs to 15 feet tall. **Stem** with hooked barbs and circular, cup-shaped, leafy structures around the stem at nodes. **Leaves** alternate, shaped like an equilateral triangle with barbs on undersides, leaf bases arrow- to heart-shaped. **Flowers** small, white and inconspicuous. **Fruit** a fleshy, blue, pea-sized berry. Threatens woodland edges, wetlands and riparian corridors.

CHINESE YAM *(Dioscorea oppositifolia)* Herbaceous, perennial **vine** twines clockwise, climbs to 15 feet. **Leaves** opposite, upper nodes alternate, reddish where leaf stem joins leaf, variable shape often shield- or heart-shaped. **Flowers** small and white, cinnamon odor, arranged in spikes. Reproductive **bulbils** (small potato-like tubers in leaf axils) present June – September. Threatens stream sides, floodplains and ravines.

ASIAN BITTERSWEET *(Celastrus orbiculatus)* Woody, perennial **vine**. **Leaves** alternate, toothed, teardrop-shaped to round with a pointed tip. **Flowers** small and greenish yellow, male and female flowers on separate plants, bloom early summer, fruit in fall. **Fruit** greenish to yellow, grows in clusters of 3 – 7 along stem at leaf axils, splits open to reveal bright red inner-fruit. Threatens woodlands, forests, floodplains, savannas and riparian corridors.

TREE OF HEAVEN *(Ailanthus altissima)* Deciduous **tree** grows to 80 feet. **Stems** smooth, pale gray bark. **Leaves** alternate, 1 – 4 feet long, compound with 11 – 25 leaflets with 1 or more glandular teeth near the leaf base. **Flowers** yellow-green, near branch tips, male and female flowers on separate trees. **Seeds** in twisted flat "wings" borne in clusters. All parts of the tree have a strong odor. Threatens woodland edges and forest openings.

JAPANESE KNOTWEED *(Polygonum cuspidatum)* Perennial herb with **shrub-like** form grows 3 – 9 feet. **Stem** hollow, bamboo-like with swollen leaf joints. **Leaves** 6 inches long, 3 – 4 inches wide, leaf base straight across to bluntly right angled. **Flowers** white to pink and densely crowded on erect stalks. Threatens riparian corridors, fens, springs, ravines, forests and streamsides.

JAPANESE STILT GRASS *(Microstegium vimineum)* Annual, sprawling **grass**, 12 – 24 inches tall, resembling miniature bamboo. **Leaves** wide, alternate, pale green, lance-shaped, 2 – 3 inches long, pale silvery stripe of reflective hairs along midrib of upper surface. **Flower spikes** 1 – 3 inches long, bloom late summer into early fall, prolific seed production. Threatens river and stream corridors, floodplains, moist woodlands and forested wetlands.

SPOTTED KNAPWEED *(Centaurea biebersteinii)* Short-lived, perennial **herb**. First-year plants form low-growing rosettes. Flowering **stems** leafy, 1 – 2 feet tall with wiry, hoary branches. **Leaves** grayish, hairy, deeply cut with narrow lobes. **Flowers** thistle-like, pink to purple. Flower base covered by black-tipped bracts. Threatens savannas, grasslands, sand dunes and prairies.

CUT-LEAVED TEASEL *(Dipsacus laciniatus)* Perennial **herb**, flowers once then dies. First year forms a low-growing rosette; second or third year produces a 2 – 6 foot stem. **Leaves** on stem opposite, long, deeply cut, prickly, joined into a cup around stalk. **Stem** ridged and spiny. **Flowers** small and white in oval-shaped heads atop stems, bloom summer into fall. Threatens prairies and sedge meadows. **Common teasel** *(D. fullonum)* similar and invasive but with purple flowers, leaves not deeply cut.

GIANT HOGWEED *(Heracleum mantegazzianum)* Large perennial **herb**, flowers once then dies. First year is a single leaf, then grows a larger rosette each year. In fourth or fifth year produces a 7 – 15 foot flower stalk. **Leaves** 3-part compound, 1 – 4 feet wide, deeply incised and pointed. **Flowers** white in multiple broad domed umbels. **Flower stalk** hollow with coarse hairs and reddish purple splotching. Threatens river corridors and woodland edges. ***Caution! Plant sap causes severe photodermatitis.***

JAPANESE HEDGE PARSLEY *(Torilis japonica)* Biennial **herb** grows 2 – 4 feet tall when flowering in second year. First-year rosettes are low, parsley-like and green into fall. **Leaves** alternate, fern-like, 2 – 5 inches long, slightly hairy. **Flowers** tiny and white, clustered in small flat-topped umbels. **Fruit** small and covered with hooked hairs. Threatens woodlands and savannas. **Spreading hedge parsley** *(T. arvensis)* is very similar and invasive.

LEAFY SPURGE *(Euphorbia esula)* Perennial **herb** grows 2 – 3 feet. Milky sap in stem and leaves. **Leaves** alternate, narrow with pointed tips, smooth and hairless. **Flowers** on paired, yellowish green cup-shaped bracts. Bracts in clusters of 7 – 10 at top of stem, bloom late spring to mid summer. **Seedpods** attach to center of paired bracts. Threatens prairies, grasslands, savannas, sand dunes and open woodlands.

FLOWERING RUSH *(Butomus umbellatus)* Perennial, emergent **aquatic herb** (can be submerged in deep water). Emergent **leaves** 3 feet tall, stiff, narrow and triangular in cross-section. **Flowers** 3 petals and 3 sepals, white or pink, distinctive flat-topped spray atop a tall stalk, bloom late summer through early fall. Prefers shallow or slow-moving water. Threatens marshes, backwaters and shorelines.

For control and management of these species, please visit the following Web sites:
www.nps.gov/plants/alien/factmain.htm, tncweeds.ucdavis.edu/control.html, dnr.wi.gov/invasives/plants.htm and www.invasivespeciesinfo.gov/plants/main.shtml

Photos: Elizabeth Czarapata; Antonio DiTommaso, Cornell Univ.; David Eagan, Univ. of WI; Kate Howe, MIPN; Emmet Judziewicz, Univ. of WI-Stevens Point; Kelly Kearns, WI-DNR; Larissa L. Smith, Cornell Univ.; Debbie Maurer, IL-LCFPD; Jody Shimp, IL-IDNR; Bill Smith, WI-DNR. *Taxonomy:* based on USDA PLANTS Database, www.plants.usda.gov

Last updated 12/06

Why Should I Care About Invasive Plants?

HOW INVASIVE PLANTS AFFECT HUNTING, FISHING, BOATING, GARDENING, HIKING, BIKING, HORSEBACK RIDING, AND OTHER RECREATIONAL ACTIVITIES IN THE MIDWEST

MIPN.org

Midwest Invasive Plant Network

Invasive plants are spreading on almost all private and public lands in the Midwest…

SO WHY SHOULD YOU CARE?

- Invasive plants, if left unchecked, will limit many uses on lands now and for future generations.
- Invasive plants can harm the natural heritage of our wetlands, prairies, forests, lakes, and rivers.
- Invasive plants can decrease your ability to enjoy hunting, fishing, mushroom collecting, bird watching, and other recreational pursuits.
- The longer we wait, the more expensive it will be to control invasive plants.

You can be a part of the solution by being aware of invasive plants and taking action to prevent their spread. To learn more, please read on!

Kudzu taking over a forest in Illinois
Photo by Jody Shimp, Illinois Department of Natural Resources

On the cover: Top photo, © Ron Leonetti
Other cover photos courtesy of The Nature Conservancy

First of all, what is an invasive plant?

An invasive plant is defined as a plant that is not native and has negative effects on our economy, environment, or human health. Not all plants introduced from other places are harmful. The term "invasive" is reserved for the most aggressive plant species that grow and reproduce rapidly, causing major changes to the areas where they become established.

Purple loosestrife invading a stream bank.
Photo by Lee Casebere, Indiana Department of Natural Resources

What is the Midwest Invasive Plant Network?

The Midwest Invasive Plant Network (MIPN) was formed to help reduce the impact of invasive plant species in the Midwest. This network is composed of people from federal, state, and local governments, universities, industry, non-profit organizations, and the general public, who are concerned about invasive plants. Together we are working to address the threats of invasive plants through prevention, early detection and rapid response, control and management, research, and education.

Invasive plants are a major threat on a national scale. Across the U.S., invasive plants are estimated to occur on 7 million acres of our national park lands, and at least 1.5 million acres are severely infested. In addition to federal lands, state and private lands are also plagued with invasive plants and may have even higher infestation rates. This problem is an expensive one. The economic cost of invasive plants is estimated at more than $34 billion per year, and the costs continue to grow. Now is the time to act to reduce the threat of invasive plants in our region.

[illegible]

Photo courtesy of The Nature Conservancy

Invasive plants can greatly impact the health and regeneration of forest lands. For example, garlic mustard can rapidly spread into the understory of hardwood stands, and has been documented to suppress other understory plants, which may reduce tree seedling establishment. Japanese barberry, an invasive shrub, not only crowds out other plants, but also alters soil conditions to its benefit. Deer avoid eating this spiny shrub, which means they browse more on native trees, slowing the growth of seedlings or even killing them. Dense thickets of Japanese barberry or other invasive shrubs like Asian bush honeysuckle displace native plants and wildlife dependent on those plants and also create tangles that make it difficult to walk through the forest.

In addition to herbs and shrubs, trees can also be invasive. Tree-of-heaven is an invasive Asian tree species that can grow 3 feet per year and reaches up to 60 feet tall, quickly overtopping and shading out our native trees in forest openings. Tree-of-heaven can also cause intestinal and heart problems in people exposed to its sap.

Most invasive plants depend on some kind of disturbance to get established in the forest. Forest management activities, such as timber harvesting, create opportunities for invasives to get established and spread. Invasive plants present in small numbers prior to forest management activity may explode in growth following management activity. Since loggers and foresters rely on the long-term supply of forest resources, it is in their best interest to ensure the healthy regeneration of forest stands to native tree species.

What can you do to minimize the introduction and spread of invasive plants?

- Learn to identify invasive plant species and watch for them. The sooner invasive plants are detected, the easier and cheaper it is to control them. Management costs escalate when invasive populations are allowed to spread.
- Initiate control of invasive species **before** harvest activities take place. Invasive plant populations quickly explode after disturbance to the forest canopy and soils; decreasing their cover before harvest is a good way to avoid this dramatic increase.
- Require the cleaning of timber harvesting equipment before it comes onto a new job site to prevent the movement of seeds of invasive species caught on tire treads and undercarriages.

If I am a hiker, cyclist, or horseback rider, why should I care?

Photo courtesy of The Nature Conservancy

Invasive plants can affect your ability to enjoy natural areas, parks, and campgrounds. Hikers, cyclists, and horseback riders all enjoy well-maintained trails, and invasive plants can grow over trails to the point that the path cannot be followed or can be difficult to navigate through. Dried and dying knapweed plants catch in bicycle chains, slowing the rider and stirring up dust as they are dragged. Natural scenic beauty sought by recreationalists is degraded by invasive plants, which often form single-species stands, displacing attractive native flowers. The annual trek to see spring wildflowers or hunt for mushrooms may be disappointing when none can be found in a sea of garlic mustard. Favorite camping spots taken over by spiny or dense shrubs can make it hard to find a good spot for a tent. Treating these infestations can eat up a natural area's budget, leaving little funding for trail maintenance and other improvements.

Some invasive plants can have nasty effects on your health. Wild parsnip or giant hogweed sap on skin exposed to sunlight can result in burns, blistering, and skin discoloration. The sap from leafy spurge causes eye irritation. Spines on invasive thistles can become lodged in skin and cause irritation.

Many invasive plant seeds, such as those of burdock with its spiny seed balls, hitchhike on fur, increasing the effort needed to groom the horse or family dog after a hike. Some invasive plants, such as leafy spurge, are toxic to horses and mules.

Recreationalists can be vectors for invasive plant spread. Here are some things you can do to reduce the spread of invasive plants.

- Learn to recognize invasive plant infestations and avoid passing through them.
- Report any infestations to the local land manager.
- Check for seeds or plant parts and clean equipment, boots, animals, and gear between trips, or preferably when leaving an infested area.
- Dispose of seeds in a plastic bag in a trash can.
- Always use weed-free hay and feed for your animals.

If I am a boater or angler, why should I care?

From the Great Lakes to the Mississippi River, the lakes and rivers of the Midwest provide stunning scenery and vital habitat for a wide variety of aquatic species. The spread of invasive plants threatens both the beauty of these areas and their ability to sustain fish and wildlife populations.

One common underwater invader is Eurasian watermilfoil, an aggressive plant that reduces native plant diversity and degrades fish habitat. Studies have shown that Eurasian watermilfoil supports fewer aquatic invertebrates, a vital source of food for fish, than native plants do. It also reduces oxygen levels in the water, leading to fish stress and fish kills, and clogs water intakes on motors causing engines to overheat.

Photo courtesy of Michigan Sea Grant, www.miseagrant.umich.edu

One of the most widespread invasive plants in wetlands, lakeshores, and riverbanks is purple loosestrife, an extremely aggressive plant that replaces diverse native plant communities with just a single species, greatly reducing the quality of wildlife habitat.

Invasive plants can also increase the risk of flooding and soil erosion leading to cloudy water, lower water quality, and silted spawning beds. Thick stands of invasive plants such as curlyleaf pondweed, Eurasian watermilfoil, and other submerged and floating aquatic plants can impede navigation for anglers and boaters. In addition to invasive aquatic plants, boaters and anglers need to be aware of invasive aquatic animals such as zebra mussels, spiny waterfleas, round gobies, and Asian carp that also impact lakes and rivers of the Midwest.

Boaters and anglers have the opportunity to help prevent the spread of aquatic invasive plants by following a few simple steps.

- Remove visible plants, animals, and mud from your boat before leaving a waterbody.
- Drain all water from your boat, motor, bilge, live well, and bait containers before leaving a water access.
- Clean and dry boats and equipment before entering another waterbody.
- Dispose of unwanted bait in the trash, and never release plants and animals into a waterbody unless they came from that waterbody.

If I am a hunter, why should I care?

Hunter in a patch of multiflora rose
Photo by Gigi LaBudde, Bison Belly Futures

Midwestern natural areas support a great diversity of wildlife that hunters rely on and enjoy. However, invasive plants are in the process of degrading and even destroying many of these habitats.

For example, invasive plants such as Russian olive (*Elaeagnus angustifolia*) have taken over roadsides and natural areas in many parts of the Midwest, creating undesirable habitat for birds and mammals. Native vegetation supports a much greater variety of birds than areas infested with the invasive Russian olive.

Invasion of common reed (*Phragmites australis*) in wetland areas and along lake shores has a negative effect on water birds, including ducks and geese. Diverse native vegetation in wetlands and on lake shores generally results in higher waterfowl populations.

Invasive plants reduce the number and variety of forest wildlife, primarily by reducing the availability of food and suitable cover. For instance, invasive species like Asian bush honeysuckle can shade out oak tree seedlings and saplings and, over time, reduce the oak component of a forest. Fewer acorn-producing trees mean lower food availability and reduced habitat quality for wildlife such as white-tailed deer, squirrel, grouse, and turkey.

Photo courtesy of The Nature Conservancy

Invasive species can also turn an enjoyable stroll through the fields, woods, or wetlands while hunting into a painful trip through a tangled thorny mess in areas invaded with multiflora rose, an invasive plant with thorns that easily rip through clothes and skin. Other invasive plant species can also form dense tangles that are difficult to push through, even if they are not armed with thorns.

Invasive plants threaten our native ecosystems by altering the natural communities that wild animals depend upon to produce food and cover. If invasive plants win, the native plants and wildlife lose, and so do the people who enjoy them. Here's what you can do to help.

- Clean your boots and gear after a hunting trip to make sure you aren't carrying invasive plant seeds to new locations.
- Don't plant invasive plants for wildlife. Native species provide much better food and cover for native wildlife.
- Learn to identify the invasive plants in your area and report any new sightings to local land managers.

I'm a gardener, why should I care?

Invasive plant species not only threaten our natural areas, they may invade your garden! Landscaping shrubs like Asian bush honeysuckle seed so freely into maintained landscapes that it is a continual challenge to rip them out before they take over and displace other species you lovingly planted in your garden.

These aggressive species will also move from your land onto your neighbor's land, decreasing both their enjoyment of their land and their enjoyment of having you as a neighbor.

Photo by Ellen Jacquart,
The Nature Conservancy

Just because a plant is not spreading in your own garden, that doesn't mean that the seeds from your plants aren't spreading elsewhere. Purple loosestrife (*Lythrum salicaria*) seeds, for instance, may wash from your yard into storm sewers and nearby waterways and germinate in moist areas like creek banks and lake shores.

Here are some things you can do to help.

- Avoid using invasive species in your garden. Until you are able to get rid of invasive plants that may already be planted in your yard, be responsible and remember to remove and destroy seed heads of invasive plants. Also, don't share invasives with other gardeners.

- If you are worried that your garden will lose its luster after removing invasives, it is easy to find non-invasive or native alternatives for invasive landscape plants. Before choosing a native plant alternative, first think about the characteristics of the invasive plant you are replacing. For example, if you like the showy fruits of Asian bittersweet (*Celastrus orbiculata*), try replacing it with American bittersweet (*Celastrus scandens*). If you like Japanese honeysuckle (*Lonicera japonica*) for its vining habit, consider replacing it with a summer late-blooming vine like leatherflower vine (*Clematis viorna*). If you like purple loosestrife for its vibrant magenta flowers, try planting purple coneflower (*Echinacea purpurea*) or one of the many native species of blazing stars (*Liatris* spp.) instead.

Invasive plants to watch for:

© John M. Randall, The Nature Conservancy

Asian bush honeysuckles (Amur honeysuckle, *Lonicera maackii*; Morrow's honeysuckle, *Lonicera morrowii*; Tatarian honeysuckle, *Lonicera tatarica*; and Bell's honeysuckle, *Lonicera x bella*)

There are three species of bush honeysuckles and one hybrid from Asia that are aggressive invaders in the Midwest. All four species are multi-stemmed shrubs reaching 2-6 meters in height. They have opposite, entire leaves, paired, showy flowers, and red or yellow fleshy berries. These species have been widely planted throughout the Midwest for landscaping and wildlife habitat and are highly invasive in forests. Bush honeysuckles prevent regeneration of forest trees and herbs and also provide poor habitat for nesting birds. Bush honeysuckles are difficult to control once they have reached high densities, so it is important to control new infestations as quickly as possible.

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Buckthorns (common buckthorn, *Rhamnus cathartica*; glossy buckthorn, *Frangula alnus*)

Both species of buckthorn are deciduous shrubs that can reach up to 8 meters in height. They have elliptical leaves and produce abundant small, fleshy fruits that are black when ripe. Buckthorns were introduced to North America for use in hedgerows and for wildlife habitat. Glossy buckthorn primarily invades wetlands and wet prairies but is also found in some forested areas. Common buckthorn is an invader of forested areas. Buckthorn fruits are consumed by a variety of birds and mammals, which aid in their dispersal. These shrubs form dense thickets that prevent woody seedling regeneration and may inhibit herbaceous understory growth in some areas. Common buckthorn has also been identified as an overwintering host for soybean aphids, a pest of soybean crops.

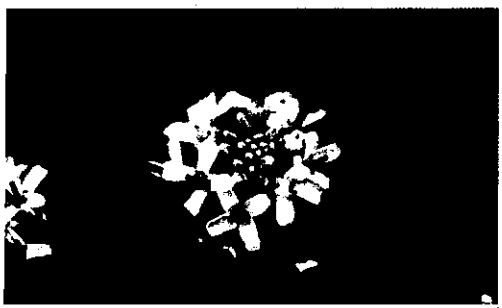

Photo by Ellen Jacquart, The Nature Conservancy

Garlic mustard (*Alliaria petiolata*)

Garlic mustard, an invader of forests across the eastern U.S., is a biennial herb that was introduced from Europe in the 1860's. During its first year of growth, the plant forms a low-growing cluster of distinctive kidney-shaped leaves. It grows up to 40 inches tall in its second year, and can be recognized by its 4-petaled, white flowers and triangular stem leaves with toothed edges. Garlic mustard plants produce copious seeds, with as many as 3,000 seeds per plant. These seeds can survive for up to 10 years in the soil, creating a lasting problem at invaded sites. Garlic mustard alters the chemistry of the soils where it grows by adding chemicals to the soil that prevent the growth of other plant species. In invaded areas, garlic mustard forms a single-species carpet on the forest floor.

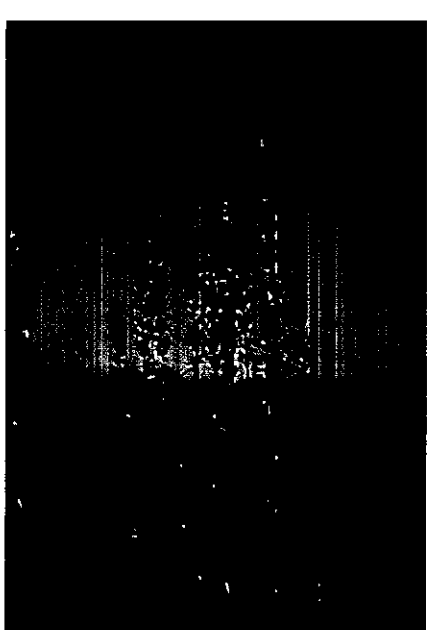

Photo by Mike Norris, The Nature Conservancy

Purple loosestrife (*Lythrum salicaria*)

Purple loosestrife is easily recognized by its purple to magenta flowers composed of 5 to 6 petals, and its square stems. This species was introduced as an ornamental from Europe, where it is a minor component of wetland vegetation. Here in North America, purple loosestrife has escaped cultivation and is abundant in wetlands and other wet areas (streambanks, lakeshores, and ditches) in almost every state in the U.S. Purple loosestrife forms dense single-species stands that cause a decline in plant diversity and affect wildlife by reducing food and habitat for waterfowl and spawning grounds for fish. A single plant can produce 2.5 million seeds annually, and these seeds can be transported great distances by humans, animals, water, and wind. Fireweed is a common native plant that is often mistaken for purple loosestrife, but can be distinguished by having flowers with four petals and round stems.

Photo by Ellen Jacquart, The Nature Conservancy

Asian bittersweet (*Celastrus orbiculata*)

This woody vine was introduced from Asia for ornamental purposes. It is easily recognizable by its showy red fruits surrounded by papery yellow seed coats and is often used for wreaths and other decorations. Asian bittersweet closely resembles the native American bittersweet but can be distinguished by the position of its flowers and fruit; American bittersweet bears flowers and fruit only at the ends of vines, whereas the Asian species produces fruit all along the vine. Asian bittersweet grows quickly, and vines can reach up to 4 inches in diameter and nearly 60 feet in length. Trees and shrubs can be damaged or killed by the vine, which constricts sap flow, weakens limbs and trunks making them more susceptible to wind and ice damage, and shades out leaves growing underneath it. Asian bittersweet is also able to hybridize with American bittersweet, altering the genetic make-up of the species and further reducing rare native populations.

Photo by Katherine Howe,
Midwest Invasive Plant Network

Multiflora rose (*Rosa multiflora*)

Multiflora rose was intentionally introduced to North America as an ornamental because of its abundant, fragrant flowers, and has also been used for living fences and erosion control. This thorny shrub has become a menace in pastures, along roadsides, and in forested areas. It creates impenetrable thickets, reducing growth of other plant species in natural areas. Multiflora rose is tolerant of a wide range of habitat conditions and grows aggressively once established. Multiflora rose can be distinguished from native roses by the presence of fringed stipules (small, green, leaf-like structures at the base of each leaf); stipules on native roses are not fringed.

Photo by Tom Ransburg

Common Reed (*Phragmites australis*)

Common reed, often referred to by its Latin name as *Phragmites*, is a very tall grass, often reaching up to 3 or 4 meters in height. Grass blades are 1-5 cm in width and seed heads are large, showy, and feathery in appearance. This plant spreads clonally and is an aggressive invader of wetlands. A stand of common reed can extend its boundaries by as much as 50 feet within one season. Common reed invasion can have major impacts on wetlands by reducing the quality of the habitat for invertebrates that fish and migratory waterfowl rely on for food. Although common reed is actually native to the Midwest, the aggressive, invasive varieties are non-native in origin and can be distinguished from the native strains by a variety of characteristics, including darker leaves, much more rigid stems, and dense seedheads.

Photo by Britt Slattery, USFWS, www.forestimages.org

Japanese knotweed (*Polygonum cuspidatum*)

Japanese knotweed is a large herbaceous perennial that forms dense thickets, especially in riparian areas, and can reach up to 10 feet in height. Distinguishing characteristics of this plant include stems with swollen joints that are covered by a membranous sheath, sprays of small greenish-white flowers, and small, winged fruits. Japanese knotweed is remarkably resilient, tolerating floods, drought, shade, high temperatures, and high salinity. Floods can further the spread of this species by carrying plant fragments downstream, which can root and sprout, forming new infestations.

Photo by Tom Ransburg

Canada thistle (*Cirsium arvense*)

Canada thistle is an aggressive invader in prairies, savannas, and dunes, as well as a pest in pastures and agricultural fields. This species, which was introduced accidentally as a contaminant in crop seed, invades natural areas both by vegetative reproduction through rhizomes and by seed, which can be carried very long distances by wind and water. Canada thistle competes with other plants for water and nutrients, causing reductions in plant diversity and crop yields. It is avoided by cattle and eaten infrequently by deer. Before initiating control efforts for Canada thistle, it is important to make sure you can recognize the differences between this species and native thistles, which are much less aggressive and are often rare.

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Spotted knapweed (*Centaurea biebersteinii*)

Spotted knapweed is a biennial or short-lived perennial with pinkish-purple, thistle-like flowers and stem leaves that are covered with downy grayish hairs. It is believed to have been introduced from Europe in the 1890's as a contaminant in alfalfa or hay. Since its introduction to North America, this species has become one of the most problematic and widespread invasive plants in the western U.S. and is now spreading throughout the Midwest. Knapweed thrives in disturbed areas and spreads quickly once established. Cattle will not eat spotted knapweed because it has a bitter taste. Knapweed is especially troublesome because of its ability to release toxic chemicals from its roots; these chemicals reduce growth and germination of neighboring plants.

Photo by Lee Casebere, Indiana Department of Natural Resources

Crown vetch (*Coronilla varia*)

Crown vetch is a low-growing, herbaceous perennial vine with clusters of small, pea-like white to purple flowers. It has been widely planted along roads and waterways for erosion control but spreads easily into adjacent fields, prairies, and forest edges. This species has a rapid growth rate and is difficult to control, making it a great concern to landowners and land managers. Infestations of crown vetch reduce the abundance of native plants and the wildlife species that depend on them. Crown vetch also alters soil chemistry by adding nitrogen to the soil, which has the potential to affect invaded areas even after the species is removed.

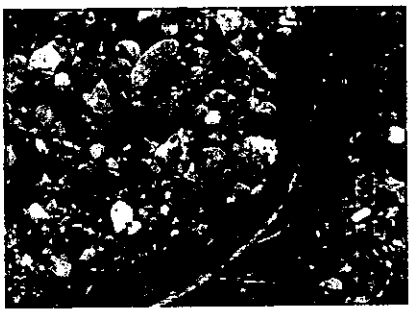


Photo by Ian Shackleford, Ottawa National Forest

Eurasian watermilfoil (*Myriophyllum spicatum*)

Eurasian watermilfoil was introduced to the United States in the 1940's and has since spread to almost every state. This submersed aquatic plant can be identified by its feather-like leaves arranged in whorls of four around a long stem. Stems produce several branches which form a dense, floating mat on the water surface. Eurasian watermilfoil reproduces vegetatively; a single stem fragment can take root and form a new colony, growing on almost any substrate. Dense mats of Eurasian watermilfoil reduce plant diversity and the quality of fish spawning habitat as well as interfering with swimming, boating, and other recreational activities.

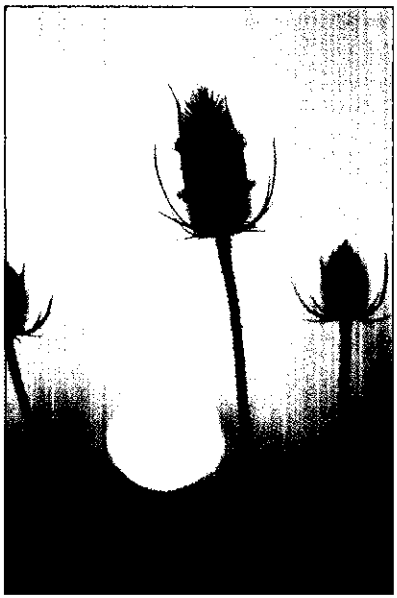


Photo by Lee Casebere, Indiana Department of Natural Resources

Cutleaf teasel (*Dipsacus laciniatus*)
This species may have been introduced from Europe as early as the 1700's, yet its abundance in the Midwest has increased rapidly in the past 20-30 years. Its range is believed to have expanded along highway corridors, with seeds spread by mowing equipment. Cutleaf teasel is also commonly used in flower arrangements. When these arrangements are discarded or left behind in cemeteries, they can cause new infestations. Once established, cutleaf teasel can expand rapidly into prairies, excluding native vegetation. Teasel has a unique inflorescence that makes it readily identifiable when flowers or seed heads are present.

Photo by Jody Shimp, Illinois Department of Natural Resources

Japanese stiltgrass (*Microstegium vimineum*)
Japanese stiltgrass is an annual grass that thrives in forested areas with moist soils and along streambanks and ditches. It often makes its way into forests along trails or old logging roads and from there can rapidly spread into the forest understory, completely wiping out all other plants within just a few years. Stiltgrass has broad leaf blades that can be identified by the presence of a pale, silvery stripe of hairs along the middle of the leaf on the upper leaf surface. Japanese stiltgrass is abundant in the southern part of the Midwest region and is rapidly moving northward.

MYTHS AND FACTS ABOUT INVASIVE PLANTS

MYTH #1: Invasive plants aren't really a concern in the Midwest. They're more of a problem in places like California and Florida.

FACT: While invasive plants may have received more attention and publicity in other parts of the country, invasive plants are just as big a problem here as they are in other regions. It is estimated that 18% of the plants in national parks in the Midwest are non-native species, many of which are highly invasive. The percentage of invasive plants is even higher in areas with greater disturbance from human activity, such as roadsides or pastures.

MYTH #2: Species move around and expand their ranges naturally. When people introduce a new species, it's no different than the natural process of species movement.

FACT: People are moving far more species at a much faster rate than any natural colonization or range expansion. By bombarding our ecosystems with many new, aggressive species over a short time span, we are exposing them to conditions that would never occur without human intervention.

