

# Wisconsin Invasive Plants Reporting & Prevention Project

Co-sponsored by the Wisconsin State Herbarium and Wisconsin Department of Natural Resources

## TARGET PLANTS

Update March 12, 2008

These thirty species are the current target species for reporting and eradication. For each, information on characteristics, look-alikes, habitat, and control methods is provided. The project website contains the same information as well as detailed photographs. See <http://dnr.wi.gov/invasives/futureplants/index.htm>

[WI] = Already in Wisconsin

### Upland

1. **Tree of Heaven** (*Ailanthus altissima*) [WI]
2. **Porcelain berry** (*Ampelopsis brevipedunculata*) [WI]
3. **Wild chervil** (*Anthriscus sylvestris*) [WI]
4. **Hill mustard** (*Bunias orientalis*) [WI]
5. **Oriental bittersweet** (*Celastrus orbiculata*) [WI]
6. **Poison hemlock** (*Conium maculatum*) [WI]
7. **Common teasel** (*Dipsacus fullonum* subsp. *sylvestris*) [WI]
8. **Cut-leaved teasel** (*Dipsacus laciniatus*) [WI]
9. **Baby's breath** (*Gypsophila paniculata*) [WI]
10. **Giant hogweed** (*Heracleum mantegazzianum*) [WI]
11. **Japanese hops** (*Humulus japonicus*) [WI]
12. **Japanese honeysuckle** (*Lonicera japonica*) [WI]
13. **Japanese stilt grass** (*Microstegium vimineum*)
14. **Japanese knotweed** (*Polygonum cuspidatum*) [WI]
15. **Kudzu** (*Pueraria lobata*)
16. **Wineberry or wine raspberry** (*Rubus phoenicolasius*)
17. **Spreading hedge-parsley** (*Torilis arvensis*)
18. **Japanese hedge-parsley** (*Torilis japonica*) [WI]
19. **Black swallow-wort** (*Vincetoxicum nigrum*) [WI]
20. **Pale swallow-wort** (*Vincetoxicum rossicum*)

### Aquatic / Wetland

21. **Flowering rush** (*Butomus umbellatus*) [WI]
22. **Fanwort** (*Cabomba caroliniana*)
23. **Pond water-starwort** (*Callitriche stagnalis*) [WI]
24. **European marsh thistle** (*Cirsium palustre*) [WI]
25. **Brazilian waterweed** (*Egeria densa*)
26. **Hydrilla** (*Hydrilla verticillata*)
27. **European frog-bit** (*Hydrocharis morsus-ranae*)
28. **Parrot feather** (*Myriophyllum aquaticum*)
29. **Yellow floating heart** (*Nymphoides peltata*) [WI]
30. **Water chestnut** (*Trapa natans*)

1. **Tree of Heaven** (*Ailanthus altissima*) [WI]

### **Description**

Tree-of-heaven is a rapidly growing deciduous tree with compound, alternate leaves up to four feet long that are composed of 11-25 opposite leaflets with one to several glandular teeth near the base. The bark is pale gray and smooth. The wood is white to light brown, soft, and coarse. Female and male flowers grow on separate trees. Clusters of small, yellowish green flowers with 5-6 petals grow close to the branch tip in late spring. Broken leaves and male flowers produce a pungent odor resembling cashews. Female flowers produce tan to pink fruits that resemble flat, twisted wings called samaras. Large clusters of samaras appear from September to October, and may remain throughout the winter.

### **Look-alikes**

Native shrub sumacs (*Rhus typhina* and *R. glabra*), the ash (*Fraxinus* species), and black walnut (*Juglans nigra*) trees have compound leaves. However, sumac leaflets have toothed margins, and the fruits are fuzzy, red, and erect. Ashes have opposite leaves. Black walnut has toothed leaves, large green fruits, and a distinct walnut color and smell.

### **Impacts & Habitat**

Tree of Heaven is spreading rapidly in forested areas in the eastern U.S. where it impacts all plants, from the canopy trees to the ground. It is currently found in disturbed urban areas in southern Wisconsin