MYTH #3: All non-native species are bad.

FACT: Many non-native species do not cause problems in the areas where they are introduced and can be important for agriculture, horticulture, medicine, or other uses. The species of concern are those that become invasive, taking over native ecosystems and crowding out native species. It is often difficult to know in advance if a new species that is introduced will become invasive, so great caution should be used when importing or planting new species.

Reed canary grass invading a wetland
Photo by Ellen Jacquart, The Nature Conservancy

MYTH #4: I live in an urban area, so it doesn't matter if I plant invasive species. They won't be able to spread to natural areas from my yard.

FACT: Even if you don't live near a natural area, your yard could be a source of invasive plants. Seeds of invasive plants can be carried in many ways---by birds eating fruits and depositing the seeds elsewhere, by water carrying seeds from your yard into sewers that lead to rivers or streams, or by car tires or shoe treads when you travel to parks, nature preserves, or recreational areas. The best way to prevent the spread of invasive plants is to not plant them in the first place.

MYTH #5: Cutting, hand-pulling, or mowing are the best ways to control invasive plants.

FACT: This is true in some instances. Small infestations of some species, such as garlic mustard, can be removed by hand-pulling. However, hand-pulling for large infestations leaves large patches of disturbed soil, and often seeds from the seed bank will germinate and re-colonize areas where garlic mustard has been removed. Properly-timed cutting or mowing can also control some species, however, perennials such as Canada thistle should not be cut or pulled. Removing only part of the plant will only stimulate growth and produce more plants. Combining cutting with herbicides can be an effective method of treatment for many species.

Hand-pulling invasive plants
Photo courtesy of the Ottawa National Forest

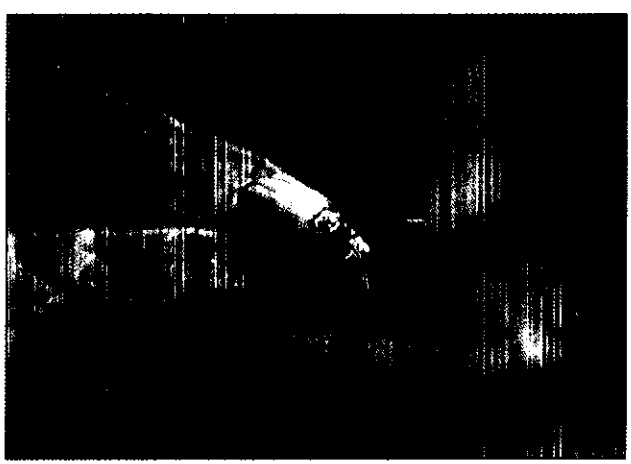
Using herbicide to control invasive plants
Photo by Jody Shimp, Illinois DNR

MYTH #6: Biological control methods such as insects are the answer to invasive plant problems.

FACT: There is no one miracle fix for controlling invasive plants. Relying on a single control method is unlikely to be successful. The best approach is an integrated management plan tailored to specific sites and species that includes a combination methods appropriate to the situation, such as chemical control (herbicides), biological control (insects or pathogens), mechanical control (pulling or cutting), and prescribed burning.

MYTH #7: Biological control is a bad idea, because it involves the release of non-native insects or pathogens that could damage native plants in addition to the targeted invasive plants.

FACT: In years past, some biological control efforts were poorly planned, and as a result, there were some unintended negative consequences of releasing non-native organisms to control invasive plants. These days, however, biological control agents are highly regulated and extensively tested prior to their release in the U.S. Scientists conduct careful experiments in quarantine facilities to determine whether potential biological control agents have the ability to feed or develop on plants native to the U.S. If the potential biological control agent does not feed on native plants and shows itself to be specific to the target invasive plant species, it can then be approved for release. Biological control agents should always be carefully monitored after their release to watch for any unanticipated effects on native ecosystems.



Galerucella **beetle used for biocontrol of purple loosestrife**
Photo by Scott Namestnik, JF New

Here's how you can help . . .

- Learn how to identify the invasive plants that are in your area.
- Make sure that seeds are not stuck to your clothes or gear. You don't want to introduce or spread these plants to other areas!
- Do not camp or travel through areas infested with invasive plants, if they can be avoided.
- Clean mud or dirt off your vehicle, pets, and even your hiking boots before going onto public lands.
- Wash your boat before going to a new lake, river, or stream.
- Drive on established roads and ride or hike on designated trails.
- Don't plant invasive species on your land. Find native or non-invasive alternative species to plant instead. Ask your local nursery to stock native plant species.
- Volunteer to help inventory or control invasive plants. Early detection and eradication of small infestations and prevention of new infestations are the most cost-effective ways to manage invasive plants. We need your help locating and eradicating the invasive plant species that have been described on the previous pages. Be on the lookout and help wipe out invasive plants.
- Pass it on! Tell your friends and family about this problem.
- Visit the Midwest Invasive Plant Network's website for more information on invasive plants in our region.

A pile of purple loosestrife plants
Photo courtesy of Superior National Forest

To learn more about invasive plants in your area, please contact:

Illinois
Illinois Department of Natural Resources, (217) 785-8688
http://dnr.state.il.us/lands/education/ExoticSpecies/exoticspintro.htm

Chicago Wilderness (847) 242-6424, www.chicagowilderness.org/

Indiana
Indiana Department of Natural Resources, Division of Entomology & Plant Pathology, Exotic & Invasive Pest Species Program, (317) 232-4120, www.in.gov/dnr/invasivespecies/

Iowa
Iowa Department of Natural Resources
- Aquatic Nuisance Species Program Coordinator, (515) 432-2823, www.iowadnr.com/fish/news/exotics/exotics.html
- Invasive Species & Forest Health Coordinator, (512) 233-1161, www.iowadnr.com/forestry/

Michigan
Michigan Department of Agriculture, (517) 241-2977, www.michigan.gov/mda/

Michigan Invasive Plant Council, http://forestry.msu.edu/mipc/

Minnesota
Minnesota Department of Agriculture, www.mda.state.mn.us/pestsweeds.htm

Minnesota Department of Natural Resources, (651) 259-5131, www.dnr.state.mn.us/invasives/index.html

Missouri
Missouri Department of Conservation, (573) 751-4115, www.mdc.mo.gov/nathis/exotic/

Ohio
Ohio Department of Natural Resources
- Wildlife Management and Research Group, Division of Wildlife, 1-800-WILDLIFE
- Division of Nature Preserves www.dnr.state.oh.us/dnap/invasive/.

Ohio Invasive Plants Council, www.mipn.org/ohio

Wisconsin
Plant Conservation Program Manager, Bureau of Endangered Resources, Wisconsin Department of Natural Resources, (608) 267-5066, www.dnr.state.wi.us/invasives/

Invasive Plants Association of Wisconsin, www.ipaw.org

MIPN.org
Midwest Invasive Plant Network

The mission of the Midwest Invasive Plant Network is to reduce the impact of invasive plants in the Midwest. To learn more about our work, please visit our website (www.mipn.org) or contact us at info@mipn.org.

From: Ben L. Dolbeare

To:

Date: February 17, 2005

Subject: Creation of Illinois Invasive Plant Species Council

****

I invite you, or your designee, to be a charter member of the Illinois Invasive Plant Species Council. We will hold our initial meeting in Springfield on March 9, 2005, at the IDNR building on the northwest side of the fairgrounds immediately inside Gate 7. We will schedule subsequent meetings in both northern and southern Illinois as this is a statewide council. Please contact me soon if you cannot attend the meeting and want to participate in the meeting by conference phone. The **agenda** is on the last page.

****

I have decided to try to bring all of the following groups together by forming the Illinois Invasive Plant Species Council.

1. Aquatic and Terrestrial Nuisance Species IDNR Task Force

2. Chicago Botanic Garden

3. MIPN - Midwest Invasive Plant Network

4. EWRR - Early Warning, Rapid Response group in NE Illinois funded by Chicago Wilderness

5. The Nature Conservancy of Illinois

6. Illinois Environmental Protection Agency

7. Midwest Natural Resource Group

8. National Invasives Species Counsel

9. Illinois Nurserymen's Association

10. Exotic Plant Pest Council

11. Illinois Natural History Survey

12. U. S. Fish and Wildlife Service

13. Comprehensive Invasive Species Council of Illinois

14. U. S. Forest Service, Eastern Region

15. U. S. Forest Service, Shawnee Forest

16. Environmental Law Institute

17. Chicago Wilderness

18. Illinois Department of Transportation

19. Illinois Department of Agriculture

20. U. S. Department of Agriculture

21. Illinois Farm Bureau

22. Farm Service Agency

23. Natural Resource Conservation Service

24. Illinois Fertilizer and Chemical Association

25. Illinois Seed Trade Association, Inc.

26. I apologize if I omitted your group.

This council will answer directly to the already functioning Aquatic and Terrestrial Nuisance Species IDNR Task Force. Such a council will help us avoid uncoordinated duplication of effort and will give us a much stronger and broader influence in our efforts with the problems of invasive plant species. It will also provide us with a means of communication between the different groups. Additional members of the council could be from municipalities, colleges and universities, the green organizations such as Sierra Club and Illinois Native Plant Society, the landscape industry, the wholesale plant growers and the seed companies.

Similar councils in California, Kentucky, Tennessee, Wisconsin, Michigan, Missouri, Iowa, Mississippi, New England, North Carolina, New York, Pacific Northwest and the southeast US have been formed and are now functioning. Items of importance to these councils include newsletters, websites, annual symposia, exotic plant fact sheets, exotic plant CD's on ID and control, workshops, field schools, posters, flash cards, pamphlets, ranking exotics, exotic weed laws, industry outreach, scientific research, public education, etc. The goals of these groups vary but they all relate to invasive pest plants in some way. The goals of the above groups include one or more of the following:

1. To initiate actions to protect their state from the introduction, establishment and spread of invasive plant species.

2. Organize an effective partnership among public and private organizations to address the need for invasive species information and control across their state.

3. To raise awareness and promote public understanding regarding the threat posed by invasive exotic pest plants to native plant communities in their state.

4. To create a white paper assessing extent of invasives in the state and analyzing the economic impacts these invasives have on their state.

5. To create ranked lists of the invasive species of their state.

6. Early detection and rapid elimination of new invasive plants in Illinois.

The goals of this new invasive plant species council could include all of the previously listed goals along with some of the following possible additions. This is something the members of the council will need to decide during our first meeting(s).

1. Assess the extent of the invasive plant species problem throughout the state.

2. Establish criteria for identifying target invasive plant species.

3. Identify and prioritize target invasive plant species for control.

4. Identify effective control measures for target species.

5. Establish criteria to assess the feasibility of invasive plant species control at the different levels of employees in the field or within the different employment divisions.

6. Identify and arrange for the necessary training for personnel to effectively manage invasive plant species.

7. Determine the costs of the different methods of management and/or elimination of invasive plant species.

8. Identify funding sources for invasive plant species management.

9. Compile a list of invasive plant species control venders.

10. Provide landowners with incentives to voluntarily control invasive plant species. Also, provide cooperating landowners with control recommendations.

11. Provide a list of noninvasive plant species recommended for planting in lieu of the invasive plant species. This list could include only native species or could also include carefully selected non-native noninvasive species.

12. Strongly encourage nurseries to not deal with nonnative invasive species. Discourage the use of invasive plant species by landscapers and municipalities.

13. Prepare programs and materials for educating the public on invasive plant species.

14. Distribute all the above to all of the appropriate personnel.

GROUPS WORKING ON ILLINOIS INVASIVE PLANTS

1. Aquatic and Terrestrial Nuisance Species IDNR Task Forc

Mike Conlin, Chief
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Springfield, IL 62702-1271
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mconlin@dnrmail.state.il.us

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2. Chicago Botanic Garden

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Institute for Plant Conservation
Chicago Botanic Garden
1000 Lake Cook Road
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tel: 847/835-8378
fax: 847/835-6975
email: khavens@chicagobotanic.org
http://www.chicagobotanic.org/research/conservation

3. MIPN - Midwest Invasive Plant Network
- Risk Assessment and Early Alert and Response

Kearns, S. Kelly" <Kelly.Kearns@dnr.state.wi.us>
Midwest Invasive Plant Network Steering Committee

Nancy Lizette Berlin, Acting Botany Program Manager
USDA Forest Service Eastern Region
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nberlin@fs.fed.us

Ellen M. Jacquart
Director of Stewardship

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Indianapolis, IN 46202
317-951-8818
ejacquart@tnc.org

4. EWRR - Early Warning, Rapid Response
   - Early warning rapid response funded by Chicago Wilderness
   - partnering with the INHS

Debra Nelson
Illinois Department of Natural Resources
8916 Wilmot Road
Spring Grove, IL 60081
Phone: (815) 675-2386 x 321
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Fax - 847.680.5062
dmaurer@co.lake.il.us
www.lcfpd.org

7. EPA
   - state and federal

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Greater Chicago Urban Initiative Manager
Office of Strategic Environmental Analysis
U.S. EPA
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fax: 312-886-2737
klevs.mardi@epa.gov

8. Midwest Natural Resource Group

9. National Invasives Species Counsel

10. Illinois Nurserymen's Association

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Springfield, IL 62703
Phone: 888-525-3900
Fax: 217-525-6257
dbender@ina-online.org

Kelsay Shaw
kelsay_shaw@hotmail.com

11. Exotic Plant Pest Council

12. Illinois Ecowatch - Pete Jackson
    - Invasive Species Plants in Illinois Forests publication

13. Fish and Wildlife Service

Jeffrey L. Mengler
Botanist/Wetland Ecologist
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U..S. Fish and Wildlife Service
1250 South Grove, Suite 103
Barrington, IL 60010
847-381-2253 x226 847-381-2285 fax
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14. Conprehensive Invasive Species Council of Illinois - from the Illinois Invasive Species Symposium

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19 Misc.

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20. IDOT

Illinois Invasive Plant Species Council Meeting Agenda

10:00 AM
March 9, 2005
Conference Rooms A/B
1st Floor of the IDNR building
One Natural Resources Way, Springfield, Illinois

1. Reason for creation of the Council

2. History of the Council

3. Illinois Exotic Weed Law update and status for the Rule to Petition

4. Illinois Noxious Weed Law update by Warren Goetsch

5. Invasive Species: A Primary Threat to Illinois' Species in Greatest Need of Conservation by Jeff Walk

6. Goals of the Council

7. Composition of the Council

8. Other items of concern from the members of the council

9. Adjourn at 1:00 PM

Illinois Invasive Plant Species Council Meeting Agenda
Final Version prior to the meeting

10:00 AM
March 9, 2005
Conference Rooms A/B
1st Floor of the IDNR building
One Natural Resources Way, Springfield, Illinois

1. History leading up to creation of the Council

2. Reasons for creation of the Council

3. Invasive Species: A Primary Threat to Illinois' Species in Greatest Need of Conservation by Jeff Walk

4. Illinois Noxious Weed Law update by Warren Goetsch

5. Illinois Exotic Weed Policy update by Bob Szafoni

6. Illinois Exotic Weed Law update by and status for the Rule to Petition by Glen Kruse

7. Goals of the Council

8. Composition of the Council

9. Other items of concern from the members of the council

10. Adjournment at 1:00 PM

CONFERENCE CALL DIRECTIONS: Call 1-217-524-2544 and then ask for extension 61032 which will connect you with the Illinois Invasive Plant Species Council Meeting.

The IDNR building is in Conservation World of the Illinois State Fairgrounds immediately inside Gate 7. Gate 7 is the northwest entrance to the fairgrounds.

Illinois Invasive Plant Species Council Meeting Agenda
Final Version prior to the meeting

10:00 AM
April 7, 2006
Board Room
NE corner of 3rd Floor of the IDNR building
One Natural Resources Way, Springfield, Illinois

Status of the Rule to Petition to sell prohibited varieties and subspecies

Official adoption of Mission Statement, Goals and/or Strategic Plan of Action for the Council.

Official definition of ***"invasive plant species"***

Cooperative Weed Management Areas (CWMA) in Illinois

Connections and cooperation with other groups such as MIPN,etc.

Other items of concern from the members of the council

Date for a fall meeting

Adjournment by 1:00 PM

CONFERENCE CALL DIRECTIONS: Call 217-524-2544 and then ask for extension 61032 and you will be connected.

The IDNR building is in Conservation World of the Illinois State Fairgrounds immediately inside Gate 7; which is the northwest entrance to the fairgrounds.

Illinois Invasive Plant Species Board

John Cole - IDNR, Division of Wildlife
Janice Coons - Eastern Illinois University
Bob Edgin - Illinois Nature Preserves Commission
Jody Shimp - IDNR, Habitat Resources
David Thomas - Illinois Natural History Survey
Deanna Zercher - The Nature Conservancy
Nick Gianettino - US Forest Service (Shawnee N.F.)
Debbie Maurer - Lake County Forest Preserve

Dave Bender - Illinois Nurserymen's Associations
Nancy Erickson - Illinois Farm Bureau
Warren Goetsch - Illinois Department of Agriculture
Carsten Hoffmeyer - Hoffie Nursery
Gary Knosher - Midwest Groundcovers
Nick Nicklas - Kankakee Nursery
Martha Smith - U of Ill Extension, Macomb, IL
Craig Mitckes - Illinois Department of Transportation

Ben L. Dolbeare

Hello,

The April 7 meetings of the Illinois Invasive Plant Species Board and Council went quite well in my opinion. We decided on our official definition of "invasive species" and then we developed a Strategic Plan of Action draft to be finalized at the next meeting. The attachment contains both the definition and the draft of the plan. Both the commercial people and the restoration people indicated satisfaction with the way things were accomplished in the meeting.

I have already completed some of the tasks in the draft plan and I plan to bring such before the board at the next meeting. I also anticipate expanding our agenda for the next meeting to include ways of educating the public, expanding the list of plants nurseries should not be selling, among several other related topics.

All in all, I am happy with the progress we are making with the commercial people.

Ben

Agenda - October 17, 2006
10:00 AM - 1:00 PM
IDNR Building in the Fairgrounds

Clarify the membership of the Board.

Term length for members of the Board.

Relationship of the Board to the Council.

Relationship of the Board to IDNR.

Steve Shults - Regulations in Existence

Strategic Plan of Action - Review and adopt.

CWMA's (Cooperative Weed Management Areas) in Illinois.

Assessments of Invasive Plants in Illinois.

Assessments of the Potential of Exotic Plants to be Invasive in Illinois.

Other items from the Members of the Board.

Hello,

We had a successful meeting of the Illinois Invasive Plant Species Council and Board yesterday. Thirty members were in attendance.

The relationship of the Board to IDNR was explained and we listed the current voting members of the Board.

We received comments from Steve Shults, Aquatic Nuisance Species Program Manager concerning the relationship of his group with our group.

Most of our time was spent going over the Strategic Plan of Action. We approved a draft of the Plan after careful examination of it except for one small part to examined by Warren Goetsch of the IDOA. A final refined copy will be distributed by electronic mail to all for final approval by the end of the year.

We were brought up to date on three Cooperative Weed Management Areas and the EDRR group in Lake and McHenry Counties.

1. Lake/McHenry County CWMA
2. Metro St. Louis CWMA
   - about one half of the area is in Illinois
3. River to River CWMA
   - Eleven of the southernmost counties in Illinois.

We discussed briefly Risk Assesments of Invasive Plant Species in Illinois and we have started looking at the different assessment tools for this.

We decided to limit our efforts to plants even though problems such as the Emerald Ash Borer concerns plants.

Please forward all concerns and questions to Ben L. Dolbeare

Agenda
10:00 AM to 1:00 PM
March 8, 2007

Hawthorn/Chestnut Room of the Visitor Center
Morton Arboretum
Lisle, Illinois

Travel directions to Morton Arboretum can be obtained from their website which is:

http://www.mortonarb.org/visitor_information/general_information.htm

If you are charged for entrance into Morton Arboretum or for parking, tell the attendant you are attending the IIPSC meeting being hosted by Morton Arboretum and you will not be charged.

Items of Discussion

- ★ Brief history of the board for the newcomers to our meetings.
- ★ Final ratification of the Strategic Plan of Action. The Strategic Plan of Action has been formally approved by the IDNR and is attached.
- ★ Discussion of whether or not we want to incorporate into the Strategic Plan a mechanism for determining the potential of a plant to become invasive. It has been suggested we might add a new strategy under Objective 3, Establish an effective early intervention program....that would have us evaluate species that are going to be introduced into the state, such as for biofuel use, as to their potential to become invasive.
- ★ Methods of predicting whether or not a plant will be invasive if introduced into the state.

- ★ Discussion of identification of Native Plants for sale in nurseries; relates to a grant Dr. Janice Coons of EIU has with the purpose of increasing familiarity of native plants for landscaping to gardeners.

- ★ Status of Cooperative Weed Management Areas (CWMA's) in Illinois at this time.

- ★ New Invaders Watch Program of northeast Illinois.

- ★ What is new in the nursery business that the rest of us should know.

- ★ Topics of discussion for future meetings.

- ★ Future Meeting Dates and Locations.

- ★ Comments from Members and/or Visitors

Illinois Invasive Plant Species Council (IIPSC)
Minutes of the March 8, 2007

The meeting was held in the Hawthorn/Chestnut Rooms of the Visitor Center of the Morton Arboretum, Lisle, Illinois. It was a great setting for our meeting with a panoramic view of the Arboretum to the outside. Our thanks to Kurt Dreisilker and the Morton Arboretum for hosting us.

1. We started with all introducing themselves and stating their affiliation.

2. I then presented a brief history of the Council for the benefit of the newcomers.

3. The Council was informed of the IDNR's official acceptance of the Strategic Plan of Action the Council had developed over the past two years. One suggestion brought to the Council was to incorporate into the Strategic Plan a mechanism for determining the potential of a plant to become invasive. Discussion of such a mechanism led to the revelation that Kayri Havens and Kristen Kordecki, both of the Chicago Botanic Garden, are comparing all the available mechanisms for such a determination and will report their results to the Council upon completion of their study. The Council did decide an additional strategy should be added under Objective 3 for evaluating the potential to become invasive for species that are going to be used in Illinois as a source of biofuel.

4. Janice Coons of EIU then presided over a discussion of identifying native plants as "native plants" when being sold in the nurseries and garden centers. Dr. Coons related the presentation to a grant she is working on with the purpose of promoting increased use of native plants by gardeners, landscapers, etc. The Council agreed to help make the public more aware of the potential use of native plants and to work toward developing a logo/label identifying native plants as a "native plant". It was brought to the attention of the Council that many nurseries are already identifying and promoting native plants for landscaping. As to the development of a logo, it was suggested that any ideas council members came up with be sent directly to Janice.

5. The status of the Cooperative Weed Management Areas (CWMA) in Illinois was discussed. Four CWMA's are currently active in Illinois; they are the Gateway CWMA, Sangamon River Watershed CWMA, the River to River CWMA and the Lake-McHenry County CWMA. It was decided to let the IIPSC be an umbrella

organization over all the CWMA's unless individual CWMA's object.

6. Debbie Maurer and Karen Tharp presented a positive report and update on the New Invaders Watch Program (NIWP) of northeast Illinois.

7. It was reported that extensive research is presently in progress in attempts to develop sterile cultivars of nonnative plants for use in the horticultural industry in Illinois.

8. Items suggested for the next meeting were:

Implementation of the Strategic Plan of Action

Revise dates as listed in the Strategic Plan of Action

Approval of a logo identifying "Native Plants"

9. Please forward to me any corrections I should make in the minutes and comments on those discussion items I inadvertently omitted.

10. Next Two Meeting Dates and Locations

June 13, 2007	Exact location to be announced Springfield, Illinois
October 16, 2007	Illinois Nurserymen's Association Building Springfield, Illinois

Submitted by: Ben L. Dolbeare
March 13, 2007

ILLINOIS INVASIVE PLANT SPECIES COUNCIL
Strategic Plan

Structure of the Illinois Invasive Plant Species Council

The Illinois Invasive Plant Species Council (IIPSC) is comprised of two bodies, a "Board" and an "Advisory Committee" and reports to the Aquatic and Terrestrial Nuisance Species Task Force (ATNSTF). The Council has a Chair and a sixteen member Board with voting privileges. The Board is made up of key stakeholders on invasive plant issues with 8 representatives from the commercial or nursery industry and 8 representatives from the natural resources field concerned with habitat restoration efforts. The Board addresses and votes on various issues and activities related to the strategic plan. The Council Chair will only vote when there is a tie among the Board members. The Council Chair presents the Board's decisions to the ATNSFT for their approval and will indicate when there was a tie vote on a particular issue. It is anticipated that the decisions made by the Board will be recorded in minutes and subsequently posted on the IIPSC website after it's been developed.

The Advisory Committee is a non-voting body comprised of experts in invasion biology, land managers, green industry representatives, non-profit organizations, and regional, state and federal agency representatives. The role of the Advisory Committee is to provide advice to the Board on various issues outlined in the IIPSC strategic plan and feedback on the decisions made by the Board.

In order for the IIPSC to function successfully, the Council members will need to actively participate and take leadership roles in achieving the goals, objectives, strategies, and tasks that support the IIPSC's mission. The Board and Advisory Committee will meet periodically at various locations within Illinois.

Definition of *"Invasive Plants"*

The IIPSC will use the following definition for "invasive plants" [modified from Executive Order 13112, Feb. 3, 1999 from the National Invasive Species Council, Federal Register: Feb 8, 1999 (Volume 64, Number 25)]

> *"with respect to a particular ecosystem, any species that is not native to that ecosystem, including its seeds, spores, or other biological material capable of propagating that species AND whose introduction does or is likely to cause economic or environmental harm."*

IIPSC's Mission:

Minimize the adverse economic and ecological effects that invasive plants pose to the state of Illinois.

The IIPSC will focus on addressing strategies to meet the following four goals of

Illinois and seek ways to implement those strategies.

Task 3.1.1: Identify the sources through which invasive plants enter Illinois.

Task 3.1.2: Estimate the economic and ecological cost and impact that invasive plant introductions could have in Illinois to illustrate the importance and cost effectiveness of prevention strategies.

Strategy 3.2
Manage invasion pathways.

Task 3.2.1: Identify pathways through which invasive plants enter Illinois.

Task 3.2.2: Identify those who could effectively monitor invasion pathways and be able to detect situations that might allow invasive plants to enter Illinois. Provide adequate personnel, training, tools, and authority to reduce the introduction of invasive plants in Illinois. Also, extend training efforts to include businesses that import nursery stock into Illinois.

Task 3.2.3: Increase surveillance of invasion pathways.

Strategy 3.3
Develop a list of invasive plants that should trigger rapid responses and the actions needed to address those plants.

Task 3.3.1: Prepare and adopt a risk assessment tool for invasive plants that are in Illinois and invasive plants that have a possibility of introduction into the state.

Task 3.3.2: Develop a list of invasive plants and prepare rapid response plans. Rapid response plans will include responses commensurate with the plant's risks and will be used to support rapid response implementation.

Task 3.3.3: Revise the invasive plant list periodically.

Strategy 3.4
Develop a statewide system for early detection of invasive plants.

Task 3.4.1: Develop a network of skilled people to detect, report, and verify invasive plants. A training program and an efficient reporting mechanism will be needed. Utilize opportunities in the Training and Education Section.

Task 3.4.2: Develop a system that quickly notifies the appropriate rapid response person(s) of the detected invasive plant name and detailed location.

Task 3.4.3: Evaluate the success of the early warning/rapid response pilot project in the Chicago region and determine how this project can be modified and expanded to cover the state.

Strategy 3.5
Develop an effective Rapid Response System.

Task 3.5.1: Evaluate the Rapid Response System developed by the Aquatic Nuisance Species program and the revised Comprehensive Management Plan for Aquatic Nuisance Species (when completed) to help with the development of the IIPSC rapid response plans.

Task 3.5.2: Use the rapid response plans to facilitate a quick assessment of the risks of the invasive plant at the location and implement the actions needed.

Task 3.5.3: Provide the rapid response person(s) with the ability to address the invasive plant issue, including and not limited to adequate personnel, tools, and the authority to carry out the actions needed. Utilize opportunities in the containment, control, and restoration, broadening knowledge, and the legal structure sections. Utilize opportunities in the Broadening Knowledge section.

Strategy 3.6
Review existing programs around the world that implement a performance bonding program and assess its feasibility in Illinois.

4. Containment, Control and Restoration

Objective 4
Facilitate efforts to contain and control populations of established invasive plants that threaten ecologically important areas and restore ecosystems to a healthy state.

Strategy 4.1
Set priorities for control work by risk assessments and by selecting ecologically important areas of the state.

Task 4.1.1: By Spring 2007, select ecologically important areas of the state for direct control efforts.

Task 4.1.2: Evaluate information from the risk assessments to determine if there are select plants that warrant state-wide or region-wide control

strategies. Develop and support strategies accordingly.

Strategy 4.2
Support direct control efforts and restoration in selected ecologically important areas.

Task 4.2.1: Identify existing and additional personnel needed to accomplish effective direct control and restoration efforts and assist in securing funding to achieve those efforts.

Strategy 4.3
Where needed, develop programmatic NEPA analyses and decisions to speed control and eradication efforts for federal projects and on federal lands.

Task 4.3.1: Review whether it would be useful for federal agencies to complete NEPA analyses in advance for the species and locations most likely to be infested to minimize the time between detection and action for federal partners.

Task 4.3.2: Complete any programmatic NEPA analyses for federal lands, operations and high risk species where there is agreement that "advance" NEPA clearances would speed control or eradication efforts.

Strategy 4.4
Encourage control efforts in areas outside of the ecologically important areas such as roadsides, agriculture, and invasion pathways.

5. Reaching Important Audiences through Education:

Objective 5
Reach important audiences through education on the risks posed by invasive plants.

Strategy 5.1
Identify specific key audiences and create targeted communications tools to reach them.

Task 5.1.1: Quantify the detrimental impact of invasive plants, including identifying and assessing the cost and impact of invasive plants to agriculture, landscaping, and conservation in Illinois.

Task 5.1.2: Prepare a list of noninvasive alternative plants that could be provided to the public.

Task 5.1.3: Identify present programs and outreach efforts that are

addressing the invasive species issue.

Task 5.1.4: Identify those key audiences, including the General Assembly, that can be most influential in addressing invasive plant species policy and by the end of 2007 develop a full array of specific communication tools to reach each of them.

Task 5.1.5: Develop a communication strategy that would include educational material targeting the key audiences of the public, natural land managers, commercial plant sellers, and landscapers on the techniques, dangers and costs of eradicating, containing, and controlling invasive plants.

Task 5.1.6: Implement communication strategy by 2008.

6. Develop and Implement an Effective Training Program:

Objective 6
Develop and implement an effective training program that supports this plan's strategies and tasks.

Strategy 6.1
Cross-train agency and industry personnel to recognize and report possible invasions.

Task 6.1.1: Train those who could effectively monitor invasion pathways and be able to detect situations that might allow invasive plants to enter Illinois. Complete a curriculum for such training by 2008. This training curriculum will be an important first step to the prevention, early detection, and rapid response section.

Strategy 6.2
Provide land managers and private landowners with training in plant identification and Best Management Practices (BMPs) to control invasive plants.

Task 6.2.1: Develop training curricula and training opportunities.

Strategy 6.3
Use the expertise of the Extension Service to help support the actions outlined in the "education and training" provisions of this plan.

7. Broadening Knowledge through Research, Technology Transfer, and Data Management:

Objective 7
Broaden knowledge through research, technology transfer, and data management.

Strategy 7.1
Identify existing research programs on invasive plants and research gaps and set priorities for further research needs.

> **Task 7.1.1**: Encourage academic research toward those species and issues that either pose the highest risks or have already exacted a high economic or environmental price. The Council should do a regular collaborative review of ongoing or proposed research.

Strategy 7.2
Investigate the ecology and management of invasive plants through research. This may include taxonomy (e.g. identification and biogeography), ecology (e.g. autecology, demography and community interactions with invasive plants), and optimal management methods (e.g. mechanical, chemical and biological control, integrated management, and buffer zones around key threatened habitats).

Strategy 7.3
Create and regularly update a statewide database and map that illustrates known and new or spreading invasions to track invasive plants in Illinois.

Strategy 7.4
Develop and maintain an IIPSC website that serves as a clearinghouse for invasive plant efforts in Illinois and supports implementation of the goals of this plan. Information on the website may include the invasive plant list, plant identification, risk assessment, ecology, and optimal management methods; early detection reporting mechanism and rapid response plans; research data; education and outreach tools; funding resources; a state-wide database and map for tracking invasive plants; and past and present control efforts.

> **Task 7.4.1**: Catalog past and present control efforts for invasive plants (e.g. kudzu and autumn olive). Discuss strategies used for control and their effectiveness.

8. Creating an Adequate, Effective Legal Structure:

Objective 8
Create an adequate, reasonable, and effective regulatory structure to manage the threats of invasive plants in Illinois.

Strategy 8.1
Create an adequate, reasonable, and effective legal structure that addresses the problem of invasive plants.

Task 8.1.1: Review Illinois' current invasive plant laws and change as necessary.

Strategy 8.2
Work to change legislation to ensure that the agencies that interact with invasive plants and invasion pathways have the authority to effectively deal with them.

Task 8.2.1: Work with the Governor's Office and the appropriate agencies to coordinate authorities so that all agencies that regulate transportation, commerce or natural resource management have adequate abilities to control high risk situations and shipments. This will require some changes in state law that should be completed by the end of the 2007 legislative session.

Strategy 8.3
Work on legislation that would ensure that all appropriate agencies have emergency powers so that they can immediately address hazardous situations that might allow the introduction and spread of invasive species.

Task 8.3.1: Review and update the emergency powers by the end of the 2007 legislative session.

Strategy 8.4
Create a regulatory structure that would be based on species risks.

Task 8.4.1: Be able to expend resources on those species where the risks of invasion, spread and damages are the highest. By the end of 2007, have a scientifically based process for rapid assessment of risks for a wide variety of invasive plants as a platform for a regulatory system based on those risks.

Task 8.4.2 Evaluate if a legal framework for different categories of risk would be effective in Illinois.

Strategy 8.5
Consider enactment of a comprehensive invasive plant species law.

Task 8.5.1: The foregoing measures will all require some type of legislative action. In addition, creation of a statewide invasive species coordinator might best be accomplished through legislation. Such a package should be developed for the 2007 legislative session.

Strategy 8.6
Encourage proactive self-regulation of activities that could introduce and spread invasive plants (e.g. green industry, recreational activities, etc.).

ILLINOIS INVASIVE PLANT SPECIES COUNCIL
Strategic Plan

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IIPSC's Mission:

Minimize the adverse economic and ecological effects that invasive plants pose to the state of Illinois.

The IIPSC will focus on addressing strategies to meet the following four goals of

invasive species management to achieve the mission.

Goals

1. ***Prevent*** *harmful intentional and unintentional introductions of invasive plants into Illinois*
2. ***Detect*** *and identify plants that have recently become invasive in Illinois*
3. ***Respond*** *rapidly to new invasive plants that have been detected in Illinois*
4. ***Manage*** *established and spreading invasive plants (eradicate, contain, control) and restore areas affected by their impacts in Illinois*

Illinois is in a prime area of the country to be impacted by invasive and exotic species because of its connection to the Great Lakes, Illinois River, Mississippi River, and a road and rail transportation hub. Exotic invasives are reported to cause over $137 billion of environmental damages and economic losses every year in the United States.[1] They are considered to be a severe and insidious form of environmental pollution.[2] The prevention goal above is first on the list because prevention and early intervention are the most effective and cost efficient approaches to address the economic and ecological impacts of exotic invasive species.

In order to achieve the goals above, there are "essential elements" that are vital to the successful functioning of the IIPSC, such as having adequate funding to accomplish the goals and objectives outlined in this plan, leadership and participation among Council members, cooperation among partners, and coordination of their efforts. The "essential elements" are described first because of their importance in attaining the goals in this plan, followed by sections on invasive plant management. The following objectives, strategies and tasks are critical to accomplishing the goals outlined above. Individual objectives, strategies, and tasks simultaneously address multiple goals.

This plan has been modified from "Idaho's Action Plan for Invasive Species" (January 2005). We would like to acknowledge Idaho's efforts and willingness to allow us to adapt their plan to address Illinois' invasive plant issues.

[1] Pimental, D., Lach L., Zuniga R., and Morrison,D. 2000. Environmental and economic costs of non-indigenous species in the United States. BioScience 50(1):53-65.

[2] McKnight, B.N. 1993. Biological Pollution: The control and impact of invasive exotic species. Proceedings of a Symposium held at Indiana University-Purdue University at Indianapolis Oct. 25&26, 1991.261 pp.

Plan Sections:

Essential Elements:

1. **Assuring Adequate Funding**
2. **Leadership, Cooperation and Coordination**

Invasive Plant Management:

3. **Early Intervention – Prevention, Early Detection, & Rapid Response**
4. **Containment, Control and Restoration**
5. **Reaching Important Audiences through Education**
6. **Develop and Implement an Effective Training Program**
7. **Broadening Knowledge through Research, Technology Transfer, and Data Management**
8. **Creating an Adequate, Effective Legal Structure**

Essential Elements:

1. Assuring Adequate Funding:

Objective 1
Identify funding needs and potential sources of funds to meet those needs for achieving invasive plant management in Illinois.

Strategy 1.1
Pursue appropriations from the General Assembly to address the serious issue of invasive plants in Illinois.

Task 1.1.1: Submit new initiative for invasive plants funding.

Task 1.1.2: Review the feasibility of developing an invasive species fund. Consult with Council members, experts and those knowledgeable with developing funds to evaluate options for acquiring revenue to aid in addressing the issue of invasive plants in Illinois.

Strategy 1.2
Identify and prioritize funding needs. Funding needs may include and are not limited to the following:

Research

- On risk assessment, ecology and management methods

Management

- To detect, eradicate, contain & control invasive plants
- To restore ecologically important areas

- To enforce the regulatory structure that manages the threats of invasive plants in Illinois

Education and Outreach

- To train people to detect invasive plants in a given habitat
- To prepare and distribute educational materials
- To train educators
- To create and maintain an IIPSC web site

Strategy 1.3
Identify all funding sources that might be available for invasive plant management and position Illinois to take advantage of them.

Task 1.3.1: By the end of 2007, have in place an array of funding sources and a strategy for securing them so that invasive plant programs in Illinois are adequately funded.

Task 1.3.2: Restore funds for invasive plant research, education and control.

Strategy 1.4
Create a "cross cut" budget in order to account for invasive plant expenditures in Illinois that includes funds to address invasive plants from all sources and identifies the contributions of all state agencies.

Task 1.4.1: By the end of 2008, be able to more closely estimate expenditures of funds for invasive plants management in Illinois and list their sources.

2. Leadership, Cooperation, and Coordination:

Objective 2
Develop and implement a state approved plan that will lead to the effective coordination of invasive plant programs and efforts in Illinois.

Strategy 2.1
Identify the organizational structure needed within the state to successfully implement the invasive species goals and objectives, including identifying the roles, responsibilities, and lines of authority of state and federal agencies and other key partners.

Task 2.1.1 Enhance the effectiveness of the IIPSC by developing an organizational structure for the Council that will best focus activities

toward meeting the plan's goals and objectives. Designate willing Council members to fill the roles needed to attain the goals in this plan.

Strategy 2.2
Identify staffing needs to adequately fill the roles identified in Strategy 2.1, including but not limited to establishing a full time invasive plant species coordinator. The coordinator will be responsible to oversee and coordinate state government programs and act as a liaison with federal agencies and the private sector that address invasives issues.

Strategy 2.3
Prioritize and implement the plan's goals, objectives, strategies, and tasks. Assign willing Council members who will be responsible to lead and participate in efforts toward meeting the plan's goals, objectives, strategies, and tasks. Council members leading particular efforts of the plan should provide the Council with a progress report.

Strategy 2.4
Periodically review and refine the plan as needed to achieve the goals and mission of the IIPSC.

Task 2.4.1: Seek advice from the Council to periodically review and refine the strategic plan, the risk assessment of invasive plant species, and funding opportunities.

Task 2.4.2: Seek consultation with invasive species councils in other states, the federal invasive species council, and others working on invasive plant issues to find new ways that could facilitate addressing invasive plant issues in Illinois.

Strategy 2.5
Investigate the procedure to gain legislative authority for the creation of the IIPSC so that it becomes an official body of state government.

Invasive Plant Management:

3. Early Intervention – Prevention, Early Detection, and Rapid Response:

Objective 3
Establish an effective early intervention program that includes prevention, early detection, and rapid responses to invasive plants in Illinois.

Strategy 3.1
Develop strategies that can help prevent the introduction of invasive plants into

Illinois and seek ways to implement those strategies.

Task 3.1.1: Identify the sources through which invasive plants enter Illinois.

Task 3.1.2: Estimate the economic and ecological cost and impact that invasive plant introductions could have in Illinois to illustrate the importance and cost effectiveness of prevention strategies.

Strategy 3.2
Manage invasion pathways.

Task 3.2.1: Identify pathways through which invasive plants enter Illinois.

Task 3.2.2: Identify those who could effectively monitor invasion pathways and be able to detect situations that might allow invasive plants to enter Illinois. Provide adequate personnel, training, tools, and authority to reduce the introduction of invasive plants in Illinois. Also, extend training efforts to include businesses that import nursery stock into Illinois.

Task 3.2.3: Increase surveillance of invasion pathways.

Strategy 3.3
Develop a list of invasive plants that should trigger rapid responses and the actions needed to address those plants.

Task 3.3.1: Prepare and adopt a risk assessment tool for invasive plants that are in Illinois and invasive plants that have a possibility of introduction into the state.

Task 3.3.2: Develop a list of invasive plants and prepare rapid response plans. Rapid response plans will include responses commensurate with the plant's risks and will be used to support rapid response implementation.

Task 3.3.3: Revise the invasive plant list periodically.

Strategy 3.4
Develop a statewide system for early detection of invasive plants.

Task 3.4.1: Develop a network of skilled people to detect, report, and verify invasive plants. A training program and an efficient reporting mechanism will be needed. Utilize opportunities in the Training and Education Section.

Task 3.4.2: Develop a system that quickly notifies the appropriate rapid response person(s) of the detected invasive plant name and detailed location.

Task 3.4.3: Evaluate the success of the early warning/rapid response pilot project in the Chicago region and determine how this project can be modified and expanded to cover the state.

Strategy 3.5
Develop an effective Rapid Response System.

Task 3.5.1: Evaluate the Rapid Response System developed by the Aquatic Nuisance Species program and the revised Comprehensive Management Plan for Aquatic Nuisance Species (when completed) to help with the development of the IIPSC rapid response plans.

Task 3.5.2: Use the rapid response plans to facilitate a quick assessment of the risks of the invasive plant at the location and implement the actions needed.

Task 3.5.3: Provide the rapid response person(s) with the ability to address the invasive plant issue, including and not limited to adequate personnel, tools, and the authority to carry out the actions needed. Utilize opportunities in the containment, control, and restoration, broadening knowledge, and the legal structure sections. Utilize opportunities in the Broadening Knowledge section.

Strategy 3.6
Review existing programs around the world that implement a performance bonding program and assess its feasibility in Illinois.

4. Containment, Control and Restoration

Objective 4
Facilitate efforts to contain and control populations of established invasive plants that threaten ecologically important areas and restore ecosystems to a healthy state.

Strategy 4.1
Set priorities for control work by risk assessments and by selecting ecologically important areas of the state.

Task 4.1.1: By Spring 2007, select ecologically important areas of the state for direct control efforts.

Task 4.1.2: Evaluate information from the risk assessments to determine if there are select plants that warrant state-wide or region-wide control

strategies. Develop and support strategies accordingly.

Strategy 4.2
Support direct control efforts and restoration in selected ecologically important areas.

Task 4.2.1: Identify existing and additional personnel needed to accomplish effective direct control and restoration efforts and assist in securing funding to achieve those efforts.

Strategy 4.3
Where needed, develop programmatic NEPA analyses and decisions to speed control and eradication efforts for federal projects and on federal lands.

Task 4.3.1: Review whether it would be useful for federal agencies to complete NEPA analyses in advance for the species and locations most likely to be infested to minimize the time between detection and action for federal partners.

Task 4.3.2: Complete any programmatic NEPA analyses for federal lands, operations and high risk species where there is agreement that "advance" NEPA clearances would speed control or eradication efforts.

Strategy 4.4
Encourage control efforts in areas outside of the ecologically important areas such as roadsides, agriculture, and invasion pathways.

5. Reaching Important Audiences through Education:

Objective 5
Reach important audiences through education on the risks posed by invasive plants.

Strategy 5.1
Identify specific key audiences and create targeted communications tools to reach them.

Task 5.1.1: Quantify the detrimental impact of invasive plants, including identifying and assessing the cost and impact of invasive plants to agriculture, landscaping, and conservation in Illinois.

Task 5.1.2: Prepare a list of noninvasive alternative plants that could be provided to the public.

Task 5.1.3: Identify present programs and outreach efforts that are

addressing the invasive species issue.

Task 5.1.4: Identify those key audiences, including the General Assembly, that can be most influential in addressing invasive plant species policy and by the end of 2007 develop a full array of specific communication tools to reach each of them.

Task 5.1.5: Develop a communication strategy that would include educational material targeting the key audiences of the public, natural land managers, commercial plant sellers, and landscapers on the techniques, dangers and costs of eradicating, containing, and controlling invasive plants.

Task 5.1.6: Implement communication strategy by 2008.

6. Develop and Implement an Effective Training Program:

Objective 6
Develop and implement an effective training program that supports this plan's strategies and tasks.

Strategy 6.1
Cross-train agency and industry personnel to recognize and report possible invasions.

Task 6.1.1: Train those who could effectively monitor invasion pathways and be able to detect situations that might allow invasive plants to enter Illinois. Complete a curriculum for such training by 2008. This training curriculum will be an important first step to the prevention, early detection, and rapid response section.

Strategy 6.2
Provide land managers and private landowners with training in plant identification and Best Management Practices (BMPs) to control invasive plants.

Task 6.2.1: Develop training curricula and training opportunities.

Strategy 6.3
Use the expertise of the Extension Service to help support the actions outlined in the "education and training" provisions of this plan.

7. Broadening Knowledge through Research, Technology Transfer, and Data Management:

Objective 7
Broaden knowledge through research, technology transfer, and data management.

Strategy 7.1
Identify existing research programs on invasive plants and research gaps and set priorities for further research needs.

> **Task 7.1.1**: Encourage academic research toward those species and issues that either pose the highest risks or have already exacted a high economic or environmental price. The Council should do a regular collaborative review of ongoing or proposed research.

Strategy 7.2
Investigate the ecology and management of invasive plants through research. This may include taxonomy (e.g. identification and biogeography), ecology (e.g. autecology, demography and community interactions with invasive plants), and optimal management methods (e.g. mechanical, chemical and biological control, integrated management, and buffer zones around key threatened habitats).

Strategy 7.3
Create and regularly update a statewide database and map that illustrates known and new or spreading invasions to track invasive plants in Illinois.

Strategy 7.4
Develop and maintain an IIPSC website that serves as a clearinghouse for invasive plant efforts in Illinois and supports implementation of the goals of this plan. Information on the website may include the invasive plant list, plant identification, risk assessment, ecology, and optimal management methods; early detection reporting mechanism and rapid response plans; research data; education and outreach tools; funding resources; a state-wide database and map for tracking invasive plants; and past and present control efforts.

> **Task 7.4.1**: Catalog past and present control efforts for invasive plants (e.g. kudzu and autumn olive). Discuss strategies used for control and their effectiveness.

8. Creating an Adequate, Effective Legal Structure:

Objective 8
Create an adequate, reasonable, and effective regulatory structure to manage the threats of invasive plants in Illinois.

Strategy 8.1
Create an adequate, reasonable, and effective legal structure that addresses the problem of invasive plants.

Task 8.1.1: Review Illinois' current invasive plant laws and change as necessary.

Strategy 8.2
Work to change legislation to ensure that the agencies that interact with invasive plants and invasion pathways have the authority to effectively deal with them.

Task 8.2.1: Work with the Governor's Office and the appropriate agencies to coordinate authorities so that all agencies that regulate transportation, commerce or natural resource management have adequate abilities to control high risk situations and shipments. This will require some changes in state law that should be completed by the end of the 2007 legislative session.

Strategy 8.3
Work on legislation that would ensure that all appropriate agencies have emergency powers so that they can immediately address hazardous situations that might allow the introduction and spread of invasive species.

Task 8.3.1: Review and update the emergency powers by the end of the 2007 legislative session.

Strategy 8.4
Create a regulatory structure that would be based on species risks.

Task 8.4.1: Be able to expend resources on those species where the risks of invasion, spread and damages are the highest. By the end of 2007, have a scientifically based process for rapid assessment of risks for a wide variety of invasive plants as a platform for a regulatory system based on those risks.

Task 8.4.2 Evaluate if a legal framework for different categories of risk would be effective in Illinois.

Strategy 8.5
Consider enactment of a comprehensive invasive plant species law.

Task 8.5.1: The foregoing measures will all require some type of legislative action. In addition, creation of a statewide invasive species coordinator might best be accomplished through legislation. Such a package should be developed for the 2007 legislative session.

Strategy 8.6
Encourage proactive self-regulation of activities that could introduce and spread invasive plants (e.g. green industry, recreational activities, etc.).

Exotic plants lose their charm when they become nuisances.

Exotic Weeds In Illinois

Story By Ben Dolbeare

As one enjoys the tranquil and scenic outdoors, keep in mind that below the green, leafy cover, a quiet invasion is spreading in Illinois—a ground battle that poses a major threat to our native plants and can destabilize some of our most precious ecosystems. The enemy is exotic species and the mechanisms they exploit to gain a foothold in our ecosystems might surprise even the most conscientious plant enthusiast.

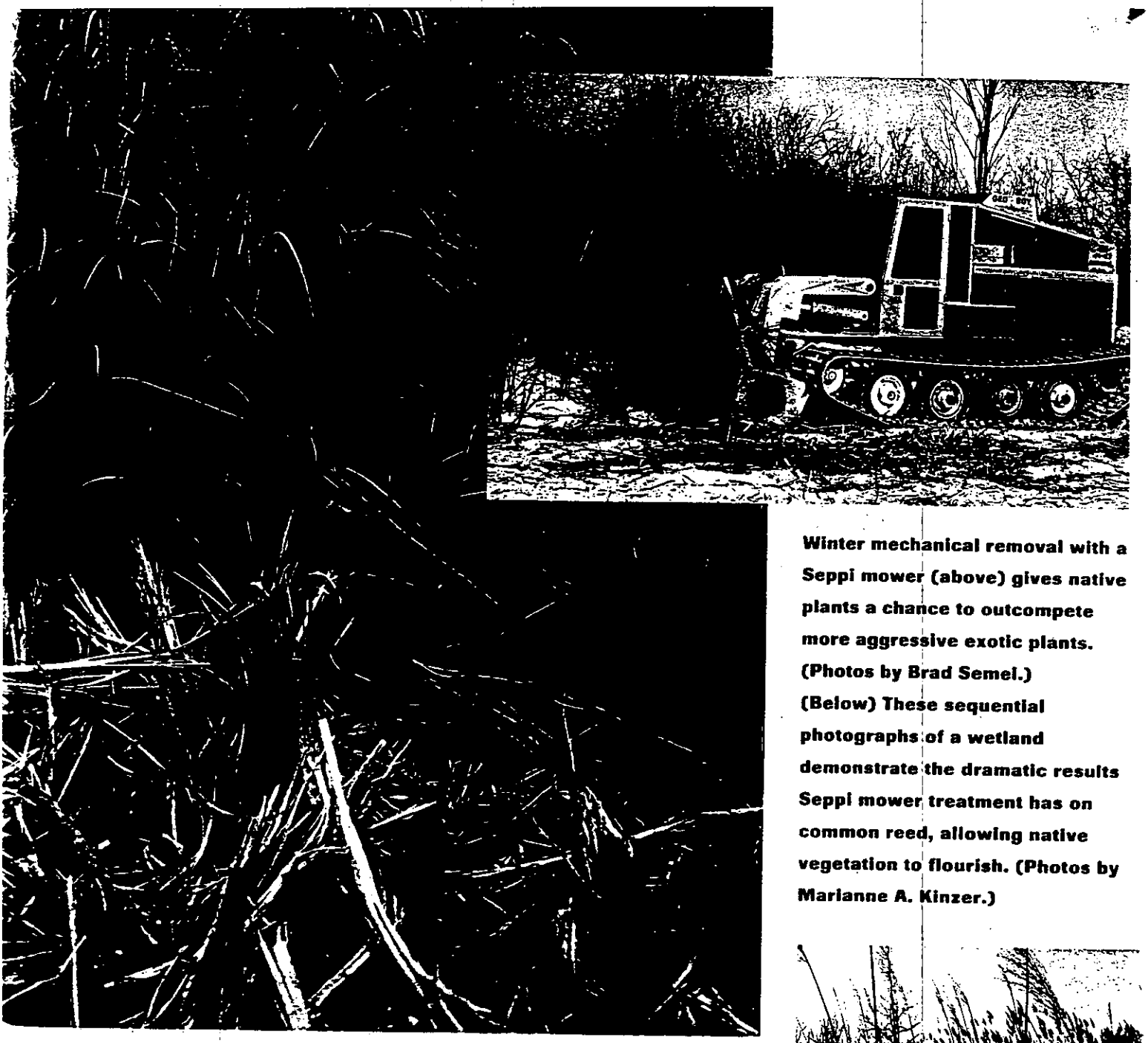
Why be concerned that the native flora is being replaced with invasive species? The invasion of just a single species may bring about the loss of several native plant species. This loss of biodiversity is of major concern to ecologists—locally and globally.

Exotic plants—plants native to other areas of the U.S. or world—have been introduced to Illinois through a variety of mechanisms. In some instances, the seeds or fruits of a plant have passed through an animal's digestive system unharmed, germinating and producing new plants some distance away from the parent plant. Some seeds have been blown considerable distances to germinate when deposited in habitat suitable for growth and reproduction.

Some small seeds, such as garlic mustard, have been carried in the fur of raccoons, deer and other animals as they move from one area to another. Others, such as leafy spurge and teasel, hitch rides on roadside mowers, falling off along the way to create new colonies along the length of our roadways. Kudzu and Chinese yam have invaded new areas when discarded cuttings have been thrown onto a trash pile or into an adjoining vacant lot.

In some cases we simply do not know why, or how, a plant has become an invasive problem. Many of today's exotic species, such as burning-bush and ornamental figs, were grown for several years before they exploded into the natural landscape and became problems.

Even though some commercially available exotic plants are sterile, many can cross-pollinate with closely related native plants to produce fertile hybrids. These hybrids can successfully reproduce and often their new environments lack natural controls to check their reproduction and competition with native species.

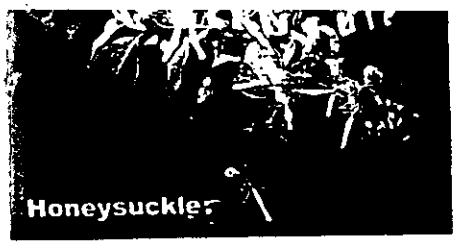


Winter mechanical removal with a Seppi mower (above) gives native plants a chance to outcompete more aggressive exotic plants. (Photos by Brad Semel.) (Below) These sequential photographs of a wetland demonstrate the dramatic results Seppi mower treatment has on common reed, allowing native vegetation to flourish. (Photos by Marianne A. Kinzer.)

The ornamental fig is an example of a species that, for a period, failed to successfully reproduce in the United States because it lacked the insect responsible for pollinating plants in its native country. For several decades, landscapers in Florida used more than 60 species of imported ornamental figs without any problem. Then about 20 years ago, the wasp responsible for pollinating the laurel fig was accidentally introduced and the plant produced viable seeds. It quickly and aggressively invaded surrounding natural areas and became a serious concern.

The impact invasive species have on native flora is vast. Some, like the various species of buckthorn and the Norway maple, block out sunlight native species need to survive and reproduce. Chinese bittersweet and turquoise-berry (porcelain-berry) grow to the tops of the tallest trees in the forest, creating a dense, smothering foliage, with the weight of the vines eventually pulling the trees down.

Other invasive species outcompete native flora for water, minerals and other nutrients necessary for survival. Invasive species often grow unchecked because the organism controlling their numbers in their native habitat—a herbivorous insect or mammal, or disease-causing fungi or bacteria—is missing. Roots of the Chinese tree-of-heaven produce toxins that inhibit the growth and germination of surrounding plants, probably an evolution-



(Photos by Kathy Andrews.)

(Photo by Brad Semel.)

(Above) Land managers face formidable challenges in many parks and natural areas where exotic plants are established. Honeysuckle, multiflora rose and autumn olive (left), once touted as beneficial wildlife food plants, are now common, invasive species.

ary adaptation to prevent competition for water and nutrients.

Disturbed soils—agricultural areas and land under development for subdivisions, malls and roads—are preferred by some exotic species. On the upside for native forest and prairie plants, some common exotic agricultural weeds, such as velvet-leaf, cannot successfully compete in natural areas and remain restricted to corn and soybean fields.

Without the help of volunteers and conservation-minded organizations, many of the state's natural areas would be overrun with invasive plants.

Addressing the problem

The effort to eliminate, manage or control invasive exotic weeds in Illinois is huge, a portion of the estimated $4 billion worldwide annual budget to combat exotics. Department of Natural Resources (DNR) employees, other land management agencies and hundreds of volunteers throughout the state spend thousands of hours and dollars attempting to eradicate invasive plants from natural areas.

Tim Hickmann of the DNR Division of Land Management is familiar with the difficulties of controlling exotic species in the state park system.

He commented, "Our parks, nature preserves and conservation areas are all under constant siege by invasion of non-native plants. We do an enormous amount of work to control buckthorns, honeysuckles, purple loosestrife, reed canary grass, teasel, garlic mustard, kudzu and Eurasian milfoil. This effort involves thousands of acres annually and a huge investment of staff time and precious financial resources. In many areas, we fear we might be losing the battle."

The management tools used for control vary, with biological control used as much as possible. Some herbaceous invasive species are pulled by hand, with the plants then disposed of properly to avoid perpetuating the problem. Burning, drowning, mowing, introducing natural predators and spraying with appro-

(Photo courtesy of Lake County Forest Preserves, copyright Kim Karpeles.)

Exotics—a serious problem

In 1987, the state passed the Illinois Exotic Weed Act making it unlawful to buy, sell, offer for sale, distribute or plant seeds, plants or plant parts of exotic weeds. Species listed in the act include Japanese honeysuckle (*Lonicera japonica*), multiflora rose (*Rosa multiflora*), purple loosestrife (*Lythrum salicaria*), common buckthorn (*Rhamnus cathartica*), glossy buckthorn (*Rhamnus frangula*), saw-toothed buckthorn (*Rhamnus arguta*), dahurian buckthorn (*Rhamnus davurica*), Japanese buckthorn (*Rhamnus japonica*), Chinese buckthorn (*Rhamnus utilis*) and kudzu (*Pueraria lobata*).

For more on the Exotic Weed Act (Conservation 525 ILCS10/), visit www.legis.state.il.us.

priate selected herbicides are other techniques used.

Woody species are often cut down or girdled, with a follow-up spraying of the stumps required to minimize regrowth. In some of the boggy areas in northeast Illinois, woody species are removed with a Seppi forestry mower, a machine that moves over frozen ground, removing invasive buckthorns and other alien trees without damaging the native herbaceous vegetation.

Control sometimes requires locating the source of the seeds and cuttings that are giving rise to new populations of pest plants. Once the source is located, preventative measures can be taken, which often includes informing and educating private landowners on how to prevent these unintentional introductions.

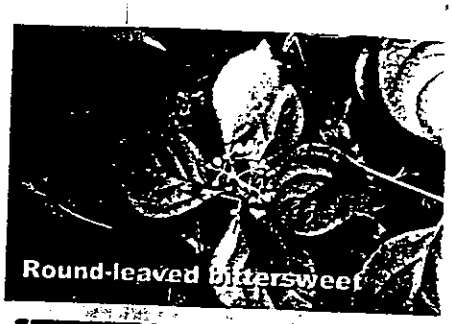
An ounce of prevention

DNR's policy is to use native species when making perennial plantings on state lands and to encourage the use of native species—and discourage the use of exotic plants—when recommending planting materials for use on private properties. DNR will use, or recommend the use of, exotic perennials only after it is determined there are no alternative native plants and it has been demonstrated that the exotic plant does not spread.

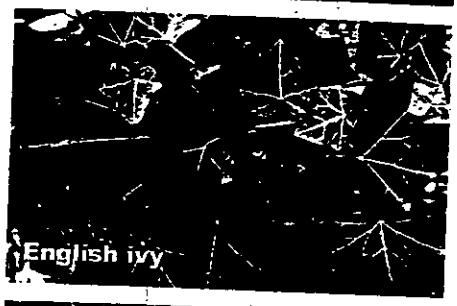
As time, manpower and funds allow, DNR removes, controls or eradicates problem exotic plants from DNR-owned, managed or leased lands, focusing on today's most problematic species—garlic mustard, buckthorn, honeysuckle, sweet clover and Johnson grass.

Ben Dolbeare, the coordinator of exotic species for DNR, can be reached for further information on exotic, invasive plants at (217) 785-8688 or bdolbeare@dnrmail.state.il.us.

Most nurseries diligently screen their plant material to minimize the potential for introduction of new species that may cause problems on the landscape. Some species of bittersweet, honeysuckle, ivy, maples and spirea are banned from planting on DNR lands as they may prove to be invasive.


Round-leaved bittersweet

Honeysuckle


English ivy

Maple

Japanese spirea

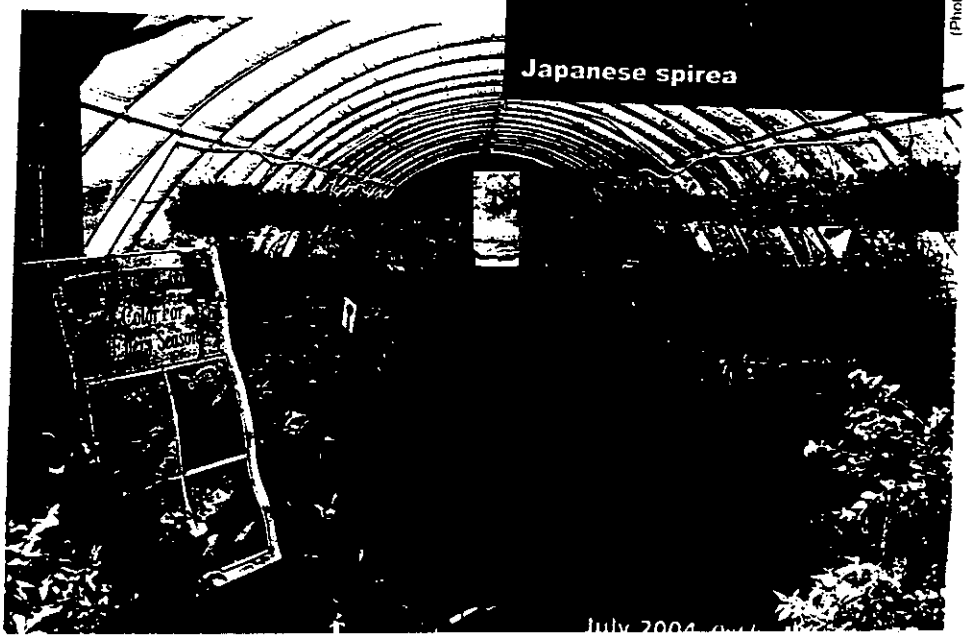
(Photos by P.J. Peren.)

Do your part

You can have a beautiful yard or garden using only native plants and do your part to prevent the spread of invasive species.

- Before buying plants or seeds, make sure the plants are not invasive species—some of our most common species are still being sold commercially because gardeners don't know the plant is invasive.
- Research new plants before you purchase. Beware of plants that produce large amounts of wildlife food, provide berries or fruits, seeds or neighboring plants spread by human modification of habitat.
- Use caution when buying commercial seed mixtures as some of the seeds may be invasive.
- Avoid planting anything in your yard or garden that might spread into a nearby park, natural area or open area.
- Remove invasive species growing in your yard at a minimum prior to the flowers before they have a chance to produce seed.
- Do not dispose of unwanted plants or clippings in nearby parks, natural areas or open areas as many invasive species easily grow from cuttings.
- Never dispose of unwanted aquarium plants or yard pool plants by throwing them into nearby rivers, lakes or ponds.

For more information, and photographs of many Illinois exotic plants, visit www.dnr.state.il.us/lands/education/ExoticSpecies/exoticspintro.htm.



Native Illinois Tall Trees

Common Name	Scientific Name	Regions	Native Habitat
Ash, Blue	*Fraxinus quadrangulata*	All	Slopes, moist soils
Ash, White	*F. americana*	All	Moist soils, slopes
Basswood, American	*Tilia americana*	All	Rich soils
Beech	*Fagus grandifolia*	S	Rich, moist soils
Birch, River	*Betula nigra*	All	Moist soils
Buckeye, Ohio	*Aesculus glabra*	All	Rich soils
Cedar, Eastern Red	*Juniperus virginiana*	All	Dry soils.
Cherry, Wild Black	*Prunus serotina*	All	Moist soils
Chestnut	*Castanea dentata*	S & C	Acid uplands
Cottonwood, Eastern	*Populus deltoides*	All	Moist soils
Cypress, Bald	*Taxodium distichium*	S	Wet soils
Elm, American	*Ulmus americana*	All	Moist soils
Gum, Sweet	*Liquidambar styraciflua*	S & C	Moist soils
Gum, Sour	*Nyssa sylvatica*	S	Most conditions
Gum, Tupelo	*N. aquatica*	S	Wet soils
Hackberry	*Celtis occidentalis*	All	Most conditions
Hickory, Shellbark	*Carya laciniosa*	S & C	Rich, moist soils
Hickory, Shagbark	*C. ovata*	All	Shaded soils, slopes
Hickory, Bitternut	*C. cordiformis*	All	Most conditions
Kentucky Coffee Tree	*Gymnocladus dioicus*	All	Moist soils
Larch, American	*Larix laricina*	N	Wet, acid soils
Magnolia, Cucumber	*Magnolia acuminata*	S	Rich woodlands
Maple, Black	*Acer nigrum*	C & N	Moist soils
Maple, Sugar	*A. saccharum*	All	Moist soils
Maple, Red	*A. rubrum*	S	Moist conditions
Maple, Silver	*A. saccharinum*	All	Moist soils
Oak, Black	*Quercus velutina*	All	Dry soils
Oak, Bur	*Q. macrocarpa*	All	Most conditions
Oak, Northern Red	*Q. rubra*	All	Well drained slopes
Oak, Pin	*Q. palustris*	All	Well drained slopes
Oak, Shingle	*Q. imbricaria*	All	Moist or dry soils
Oak, Swamp White	*Q. bicolor*	All	Moist soils
Oak, White	*Q. alba*	All	Moist conditions
Oak, Willow	*Q. phellos*	S	Moist to wet soils
Oak, Yellow Chestnut	*Q. muehlenbergii*	All	Dry slopes
Pecan	*Carya illinoensis*	S & C	Moist soils
Pine, White	*Pinus strobus*	All	Most conditions
Poplar, Tulip	*Liriodendron tulipera*	S & C	Rich soils
Sugarberry	*Celtis laevigata*	S & C	Moist conditions

Sycamore	*Platanus occidentalis*	All	Moist soils
Walnut, Black	*Juglans nigra*	All	Rich soils
Walnut, White; Butternut	*J. cinerea*	All	Moist soils

Native Illinois Small Trees

Common Name	Scientific Name	Regions	Native Habitat
Ash, Green	*Fraxinus pennsylvanica*	All	Moist soils
Aspen, Big Tooth	*Populus grandidentata*	N & C	Moist soils
Aspen, Quaking	*P. tremuloides*	N	Moist soils
Beech, Blue	*Carpinus caroliniana*	All	Moist soils
Box Elder	*Acer negundo*	All	Moist soils
Buckeye, Ohio	*Aesculus glabra*	All	Rich soils
Catalpa, Western	*Catalpa speciosa*	All	Moist soils
Cherry, Choke	*Prunus virginiana*	All	Rich, moist soils
Crabapple, Iowa	*Malus ioensis*	All	Moist soils
Dogwood, Alternate- Leaved	*Cornus alternifolia*	N & C	Rich, moist soils
Dogwood, Flowering	*C. florida*	S & C	Dry to moist soils
Haw, Black	*Viburnum prunifolium*	All	Dry, rocky soils
Holly, Swamp	*Ilex decidua*	S	Moist soils
Hop Hornbeam; Ironwood	*Ostrya virginiana*	All	Dry to moist soils
Mulberry, Red	*Morus rubra*	All	Dry to moist soils
Nannyberry	*Viburnum rufidulum*	S	Dry, rocky soils
Pawpaw	*Asimina triloba*	All	Moist soils
Persimmon	*Diospyros virginiana*	C & S	Dry soils
Pine, Jack	*Pinus banksiana*	N & C	Dry soils
Plum, Wild	*Prunus americana*	All	Most conditions
Plum, Wild Goose	*P. hortulana*	All	Moist soils
Oak, Blackjack	*Quercus marilandica*	S & C	Dry, sandy soils
Oak, Post	*Q. stellata*	S & C	Dry, poor soils
Redbud	*Cercis canadensis L.*	All	Rich soils
Sassafras	*Sassafras albidum*	All	Dry soils
Sumac, Fragrant	*Rhus aromatica*	All	Dry soils
Sumac, Shining	*R. copallina*	All	Dry slopes
Sumac, Smooth	*R. glabra*	All	Dry slopes
Sumac, Staghorn	*R. typhina*	N & C	Dry slopes
Viburnum, Sweet	*Viburnum lentago*	N & C	Most conditions
Willow, Peach Leaved	*Salix amygdaloides*	All	Wet conditions.
Witch-Hazel	*Hamamelis virginiana*	N & C	Most conditions

Native Illinois Shrubs

Common Name	Scientific Name	Regions	Native Habitat
Ash, Wafer	*Ptelea trifoliata*	All	Dry soils
Chokecherry, Black	*Aronia melanocarpa*	All	Moist, sandy soils
Coralberry, Buckbrush	*Symphoricarpos orbiculatus*	All	Dry poor soils
Bladdernut	*Staphylea trifolia*	All	Moist soils
Buckeye, Red	*Aesculus pavia*	S	Rich soils.
Buttonbush	*Cephalanthus occidentalis*	All	Wet conditions
Cock-Spur Thorn	*Crataegus crus-galli*	All	Dry soils
Dogwood, Gray	*Cornus racemosa*	All	Most conditions
Dogwood, Red Osier	*C. stolonifera*	All	Moist soils
Elderberry	*Sambucus canadensis*	All	Moist soils
Hazelnut	*Corylus americana*	All	Most conditions
Hercules' Club	*Aralia spinosa*	S	Moist soils
Indigo Bush, False	*Amorpha fruticosa*	All	Moist soils
Leatherwood	*Dirca palustris*	All	Moist soils
Lead Plant	*Amorpha canescens*	All	Dry prairie soils
Ninebark	*Physocarpus opulifolius*	N	Moist, rocky soils
Partridge-Berry	*Mitchella repens*	All	Rich soils
Shadbush	*Amelanchier arborea*	All	Moist soils
Shadbush, Smooth	*A. laevis*	N	Most conditions
Spicebush	*Lindera benzoin*	All	Rich, moist soils
Sumac, Fragrant	*Rhus aromatica*	All	Dry soils
Sumac, Shining	*R. copallina*	All	Dry slopes
Sumac, Smooth	*R. glabra*	All	Dry slopes
Sumac, Staghorn	*R. typhina*	N & C	Dry slopes
Winterberry	*Ilex verticillata*	All	Wet soils
Witch-Hazel	*Hamamelis virginiana*	N & C	Most conditions

References for identifying invasive plants in Illinois.

1. *Invasive Plants of the Eastern United States: Identification and Control.*
   This is a CD-ROM and can be ordered from:

   Richard Riordan, FHTET
   USDA Forest Service
   Morgantown, West Virginia
   Phone: 1-304-285-1566
   email: rreardon@fs.fed.us

2. *Invasive Plants of the Upper Midwest: An Illustrated Guide to their Identification and Control* by Elizabeth J. Czarapata

The University of Wisconsin Press
1930 Monroe Street
Madison, Wisconsin 53711

3. *Invasive Plants Field and Reference Guide: An Ecological Perspective of Plant Invaders of Forests and Woodlands* by Cynthia D. Huebner with Cassandra Olson and Heather C. Smith

USDA Forest Service

4. *Illinois Vegetation Management Guidelines* - Illinois Nature Preserves Commission; IDNR.

Can be accessed at: http://www.inhs.uiuc.edu/chf/outreach/VMG/VMGintro.html

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EXOTIC INVASIVE WEEDS IN ILLINOIS

Animals and plants not native to any part of Illinois and not a component of the flora and fauna of Illinois at the time the first Europeans explored this area are exotic species. Many species of exotic plants are harmless; however, some of the exotic species do have the potential to naturalize and spread into natural communities throughout Illinois. Those exotic species that do become established and replace the native flora as they become naturalized are then considered to be invasive species.

There are many ways Exotic plants are introduced into new areas. Various animals will feed on the seeds and fruits and then deposit the seeds in their fecal material where these seeds will germinate and produce new plants some distance away from the parent plants. The seeds of some plants can be passed through the digestive systems of many animals, including some of the birds, without being damaged and are still viable for germination in the new location. Some seeds are widely scattered by wind before germinating in habitat suitable for their growth and reproduction. Many of the smaller seeds, such as garlic mustard, are so small they are carried in the fur of raccoons, dogs, deer and other animals and drop off as the animals move from one location to another. Others, such as leafy spurge and teasel seeds, collect on roadside mowers only to fall off as the mower moves along the road accounting for the widespread distribution of some plants along our roads. Oftentimes, humans trim plants growing in their yards and gardens without thinking about proper disposal of the cuttings. The cuttings may be added to a trash pile, tossed over the back yard fence into an adjoining vacant lot or natural area, or the still-living cuttings may be dumped into an area where they will take root and grow. Kudzu, honeysuckles, periwinkle, English ivy and Chinese Yam are just a few examples of plants that have invaded new areas in this manner. Improper disposal of cuttings also helps explain how some of the sterile varieties become rather widespread as the unwanted cuttings can also be blown about or carried downhill in the runoff after a heavy rain. In some cases, we simply do not know why, or how, the exotic plant has become an invasive problem. Many of today's exotic invasive species, such as burning bush and the ornamental figs, were grown for quite a few years before they exploded into the natural landscape and became problems.

Some of the exotic plants being sold commercially are sterile but many of them have cross-pollinated with closely related native plants producing fertile hybrids. These fertile hybrids are able to successfully reproduce and often do not encounter any natural controls in their new environment enabling them to reproduce wildly as they crowd out the native species.

Some exotic plant species will not successfully reproduce unless the proper pollinating organisms are also brought into the new location. Landscapers used over 60 species of imported ornamental figs in Florida for several decades without any problems until the pollinating wasp for the laurel fig was accidentally introduced about 20 years ago. The laurel fig then very quickly became aggressively invasive as it now produced viable seeds that were easily dispersed thereby giving it the necessary mechanism to invade the surrounding natural areas and become a real problem.

Invasive species invade and replace the native flora in a variety of ways. Some invasive

species, like the various species of buckthorn and the Norway Maple, block out needed sunlight making it impossible for many of the native species to survive and reproduce. Chinese bittersweet and porcelain berry grow to the tops of the tallest trees in the forest creating a dense smothering foliage and the weight of the vines may eventually pull the trees down. Other invasive species will compete more successfully than the native flora for water, minerals, and other necessary nutrients for survival. The invasive species often grow in areas missing those organisms that control their growth in their native habitats. Such controlling organisms would include herbivorous insects and mammals along with potential disease-causing fungi and bacteria. Replacement of the native flora with invasive species reduces the biodiversity of the area since invasion by only one species often results in the loss of several native species. This loss of biodiversity is of major concern to ecologists both locally and globally.

Some plants like the Chinese tree of heaven produce toxins that inhibit the growth of other plants nearby. Toxins are released from the roots of the tree inhibiting germination of seeds of other plants around the established tree. This evolutionary adaptation lessens, or prevents, competition from other plants for water and nutrients in its native habitat.

Some of the exotic plant species found in Illinois prefer disturbed habitats such as agricultural areas, land being developed for subdivisions and malls, areas of road building and various other disturbances of the soil. Some of those species commonly found as weeds in farm fields cannot successfully compete in natural areas and and therefore are not a problem. Velvet leaf is a good example of a weed often seen along the edges of corn and soybean fields and other disturbed areas but can not successfully compete with the native species in forests or prairies. However, effective control of many of these noninvasive plant species in agricultural areas requires large expenditures of both labor and money.

The effort to eliminate, manage, or control invasive exotic weeds in Illinois is huge. The IDNR employees and hundreds of volunteers throughout the entire state spend thousands of hours and dollars in attempts to eradicate, manage and/or control these problem invasive plants from natural areas. Some of the invasive plants are removed by volunteers simply pulling the plants out of the ground and disposing of them properly. Other management tools include burning, drowning, mowing, introducing natural predators and spraying with appropriate selected herbicides. The management tools used for control varies from one species to another and various forms of biological control are used as much as possible. Some of the herbs are controlled with spraying while many of the woody species must be cut down or girdled and this often requires a followup spraying of the stumps. Woody species can also be removed with a Seppi forestry mower as is done in some of the boggy areas of northeast Illinois. Such machines can move over the frozen ground during the winter totally removing the invasive buckthorns and other alien trees without any damage to the native herbaceous vegetation although a followup with herbicides is sometimes necessary for total removal. The estimated worldwide devaluation of natural resources and cost of combating exotic invasives is more than $4 billion annually.

Control sometimes requires one to find the source of the seeds and cuttings that are giving rise to new populations of the pest plants. Once the source is located, preventative measures can be taken. Such are sometimes as simple as informing and educating private landowners on how to

properly dispose of seeds, fruits, cuttings, etc., so as to prevent unintentional introductions.

It is the policy of the IDNR to use native species when planting on Department owned, leased, or managed properties and to encourage the use of native species when recommending planting materials for use on private properties and to discourage the use of exotic plants. The IDNR will use, or recommend use of, exotic plant species only after considering all possible alternative native plants for both public and private properties and only after it has been demonstrated that the exotic plant does not spread and will not create a problem in Illinois. The IDNR has established a list of plants not to be planted on IDNR lands along with a list of recommended alternative species. The IDNR removes, controls or eradicates problem exotic plants from IDNR owned, managed or leased lands as time, manpower and funds allow. IDNR exercises all possible control measures on the most problematic of the exotic species even though it is simply impossible to eradicate some species such as garlic mustard, buckthorn, honeysuckle, sweet clover and Johnson grass.

There are several things private landowners can do to keep invasive plants from spreading out of their yards. Make sure the plant is not invasive in Illinois before buying seeds or plants because some of our most aggressive invasive species are still being sold commercially. This can happen in any garden center where the manager is not aware of the invasive ability of the plant. Even plants native to another part of the United States can be invasive in Illinois. Be wary of any plant that produces large amounts of wind-borne seeds or provides berries for wildlife which might spread the seeds to other areas. Landowners should exercise care when using plants that tend to shade out neighboring plants and /or spread quickly by runners, underground roots or cuttings. Be very careful when buying or planting commercial mixtures of seeds as some of the seeds in the mixture may be both exotic and invasive. Avoid planting anything in your yard or garden that might spread into a nearby park, natural area or open area. Remove all invasive species you already have growing in your yard or at least pinch off the flowers before they have a chance to produce seed. Do not dispose of unwanted plants or clippings in nearby parks, natural areas, open areas, etc. as many of the invasive species will easily grow from cuttings. Never dispose of unwanted aquarium plants or yard pool plants by throwing them into nearby rivers, lakes or ponds. You can still have a beautiful yard or garden when using only noninvasive plants.

I have just recently established the Illinois Invasive Plant Species Board as part of the effort to handle the problem of invasive plant species throughout the entire state and several positive steps have already been taken. The Board is composed of seven members from the green industry (managers of greenhouses and nurseries and landscapers) and seven members involved with restoration and preservation of natural areas throughout Illinois. The Board will meet 3 or 4 times annually or as needed. Concepts the Board will be addressing in the near future include Early Detection, Rapid Response; the Exotic Weed Act; the Noxious Weed Law, the invasiveness of presently used ornamental plants, the potential invasiveness of newly introduced species, varieties and cultivars of ornamental plants and establishment of Cooperative Weed Management Areas throughout the state. This cooperation of the commercial people with the restoration and preservation people is essential in our war with invasive plant species.

I am also establishing a list of

1. Recommended native plants for landscaping in Illinois
2. Nurseries who sell native species of plants.
3. Commonly used ornamental plants that are aggressively invasive.

Exotic Plant list compiled by Ben L. Dolbeare, IDNR, March 3, 2004

Ranking by committee, 2004

Ranking Level 1

Ailanthus altissima (Mill.) Swingle	Tree of Heaven; Ailanthus
Alliaria petiolata (Bieb.) Cavara & Grande	Garlic Mustard
Bromus inermis Leyss.	Awnless Brome Grass
Carduus nutans L.	Musk Thistle
Celastrus orbiculatus Thunb.	Round Leaved Bittersweet
Cirsium arvense (L.) Scop.	Canada Thistle
Coronilla varia	Crown Vetch
Dioscorea batatas Dcne.	Chinese Yam
Dipsacus fullonum	Common Teasel
D. laciniatus L.	Cut Leaved Teasel
Elaeagnus umbellata Thunb.	Autumn Olive
E. pungens	Thorny Olive
E. angustifolia	Russian Olive
Euonymus alatus	Burning Bush
E. fortunei	Purple Wintercreeper
Euphorbia esula L.	Leafy Spurge
Hedera helix L.	English Ivy
Hesperis matronalis L.	Dame's Rocket
Ligustrum obtusifolium Sieb. & Zucc.	Blunt Leaved Privet
Lonicera X heckrottii Rehder	Gold Flame Honeysuckle
Lonicera tatarica L.	Tartarian Honeysuckle
Lonicera ruprechtiana Regel.	Manchurian Honeysuckle
Lonicera X notha Zabel.	
Lonicera maackii (Rupr.) Maxim.	Amur Honeysuckle
Lonicera X muendeniensis Rehd.	Common Fly Honeysuckle
Lonicera X xylosteoides Tausch.	
Lonicera X minutiflora Zabel.	Small Flowered Fly Honeysuckle
Lonicera morrowii Gray	Morrow's Honeysuckle
Lonicera X bella Zabel.	Showy Fly Honeysuckle
Lonicera xylosteum L.	European Fly Honeysuckle
Lonicera japonica Thunb.	Japanese Honeysuckle
Lonicera standishii Jacques	Standish's Honeysuckle
Lonicera X muscaviensis Rehd.	
Lonicera sempervirens L.	Trumpet Honeysuckle

Lythrum salicaria L.	Purple Loosestrife
Melilotus alba Medic	White Sweet Clover
Melilotus officinalis (L.) Pallas	Yellow Sweet Clover
Microstegium vimineum (Trin.) A. Camus	Natal Grass; Japanese Grass
Morus alba L.	White Mulberry
Myriophyllum spicatum L.	Amazon Water milfoil
Phalaris arundinacea L.	Reed Canary Grass
Phragmites australis (Cav.) Trin.	Reed
Poa pratensis L.	Kentucky Blue Grass
Polygonum cuspidatum Sieb. & Zucc.	Japanese Knotweed
Pueraria lobata (Willd.) Ohwi.	Kudzu Vine
Pyrus calleryana Decne	Korean Pear; Bradford Pear
Rhamnus japonica Maxim.	Japanese Buckthorn
Rhamnus frangula L.	Glossy Buckthorn
Rhamnus davurica Pall.	Dahurian Buckthorn
Rhamnus utilis Decne.	Chinese Buckthorn
Rhamnus cathartica L.	Common Buckthorn
Robinia pseudoacacia L.	Black Locust
Rosa multiflora Thunb.	Multiflora Rose
Sorghum halepense (L.) Pers.	Johnson Grass
Ulmus pumila L.	Siberian Elm

The numbers and letters correspond to the explanations on the ranking sheet as follows.

Questions:

Should we divide these into trees, shrubs, vines, herbaceous, etc.?

Exotic Species Ranking - Plants

Rank 1	Severe Threat	Exotic plant species that possess characteristics of invasive species and spread easily into native plant communities and displace native vegetation; includes species that are or could become widespread in natural communities in Illinois.
Rank 2	Significant Threat	Exotic plant species that possess characteristics of invasive species but are not presently considered to spread as easily into native plant communities as those species listed as Rank 1. Potential or actual threats after restoration and reconstruction of potentially natural communities. Opportunistic plants.
Rank 3	Lesser Threat	Exotic plant species that spread in or near disturbed areas; not presently considered a threat to native plant communities, i.e. crop plant weeds (ruderal)..
Rank 4	Least Threat	Crop plants.
Watch List A		Exotic plant species being grown in Illinois that could naturalize and become a problem in the future.
Watch List B		Exotic plant species that are severe problems in surrounding states but have not been reported in Illinois.

This is a modified version of what Tennessee, Kentucky and several other states in the southeast use. Go to

http://www.tneppc.org

if you care to see their web sites.

Ben L. Dolbeare

Exotic Plant list compiled by Ben L. Dolbeare, IDNR, March 3, 2004

Ranking by committee, 2004

Ranking Level 2

Acer platanoides L.	Norway Maple
Bromus tectorum L.	Downy Chess
Centaurea maculosa Lam.	Spotted Knapweed
Clematis terniflora DC.	Virgin's Bower
Conium maculatum L.	Poison Hemlock
Coronilla varia L.	Crown Vetch
Dipsacus sylvestris Huds.	Common Teasel
Euonymus alata (Thunb.) Sieb.	Winged Euonymus
Euonymus fortunei (Turcz.) Hand.-Mazz	Climbing Euonymus; Wintercreeper
Festuca arundinacea Schreb.	Tall Fescue
Festuca pratensis Huds.	Meadow Fescue
Hesperis matronalis L.	Purple Rocket
Lysimachia nummularia L.	Moneywort
Miscanthus sinensis Anderss.	Eulalia
Nasturtium officinale R. Br.	Water Cress
Pastinaca sativa L.	Parsnip
Potamogeton crispus L.	Curly Pondweed
Solanum dulcamara L.	Bittersweet Nightshade
Verbascum thapsus L.	Woolly Mullein

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Questions:

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Exotic Species Ranking - Plants

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Exotic Plant list compiled by Ben L. Dolbeare, IDNR, March 3, 2004

Ranking by committee, 2004

Ranking 3

Acer ginnala	Amur Maple
Allium vineale L.	Field Garlic
Berberis thunbergii DC.	Japanese Barberry
Bromus secalinus L.	Smooth Chess
Bromus japonicus Thunb.	Japanese Chess
Bromus commutatus Schrad.	Hairy Chess
Cichorium intybus L.	Chicory
Cirsium vulgare (Savi) Tenore	Bull Thistle
Daucus carota L.	Wild Carrot; Queen Anne's Lace
Egeria densa Planch.	Giant Waterweed
Glechoma hederacea L.	Ground Ivy; Creeping Jenny; Gill All Over the Ground
Hemerocallis fulva (L.) L.	Orange Day Lily
Hypericum perforatum L.	Common St. John's Wort
Kummerowia striata (Thunb.) Schind.	Japanese Bush Clover
Kummerowia stipulacea (Maxim.) Makino	Korean Bush Clover
Lespedeza cuneata (Dum.-Cours.) G. Don	Sericea Lespedeza
Lespedeza bicolor Turcz.	Bicolor Lespedeza
Leucanthemum vulgare Lam.	Ox Eye Daisy
Ligustrum vulgare L.	Common Privet
Maclura pomifera (Raf.) Schneider	Osage Orange; Hedge Apple; Bois d'arc
Mentha X piperita L.	Peppermint
Mentha spicata L.	Spearmint
Najas minor All	Naiad
Ornithogalum umbellatum L.	Star of Bethlehem
Populus alba L.	White Poplar
Rehsonia sinensis (Sims) Stritch	Chinese Wisteria
Rehsonia floribunda (Willd.) Stritch	Japanese Wisteria
Rhodotypos scandens (Thnunb.) Makino	Jetbread
Setaria viridis (L.) P. Beauv.	Green Foxtail
Setaria faberi Herrm.	Giant Foxtail
Setaria italica (L.) P. Beauv.	Italian Foxtail
Setaria verticillata (L.) P. Beauv.	Bristly Foxtail
Torilis arvensis (Huds.) Link	Hedge Parsley

Tragopogon dubius Scop.	Goat's Beard
Tribulus terrestris L.	Puncture Weed
Vicia sativa L.	Common Vetch

The numbers and letters correspond to the explanations on the ranking sheet as follows.

Questions:

Should we divide these into trees, shrubs, vines, herbaceous, etc.?

Exotic Species Ranking - Plants

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Rank 4	Least Threat	Crop plants.
Watch List A		Exotic plant species being grown in Illinois that could naturalize and become a problem in the future.
Watch List B		Exotic plant species that are severe problems in surrounding states but have not been reported in Illinois.

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Exotic Plant list compiled by Ben L. Dolbeare, IDNR, March 3, 2004

Ranking by committee, 2004

Ranking Level: Watch List A

A	Spiraea japonica L. f.	Spiraea

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Ranking by committee, 2004

Watch List B

Butomus umbellatus L.	Flowering Rush
Caragana arborescens Lam.	Pea Tree
Paulownia tomentosa (Thunb.) Steud.	Princess Tree

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Questions:

Should we divide these into trees, shrubs, vines, herbaceous, etc.?

Exotic Species Ranking - Plants

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Ben L. Dolbeare

Disturbed Area Plants - Not presently a threat to natural areas.

Abutilon theophrastii Medic	Velvet Leaf; Butter Print
Alcea rosea L.	Hollyhock
Anoda cristata (L.) Schlecht.	Anoda
Bromus commutatus Schrad.	Hairy Chess
Bromus japonicus Thunb.	Japanese Chess
Bromus secalinus L.	Smooth Chess
Cichorium intybus L.	Chicory
Conium maculatum L.	Poison Hemlock
Cotoneaster multiflora Bunge.	Cotoneaster
Coronilla varia L.	Crown Vetch
Datura stramonium L.	Jimsonweed
Datura wrightii Regel.	Hairy Jimsonweed
Daucus carota L.	Queen Anne's Lace; Wild Carrot
Dipsacus fullonum L.	Common Teasel
Dipsacus laciniatus L.	Cut Leaved Teasel
Duchesnea indica (Andrews) Focke	Indian Strawberry
Filipendula ulmaria (L.) Maxim.	Queen of the Meadow
Geum urbanum L.	City Avens
Hesperia matronalis L.	Purple Rocket
Hypericum perforatum L.	Common St. John's Wort
Lotus corniculatus L.	Bird's Foot Trefoil
Melilotus albus Medic	White Sweet Clover
Melilotus officinalis (L.) Lam.	Yellow Sweet Clover
Pastinaca sativea L.	Wild Parsnip
Paulownia tomentosa (Thunb.) Steud.	Princess Tree
Perilla frutescens	Beefsteak Plant
Phleum pratense L.	Timothy
Solanum rostratum Dunal.	Buffalo Bur
Tragopogon dubius Scop.	Yellow Goat's Beard
Tribulus terrestris L.	Puncture Weed
Verbascum thapsus L.	Woolly Mullein

I would like to propose the addition of the worse of the worse to the existing Illinois Exotic Weed Act which presently lists 10 species as illegal to sell in Illinois. Those ten species are Japanese Honeysuckle, Lonicera japonica; Multiflora Rose, Rosa multiflora; 3. Purple Loosestrife, Lythrum salicaria; Common Buckthorn, Rhamnus cathartica; Glossy Buckthorn, Rhamnus frangula; Saw-Toothed Buckthorn, Rhamnus arguta; Dahurian Buckthorn, Rhamnus davurica; Japanese Buckthorn, Rhamnus japonica; Chinese Buckthorn, Rhamnus utilis; and Kudzu, Pueraria lobata. It sometimes seems futile to enforce the Act since these species are already so common throughout the state; therefore, I would like to add some new species to the Act before they become so common.

We, as a group, ranked the following species as being the biggest invasive threat to the natural areas of Illinois. Will you please tell me which 10 to 15 you consider the most in need to be added to the list covered by the act (Feel free to rank the entire group if you have time)? I will make an effort to see that this information is presented to the legislature.

Ailanthus altissima (Mill.) Swingle	Tree of Heaven; Ailanthus
Bromus inermis Leyss.	Awnless Brome Grass
Carduus nutans L.	Musk Thistle
Celastrus orbiculatus Thunb.	Round Leaved Bittersweet
Cirsium arvense (L.) Scop.	Canada Thistle
Dioscorea batatas Dcne.	Chinese Yam
Dipsacus laciniatus L.	Cut Leaved Teasel
Elaeagnus umbellata Thunb.	Autumn Olive
Euphorbia esula L.	Leafy Spurge
Ligustrum obtusifolium Sieb. & Zucc.	Blunt Leaved Privet
Lonicera X heckrottii Rehder	Gold Flame Honeysuckle
Lonicera tatarica L.	Tartarian Honeysuckle
Lonicera ruprechtiana Regel.	Manchurian Honeysuckle
Lonicera X notha Zabel.	
Lonicera maackii (Rupr.) Maxim.	Amur Honeysuckle
Lonicera X muendeniensis Rehd.	Common Fly Honeysuckle
Lonicera X xylosteoides Tausch.	
Lonicera X minutiflora Zabel.	Small Flowered Fly Honeysuckle
Lonicera morrowii Gray	Morrow's Honeysuckle
Lonicera X bella Zabel.	Showy Fly Honeysuckle

Lonicera xylosteum L.	European Fly Honeysuckle
Lonicera standishii Jacques	Standish's Honeysuckle
Lonicera X muscaviensis Rehd.	
Lonicera sempervirens L.	Trumpet Honeysuckle
Melilotus alba Medic	White Sweet Clover
Melilotus officinalis (L.) Pallas	Yellow Sweet Clover
Microstegium vimineum (Trin.) A. Camus	Natal Grass; Japanese Grass
Morus alba L.	White Mulberry
Myriophyllum spicatum L.	Amazon Water milfoil
Phalaris arundinacea L.	Reed Canary Grass
Phragmites australis (Cav.) Trin.	Reed
Poa pratensis L.	Kentucky Blue Grass
Polygonum cuspidatum Sieb. & Zucc.	Japanese Knotweed
Pyrus calleryana Decne	Korean Pear; Bradford Pear
Robinia pseudoacacia L.	Black Locust
Sorghum halepense (L.) Pers.	Johnson Grass
Ulmus pumila L.	Siberian Elm

We put the following on an informal watch list; nothing formal at this time. We considered these as future possible threats in natural areas but not big time threats at this time even though they might be very common in roadsides, vacant lots, etc. Feel free to pick and choose as you see fit but DNR through my office does not have an official list for EDRR. I plant to develop one soon through the Invasive Plant Species Board. Again, keep in mind this is an informal list that is two years old.

Acer ginnala	Amur Maple
Allium vineale L.	Field Garlic
Berberis thunbergii DC.	Japanese Barberry
Bromus secalinus L.	Smooth Chess
Bromus japonicus Thunb.	Japanese Chess
Bromus commutatus Schrad.	Hairy Chess
Butomus umbellatus L.	Flowering Rush
Caragana arborescens Lam.	Pea Tree
Cichorium intybus L.	Chicory
Cirsium vulgare (Savi) Tenore	Bull Thistle
Daucus carota L.	Wild Carrot; Queen Anne's Lace
Egeria densa Planch.	Giant Waterweed
Glechoma hederacea L.	Ground Ivy; Creeping Jenny;
Hemerocallis fulva (L.) L.	Orange Day Lily
Hypericum perforatum L.	Common St. John's Wort
Kummerowia stipulacea (Maxim.) Makino	Korean Bush Clover
Kummerowia striata (Thunb.) Schind.	Japanese Bush Clover
Lespedeza cuneata (Dum.-Cours.) G. Don	Sericea Lespedeza
Lespedeza bicolor Turcz.	Bicolor Lespedeza
Leucanthemum vulgare Lam.	Ox Eye Daisy
Ligustrum vulgare L.	Common Privet
Maclura pomifera (Raf.) Schneider	Osage Orange; Hedge Apple;
Mentha spicata L.	Spearmint
Mentha X piperita L.	Peppermint
Najas minor All	Naiad
Ornithogalum umbellatum L.	Star of Bethlehem
Paulownia tomentosa (Thunb.) Steud.	Princess Tree
Populus alba L.	White Poplar
Rehsonia sinensis (Sims) Stritch	Chinese Wisteria
Rehsonia floribunda (Willd.) Stritch	Japanese Wisteria

Rhodotypos scandens (Thnunb.) Makino	Jetbread
Setaria viridis (L.) P. Beauv.	Green Foxtail
Setaria faberi Herrm.	Giant Foxtail
Setaria italica (L.) P. Beauv.	Italian Foxtail
Setaria verticillata (L.) P. Beauv.	Bristly Foxtail
Spiraea japonica L. f.	Spiraea
Torilis arvensis (Huds.) Link	Hedge Parsley
Tragopogon dubius Scop.	Goat's Beard
Tribulus terrestris L.	Puncture Weed
Vicia sativa L.	Common Vetch

Exotic Plant list compiled by Ben L. Dolbeare, IDNR, March 3, 2004

Unranked leftovers

Abelmoschus esculentus (L.) Moench	Okra
Abutilon theophrastii Medic.	Velvet Leaf; Butter Print
Acanthopanax sieboldianus Mak.	Palmate Hercules' Club
Acer campestre L.	Hedge Maple
Acer palmatum Thunb.	Japanese Maple
Acer pseudoplatanus L.	Sycamore Maple
Achillea millefolium L.	Common Yarrow
Acroptilon repens (L.) DC.	Russian Knapweed
Aegopodium podagraria L.	Goutweed
Aesculus hippocastanum L.	Horse Chestnut
Aethusa cynapium L.	Fool's Parsley
Agropyron repens L.	Quack Grass
Agropyron cristatum (L.) Gaertn.	Crested Wheat Grass
Agropyron smithii Rydb.	Western Wheat Grass
Agropyron desertorum (Fisch.) Schult	Wheat Grass
Agrostemma githago L.	Corn Cockle
Agrostis capillaris L.	Rhode Island Bent grass
Aira caryophyllaea L.	Slender Hairgrass
Ajuga genevensis L.	Geneva Bugleweed
Ajuga reptans L.	Carpet Bugleweed
Akebia quinata Decne.	Akebia
Albizia julibrissin Duraz.	Mimosa
Alcea rosea L.	Hollyhock
Allium porrum L.	Leek
Allium fistulosum L.	Spring Onion
Allium schoenoprasum L.	Chives
Allium sativum L.	Garlic
Allium ampeloprasum L.	Wild Leek
Allium cepa L.	Onion
Alnus glutinosa (L.) Gaertn.	Black Alder
Alopecurus geniculatus L.	Marsh Foxtail
Alopecurus pratensis L.	Meadow Foxtail
Alyssum alyssoides (L.) L.	Pale Alyssum
Amaranthus palmeri S. Wats.	Careless Weed
Amaranthus cruentus L.	Purple Amaranth
Amaranthus spinosus L.	Spiny Pigweed

Amaranthus hybridus L.	Green Pigweed
Amaranthus powellii S. Wats.	Tall Amaranth
Amaranthus caudatus L.	Prince's Feather
Amaranthus retroflexus L.	Rough Pigweed
Amaranthusgraecizans L.	Prostrate Pigweed
Ambrosia tomentosa Nutt.	False Ragweed
Ampelopsis brevipedunculata (Maxim.) Trautv.	Turquoise Berry
Amphiachyris dracunculoides (DC.) Nutt	Broomweed
Amsinckia spectabilis Fisch. & Mey.	Fiddleneck
Amsinckia menziesii (Lehm.) A.Nels. & J.F. Macbr.	Menzies' Fiddleneck
Amsinckia lycopsoides (Lehm.) Lehm.	Tarweed
Anagallis arvensis L.	Scarlet Pimpernel
Anaphalis margaritacea DC.	Pearly Everlasting
Anchusa officinalis L.	Common Alkanet
Andropogon hallii Hack.	Sand Bluestem
Andropogon glomeratus (Walt.) BSP.	Bushy Broom Sedge
Anethum graveolens L.	Dill
Anoda cristata (L.) Schlecht.	Anoda
Anthemis tinctoria L.	Yellow Chamomile
Anthemis cotula L.	Dog Fennel
Anthemis arvensis L.	Corn Chamomile
Anthoxanthum aristatum Boiss.	Annual Sweet Grass
Anthoxanthum odoratum L.	Sweet Vernal Grass
Anthriscus sylvestris (L.) Hoffm.	Chervil
Anthriscus cerefolium (L.) Hoffm.	Chervil
Anthyllis vulneraria L.	Lady's Finger
Antirrhinum majus L.	Common Snapdragon
Apera interrupta (L.) P. Beauv.	Italian Windgrass
Apium leptophyllum (Pers.) F.Muell.	Marsh Parsley
Aquilegia vulgaris L.	Garden Columbine
Arabidopsis thaliana (L.) Heynh.	Mouse Ear Cress
Aralia elata Seem.	Japanese Angelica Tree
Aralia chinensis L.	Chinese Angelica Tree
Arctium lappa L.	Great Burdock
Arctium tomentosum Mill.	Cotton Burdock
Arctium minus Schk.	Common Burdock
Arenaria serpyllifolia L.	Thyme Leaved Sandwort
Argemone polyanthemos (Fedde) G. Ownbey	White Prickly Poppy
Argemone albiflora Hornem.	White Prickly Poppy
Argemone mexicana L.	Mexican Poppy

Armoracia rusticana (Lam.) Gaertn., Meyer, & Scherb.	Horseradish
Arrhenatherum elatius (L.) J. S. & C. Presl.	Tall Oat Grass
Artemisia vulgaris L.	Common Mugwort
Artemisia pontica L.	Roman Wormwood
Artemisia biennis Willd.	Biennial Wormwood
Artemisia absinthium L.	Common Wormwood
Artemisia frigida Willd.	Prairie Sagebrush
Artemisia annua L.	Annual Wormwood; Sweet Wormwood
Artemisia ludoviciana Nutt.	Western Mugwort
Artemisia abrotanum L.	Southern Wormwood
Arthraxon hispidus (Thunb.) Makino	Arthraxon
Arum italicum Mill.	Arum
Arundo donax L.	Giant Reed
Asclepias speciosa Torr.	Showy Milkweed
Asparagus officinalis L.	Asparagus
Asperugo procumbens L.	Madwort
Aster brachyactis Blake	Rayless Aster
Aster tataricus L. f.	Tartarian Aster
Aster subulatus Michx.	Expressway Aster
Astragalus agrestis Doug.	Field Vetch
Atriples glabriuscula Edmonston	Smooth Orach
Atriplex hortensis L.	Garden Orache
Atriplex rosea L.	Red Orache
Atriplex patula L.	Spear Scale
Atriplex argentea Nutt.	Silver Orach
Avena fatua L.	Wild Oats
Avena sativa L.	Oats
Ballota nigra L.	Black Horehound
Balsamita major Desf.	Costmary; Mint Geranium
Baptisia australis (L.) R.Br.	Blue Wild Indigo
Barbarea verna (Mill.) Aschers.	Early Winter Cress
Barbarea vulgaris R. Br.	Yellow Rocket
Belamcanda chinensis (L.) DC.	Blackberry Lily
Bellis perennis L.	English Daisy
Berberis vulgaris L.	Common Barberry
Berteroa incana (L.) DC.	Hoary Alyssum
Betula populifolia Marsh.	Gray Birch
Betula pendula Roth.	European Weeping Birch
Borago officinalis L.	Borage
Bothriochloa saccharoides (Swartz) Rydb.	Silver Beardgrass
Brassica rapa L.	Field Mustard
Brassica hirta Moench	White Mustard

Brassica kaber (DC.) L. C. Wheeler	Charlock
Brassica juncea (L.) Czern.	Indian Mustard
Brassica nigra (L.) Koch	Black Mustard
Brassica napus L.	Rape; Rutabaga
Brassica oleracea L.	Cabbage
Briza maxima L.	Big Quaking Grass
Bromus squarrosus L.	Nodding Brome
Bromus racemosus L.	Chess
Bromus sterilis L.	Brome Grass
Bromus erectus Huds.	Erect Brome Grass
Bromus marginatus Nees	Brome Grass
Bromus arvensis L.	Chess
Bromus hordeaceus L.	Soft Chess
Bromus cartharticus Vahl.	Rescue Grass
Bromus carinatus Hook.	California Brome
Bromus briziformis Fisch. & Mey.	Rattlesnake Chess
Broussonetia papyrifera (L.) Vent.	Paper Mulberry
Buddleia davidii Franch.	Butterfly Bush
Buglossoides arvense (L.) I.M. Johnston	Corn Gromwell
Bupleurum rotundifolium L.	Thoroughwax
Calamagrostis neglecta (Ehrh.) Gaertn., Mey., & Scherb.	Reed Grass
Calamagrostis epigeios (L.) Roth.	Feathertop
Callirhoe digitata Nutt.	Poppy Mallow
Callirhoe involucrata (Torr. & Gray) Gray	Poppy Mallow
Calycanthus floridus L.	Strawberry Shrub
Calylophus serrulatus (Nutt.) Raven	Tooth Evening Primrose
Calyptocarpus vialis Less.	Hierba del Caballo
Calystegia pubescens Lindl.	Japanese Bindweed; California Rose
Camelina sativa (L.) Crantz	False Flax
Camelina microcarpa Andrz.	Small Fruited False Flax
Campanula rapunculoides L.	European Bellflower
Campanula glomerata L.	Clustered Bellflower
Canavalia ensiformis (L.) DC.	Jack Bean
Cannabis sativa L.	Hemp; Marijuana
Capsella bursa-pastoris (L.) Medik.	Shepherd's Purse
Cardamine hirsuta L.	Hairy Cress
Cardamine flexuosa Withering	Cress
Cardaria draba (L.) Desv.	Hoary Cress
Cardiospermum halicacabum L.	Balloon Vine
Carduus acanthoides L.	Plumeless Thistle
Carex nebrascensis Dewey	Nebraska Sedge
Carex praticola Rydb.	Sedge

Carex spicata Huds.	Spicate Sedge
Carex hirta L.	Hairy Sedge
Carthamus tinctorius L.	Safflower
Carum carvi L.	Caraway
Cassia occidentalis L.	Coffee Senna
Castanea mollissima Blume	Chinese Chestnut
Catalpa bignonioides Walt.	Catalpa
Celosia argentea L.	Celosia; Cockscomb
Centaurea dubia Suter.	Tyrolean Knapweed
Centaurea jacea L.	Brown Knapweed
Centaurea solstitialis L.	Yellow Star Thistle
Centaurea nigra L.	Black Knapweed
Centaurea diffusa Lam.	Spreading Star Thistle
Centaurea americana Nutt.	American Basket Flower
Centaurea cyanus L.	Bachelor's Buttons
Centaurea calcitrapa L.	Purple Star Thistle
Centaurea moschata L.	Sweet Sultan
Centaurium pulchellum (Sw.) Druce	Showy Centaury
Cerastium dubium (Bast.) O. Swartz	Mouse Eared Chickweed
Cerastium diffusum Pers.	Mouse Eared Chickweed
Cerastium brachypetalum Pers.	Mouse Eared Chickweed
Cerastium semidecandrum L.	Mouse Eared Chickweed
Cerastium pumilum Curtis	Mouse Eared Chickweed
Cerastium glomeratum Thuill.	Clammy Mouse Eared Chickweed
Cerastium vulgatum L.	Common Mouse Eared Chickweed
Chaenomeles japonica (Thunb.) Lindl.	Japanese Quince; Japonica
Chaenorrhinum minus (L.) Lange	Dwarf Snapdragon
Chamaemelum nobilis (L.) All.	Garden Chamomile
Chamaesyce vermiculata (Raf.) House	Hairy Spurge
Chamaesyce serpyllifolia (Pers.) Small	Thyme Leaved Spurge
Chamaesyce prostrata (Ait.) Small	Green Creeping Spurge
Chelidonium majus L.	Celandine
Chenopodium urbicum L.	City Goosefoot
Chenopodium polyspermum L.	Many Seeded Goosefoot
Chenopodium opulifolium Schrad.	Goosefoot
Chenopodium rubrum	Coast Blite
Chenopodium glaucum L.	Oak Leaved Goosefoot
Chenopodium murale L.	Nettle Leaved Goosefoot
Chenopodium pumilio R. Br.	Aromatic Goosefoot
Chenopodium botrys L.	Jerusalem Oak
Chenopodium album L.	Lamb's Quarters
Chenopodium ambrosioides L.	Mexican Tea

Chenopodium capitatum (L.) Aschers.	Strawberry Blite
Chenopodium bonus-henricus L.	Good King Henry
Chionodoxa forbesii Baker	Glory of the Snow
Chloris verticillata Nutt.	Windmill Grass
Chloris gayana Kunth.	Finger Grass
Chorispora tenella (Pallas) DC.	Blue Mustard; Purple Rocket
Cirsium undulatum (Nutt.) Spreng.	Wavy Leaved Thistle
Citrullus lanatus (Thunb.) Matsumura & Nakai	Watermelon
Cleome serrulata Pursh.	Rocky Mountain Bee Plant
Cleome hassleriana Jacq.	Spider Flower
Cnicus benedictus L.	Blessed Thistle
Collomia linearis Nutt.	Collomia
Commelina communis L.	Common Day Flower
Conringia orientalis (L.) Dumort.	Hare's Ear Mustard
Consolida ambigua (L.) Ball & Heywood	Rocket Larkspur
Consolida regalis S.F. Gray	Larkspur
Convallaria majalis L.	Lily of the Valley
Convolvulus arvensis L.	Field Bindweed
Convolvulus incanus Vahl.	Ashy Bindweed
Coreopsis basalis (Otto & Dietr.) Blake	Coreopsis
Coreopsis grandiflora Hogg	Large Flowered Coreopsis
Coreopsis tinctoria Nutt.	Golden Coreopsis
Coriandrum sativum L.	Coriander
Corispermum nitidum Kit.	Bugseed
Corispermum orientale Lam.	Emarginate Bugseed
Corispermum hyssopifolium L.	Hyssop Leaved Bugseed
Cornus alba L.	European Red Osier
Cornus mas L.	Cornelian Cherry
Coronopus didymus (L.) Sm.	Wart Cress
Cosmos bipinnatus Cav.	Common Cosmos
Cosmos sulphureus Cav.	Yellow Cosmos
Cotinus coggygria Scop.	European Smoke Tree
Cotoneaster multiflora Bunge.	Cotoneaster
Crataegus monogyna Jacq.	English Hawthorn
Crepis tectorum L.	Narrow Leaved Hawksbeard
Crepis pulchra L.	Pretty Hawksbeard
Crepis capillaris (L.) Wallr.	Hawksbeard
Crotalaria spectabilis Roth.	Showy Rattlebox
Croton lindheimerianus Scheele	Lindheimer's Croton
Crypsis schoenoides (L.) Lam.	Crypsis
Cucumis sativus L.	Cucumber

Cucumis melo L.	Muskmelon
Cucurbita pepo L.	Pear Gourd
Cucurbita foetidissima HBK.	Missouri Gourd
Cydonia oblonga Mill.	Common Quince
Cymbalaria muralis Gaertn., Mey. & Scherb.	Kenilworth Ivy
Cynanchum nigrum (L.) Pers.	Black Swallow Wort
Cynodon dactylon (L.) Pers.	Bermuda Grass
Cynoglossum officinale L.	Common Hound's Tongue
Cyperus iria L.	Rice Field Flatsedge
Cyperus filicinus Vahl.	Flatsedge
Cyperus retrorsus Chapm.	Reflexed Flatsedge
Cyperus compressus L.	Compressed Flatsedge
Dactylis glomerata L.	Orchard Grass
Dactyloctenium aegyptium (L.) Beauv.	Crowfoot Grass
Dalea enneandra Nutt.	Sailpod Dalea
Dalea leporina (Ait.) Bullock	Foxtail Dalea
Datura innoxia Mill.	Purple Jimsonweed
Datura stramonium L.	Jimsonweed
Dentaria diphylla Michx.	Crinkleroot
Descurainia sophia (L.) Prantl.	Tansy Mustard
Deutzia scabra Thunb.	Pride of Rochester
Dianthus armeria L.	Deptford Pink
Dianthus barbatus L.	Sweet William
Dianthus deltoides L.	Maiden Pink
Dianthus plumarius L.	Cottage Pink; Garden Pink
Dicentra eximia (Ker.) Torr.	Staggerweed; Bleeding Hearts
Digitaria sanguinalis (L.) Scop.	Common Crabgrass
Digitaria ischaemum (Schreb.) Schreb.	Smooth Crabgrass
Digitaria ciliaris (Retz.) Koeler	Ciliate Crabgrass
Diplotaxis tenuifolia (L.) DC.	Sand Rocket
Diplotaxis muralis (L.) DC.	Wall Rocket
Distichlis stricta (Torr.) Rydb.	Salt Grass
Dracocephalum parviflorum Nutt.	American Dragonhead
Duchesnea indica (Andrews) Focke.	Indian Strawberry
Echinochloa crus-galli (L.) P. Beauv.	Barnyard Grass
Echinochloa colonum (L.) Link	Jungle Rice
Echinochloa frumentacea (Roxb.) Link	Billion Dollar Grass
Echium vulgare L.	Viper's Bugloss
Eichhornia crassipes (Mart.) Solms-Laub.	Water Hyacinth
Elaeagnus angustifolia L.	Russian Olive
Elaeagnus multiflora Thunb.	Long Stalked Oleaster
Eleusine indica (L.) Gaertn.	Goose Grass

Elyhordeum X macounii (Vasey) Backworth & D.R. Dewey	Macoun's Wild Rye
Elytrigia elongata (Host) Nevski.	Tall Wheat Grass
Epilobium hirsutum L.	Hairy Willow Herb
Epipactis helleborine (L.) Crantz.	Helleborine
Eragrostis curvula (Schrad.) Nees	Weeping Love Grass
Eragrostis pilosa (L.) P. Beauv.	Love Grass
Eragrostis neomexicana Vasey	Love Grass
Eragrostis diffusa Buckl.	Western Love Grass
Eragrostis minor Host.	Love Grass
Eragrostis cilianensis (All.) Vign.	Stinking Love Grass
Eranthis hyemalis (L.) Salisb.	Winter Aconite
Erianthus ravennae (L.) P. Beauv.	Ravenna Grass
Eriochloa villosa (Thunb.) Kunth	Cup Grass
Eriochloa lemmoni Vasey & Scribn.	Cup Grass
Eriochloa contracta A. Hitchc.	Prairie Cup Grass
Eriophila verna (L.) Chev.	Vernal Whitlow Grass
Erodium cicutarium (L.) L'Her.	Storksbill; Pin Clover
Eruca vesicaria (L.) Cav.	Garden Rocket
Erucastrum gallicum (Willd.) O.E. Schulz	Dog Mustard; Rocket Weed
Erysimum cheiranthoides L.	Wormseed Mustard
Erysimum inconspicuum (S. Wats.) MacM.	Small Wormseed Mustard
Erysimum hieracifolium L.	Hawkweed Mustard
Erysimum repandum L.	Treacle Mustard
Eschscholtzia californica Cham.	California Poppy
Euonymus bungeanus Maxim.	Chinese Spindle Tree
Euonymus hamiltonianus Wall.	Japanese spindle Tree
Euonymus europaea L.	European Spindle Tree
Euonymus kiautschovicus Loes.	Climbing Euonymus
Euonymus japonicus L.	Japanese Spindle Tree
Euphorbia hexagona Nutt.	Spurge
Euphorbia lathyrus L.	Caper Spurge
Euphorbia peplus L.	Petty Spurge
Euphorbia platyphyllos L.	Broad Leaved Spurge
Euphorbia marginata Pursh	Snow on the Mountain
Euphorbia cyparissias L.	Cypress Spurge
Euphorbia helioscopia L.	Wart Spurge
Evolvulus pilosus Nutt.	Ozark Morning Glory; Ascending Morning Glory
Fagopyrum esculentum Moench	Buckwheat
Falcaria vulgaris Bernh.	Sickleweed
Festuca duriuscula L.	Sheep Fescue
Festuca tenuifolia Sibth.	Slender Fescue

Filipendula ulmaria (L.) Maxim.	Queen of the Meadow
Foeniculum vulgare Mill.	Fennel
Forsythia suspensa (Thunb.) Vahl.	Forsythia
Fragaria vesca L.	Strawberry
Fragaria X ananassa Duchesne	Cultivated Strawberry
Fumaria officinalis L.	Fumitory
Gaillardia pulchella Foug.	Blanket Flower
Gaillardia aristata Pursh.	Gaillardia
Galinsoga quadrisulcata Ruiz & Pavon.	Peruvian Daisy
Galinsoga parviflora Cav.	Lesser Peruvian Daisey
Galiopsis tetrahit L.	Common Hemp Nettle
Galiopsis ladanum L.	Red Hemp Nettle
Galium mollugo L.	White Bedstraw
Galium verum L.	Yellow Bedstraw
Galium pedemontanum (Bellardi) All.	Yellow Flowered Bedstraw
Gaura parviflora Dougl.	Small Flowered Gaura
Gentiana septemfida Pall.	Gentian
Geranium molle L.	Dove's Foot Cranesbill
Geranium sibiricum L.	Siberian Cranesbill
Geranium dissectum L.	Purple Cranesbill
Geranium sanguineum L.	Geranium
Geranium pusillum L.	Small Cranesbill
Geum urbanum L.	City Avens
Gilia capitata Sims	Gilia
Gladiolus X colvillei Sweet	Scarlet Gladiolus
Glandularia peruviana (L.) Small	Peruvian Vervain
Glycine max (L.) Merr.	Soybean
Glycyrrhiza lepidota (Nutt.) Pursh	Wild Licorice
Gnaphalium uliginosum L.	Low Cudweed
Gossypium hirsutum L.	Cotton
Grindelia squarrosa (Pursh.) Dunal.	Gumweed; Tarweed
Gutierrezia texana (DC.) Torr. & Gray	Snakeweed
Gypsophila elegans Bieb.	Baby's Breath
Gypsophila scorzonerifolia Ser.	Baby's Breath
Gypsophila paniculata L.	Baby's Breath
Hedera helix L.	English Ivy
Helianthus petiolaris Nutt.	Petioled Sunflower
Helianthus ciliaris DC.	Ciliate Sunflower
Helianthus salicifolius A. Dietr.	Willow Leaved Sunflower
Helianthus annus L.	Garden Sunflower
Helianthus maximiliani Schrad.	Maximilian's Sunflower
Heliotropium indicum L.	Indian Heliotrope

Heliotropium curassavicum L.	Seaside Heliotrope
Heliotropium europaeum L.	European Heliotrope
Helleborus viridis L.	Green Hellebore
Hemerocallis lilio-asphodelus L.	Yellow Day Lily
Hibiscus trionum L.	Flower of an Hour
Hibiscus syriacus L.	Rose of Sharon
Hieracium murorum L.	Golden Lungwort
Hieracium caespitosum Dumort.	King Devil
Hieracium aurantiacum L.	Orange Hawkweed
Hieracium piloselloides Villars	Glaucus King Devil
Holcus lanatus L.	Velvet Grass
Holosteum umbellatum L.	Jagged Chickweed
Hordeum brachyantherum Nevski.	Meadow Barley
Hordeum vulgare L.	Common Barley
Hordeum geniculatum All.	Mediterranean Barley
Hosta lancifolia (Thunb.) Engl.	Plantain Lily
Humulus japonicus Sieb. & Zucc.	Japanese Hops
Hydrocotyle umbellata L.	Water Pennywort
Hydrocotyle ranunculoides L.	Water Pennywort
Hyoscyamus niger L.	Black Henbane
Hypochaeris glabra L.	Smooth Cat's Ear
Hypochaeris radicata L.	Rough Cat's Ear
Impatiens balsamina L.	Balsam
Inula helenium L.	Elecampane
Ipomoea quamoclit L.	Cypress Vine
Ipomoea hederacea (L.) Jacq.	Ivy Leaved Morning Glory
Ipomoea purpurea (L.) Roth.	Common Morning Glory
Ipomoea coccinea L.	Red Morning Glory
Ipomopsis rubra (L.) Wherry	Standing Cypress
Iris flavescens DC.	Yellow Iris
Iris pumila L.	Dwarf Iris
Iris X germanica L.	Bearded Iris
Iris shrevei Small	Wild Blue Iris
Iris pseudacorus L.	Yellow Iris
Isatis tinctoria L.	Dyer's Woad
Jacquemontia tamnifolia (L.) Griseb.	Jacquemontia
Juncus gerardii Loisel.	Black Grass
Kallstroemia parviflora Norton	Kallstroemia
Kerria japonica DC.	Yellow Rose
Kickxia elatine (L.) Dumort	Canker Root
Knautia arvensis (L.) T. Coult.	Bluebuttons
Kochia scoparia (L.) Roth.	Kochia

Koelreuteria paniculata Laxm.	Golden Rain Tree
Lactuca pulchella (Pursh) DC.	Showy Blue Lettuce
Lactuca saligna L.	Willow Lettuce
Lactuca sativa L.	Prickly Lettuce
Lactuca serriola L.	Prickly Lettuce
Lactuca tatarica (L.) C. A. Mey.	Blue Lettuce
Lagenaria siceraria (Molina) Standl.	Gourd
Lamium maculatum L.	Spotted Dead Nettle
Lamium amplexicaule L.	Henbit
Lamium purpureum L.	Purple Nead Nettle
Lappula redowskii (Hornem.) Greene	Western Stickseed; Western Beggar's Lice
Lappula echinata Gilib.	Two Ray Stickseed; Beggar's Lice
Lapsana communis L.	Nipplewort
Larix laricina Mill.	European Larch
Lathyrus latifolius L.	Everlasting Pea
Lathyrus hirustus L.	Vetchling
Lathyrus tuberosus L.	Tuberous Vetchling
Lathyrus pratensis L.	Yellow Vetchling
Lathyrus odoratus L.	Sweet Pea
Leontodon taraxicoides (Villars) Marat.	Hawkbit
Leontodon autumnalis L.	Fall Dandelion
Leonurus cardiaca L.	Motherwort
Leonurus sibiricus L.	Siberian motherwort
Leonurus marrubiastrum L.	Lion's Tail
Lepidium latifolium L.	Broad Leaved Pepper Grass
Lepidium sativum L.	Garden Pepper Grass; Garden Cress
Lepidium densiflorum Schrad.	Small Pepper Grass; Small Pepper Cress
Lepidium perfoliatum L.	Perfoliate Pepper Grass; Clasping Cress
Lepidium campestre (L.) R.Br.	Field Pepper Grass; Field Cress
Lepidium ruderale L.	Stinking Pepper Grass;
Lepidium latifolium L.	Broad Leaved Pepper Cress
Leptochloa acuminata (Nash) Mohlenbr.	Salt Meadow Grass
Lespedeza thunbergii (DC.) Nakai	Tall Bush Clover
Lespedeza daurica (Laxm.) Schindl.	Asian Bush Clover
Lesquerella gracilis (Hook.) S.Wats.	Slender Bladderpod
Leucojum aestivum L.	Summer Snowflake
Liatris punctata Hook.	Dotted Blazing Star
Lilium lancifolium Thunb.	Tiger Lily
Limnosciadium pinnatum (DC.) Math. &Constance	
Linaria vulgaris Mill	Butter and Eggs
Linaria genistifolia (L.) Mill.	Toadflax

Linum usitatissimum L.	Common Flax
Linum perenne L.	Flax
Liriope spicata Lour.	Grass Leaved Lily; Lily Turf
Lithospermum officinale L.	Common Gromwell; European Gromwell
Lobularia maritima (L.) Desv.	Sweet Alyssum
Lolium perenne L.	English Rye Grass
Lolium multiflorum Lam.	Italian Rye Grass
Lolium temulentum L.	Darnel
Lotus unifoliolatus Benth.	Deer Vetch
Lotus corniculatus L.	Bird's Foot Trefoil
Luffa cylindrica (L.) Roem.	Vegetable Sponge; Dishwater Gourd
Lunaria annua L.	Silver Dollar Plant
Lychnis alba Mill.	White Campion; Evening Campion
Lychnis dioica L.	Red Campion
Lychnis chalcedonica L.	Maltese Cross
Lychnis coronaria (L.) Desr.	Mullein Pink
Lycium chinense Mill.	Chinese Matrimony Vine
Lycium barbarum L.	Common Matrimony Vine
Lycopersicon esculentum Mill	Tomato
Lycopus europaeus L.	Water Horehound
Lycoris radiata Herb.	Surprise Lily
Lysimachia punctata L.	Dotted Loosestrife
Lysimachia vulgaris L.	Loosestrife
Lysimachia clethroides Duby.	White Loosestrife
Machaeranthera tanacetifolia (HBK.) Nees	Tadoka Daisy
Macleaya cordata (Willd.) R.Br.	Plume Poppy
Macrothylypteris torresiana (Guadichaud-Beaupre) Ching.	Torres' Fern
Malcolmia africana (L.) R.Br.	Malcolmia
Malus prunifolia (Willd.) Borkh.	Plum Leaved Crab Apple
Malus pumila Mill.	Apple
Malus sieboldii (Regel) Rehd.	Japanese Crab Apple
Malus baccata (L.) Borkh.	Siberian Crab Apple
Malus X soulardii (Bailey) Britt.	Soulard Crab Apple
Malva neglecta Wallr.	Common Mallow
Malva rotundifolia L.	Mallow
Malva moschata L.	Musk Mallow
Malva sylvestris L.	High Mallow
Malva verticillata L.	Curly Mallow
Malva alcea L.	Vervain mallow
Marrubium vulgare L.	Common Horehound
Marsilea quadrifolia L.	Water Clover

Matricaria chamomilla L.	Chamomile
Matricaria matricarioides (Less.) Porter	Pineapple Weed
Matricaria perforatum L.	Scentless Chamomile
Matthiola incana (L.) R.Br.	Stocks
Mazus pumilus (Burm. f.) Steenis	Mazus
Mecardonia acuminata (Walt.) Small	Mecardonia
Medicago sativa L.	Alfalfa
Medicago lupulina L.	Black Medic
Medicago orbicularis (L.) Bartal	Round Medic
Medicago arabica (L.) Huds.	Spotted Medic
Medicago X varia Martyn.	Hybrid Medic
Medicago falcata L.	Yellow Lucerne
Melilotus altissima Thuill.	Tall Yellow Sweet Clover
Melissa officinalis L.	Balm
Melochia corchorifolia L.	Chocolate Weed
Mentha X verticillata L.	Whorled Mint
Mentha X gentilis L.	Little Leaved Mint
Mentha suaveolens Ehrh.	Sweet Apple Mint
Mentha X villosa Huds	Foxtail Mint
Mentha citrata Ehrh.	Lemon Mint; Bergamot Mint
Mentha crispa L.	Curly mint
Mentha X rotundifolia (L.) Huds.	Apple Mint
Mentzelia nuda (Pursh) Torr. & Gray	Blazing Star
Mentzelia decapetala (Pursh) Urban & Gilg.	Blazing Star
Microsteris gracilis (Dougl.) Greene	Microsteris
Mimosa strigillosa Torr. & Gray	Powderpuff
Mirabilis linearis (Pursh) Heimerl.	Linear Leaved Four O'Clock
Mirabilis albida (Walt.) Heimerl.	Wild Four O'Clock
Mirabilis jalapa L.	Garden Four O'Clock
Mirabilis nyctaginea (Michx.) MacM.	Wild Four O'Clock
Miscanthus sacchariflorus (Maxim.) Hack.	Plume Grass
Misopates orontium (L.) Raf.	Lesser Snapdragon
Moenchia erecta (L.) P.Gaertn.,Meyer & Schreb.	Moenchia
Mollugo verticillatus L.	Carpetweed
Monarda citriodora Cerv.	Lemon Mint
Monarda didyma L.	Oswego Tea
Monolepis nuttalliana (Roem. & Schultes) Greene	Poverty Weed
Morus tatarica	Russian Mulberry
Muscari armeniacum Leicht.	Heavenly Blue
Muscari atlanticum Boiss. & Reut..	Blue Bottles
Muscari comosum (L.) Mill.	Grape Hyacinth
Muscari botryoides (L.) Mill	Grape Hyacinth

Myosotis stricta Link	Small Flowered Forget-Me-Not
Myosotis sylvatica Hoffm.	Garden Forget-Me-Not
Myosotis scorpioides L.	Common Forget-Me-Not
Myosoton aquaticum (L.) Moench	Giant Chickweed
Myrica cerifera L.	Wax Myrtle
Narcissus pseudo-narcissus L.	Daffodil
Narcissus X medioluteus Mill.	Primrose Peerless
Narcissus poeticus L.	Poet's Narcissus
Nepeta cataria L.	Catnip
Neslia paniculata (L.) Desv.	Ball Mustard
Nicandra physalodes (L.) Gaertn.	Apple of Peru
Nicotiana rustica L.	Wild Tobacco
Nicotiana longiflora Cav.	Long Flowered Tobacco
Nigella damascena L.	Love in a Mist
Nymphoides peltata (S. Gmel.) Kuntze	Yellow Floating Heart
Ocimum basilicum L.	Basil
Oenothera grandis (Britt.) Smyth	Showy Ragged Evening Primrose
Oenothera triloba Nutt.	Stemless Evening Primrose
Oenothera parviflora L.	Small Flowered Evening Primrose
Oenothera nuttallii Sweet	White Evening Primrose
Oenothera speciosa Nutt.	Showy Evening Primrose
Oenothera albicaulis Pursh.	Prairie Evening Primrose
Onobrychis viciaefolia Scop.	Sainfoin
Ononis spinosa L.	Rest Harrow
Onopordum acanthium L.	Scotch Thistle, Cotton Thistle
Origanum vulgare L.	Oregano
Ornithogalum nutans L.	Star of Bethlehem
Orobanche ramosa L.	Broomrape
Oryza sativa L.	Rice
Oxalis corniculata L.	Creeping Wood Sorrel
Oxydendrum arboreum (L.) DC.	Sourwood
Pachysandra terminalis Sieb. & Zucc.	Japanese Spurge
Panicum obtusum Kunth	Vine Mesquite
Panicum miliaceum L.	Broomcorn Millet
Papaver somniferum L.	Opium Poppy
Papaver rhoeas L.	Corn Poppy
Papaver dubium L.	Poppy
Parthenium hysterophorus L.	Santa Maria
Parthenocissus tricuspidata (Sieb. & Zucc.) Planch.	Boston Ivy
Paspalum dilatatum Poir.	Dallis Grass
Pennisetum alopecuroides (L.) Spreng.	Fountain Grass
Pennisetum americanum (L.) Leeke.	Pearl Millet; Italian Millet

Penstemon cobaea Nutt.	Large Beardstongue
Penstemon gracilis Nutt.	Slender Beardstongue
Perilla frutescens (L.) Britt.	Beefsteak Plant
Petasites hybridus (L.) Gaertnl., Mey. & Scherb.	Sweet Coltsfoot
Petrorhagia saxifraga (L.) Link	Saxifrage Pink
Petunia axillaris (Lam.) BSP.	White Petunia
Petunia violacea Lindl.	Violet Petunia
Petunia X hybrida Vilm.	Garden Petunia
Phalaris canariensis L.	Canary Grass
Phellodendron amurense Rupr.	Amur Cork Tree
Philadelphus inodorus L.	Scentless Mock Orange
Philadelphus pubescens Loisel.	Downy Mock Orange
Philadelphus floridus Beadle	Few Flowered Mock Orange
Philadelphus coronarius L.	Sweet Mock Orange
Phleum pratense L.	Timothy
Phlox sublulata L.	Moss Pink
Phyla cuneifolia (Torr.) Greene	Hoary Fog Fruit
Phyllanthus urinaria L.	Leaf Flower
Physalis ixocarpa Hornem.	Tomatillo
Physalis angulata L.	Ground Cherry
Physalis alkekengi L.	Chinese Lantern
Physalis longifolia Nutt.	Ground Cherry
Physalis pendula Rydb.	Ground Cherry
Physalis lanceolata Michx.	Narrow Leaved Ground Cherry
Physalis barbadensis Jacq.	Ground Cherry
Picea mariana (Mill.) BSP.	Black Spruce
Picea abies (L.) H.Karst.	Norway Spruce
Picris echioides L.	Bristly Ox Tongue
Picris hieracioides L.	Cat's Ear
Pinus taeda L.	Loblolly Pine
Pinus wallichiana A.B. Jacks	Himalayan White Pine
Pinus nigra Arn.	Austrian Pine
Pinus pungens Lamb.	Table Mountain Pine
Pinus sylvestris L.	Scots Pine
Pinus rigida Mill.	Pitch Pine
Pinus strobus L.	White Pine
Pisum sativum L.	Garden Pea
Plagiobothrys scouleri (Hook. & Arn.) I.M. Johnston	Meadow Plagiobothrys
Plagiobothrys hirtus (Greene) I.M. Johnston	Bristly Plagiobothrys
Plantago media L.	Hoary Plantain
Plantago rhodosperma Decne.	Red Seeded Plantain
Plantago lanceolata L.	Buckhorn Plantain

Plantago arenaria Waldst. & Kit.	Whorled Plantain
Plantago major L.	Common Plantain
Pluchea odorata L.	Salt marsh Fleabane
Poa trivialis L.	Meadow Blue Grass
Poa nemoralis L.	Woodland Blue Grass
Poa compressa L.	Canada Blue Grass
Poa bulbosa L.	Bulbous Blue Grass
Poa arachnifera Torr.	Texas Blue Grass
Poa annua L.	Annual Blue Grass
Poa arida Vasey	Plains Blue Grass
Polycnemum majus A. Br.	Polycnemum
Polygonum bungeanum Turcz.	Prickly Smartweed
Polygonum persicaria L.	Lady's Thumb Print
Polygonum orientale L.	Prince's Feather
Polygonum arenastrum Boreau	Knotweed
Polygonum aviculare L.	Knotweed
Polygonum neglectum Besser	Knotweed
Polygonum scabrum Moench	Rough Smartweed
Polygonum hydropiper L.	Water Pepper
Polygonum convolvulus L.	Black Bindweed
Polygonum cespitosum Blume	Creeping Smartweed
Polygonum sachalinensis F.Schmidt	Giant Knotweed
Poncirus trifoliata (L.) Raf.	Sour Orange
Populus nigra L.	Black Poplar; Lombardy Poplar
Populus X gileadensis Rouleau	Balm of Gilead
Populus X canescens (Ait.) Sm.	Gray Poplar
Portulaca oleracea L.	Common Purslane
Portulaca grandiflora Hook.	Rose Moss
Potentilla inclinata Vill.	Gray Cinquefoil
Potentilla rivalis Nutt.	Brook Cinquefoil
Potentilla norvegica L.	Rough Cinquefoil
Potentilla recta L.	Sulfur Cinquefoil
Potentilla argentea L.	Silvery Cinquefoil
Potentilla reptans L.	Creeping Cinquefoil
Potentilla intermedia L.	Intermediate Cinquefoil
Proboscidea louisianica (Mill.) Thell.	Proboscis Flower; Unicorn Plant
Prunella vulgaris L.	Self Heal; Heal All

Prunus persica (L.) Batsch.	Peach
Prunus padus L.	European Bird Cherry
Prunus mahaleb L.	Mahaleb Cherry
Prunus avium (L.) L.	Sweet Cherry
Prunus cerasus L.	Pie Cherry
Prunus tomentosa Thunb.	Nanking Cherry
Prunus triloba Lindl.	Flowering Alm,ond
Prunus armeniaca L.	Apricot
Psoralea argophylla Pursh.	Silvery leaved Scurf Pea
Pteretis multifida Poir.	Spider Brake
Puccinellia distans (Jacq.) Parl.	Alkali Grass
Pyrus pyrifolia (Burm. f.) Nakai	Chinese Pear
Pyrus communis L.	Pear
Quercus acutissima Carruth.	Sawtooth Oak
Ranunculus acris L.	Tall Buttercup
Ranunculus bulbosus L.	Bulbous Buttercup
Ranunculus ficaria L.	Lesser Celandine
Ranunculus arvensis L.	Spiny Fruited Buttercup
Ranunculus testiculatus L.	Cylindric Fruited Buttercup
Ranunculus sardous Crantz.	Buttercup
Ranunculus repens L.	Creeping Buttercup
Ranunculus parviflorus L.	Small Flowered Buttercup
Raphanus raphanistrum L.	Wild Radish
Raphanus sativus L.	Radish
Rapistrum rugosum (L.) All.	Wild Rape
Ratibida columnifera (Nutt.) Wooton & Standl.	Long Headed Coneflower
Redfieldia flexuosa (Thurb.) Vasey	Blowout Grass
Reseda luteola L.	Dyer's Rocket
Reseda alba L.	Mignonette
Rheum rhaponticum L.	Rhubarb
Ribes nigrum L.	Black Currant
Ribes rubrum L.	Red Currant
Ribes odoratum Wendl. r.	Buffalo Currant
Ricinus communis L.	Castor Bean
Robinia viscosa Vent.	Clammy Locust
Robinia hispida L.	Bristly Locust
Rorippa indica (L.) Hiern.	Indian Yellow Cress
Rorippa sylvestris (L.) Besser	Creeping Yellow Cress
Rosa gallica L.	French Rose
Rosa micrantha Sm.	Small Sweet Brier
Rosa arkansana Porter	Wild Rose
Rosa rugosa Thunb.	Rugose Rose

Rosa rubrifolia Vill.	Red Leaved Rose
Rosa eglanteria L.	Sweet Brier
Rosa canina L.	Dog Rose
Rosa moschata Herrm.	Musk Rose
Rosa wichuriana Crep.	Memorial Rose
Rosa spinosissima L.	Scotch Rose
Rosa virginiana Mill.	Virginia Rose
Rubus idaeus L.	Cultivated Raspberry
Rubus laciniatus Willd.	Evergreen Blackberry
Rubus phoenicolasius Maxim.	Wineberry
Rubus discolor Weihe & Nees	Himalaya Berry
Rudbeckia grandiflora (Sweet) DC.	Large Black Eyed Susan
Rumex crispus L.	Curly Dock
Rumex conglomeratus L.	Dock
Rumex acetosella L.	Sour Dock
Rumex patientia L.	Patience Dock
Rumex dentatus L.	Toothed Dock
Rumex cristatus DC.	Crested Dock
Rumex obtusifolius Gray	Bitter Dock
Rumex longifolius DC.	Dock
Ruta graveolens L.	Common Rue
Sagina japonica (Sw.) Ohwi.	Japanese Pearlwort
Sagina apetala Ard.	Apetalous Pearlwort
Salix pentandra L.	Bay Leaved Willow
Salix purpurea L.	Purple Osier
Salix cinerea L.	Gray Willow
Salix alba L.	White Willow
Salix matsudana Koidz.	Twisted Willow
Salix caprea L.	Goat Willow; Pussy Willow
Salix X rubens Schrank.	Hybrid Crack Willow
Salix fragilis L.	Crack Willow
Salix babylonica L.	Weeping Willow
Salsola collina Pall.	Saltwort
Salsola iberica Sennen & Pav.	Russian Thistle
Salvia verticillata L.	Sage
Salvia pratensis L.	Meadow Sage
Salvia reflexa Hornem.	Rocky mountain Sage
Salvia nemorosa L.	Wild Sage
Sanguisorba minor Scop.	Garden Burnet
Sanvitalia procumbens Lam.	Creeping Zinnia
Saponaria officinalis L.	Bouncing Bet; Soapwort
Satureja hortensis L.	Summer Savory

Scilla sibirica Andr.	Squill
Scirpus californicus (C.A. Mey.) Steud.	Delta Bulrush
Scirpus mucronatus L.	Mucronate Bulrush
Scleranthus annuus L.	Knawel
Sclerochloa dura (L.) P. Beauv.	Hard Grass
Secale cereale L.	Rye
Sedum spurium M.Bieb.	False Wild Stonecrop
Sedum rupestre L.	Rock Stonecrop
Sedum X erythrostictum Miq.	Garden Orpine
Sedum acre L.	Mossy Stonecrop
Sedum telephium L.	Live Forever
Sedum sarmentosum Bunge	Yellow Stonecrop
Senecio viscosus L.	Sticky Groundsel
Senecio jacobaea L.	Stinking Willie; Tansy Ragwort
Senecio vulgaris L.	Common Groundsel
Sherardia arvensis L.	Field Madder
Sida spinosa L.	Prickly Sida
Sigesbeckia orientalis L.	Sigesbeckia
Silene noctiflora L.	Night Flowering Catchfly
Silene cucubalus Wibel.	Bladder Catchfly; Bladder Campion
Silene gallica L.	Catchfly
Silene dichotoma Ehrh.	Forked Catchfly
Silene armeria L.	Sweet William Catchfly
Silene cserei Baumg.	Glaucous Campion
Silene conica L.	Striate Catchfly
Silphium speciosum Nutt.	Rosinweed
Sisymbrium officinale (L.) Scop.	Hedge Mustard
Sisymbrium altissimum L.	Tumble Mustard
Sisymbrium loeselii L.	Tall Hedge Mustard
Sitanion hystris (Nutt.) J. G. Sm.	Squirrel Tail Grass
Solanum triflorum Nutt.	Cut Leaved Nightshade
Solanum dimidiatum Raf.	Torrey's Horse Nettle
Solanum sarachoides Sendtn.	Hairy Nightshade
Solanum elaeagnifolium Cav.	Silvery Horse Nettle
Solanum cornutum Lam.	Buffalo Bur
Solanum tuberosum L.	Potato
Solanum heterodoxum Dunal	Nightshade
Solidago sempervirens L.	Seaside Goldenrod
Sonchus arvensis L.	Field Thistle
Sonchus oleraceus L.	Common Sow Thistle
Sonchus asper (L.) Hill	Spiny Sow Thistle
Sorbaria sorbifolia (L.) A. Braun	False Spiraea

Sorbus aucuparia L.	European Mountain Ash
Sorghum bicolor (L.) Moench	Sorghum
Sorghum almum L.	Sorghum Grass
Sorghum sudanense (Piper) Stapf.	Sudan Grass
Spergula arvensis L.	Corn Spurrey
Spergularia rubra (L.) J. & C. Presl.	Pink Sand Spurrey
Spergularia media (L.) C. Presl.	Sand Spurrey
Spergularia marina (L.) Griseb.	Coastal Sand Spurrey
Spermolepis inermis (Nutt.) Math. & Constance	Smooth Scaleseed
Spiraea X vanhouttei (Briot) Zabel.	Bridal Wreath
Spiraea latifolia (Ait.) Borkh.	Meadow Sweet
Spiraea prunifolia Sieb. & Zucc.	Bridal Wreath
Sporobolus indicus (L.) R. Br.	Smut Grass
Sporobolus pyramidatus (Lam.) Hitchc.	Whorled Dropseed
Stachys byzantina C. Koch	Woolly Hedge Nettle
Stachys palustris L.	Hedge Nettle
Stellaria pallida Pire.	Apetalous Chickweed
Stellaria graminea L.	Common Stitchwort
Stellaria media (L.) Cyrillo	Common Chickweed
Suaeda depressa (Pursh) S. Wats.	Sea Blite
Symphoricarpos albus (L.) Blake	Snowberry
Symphytum officinale L.	Common Comfrey
Syringa vulgaris L.	Common Lilac
Tagetes patula L.	French Marigold
Tamarix gallica L.	Tamarisk
Tanacetum parthenium (L.) Sch.-Bip.	Feverfew
Tanacetum vulgare L.	Tansy; Golden Buttons
Taraxacum officinale Weber	Common Dandelion
Taraxacumlaevigatum (Willd.) DC.	Red Seed Dandelion
Thelesperma gracile (Torr.) Gray	Green Thread
Thladiantha dubia Bunge	Thladiantha
Thlaspi perfoliatum L.	Perfoliate Penny Cress
Thlaspi arvense L.	Penny Cress
Thymelaea passerina (L.) Coss. & Germ.	Thymelaea
Thymus praecox Opiz.	Thyme
Tidestromia lanuginosa (Nutt.) Standl.	Tidestromia
Tilia cordata Mill.	Little Leaved Linden
Torilis japonica (Houtt.) DC.	Hedge Parsley
Toxicodendron toxicarium (Salisb.) Gillis	Poison Oak
Tragopogon pratensis L.	Common Goat's Beard
Tragopogon porrifolius L.	Salsify; Vegetable Oyster

Trichachne insularis (L.) Nees	Sour Grass
Trifolium aureum Pollich.	Yellow Hop Clover
Trifolium incarnatum L.	Crimson Clover
Trifolium pratense L.	Red Clover
Trifolium hybridum L.	Alsike Clover
Trifolium fragiferum L.	Strawberry Clover
Trifolium resupinatum L.	Persian Clover
Trifolium arvense L.	Rabbit Foot Clover
Trifolium campestre Schreb.	Low Hop Clover
Trifolium repens L.	White Clover
Trifolium dubium Sibth.	Little Hop Clover
Triodanis leptocarpa (Nutt.) Nieuwl.	Slender Leaved Venus' Looking Glass
Triticum cylindricum (Host) Ces.	Jointed Goat Grass
Triticum aestivum L.	Wheat
Tussilago farfara L.	Coltsfoot
Typha domingensis Pers.	Southern Cat Tail
Ulmus procera Salisb.	English Elm
Urochloa platyphylla (Nash) R. D. Webster	Broadleaf Signal Grass
Urtica urens L.	Burning Nettle
Vaccaria pyramidata Medic	Cow Herb
Valeriana officnalis L.	Garden Heliotrope
Valerianella locusta (L.) Betcke.	Corn Salad
Verbascum blattaria L.	Moth Mullein
Verbascum nigrum L.	Black Mullein
Verbascum phlomoides L.	Clasping Mullein
Verbascum speciosum Schrad.	Mullein
Verbascum virgatum Stokes	Mullein
Verbena brasiliensis Vellozo	Brazilian Vervain
Verbena bonariensis L.	Clasping Leaved Vervain
Verbesina encelioides (Cav.) Benth. & Hook. f.	Golden Crownbeard
Veronica polita Friesw.	Speedwell
Veronica serpyllifolia L.	Thyme Leaved Speedwell
Veronica longifolia L.	Garden Speedwell
Veronica persica Poir.	Bird's Eye Speedwell
Veronica hederaefolia L.	Ivy Leaved Speedwell
Veronica officinalis L.	Common Speedwell
Veronica arvensis L.	Corn Speedwell
Veronica dillenii Crantz.	Speedwell
Veronica chamaedrys L.	Germander Speedwell
Veronica biloba L.	Speedwell
Viburnum opulus L.	European High Bush Cranberry
Viburnum lantana L.	Wayfaring Tree

Viburnum rhytidophyllum Hemsl.	Leather Leaved Viburnum
Viburnum dilatatum Thunb.	Viburnum
Vicia villosa Roth.	Winter Vetch
Vicia cracca L.	Cow Vetch
Vicia tetrasperma (L.) Moench	Four Seeded Vetch
Vicia angustifolia Reich.	Narrow Leaved Vetch
Vicia dasycarpa Ten.	Hairy Fruited Vetch
Vigna unguiculata (L.) Walp.	Cow Pea
Vinca major L.	Large Periwinkle
Vinca minor L.	Common Periwinkle
Viola arvensis Murr.	Wild Pansy
Viola tricolor L.	Wild Pansy
Viola rafinesquii Greene	Johnny Jump Up
Viola X wittrockiana Gams.	Pansy
Viola odorata L.	Sweet Violet
Vitis labrusca L.	Labruscan Grape
Vulpia bromoides (L.) S. F. Gray	Bromelike Fescue
Vulpia myuros (L.) K. C. Gmel.	Foxtail Fescue
Xyris jupicai L. C. Rich.	Yelow Eyed Grass
Yucca flaccida Haw.	Yucca; Adam's Needle
Zea mays L.	Corn
Zoysia japonica Steud.	Zoysia

The numbers and letters correspond to the explanations on the ranking sheet as follows.

Questions:

Should we divide these into trees, shrubs, vines, herbaceous, etc.?

Exotic Species Ranking - Plants

Rank 1	Severe Threat	Exotic plant species that possess characteristics of invasive species and spread easily into native plant communities and displace native vegetation; includes species that are or could become widespread in natural communities in Illinois.
Rank 2	Significant Threat	Exotic plant species that possess characteristics of invasive species but are not presently considered to spread as easily into native plant communities as those species listed as Rank 1. Potential or actual threats after restoration and reconstruction of potentially natural communities. Opportunistic plants.
Rank 3	Lesser Threat	Exotic plant species that spread in or

	near disturbed areas; not presently considered a threat to native plant communities, i.e. crop plant weeds (ruderal)..
Rank 4 Least Threat	Crop plants.
Watch List A	Exotic plant species being grown in Illinois that could naturalize and become a problem in the future.
Watch List B	Exotic plant species that are severe problems in surrounding states but have not been reported in Illinois.

This is a modified version of what Tennessee, Kentucky and several other states in the southeast use. Go to

http://www.tneppc.org

if you care to see their web sites.

Ben L. Dolbeare

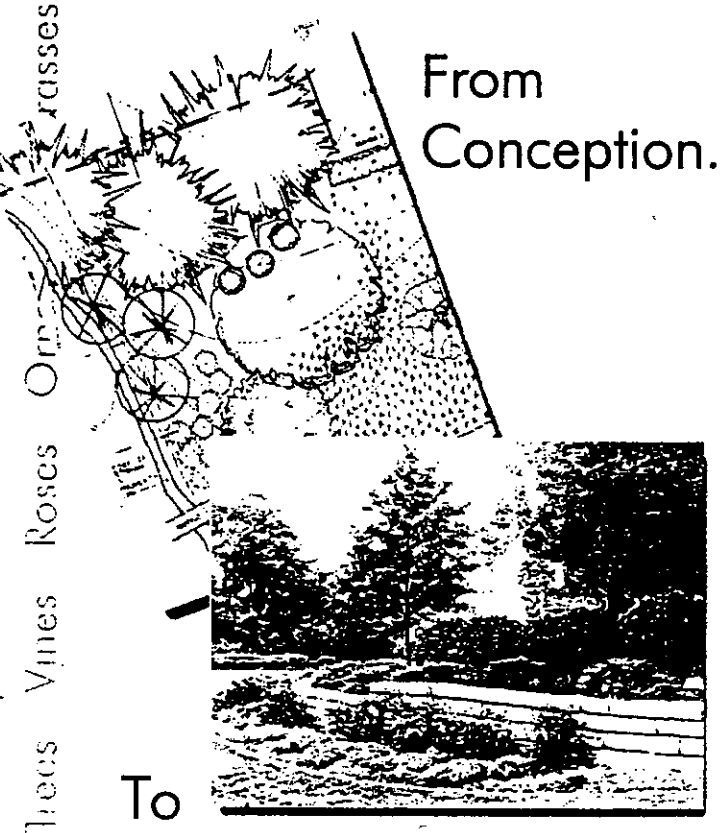
The Illinois Weed Act:
Its meaning and ramifications

By Ben Dolbeare, Exotic Weed Coordinator
Illinois Department of Natural Resources

Exotic weeds are plants not native to North America, which spread vegetatively or by seed and naturalize in the environment. Invasive exotic species degrade natural communities, reduce the value of fish and wildlife habitat, and threaten endangered or threatened species. A growing body of research demonstrates that invasive exotic species are the second largest-and probably fastest growing-threat to biodiversity locally and nationally. For example, of 1,880 species classified as imperiled in the United States, invasive exotics played a major role in the listing of 49%. This was second only to habitat loss and was significantly higher than pollution, overexploitation and disease combined. Invasive exotic species also cause changes in ecosystem structure and function and increase degradation of unique regional biota.

The State of Illinois responded to this problem by passing the Illinois Exotic Weed Act in 1987. The Illinois Exotic Weed Act makes it unlawful to buy, sell, offer for sale, distribute, or plant seeds, plants or plant parts of exotic weeds in Illinois. Section 10/4 of the Act states the following: It shall be unlawful for any person, corporation, political subdivision, agency or department of the State to buy, sell, offer for sale, distribute or plant seeds, plants or plant parts of exotic weeds without a permit issued by the Department of Natural Resources. The 1987 Act designated three species as exotic weeds in Illinois, thereby restricting the sale of Japanese honeysuckle (Lonicera japonica), multiflora rose (Rosa multiflora) and purple loosestrife (Lythrum salicaria). The Illinois Exotic Weed Act was amended in 2003 by adding Common buckthorn (Rhamnus cathartica), glossy buckthorn (Rhamnus frangula), saw-toothed buckthorn (Rhamnus arguta), dahurian buckthorn (Rhamnus davurica), Japanese buckthorn (Rhamnus japonica), Chinese buckthorn (Rhamnus utilis) and kudzu (Pueraria lobata) to the list of designated exotic weeds. Contrary to what some believe, there are no varieties, subspecies, or cultivars of any of the listed exotic species that can be legally sold in Illinois. For example, various forms of purple loosestrife are sometimes referred to as purple lythrum, lythrum, rainbowweed, salicaire and spiked loosestrife to name a few. Lythrum salicaria var. gracilior, L. salicaria var. tomentosum

Weed Mat Edging Stone Soil & Compost Mulch Timbers Sand
Gravel Seed Fertilizer Tools Lamps Shade Trees Container Shrubs
Ornamental Trees Annuals Specimen Plants Perennials Field
Grown Shrubs Container Trees Vines Roses Ornamental Grasses



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Website - www.acornfarms.com e-mail - acornfarms@acornfarms.com

and L. salicaria var. vulgare are a sampling of the subspecies you might encounter. All of these fall under the plant name of purple loosestrife in regards to the Illinois Exotic Weed Act which makes it unlawful for any person to buy, sell, offer for sale or distribute any of them.

The only way a variety, subspecies or cultivar of any listed species can be legally bought, sold, distributed or offered for sale as seeds, plants or plant parts is with a permit issued by the Department of Natural Resources. By law, such permits shall be issued only for experiments into controlling and eradicating exotic weeds or for research to demonstrate that a variety of a species listed in this Act is not an exotic weed as defined in Section 2 of the Act. Commercial propagation of exotic weeds for sale outside Illinois, certified under The Insect Pest and Plant Disease Act (505 ILCS 90/1 et seq.) is exempted from this provision of this section of the Act. Section 3 of the Illinois Exotic Weed Act allows the Director of the Department of Natural Resources to exempt varieties of the species listed above. Exemptions are available to any buyer or seller who can demonstrate through published or current research that the variety(ies) in question is/are not an exotic weed(s) as defined in the first paragraph of this article. The information supporting the exemption can be submitted to the Director of Natural Resources by petition. Violators of this Act can be charged with a Class B misdemeanor. Each day shall be considered a separate offense when the violation is a continuing offense. Exotic plants offered for sale in Illinois except as provided above are subject to confiscation and destruction by agents of the Department of Natural Resources.

For further information, contact Ben L. Dolbeare, Coordinator of Exotic Species, Illinois Department of Natural Resources (Phone: 217-785-8774) *

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ILLINOIS NURSERYMEN'S ASSOCIATION

MEMORANDUM OF UNDERSTANDING

among the

COLLINSVILLE AREA RECREATION DISTRICT

the

FOREST PARK FOREVER

the

GREAT RIVERS GREENWAY DISTRICT

the

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

the

ILLINOIS NATURE PRESERVE COMMISSION

the

ST. LOUIS METROPOLITAN SEWER DISTRICT

the

MISSOURI BOTANICAL GARDEN

the

MISSOURI DEPARTMENT OF CONSERVATION

the

MISSOURI DEPARTMENT OF NATURAL RESOURCES

the

THE NATURE CONSERVANCY

the

SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE

the

SOUTHWESTERN ILLINOIS RESOURCE CONSERVATION &DEVELOPMENT

DRAFT

STATE OF MISSOURI, DEPARTMENT OF TRANSPORTATION

the

U.S. ARMY CORPS OF ENGINEERS

the

USDA NATURAL RESOURCES CONSERVATION SERVICE – ILLINOIS

the

USDA NATURAL RESOURCES CONSERVATION SERVICE – MISSOURI

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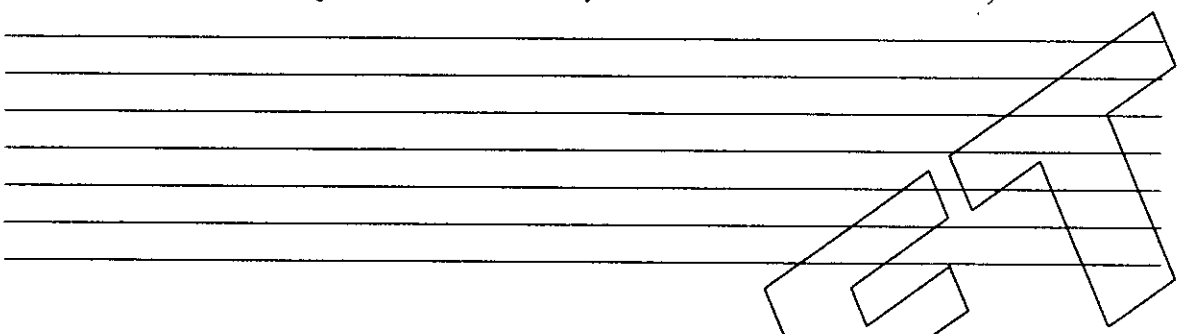
DRAFT

THIS MEMORANDUM OF UNDERSTANDING (MOU) is hereby entered into by and among the

(Write out list of all the partners and how they will be referred to hereinafter)



A. PURPOSE:

The purpose of this Memorandum of Understanding (MOU) is to establish a mutually agreeable framework for cooperatively addressing the short and long-term effects of invasive weeds across jurisdictional boundaries, including state boundaries, within the Gateway Cooperative Weed Management Area (CWMA).

B. STATEMENT OF MUTUAL INTERESTS AND BENEFITS:

All parties to the MOU agree that it is to their mutual interest and benefit to work cooperatively to educate, train, and share technology and resources with agency and general public personnel about invasive weeds and to work cooperatively to seek funding to address the invasive weed problems in the area. All parties also agree it is to their mutual benefit to work cooperatively in inventorying, monitoring, controlling, and preventing the spread of invasive weeds in the Gateway CWMA.

C. ALL PARTIES SHALL:

1. Provide a representative from each signing party to represent their interests in the Gateway CWMA.

2. At a future time, adopt a set of operating bylaws as to the structure of the group and how it will function in order to cooperatively managing invasive weeds across all jurisdictional boundaries in the Gateway CWMA.

3. Work to establish an Integrated Invasive Weed Management Plan which will describe the goals and objectives for the weed management area and which will be the guiding document for the cooperative management of invasive weeds in the Gateway CWMA.

4. Work to establish and define the boundaries of the Gateway CWMA for the purpose of cooperatively managing invasive weeds. The area boundaries will be defined on a map and will be made part of an Integrated Invasive Weed Management Plan.

5. Annually coordinate weed management activities based on the framework items mentioned above (i.e. items 2, 3 and 4). Agreed upon weed management activities will be documented each year in an Annual Operating Plan. These management activities will implement the Integrated Invasive Weed Management Plan.

6. Produce an Annual Report which will include a summary of the previous year's activities.

D. THE SOUTHWESTERN ILLINOIS RC&D, INC. WILL:

1. Serve as a fiscal agent for the Gateway CWMA, including:
   a. Overseeing funds, including donations, grants, registration fees, etc. obtained by the Gateway CWMA for the purpose of cooperatively addressing the short and long term effects of invasive plants within the jurisdictional boundaries of the Gateway CWMA.
   b. Provide a quarterly Balance Sheet and Statement of Revenues and Expenses related to all funds overseen on behalf of the Gateway CWMA.
   c. Provide a copy of the organization's annual independent audit report.
   d. Provide to the donor, in the event of a charitable donation, a letter acknowledging the donation, including recognition of the gift to a charitable organization as per IRS guidelines.
   e. Following recommendation from the Steering Committee, disperse funds in compliance with any special granting or designated giving requirements.

2. Serve as a technical advisor for fundraising, including:
   a. Provide technical review of grant applications that support the purpose of cooperatively addressing the short and long term effects of invasive plants within the jurisdictional boundaries of the Gateway CWMA.
   b. Act as a flow-through conduit for grants that require that the application be submitted through a 501 C 3 corporation.
   c. With information provided by the Gateway CWMA, prepare and supply progress reports to the funders in a timely manner.
   d. Assist the Gateway CWMA in locating potential sources of funds through GRANTSSTATION.

3. Serve as administrator in a in-kind capacity for up to one year, including:
   a. Maintain database of Gateway CWMA contacts
   b. Develop meeting notices, agendas, minutes
   c. Plan for and implement special events

4. Rates
   a. Fiscal Agent

DRAFT

1. 10% - grants and donations less than $100,000
2. 5% - grants and donations greater than $100,000

b. Technical Advisor – Fundraising
   1. In-Kind as a component of serving as the fiscal agent

c. Administration
   1. $50.00 per hour after the in-kind period of time

5. No Obligation
   a. Nothing in this section and/or this document obligates an agency or any party of this MOU to obligate, transfer or expend funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the: __LIST ALL SIGNATORIES INVOLVED_____ require execution of separate agreements and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.

E. IT IS MUTUALLY AGREED AND UNDERSTOOD BY ALL PARTIES THAT:

1. Termination: Any party within 30 days written notice may terminate this instrument in whole or part at any time before the date of expiration.

2. Pursuant to Section 22, Title 41, United States Code, no member of, or Delegate to, Congress shall be admitted to any share or part of this instrument, or any benefits that may arise therefrom.

3. This instrument in no way restricts the parties from participating in similar activities with other public or private agencies, organizations, and individuals.

4. This MOU is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement, contribution of funds, or transfer of anything of value between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. Specifically, this instrument does not establish authority for noncompetitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

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5. Changes within the scope of this instrument shall be made by the issuance of the bilaterally executed written modification signed by all parties to this MOU.

PRINCIPAL CONTACTS ARE: The principal contacts for this instrument are:

NAME:

ADDRESS:

NAME:

ADDRESS:

THE PARTIES HERETO have executed this agreement:

_____ Date _____

NAME, TITLE, AGENCY

_____ Date _____

NAME, TITLE, AGENCY
etc.....

DRAFT

To: All Land Managers within the Sangamon River Watershed

From: Ben L. Dolbeare, Illinois Dept. Of Natural Resources

Date: November 15, 2006

Subject: Development of a Cooperative Weed Management Area (CWMA) for the Sangamon River Watershed

I am inviting you to an organizational meeting on Tuesday, January 23, 2007, for organizing a CWMA for the Sangamon River Watershed. We will meet in the Illinois Department of Natural Resources building located in the Illinois State Fairgrounds in Springfield, Illinois.

Cooperative weed management is not a new concept. State, federal and private land managers have worked together to combat invasive plants for years, but often the scale of the cooperative effort is confined by political or land ownership boundaries. As anyone who has grappled with invasive plants can tell you, invasive plants know no boundaries. Even the diligent, intensive control efforts of land managers won't be successful in the long run, if invasive plants can find refuge on a neighboring property. Despite major inputs of time and resources in controlling invasive plants, these species continue to spread.

CWMA's are a new approach to collectively combat common invasive plant problems. CWMA's are local organizations that integrate all invasive plant management resources across jurisdictional boundaries in order to benefit entire communities. CWMA's are led by a steering committee, are formally organized under agreement and facilitate cooperation and coordination between agencies. CWMA's are involved in education, early detection and rapid response, monitoring and integrated pest management of invasive plants. Members of CWMA's include land owners, local citizens, not-for-profit groups and city, county, state and federal officials.

The initial concerns of the group could include establishing a procedure for early detection and rapid response for new invasive plants such as giant hogweed or leafy spurge and establishing a list of the four or five most problematic species of invasive plants already established in the Sangamon River Watershed.

The Sangamon River Watershed CWMA includes all those counties whose

geographical boundaries include a portion of the Sangamon River Watershed and those counties are Cass, Champaign, Christian, Dewitt, Ford, Logan, McLean, Macon, Macoupin, Mason, Menard, Montgomery, Morgan, Piatt, Sangamon and Shelby Counties.

A detailed Agenda with directions to the meeting site will be sent to you later in December.

Sangamon River Watershed Cooperative Weed Management Area (CWMA)
Fact Sheet

What is a CWMA

A local organization that integrates invasive species management resources across jurisdictional boundaries in order to benefit entire communities.

Partnering

All major land management entities: federal, state, county, local municipalities, nonprofit & private landowners, public utilities, transportation departments, and local citizens.

Purpose

Facilitatye cooperation amon land managers, land owners, and other participating entities to manage invasive plants with the designated area.

What do CWMA's do?

Focus efforts on:

- Education and awareness
- Prevention
- Early detection and rapid response
- Monitoring and evaluating
- Integrated weed management practices

How do CWMA's work?

Various stakeholders come together and form a local weed management organization and to determine common goals.

They organize under a written agreement (MOU) to help facilitate cooperation across jurisdictional boundaries and eliminate administrative barriers.

The group establishes a steering committee to represent all of the partners.

They develop a strategic management plan that defines the CWMA's objectives and priorities; these plans are often desired by partners and required by grantors.

Advantages of Forming a CWMA.

1. Can address problem species across boundaries
2. Allow partners to share and leverage resources.
3. Builds community awareness and participation.
4. Establishes priorities and presents a united effort to state and federal legislatures.
5. Provides an early detection and rapid response network.
6. Provides an advantage over single entities in seeking and securing funding.

Sangamon River CWMA Counties

1. Cass
2. Champaign
3. Christian
4. Dewitt
5. Ford
6. Logan
7. McLean
8. Macon
9. Macoupin
10. Mason
11. Menard
12. Montgomery
13. Morgan
14. Piatt
15. Sangamon
16. Shelby

AGENDA - 1ST Sangamon River CWMA Meeting

10:00 AM

January 23, 2007

IDNR Building; Springfield, Illinois

1. Introductions
2. What are CWMA's and why are they beneficial to you.
3. Boundary of the Sangamon River CWMA Discussion.
4. Invasive Plants of Highest Concern.
5. What are your major concerns and problems with Invasive Plants.
6. Who should be included as stakeholders in the next meeting?
7. Explanation of the Memorandum of Understanding (MOU).
8. Next Meeting date and location.

Informal Minutes of the 1st meeting of the Sangamon River Watershed CWMA

Date of the Meeting: January 23, 2007

1. We opened the meeting with all attending announcing their name and affiliation along with their employer.

2. I then discussed CWMA's in regard to what they are and why they would be beneficial to those present.

3. We then listed those invasive plants of highest concern for those present. The species listed were: Honeysuckles, Poison hemlock, Multiflora Rose, Garlic Mustard, Autumn Olive, Crown Vetch, Yellow and Purple Nutsedge, Teasel, Reed Canary Grass, Phragmites, Canada Thistle, Musk Thistle, Yellow and White Sweet Clover, Purple Loosestrife, Kudzu and Buckthorn. One of our first tasks will be to narrow this list down to 5 species or less.

4. We briefly discussed the land area that should be included and who else should be invited to the next meeting.

5. We set the next meeting for February 27 at 1:30 PM.

To: All Individuals within the Sangamon River Watershed with concerns of control, management, eradication, detection, dangers , etc. of invasive, exotic plants, and noxious weeds within the watershed.

The next meeting of the Sangamon River Cooperative Weed Management Area (CWMA) will be

1:30 - 3:00 PM
February 27, 2007
University of Illinois Extension Building

(On the Illinois State Fairgrounds - About 0.1 mile south of the IDNR building on the west side of the street and about 0.4 mile north of the Illinois Department of Agriculture building) Springfield, Illinois.

A detailed agenda will be emailed to you either later this afternoon or early tomorrow morning. Therefore, please email me soon if you have any items you want added to the agenda for next week's meeting.

The agenda is attached in both Word Perfect and Microsoft Word; please contact me if you cannot open either.

AGENDA - 2nd Sangamon River CWMA Meeting

1:30 PM

February 27, 2007

University of Illinois Extension Building

(On the Illinois State Fairgrounds - About 0.1 mile south of the IDNR building on the west side of the street and about 0.4 mile north of the Illinois Department of Agriculture building)

Springfield, Illinois

1. Introductions

2. Official adoption of a name for this CWMA; I have been calling it the Sangamon River Watershed CWMA and that might be the best name for it.

3. Review of the first meeting of January 23, 2007.

4. IIPSC - Illinois Invasive Plant Species Council.

5. Noxious weeds vs invasive weeds vs exotic plants - which of these do we deal with.

6. Establish the Boundary of the Sangamon River CWMA. We discussed this briefly at the last meeting.

7. Invasive Plants and/or noxious weeds of Highest Concern - finalize our list of highest concerns.

8. New major concerns and problems with Invasive Plants from the participants in addition to those I have brought up.

9. Explanation of the Memorandum of Understanding (MOU).

10. Next Meeting date and location.

Minutes - 2nd Meeting
Sangamon River Watershed CWMA
February 27, 2007

Chairperson Ben L. Dolbeare opened the meeting by distributing copies of the agenda and a CWMA fact sheet followed by all attendees introducing themselves and explaining their affiliation.

We formally adopted the name of "**Sangamon River Watershed CWMA**" for the group.

We discussed noxious weeds vs exotic plants vs invasive weeds. It was decided that I should contact Warren Goetsch of IDOA for all noxious weed problems and work toward a solution with him. We decided to concentrate on a select number of invasive plant species as our species of highest concern after considerable discussion. Those species are: Garlic Mustard, Bush Honeysuckle, Poison Hemlock, Crown Vetch, Teasel and Phragmites.

We decided our area should be only the Sangamon River watershed and we would include only those townships located within the watershed for each county.

The draft form of the MOU for the Gateway CWMA was distributed for members to examine before the next meeting at which time we will discuss the MOU in detail.

Nest Meeting: 9:30 AM
Decatur, Illinois (exact location to be determined)
Wednesday, April 4, 2007

To: All IDNR Land Managers within the Sangamon River Watershed

From: Ben L. Dolbeare

Date: March 5, 2007

Subject: Sangamon River Watershed Cooperative Weed Management Area

I would like to invite each of you to attend the next Sangamon River Watershed CWMA meeting to be held April 4, 2007, at 9:30 AM in Decatur with the specific location to be announced later. The Decatur location was chosen since most of the people attending are from east of Springfield.

One of the values of successful CWMA's is control/management/eradication of problem exotic invasive species on land adjacent to our natural areas to the extent that such species are less likely to re-invade the natural areas you are managing.

This becomes much more plausible if we know which invasive plant species fall into this category for the natural areas you are managing. Members of various agricultural organizations such as the Farm Bureau and landscapers from IDOT have attended the first two meeting of this CWMA and they are willing to work with us if you also demonstrate a willingness to work with them by sharing your expertise and experience.

We chose a list of invasive plants of highest concern at our last meeting; however, you may feel that we have not included the species of highest concern in your area. If that is the case, please forward such information to me if you cannot attend the next meeting. This list of invasive species of highest concern is in the attached minutes and is the best we could do without the input of IDNR field biologists.

AGENDA - 3rd Sangamon River CWMA Meeting

9:30 AM

April 4, 2007

1. Introductions

2. Review of the second meeting of February 27, 2007

3. IIPSC - Illinois Invasive Plant Species Council.

4. Noxious weeds vs invasive weeds vs exotic plants - which of these do we deal with.

5. Establish the Boundary of the Sangamon River CWMA. We discussed this briefly at the last meeting.

6. Invasive Plants and/or noxious weeds of Highest Concern - finalize our list of highest concerns.

7. New major concerns and problems with Invasive Plants from the participants in addition to those I have brought up.

8. Explanation of the Memorandum of Understanding (MOU).

9. Next Meeting date and location.

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Dear Abby • **Page 20**
At Home • **Page 22**

OUTDOORS

THE STATE JOURNAL-REGISTER • SPRINGFIELD, ILLINOIS

Bush honeysuckle creates a green wall beneath trees at Washington Park. Invasive plant species like bush honeysuckle shade out natives and compete for sunlight and nutrients.

invaders

Targets set on invasive plant species

Just over the creek and up the hill from where joggers, dog-walkers and bicyclists are enjoying a warm spring day, an epic battle is shaping up in Washington Park.

All winter, soldiers in the war were clearing bush honeysuckle and spraying winter creeper in an attempt to restore the natural character of a patch of the park's woods. Washington Park, like nearly all of Illinois, is under assault from invasive species of plants that crowd out native wildflowers and shade out sprouting oak trees.

And volunteer groups such as Friends of the Sangamon Valley often are on the front lines pushing back the invaders, especially in tight budget times when governments have little money to hire crews to cut brush.

The work is backbreaking, time-consuming and sometimes disheartening. This week, wildflowers like bloodroot, trout lily and bellwort appeared in the cleared areas. But just over the hill, honeysuckle bushes create a solid phalanx of green beneath the trees.

And new invasive plants are sure to be on the way.

In an attempt to anticipate future problem plants and develop a rapid response to introductions that could prove harmful, the Illinois Department of Natural Resources has created the Invasive Plant Species Council. Comprising the council are natural areas specialists, members of the nursery trade, nonprofit conservation groups and state and local government representatives.

"My goal is to slow down and stop problems in the future," says Ben Dolbeare, who is coordinating the council for DNR.

The group met April 7 at DNR to define its mission and hash out priorities.

Efforts to combat invasive plants are complicated because it is hard to predict which plants may cause a problem. A plant may seem benign for a 10- to 20-year period before becoming invasive.

"Then all of a sudden it explodes

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"My goal is to slow down and stop problems in the future," says Ben Dolbeare, who is coordinating the council for DNR.

The group met April 7 at DNR to define its mission and hash out priorities.

Efforts to combat invasive plants are complicated because it is hard to predict which plants may cause a problem. A plant may seem benign for a 10- to 20-year period before becoming invasive.

"Then all of a sudden it explodes and it's everywhere," says John Ebinger, a retired botany professor from Eastern Illinois University. Ebinger sits on the Illinois Endangered Species Protection Board and is

See **INVADERS** on page 16

Trout lilies and other spring wildflowers start to appear in a wooded section of Washington Park that was cleared of invasive bush honeysuckle last winter.

George Rose of Friends of the Sangamon Valley coordinated the efforts of volunteers that cleared invasive bush honeysuckle from a wooded section of Washington Park last winter.

Illinois Invasive Plant Species Council

The Illinois Invasive Plant Species Council includes a board made up of seven representatives of commercial interests and seven representatives involved in restoring natural areas. Ben Dolbeare, conservation coordinator for the Illinois Department of Natural Resources, chairs the group.

Recommendations are made to the Aquatic and Terrestrial Nuisance Species Task Force chaired by Mike Conlin, director of/DNR's Office of Resource Conservation. Recommendations go from there to the DNR director for approval.

Dolbeare says in case of tie votes, the task force will make a final determination.

For more information, e-mail Ben Dolbeare at

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Ornithologist Vern Kleen will lead birding hikes on the hill April 29. Meet at Miss Jessie's Gallery at 7:30 a.m. or 12:45 p.m.

Reservations are required for each outing. The cost is $5 per person. Dress for the weather and bring insect repellent. Call 947-2238.

Sangchris Lake

Tuesday tournaments start this week

Tuesday Night Bass Tournament at Sangchris Lake gets under way this week.

Tournaments will be held each Tuesday night, except July 4, starting at 5:30 p.m. with boats required to check-in by 5:15 p.m. Tournaments launch from the East Boat Dock. The fee is $20 per team.

Dickson Mounds Museum

Federal Migratory Bird Stamp Exhibit slated

The Federal Migratory Bird Stamp Exhibit, featuring all 22 pieces of original artwork from the 2005 contest, will be on display at Dickson Mounds Museum near Lewistown starting Thursday and continuing through May 14.

Also on display will be a reproduction of the winning stamp depicting a Ross's Goose. A reception for the exhibit is planned from 4 to 5 p.m. May 13 in recognition of International Migratory Bird Day.

Springfield Crappie Club

Free campsites offered on May 12

The Springfield Crappie Club will hold an open buddy tournament from 7 a.m. to 2:30 p.m. April 22 starting from the Homeport Marina on Clinton Lake.

The entry fee is $50 per boat, with an additional $5 boat-launch fee and an optional $5 to enter the competition for "big crappie." For complete rules and an entry form, visit www.springfieldcrappieclub.com.

Meredosia River Museum

Trip planned to Meredosia Island

The Meredosia River Museum is sponsoring a day trip to Meredosia Island on April 29 focusing on cultural and natural history. Participants should be able to view an active bald eagle nest.

The cost is $20 for adults. Students are free. Children 12 and younger must be accompanied by an adult. The trip will start at the River Museum at 8:30 a.m. and return to the museum at 4:30 p.m. Lunch is included in the cost. Reservations are due by April 26. Call 645-3235 or 584-1356. The rain date is May 20.

Illinois State Museum

Birding workshop to be held May 6

Kevin Veara will lead a birding workshop May 6 to benefit Friends of the Sangamon Valley. The day will begin at 8:30 a.m. at the Illinois State Museum, where participants will tour the display "Birds of Illinois" before heading to Carpenter Park state nature preserve for a session in the field.

The workshop fee is $25. Participation is limited and advance registration is required. Call Charlene Falco or Vern LaGesse at 525-1410. Workshop fees help fund Friends of the Sangamon Valley restoration projects.

Illinois Conservation Foundation

Governor's Cup Shooting Challenge set

The Illinois Conservation Foundation will hold its sixth annual Governor's Cup Shooting Challenge on April 28 and 29 at Faller's Sporting Clays, located west of Butler in Montgomery County.

Shooters will compete for the Illinois Governor's Cup title and cash prizes, including a guaranteed $750 for high overall score in this NSCA-registered classified shoot. The competition also includes a "Hunter Class" with cash prizes for Lewis Class winners.

For more information and registration, call 557-1395.

Department of Natural Resources

Deadline nears for deer permit drawing

The deadline to apply for the first lottery drawing for 2006 firearm deer permits and muzzleloader-only deer permits is April 28. Resident hunters can apply in both the firearm and muzzleloader-only lotteries.

Visit http://dnr.state.il.us and click on the "Hunting" button to apply, using a credit card, or print and mail the application form with the permit fee. Forms have been mailed to previous permit holders.

The 2006 firearm seasons are Nov. 17-19 and Nov. 30-Dec. 3. The 2006 muzzleloader-only season is Dec. 8-10.

Lake Jacksonville

Motter, Ditel win bass tournament

Jeff Motter and Jim Ditel won the Jacksonville Rotary Bass Tournament held on Lake Jacksonville April 9 with a total weight of 26.19 pounds.

Owen McGlasson and Dan Stuart were second with 22.22 pounds. Third place went to Kerry Trueblood and Tony Karrick with 22.07 pounds.

Forty participating teams caught 163 fish for a total weight of 565.63 pounds. McGlasson and Stuart caught a 7.11-pound bass for big bass honors.

To place an item in Outdoor Briefs, contact Chris Young at The State Journal-Register, P.O. Box 219, Springfield, IL 62705, phone 788-1528, fax 788-1551 or e-mail chris.young@sj-r.com.

and banks is pulling them in an entirely different direction.

minnows. Largemouth action is excellent. Anglers are taking

the numbers biting are high. ★★★+

Grove Fish Bait and Tc

INVADERS

From page 15

part of the new council as well.

And once established, invasive plants are nearly impossible to eradicate.

"Once it's here, it's here, and it is going to be a problem forever," Ebinger says.

Only a fraction of plants introduced from other parts of the world become invasive, meaning they crowd out natives causing potential ecological and economic harm.

And they have arrived by a variety of means.

Early settlers brought plants to remind them of home. Others have been introduced because of some perceived benefit to wildlife. Others have escaped from gardens when birds spread their seeds to natural areas.

Often, the nursery trade is blamed for selling plants that become invasive, but as council members learned at the meeting, there was plenty of blame to go around.

Shrubs like autumn olive and Russian olive were widely planted to benefit wildlife, and many of those plants were grown at the request of government 30-40 years ago.

"The private sector grew these, but it's kind of interesting to hear that it was actually (requested) by the state a number of years ago," says Carsten Hoffmeyer, president of Hoffie Nursery Inc. in Union.

Wildlife managers, agronomists and other trusted sources recommended plants that eventually became harmful.

A pamphlet published by the University of Illinois in 1945 explained how to establish kudzu in Illinois.

Ironically, the brochure says agronomists had a hard time getting kudzu to survive for more than a couple of years. It is now known to be growing in more than 30 counties where it can literally smother native vegetation with its rapid growth.

Dolbeare says education is another duty of the new council.

"Most teachers got their training before we knew these plants were a problem," he says, noting that invasive species are the second-leading threat to endangered species after habitat loss.

Educating the public is a challenge, too. Many invasive plants have been around long enough that people now view them, and their altered environments, as natural.

Bill McClain, a retired DNR natural heritage biologist, said some people simply wouldn't understand what the fuss is about.

"For a lot of people, they don't care because things are green, and they don't care about anything else," he says.

While the council discusses ways to keep invaders out, small, outnumbered armies around the state continue the fight to keep invasive plants from overrunning remaining natural areas.

George Rose, who has been coordinating the Washington Park restoration for the Friends of the Sangamon Valley, says it is encouraging to see wildflowers sprouting this week.

"I don't know if this is cause and effect, but it could be," he says. "They might have been suppressed with the honeysuckle there, and surely, they would have been less visible.

"It is certainly nice to see."

McClain says it is crucial that the council be successful. Previous efforts have not survived over the long term.

"They just seemed to stop and sputter and somehow this has got to keep going and gain some momentum," McClain says. "It can't falter."

One change this time is the inclusion of private industry.

"I feel like both sides are really cooperating," Dolbeare says.

Hoffmeyer said nursery representatives at first were concerned with how the council would define invasive.

"If (a plant) is determined to be invasive, what do you replace it with?" he asks. "Do you replace it with a native? A lot of native plants can be more invasive than some of the plants that can be seen on the list of exotic weeds."

Hoffmeyer says it was important to the nursery trade that the definition includes all invasive plants, not just non-natives.

"That was a huge accomplishment," he says. "We feel good about it."

Ebinger says that the council can't do its job without private industry's involvement.

"We can't do it without them," he says.

Back on the silent battlefield in Washington Park, the offensive against invaders has temporarily halted so teams of volunteers don't trample the emerging wildflowers they are trying to protect.

Just to get this far, Rose says about 80 volunteer hours over four workdays this winter were needed to clear one hillside of bush honeysuckle.

The shrub is especially frustrating to eliminate since it spreads easily when birds eat the berries and deposit seeds with their droppings.

But despite the seemingly unending task, Rose says the early positive results likely will energize volunteers.

"There's more to do, but little by little. . . ."

Chris Young can be reached at 788-1528 or chris.young@sj-r.com.

Act outlaws the sale of 10 invasive plants

The Illinois Exotic Weed Act makes it illegal to sell 10 invasive plants or any variety, subspecies or cultivars of them in Illinois:

- Japanese honeysuckle (Lonicera japonica)
- Multiflora rose (Rosa multiflora)
- Purple loosestrife (Lythrum salicaria)
- Common buckthorn (Rhamnus cathartica)
- Glossy buckthorn (Rhamnus frangula)
- Saw-toothed buckthorn (Rhamnus arguta)
- Dahurian buckthorn (Rhamnus davurica)
- Japanese buckthorn (Rhamnus japonica)
- Chinese buckthorn ((Rhamnus utilis)
- Kudzu (Pueraria lobata)

Sgt. Tim Sickmeyer, acting chief of the Division of Investigations for the Illinois Department of Natural Resources says most nurseries and "big box" stores have been informed that plants on the exotic weed list aren't to be sold.

"If we are contacted about someone selling prohibited plants, we are going to take action," he says. Violators likely will receive a ticket upon first offense.

Conservation Police officers normally handle about a dozen complaints a year, but Sickmeyer expects that to increase as word gets out.

Anyone with a complaint about the possible sale of illegal plants can contact the Target Illinois Poachers hot line at (877) 236-7529.

The Illinois Exotic Weed Act should not be confused with the Illinois Noxious Weed Law that deals with the control of agricultural weeds like Canada thistle, common ragweed, giant ragweed, marijuana, musk thistle, perennial members of the sorghum genus and perennial sow thistle.

The Illinois Invasive Plant Species Council deals with plants most likely to harm natural areas. The Illinois Department of Natural Resources has ranked 1,200 species of exotic plants in the state according to their potential to be invasive. The list includes 47 species that are ranked as posing a "severe threat" and 19 species as posing a "significant threat."

Weed gone

There are appr plant species i of those are n the present tir are growing in my ya well. The Chicago Bo an invasive plant as " species that is able to a native plant commu threat to the plant co inition, my yard coul species — except for plants we call weeds delions are not an inv On the other hand, b sive plant list. When I don't care enough a tle to win the war. Gr or not, when they are look the same from a tance.

It's been said weed are merely plants gro ing in inappropriate places. The person w hatched that notion r have marveled at a marigold sprouting u pectedly in a window box. I've spent severa August days in the pa ture with a dull spade sharp orders to dig ou every Canada and bu thistle from here to L days of non-chemical cation, any philosoph on weeds will disapp

Several invasive sp cultivated plants. Gar loosestrife, buckthorn nemesis, multiflora ro tivity and are running scape. Anywhere the spot in the timber wh multiflora rose will be My cousin, Lloyd, cal His terminology mak anyone who has tried though a patch of thor hook thorns. Only sh full protection.

Like its invasive co trife and buckthorn, r eliminated by digging provided you get all o tion is to whack it off paint the stubs with h more than once. Elim rose is prickly busine

Many invasive plan seeds and berries tha more than happy to s mustard plant genera seeds that can lay do before they germinat a mean streak. One o that plants with the g upset the natural bal are the most opportu fastest and are the ha spot ever fills in with growing there. In my sive plants, sweet clo and bull nettles are d sistant. They thrive ir laugh at herbicides, c plants and they sprea news.

George Little is an ou Springfield. Send lett Journal-Register, P.O. IL 62705-0219 or e-m com.

New Invaders Watch List

An Early Detection and Rapid Response Network to Limit the Spread of New Invasive Exotic Species in Illinois

Preventing the spread of new, exotic invasive species is a critical step toward controlling a major threat to the health of our natural ecosystems.

The Nature Conservancy

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

LAKE COUNTY FOREST PRESERVES

ILLINOIS NATURAL HISTORY SURVEY

"On a global basis...the two greatest threats to biodiversity are, habitat destruction and invasion by exotic species"
- E.O. Wilson

In a report published in 2005, the economic costs associated with exotic species in the United States is estimated at over $120 billion/year. (Ecological Economics (52):273–288).

In Illinois, it is estimated that we will spend over $90 million to eradicate the Asian long-horned beetle, and so far we have spent over $9.6 million to keep exotic Asian carp out of Lake Michigan.

If you find a new invader(s):

- Collect and press a good specimen and/or take a photo(s) of key characteristics.
- Collect important data on species location, abundance, and habitat (see Web site, **http://ctap.inhs.uiuc.edu/newinvaders/home.aspx**)
for a list of important data to be collected.
- Visit our Web site, **http://ctap.inhs.uiuc.edu/newinvaders/home.aspx**, and click on "Report a New Exotic Invader." You will be instructed to fill out a reporting form and to attach your photo(s) and/or to mail your specimen, where it will be verified by the Illinois Natural History Survey.

***PERMISSION IS REQUIRED FROM THE LANDOWNER BEFORE YOU LOOK FOR INVADERS ON PRIVATE PROPERTY.**

Funding for this project has been provided by:

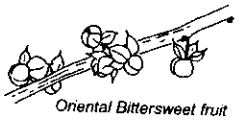
dq

CHICAGO WILDERNESS

Oriental Bittersweet, *Celastrus orbiculatus* (*C. orbiculata*)

- **Perennial, woody**, climbing **vine** (left photo), often sprawling over nearbly vegetation. Flowers from May to June, fruits in fall.
- **Leaves** alternate, dark green, serrated, and round (upper right) (although young leaves may be narrower, like American Bittersweet).
- **Fruits** greenish yellow to tan when ripe, grow on short stalks in groups of 2–3 from leaf axils along the stem and branches (see left drawing).
- **Seeds** are surrounded by a bright red fleshy coating that breaks open to expose the seed (lower right photo).
- Threatens most upland community types and well-drained floodplain and riparian corridors, grows in open and shaded areas.

- NATIVE LOOK-ALIKES: **American Bittersweet** (*C. scandens*) grows 3 fruits terminally, on the ends of the stem and braches (see right drawing). Leaves about twice as long as wide (easily confused with *C. orbiculatus*). Oriental Bittersweet is reported to hybridize with American Bittersweet.



Oriental Bittersweet fruit

American Bittersweet fruit

Photo Credits: Left and lower right–James H. Miller, USDA Forest Service; Upper right–Jody Shimp, Illinois Department of Natural Resources. Illustrations by Carie Nixon, Illinois Natural History Survey.

Spotted Knapweed, *Centaurea maculosa* (*C. biebersteinii*)

- **Biennial herb**; 1st year plants form a low-growing rosette of leaves (see left drawing) (plant may remain in rosette stage for >1 yr on extreme sites), 2nd year plants form taller, leafy stems and bloom from early July to September.
- **Stems** form 1–20 wiry, hoary branches.
- **Leaves** grayish, hoary, deeply cut (pinnadifid) with narrow lobes.
- **Flowers** thistlelike, pink to purple, base of flower surrounded by stiff, black-tipped bracts (phyllaries), which give the flower a "spotted" appearance (lower left photo and right drawing).
- Threatens savannas and prairies, especially on dry sandy or gravelly soils and often grows in disturbed sites, such as railroads, roadways, trails, old fields.

- NATIVE LOOK-ALIKES: None

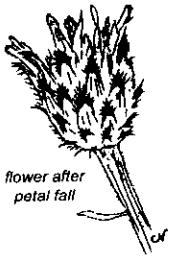


Photo Credits: Background photo–University of Idaho Archives, University of Idaho; Lower left–Norman E. Rees, USDA ARS. Illustrations by Carie Nixon, Illinois Natural History Survey.

Chinese Yam, Cinnamon Vine, Air Potato, *Dioscorea oppositifolia* (*D. batatas*)

- **Perennial**, high climbing, **herbaceous vine**; blooms in summer and produces bulbils (small potatolike tubers, see lower) in fall.
- **Stem** grows from large rootlike tubers and twines clockwise.
- **Leaves** arrowhead-shaped and deeply lobed at the base (hastate-sagittate), arrangement on stem variable; new leaves often bronze colored, mature leaves have reddish purple leaf margins (upper left).
- **Flowers** small and white (green to yellow) with a cinnamon fragrance.
- **Bulbils** produced in the leaf axils (upper right).
- Threatens floodplain and upland forests, riparian corridors, savannas, drainage ways; grows in full sun to full shade.

- NATIVE LOOK-ALIKES: **Wild Yam** (*D. villosa*) leaves are heart-shaped and alternate, twines counter clockwise, and does not produce bulbils. **Green Briars** (*Smilax* sp.) often woody with tendrils and flowers clustered into a flat-topped, umbrella-shaped inflorescence, many species have spines.

Photo Credits: Upper left–James H. Miller, USDA Forest Service; Upper right and lower–Jody Shimp, Illinois Department of Natural Resources

Leafy Spurge, *Euphorbia esula*

- **Perennial herb**, yellow flower bracts are visible from May to mid-June, seeds in July.
- **Stem** erect, 27–35 inches tall, branching, and contains a milky sap.
- **Leaves** alternate, narrow lanceolate-oblong with pointy tips, smooth, not hairy, and contain milky sap.
- **Flowers** inconspicuous, borne by paired, yellowish green, cup-shaped bracts, paired bracts are in clusters of 7–10 at the top of stem branches (upper).
- **Seeds** contained in a conspicuous structure that hangs from the center of the paired bracts (see drawing).
- Threatens prairies, savannas, pastures; moist-dry soils, grows in partial to full sun.

- NATIVE LOOK-A-LIKES: **Flowering Spurge** (*E. corollata*) has white bracts. **Seaside Spurge** (*E. polygonifolia*) has opposite to sub-opposite leaves and grows along the sand surface.

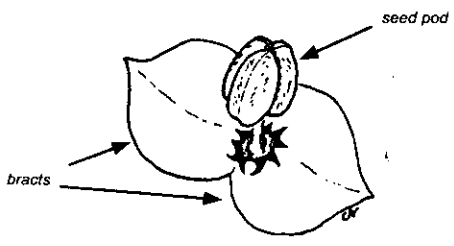
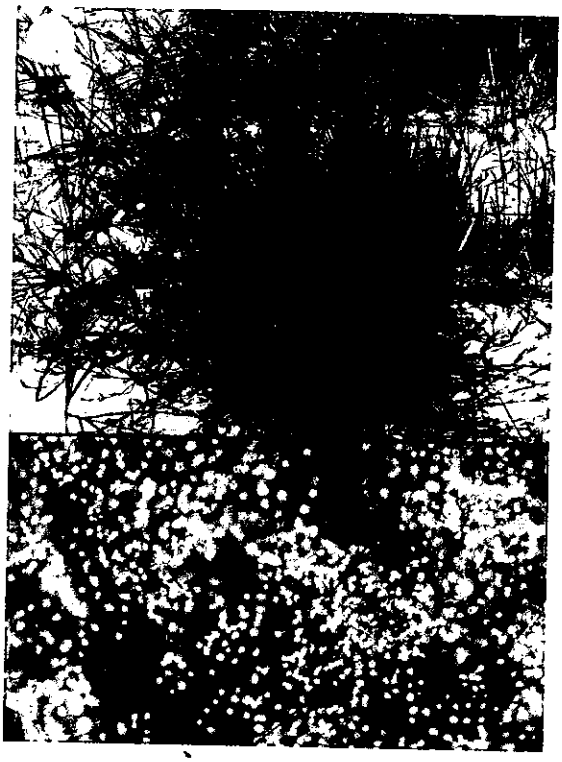


Photo Credits: Norman E. Rees, USDA ARS. Illustration by Carie Nixon, Illinois Natural History Survey.



Baby's Breath, *Gypsophila* sp.

- **Perennial herb**, flowers in June (may not flower in first year), fruits in mid-July.
- **Stems** numerous, slender, smooth, delicate, grow 1–3 feet tall, and are openly branching (upper).
- **Leaves** opposite, 1–6 inches long with prominent mid-vein, hairless, with or without a clasping band of tissue around stem.
- **Flowers** tiny, white-pink, button-shaped, and create dense clusters at the tips of branches (lower).
- Threatens beach and dune communities, sand prairies, gravel hill prairies, pastures, roadsides and ditches; grows in full sun.

- NATIVE LOOK-A-LIKES: None

Photo Credits: Walt Loope, Great Lakes Land Center, US Geological Survey.

Japanese Hops, *Humulus japonicus*

- **Herbaceous annual vine**, forms mats, flowers July-September.
- **Stem** very rough, with downward pointing prickles, climbs clockwise to 10 feet.
- **Leaves** opposite and 2–5 inches long with (3) 5–7 deep lobes, main vein on lower leaf surface has coarse, downward pointing hairs; **leaf stalk** length equals or exceeds length of leaf.
- **Flowers** greenish, inconspicuous produced on a branched spike and are inconspicuous. Male and female flowers are on separate plants (lower).
- **Fruiting structure** branched, enclosing mottled, round seed, $^1/_8$ inch in diameter.
- Threatens open woodlands, fields, prairies, riparian corridors.

- NATIVE LOOK-A-LIKES: **Common Hops** (*H. lupulus*), perennial, leaf lobes 0–3 (can be 5), main vein on lower leaf surface have soft hairs. **River Grape** (*Vitis riparia*), **Virginia Creeper** (*Parthenocissus quinquefolia*) and **Bur Cucumber** (*Sicyos angulatus*), leaves are alternate and conspicuous tendrils present.

Photo Credits: David Eagan, Wisconsin Department of Natural Resources.

Giant Hogweed, *Heracleum mantegazzianum*

- Short-lived, **herbaceous perennial**, robust and huge, blooms once then dies.
- Plants remain as rosettes for 3–5 years. **Flowering stem** grows 6–18 feet tall and is reddish purple-blotched (lower right); stem produces hairs with conspicuous swollen bases.
- **Leaves** large, to 1–5 feet wide, divided into three parts, each deeply cut with toothed edges and pointed tips (lower left), **leaf stalks** have course hairs and may be purple blotched.
- **Flowers** white, in broad flat-topped, umbrella-shaped inflorescence composed of 50–150 stalks (rays). Inflorescence can be 2 feet wide.
- Threatens riparian corridors, fens, seeps, moist savannas, and wet prairies; found on roadsides; grows in sunny moist environments.

- **Caution!** Do not handle this species with bare hands or skin. The sap can cause severe blistering when exposed to the sunlight.

- NATIVE LOOK-A-LIKES: **Cow Parsnip** (*H. maximum, lanatum*) rays 15–30, rarely taller than 7 feet. **Angelica** (*Angelica atropurpurea*) inflorescence rounded (hemispherical), leaves twice compound, stems 6–9 feet tall, with purplish coloring, not blotches. **Glade Mallow** (*Napaea dioica*) grows 3–6 feet tall, leaves 4–12 inches long, inflorescence triangular shaped (panicle).

Photo Credits: Upper–Massachusetts Department of Agricultural Resources (MDAR) Trevor Battle (MDAR) IPM-Specialist) pictured; Lower left–Donna R. Ellis, University of Connecticut; Lower right–David Eagan, Wisconsin Department of Natural Resources

Japanese Stilt Grass, *Microstegium vimineum*

- **Annual grass** with a sprawling habit, reproduces by seed and commonly by rooting from the stem, flowering and seed production occurs in late September–October.
- **Stems** may grow to 5 feet tall, but tend to grow 1–3 feet in a branching, matlike manner (upper).
- **Leaves** pale green, narrow, 2–3 inches long, with a pale, silver stripe of reflective hairs down the middle of upper leaf surface, resembles bamboo (lower).
- **Flower** spiklets delicate and paired; one spiklet not on a stalk (sessile), one on a stalk (pedicile) (see left drawing).
- Threatens forested wetlands, floodplain forest, moist woodlands, riparian corridors and disturbed areas; along trails; grows in open to shady areas.

- NATIVE LOOK-A-LIKES: **White Grass** (*Leerzia virginica*) is rough to touch, without reflective hairs on midrib, does not root from the stem, leaves remain green in the fall. **Common Wood Reed** (*Cinna arundinacea*) erect, 3–5 feet tall, leaves twisted at the base, does not root from the stem.

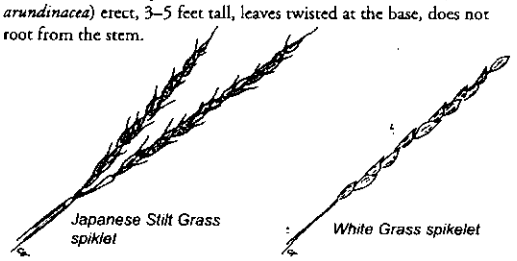


Photo Credits: Kelly Kearns, Wisconsin Department of Natural Resources. Illustrations by Carie Nixon, Illinois Natural History Survey.

Silky Bush Clover, Chinese Lespedeza, *Sericea lespedeza, Lespedeza cuneata* (*L. sericea*)

- **Perennial herb**, forming dense patches, flowers July–October.
- **Stems** leafy, grow 3–6 feet tall, often branching from the middle, stem and branches grayish green with stiff hairs (main photo).
- **Leaves** alternate, divided into 3 smaller leaflets and covered with dense flattened hairs, **leaflets** wedge-shaped, narrowest at the base, broadening to the tip (see drawing).
- **Flowers** solitary or in clusters of 2 to 3 in upper leaf bases, white to cream with purple streaks from the center (lower left).
- Threatens forest openings, prairie, woodlands, savannas, and other open areas.

- NATIVE LOOK-A-LIKES: **Slender Bush Clover** (*L. virginica*), flowers purple-pink in crowded clusters, stems brown, grows in tufted clumps (shaded *L. cuneata* may resemble *L. virginica* in shaded conditions). **Round-headed Bush Clover** (*L. capitata*), flowers grow in dense clusters at the tip of the stem.

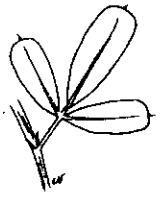


Photo Credits: James H. Miller, USDA Forest Service. Illustration by Carie Nixon, Illinois Natural History Survey.

Japanese Knotweed, Mexican Bamboo, Japanese Bamboo, *Polygonum cuspidatum, Fallopia japonica*

- **Perennial herb**, but develops **shrublike form**, spreads primarily by vegetative reproduction.
- **Stem** branching, grows 3–9 feet tall, reddish-brown, smooth, and swollen at leaf joints.
- **Leaves** 6 inches long, 3–4 inches wide, leaf base straight across to bluntly right-angled, leaf blades ovate to rounded, pointed at tip (upper).
- **Flowers** white-pink, densely crowded on erect or drooping stalks (lower).
- Threatens riparian corridors, fens, springs and transportation corridors; grows in full shade to full sun.

- NATIVE LOOK-A-LIKES: None, native *Polygonum* species are usually less than 3 feet tall, not shrublike.

Photo Credits: Upper–Jil M. Swearingen, USDI National Park Service; Lower–Leslie J. Mehrhoff, Invasive Plant Atlas of New England, University of Connecticut.

Japanese Silvergrass, Chinese Silvergrass, *Miscanthus sinensis* and *M. sacchariflorus.*

- **Perennial**, often tall, reedlike, **grass**, growing in clumps or spreading.
- **Stems** (with flower stalk) grow 3–9 feet tall.
- **Leaves** 11–24 inches long, arching, silver-gray to bluish-green and may have white-cream colored horizontal bands or a white mid-rib.
- **Flowers** clustered on spiklets, several of which form a fan-shaped, hairy, silky, feathery plume (inflorescence), inflorescence is reddish, silvery, white or pinkish, depending on the species, and persists in winter.
- Threatens riparian corridors, wetlands, prairies, savannas, glades and barrens depending on the species.

- NATIVE LOOK-A-LIKES: **Indian Grass** (*Sorgastrum nutans*), inflorescence bronze colored, hairy, but not silky. **Big Bluestem** (*Andropogon gerrardi*), inflorescence hairless or slightly hairy, but not silky.

Photo Credits: Upper: Robert W. Freckmann, University of Wisconsin-Stevens Point and Wisconsin State Herbarium; Lower–James H. Miller, USDA Forest Service.

Mile-a-minute Weed, Devil's Tail Tearthumb, *Polygonum perfoliatum*

- **Annual, herbaceous**, trailing **vine**.
- **Stem** is reddish and delicate with downward pointing barbs (drawing), circular cup-shaped leafy structures (**ocrea**, see lower left photo) surround the stem in intervals, grows to 15 feet tall.
- **Leaves** alternate with barbs beneath, shaped like an equal-sided (equilateral) triangle, leaf bases arrow-shaped to heart-shaped, light green above.
- **Flowers** emerge from ocrea, small, white, and inconspicuous.
- **Fruits** are fleshy berries, pea-sized, and blue.
- Threatens woodland edges, wetlands, riparian corridors and grows in open disturbed areas; requires partial sun.

- NATIVE LOOK-A-LIKES: **Native Tearthumbs** (*P. sagittatum, P. arifolium*) do not have circular, leafy ocrea.

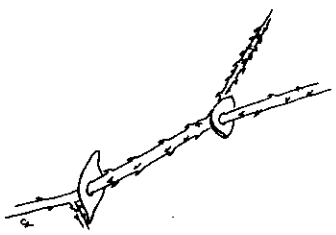
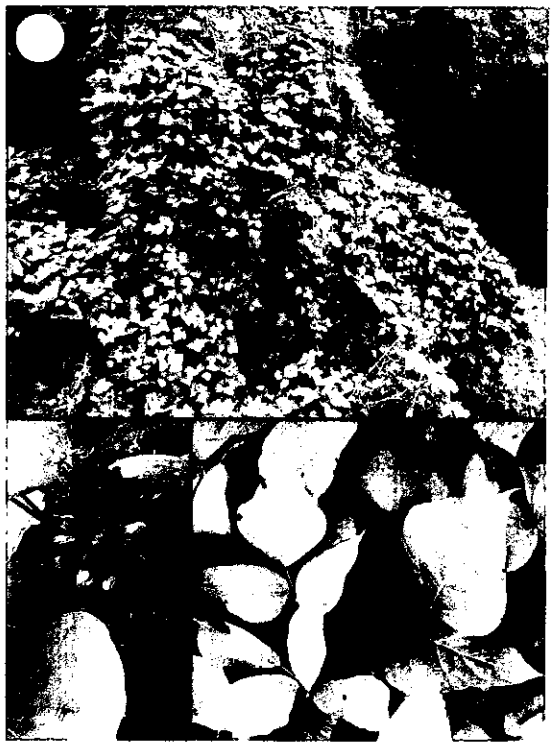


Photo Credits: Background–Britt Slattery, U.S. Fish and Wildlife Service; Lower left–Jil M. Swearingen, USDI National Park Service. Illustration by Carie Nixon, Illinois Natural History Survey.



Kudzu, *Pueraria lobata, (P. montana, P. montana* var. *lobata*)

- **Perennial**, fast growing, semi-woody, twining (or trailing) vine with a strong grape fragrance, generally reproduces vegetatively.
- **Stem** twines 30–90 feet.
- **Leaves** alternate, divided into three broadly ovate leaflets, hairy beneath and on margins; **leaflets**, 2–8 inches wide, on short leaf stalks, lateral leaflets (usually) with 1 lobe, central leaflet with 2 lobes (lower right).
- **Flowers** purple, pealike, and fragrant, growing from leaf axils in long hanging clusters (lower left).
- **Fruits** white to yellowish.
- **Seed** pods flattened and hairy.
- Threatens forest edges, old fields, and also grows in disturbed areas; tolerates wide range of conditions.

- NATIVE LOOK-A-LIKES: **Poison-ivy** (*Toxicodendron radicans*) has abundant roots that grow from the climbing stem, leaflets entire or with few irregular pointed (to rounded) teeth. **Hog Peanut** (*Amphicarpaea bracteata*) leaflets 1–3 inches. **River Grape** (*Vitis riparia*) leaves three-lobed (not divided into leaflets), lobes sharply pointed. **Bur Cucumber** (*Sicyos angulata*) leaves usually three-pointed (not divided into leaflets), herbaceous stems with tendrils.

Photo Credits: Upper and lower right–Michael R. Jeffords, Illinois Natural History Survey; Lower left–Jody Shimp, Illinois Department of Natural Resources.

Bradford Pear, Korean Pear, *Pyrus calleryana*

- Cultivated **tree** that flowers from March to April (one of the earliest flowering trees).
- **Trunk** single then branching, grows 30–90 feet tall. Side branches often grow at upright angle less than 45 degrees parallel to the trunk.
- **Leaves** broadest at the base, hearted shaped to rounded, leaf margins wavy with finely pointed teeth, 2–3 inch across (drawing).
- **Flowers** appear before the leaves in early spring, white, 1 inch across, in clusters (lower right).
- **Fruit** with a core, dark brownish purple, ½ inch diameter, spherical with pale dots on surface.
- Threatens woodlands, savannas, prairies; areas of full sun and well-drained soils.
- NATIVE LOOK-A-LIKES: *Prunus* species have fleshy fruits with a hard interior pit.

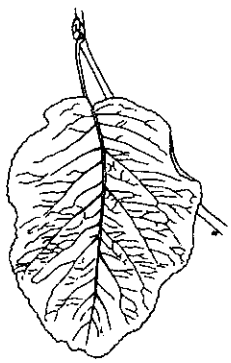


Photo Credits: Dan Tenaglia, www.missouriplants.com. Illustration by Carie Nixon, Illinois Natural History Survey.

Sawtooth Oak, *Quercus acutissima*

- **Tree** with furrowed bark and a pyramidal crown that becomes rounded with age.
- **Trunk** bark ridged and furrowed, dark gray to gray-brown.
- **Leaves** simple and glossy, unlobed, alternate, broadest near the base, tapering to the tip, leaf margins sharply serrate bearing bristle-tipped teeth (lower left); dead leaves hang on tree in winter.
- **Fruits** are acorns (nuts), approx. ½–1 inch long, acorn cap covers ½ of the nut and has scales reflexed to give a bristly appearance (lower right).
- Threatens savannas, prairies, forests, and glades.
- NATIVE LOOK-A-LIKES: **Shingle Oak** (*Q. imbricaria*) leaf margins entire, acorn caps with appressed scales to give a smooth appearance. **American Chestnut** (*Castenea dentata*) fruits mostly round (flattened on one side) each in a bur with sharp spines. **Rock Chestnut-Oak** (*Quercus prinus*) leaf teeth rounded, bark deep furrowed and dark. **Swamp Chestnut-Oak** (*Quercus michauxii*) acorns 1–1.5 inches long, silvery-white to light gray bark.

Photo Credits: Upper–USDA NRCS Archives; Lower left–Ohio Department of Natural Resources; Lower right–David J. Moorhead, The University of Georgia.

Emerald Ash Borer, *Agrilus planipennis*

Identification

- **Larva** is legless, creamy white, flattened, heavily segmented, and with small pincer-like appendages on last segment (lower left).
- **Adult** is a dark metallic green beetle, up to 1/2 inch long and 1/8 inch wide (upper right).

Damage

- Larvae feed beneath bark and create distinct S-shaped **tunnels** which girdle branches and trunks (lower left).
- Heavy larval infestations cause canopy die-back in upper third of tree in first year of attack and tree death within next year or two; dying trees often produce large numbers of shoots or sprouts in lower trunk as upper portion of tree dies.
- Attacks only ash trees, including white, green, and black ash.
- Adults exit though characteristic D-shaped **exit holes**, approximately 1/8 inch in diameter (lower right).
- Adults present from mid-to late May with peak emergence in early July.

Photo Credits: Philip L. Nixon, University of Illinois

Asian Longhorned Beetle, *Anoplophora glabripennis*

Identification

- **Larva** is white, legless, soft-bodied, and up to 3" long.
- **Adult** is a 1–1 1/4" long, stout, shiny black beetle with about 40 white dots. Its antennae are at least as long as the body (lower).

Damage

- Young larvae tunnel under the bark, whereas older larvae tunnel deeper into the trunk and branches (upper left).
- This larval tunneling causes severe dieback of branches.
- Attacks living, healthy maple, elm, ash, horsechestnut, box elder, poplar, willow, mulberry, black locust, black peat, and plum.
- The adult emerges through a round hole 3/8" or larger in diameter (lower).
- Eggs are laid in shallow, tapering, 1/4" diameter round pits in the bark (upper right).

Photo Credits: Philip L. Nixon, University of Illinois.

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Progress toward project objectives includes:

1) Development of a list of high concern invasive plant species already growing in the natural areas of Illinois with the help of several leading botanists from the state. The species on this list, if ignored, will replace the native species resulting in deterioration of habitats of animal species of conservation concern. A second list was compiled of invasive species that are not yet a major problem in Illinois but should be watched carefully so as to prevent them from becoming a big problem. A third list of species growing in nearby states that we think should be quickly eradicated if they should invade wildlife habitat in Illinois was also developed.

2) Planning efforts have included formation of the Illinois Invasive Plant Species Council and the Illinois Invasive Plant Species Board during this project year. The Invasive Plant Species Council is composed of 40-50 people from a variety of fields who have an interest in the environmental and economic aspects of exotic species in Illinois. The Illinois Invasive Plant Species Board is a subset of the Council and is composed of seven members from the green industry, e.g., nursery owner/operators, landscapers, commercial plant growers, and seven restoration specialists, e.g., Illinois Nature Preserve Commission personnel, wildlife managers, and endangered species personnel. It is intended that this group will actively work to encourage nurseries to carefully screen the plant species they sell and look at ways to encourage landowners to use native plant species. We are presently in that early stage of organizing with the selection of our mission statement, goals and/or strategic plan. The establishment of this board is a huge step toward preventing future introductions of new invasive plant species into Illinois with the potential to destroy the habitats of animal species of conservation concern.

3) Information and materials to train personnel who will implement programs for the exclusion, management and control of invasive plant species which have adverse effects on habitats of animal species of conservation concern are in development.

4) Multi-agency planning is being advanced through the establishment of Cooperative Weed Management Areas (CWMA). A CWMA is being formed for all eleven counties of Illinois containing portions of the Shawnee National Forest and a second CWMA is being formed in northeast Illinois (Lake and McHenry counties) to control the spread of leafy spurge (*Euphorbia esula*). State agencies such as the Illinois Department of Agriculture and Illinois Department of Transportation participate on the Illinois Invasive Plant Species Council.

5) An expanded program for public information is being implemented through the preparation of articles for publication in *Growing Trends*, a publication of the Illinois Nurserymen's Association and by cooperation with the Illinois Native Plant Society to provide information to the public on the use of native plant species for landscaping and other uses.

The project staff person has also been involved with the Steering Committee and the Education

Committee of the Midwest Invasive Plant Network, has worked with the Early Detection - Rapid Response Team to combat invasive plant species in northeast Illinois, and has worked with the Chicago Botanic Garden in their Plants of Concern project which, among other purposes, monitors the effects of invasive plant species on native wildlife habitat in northeast Illinois.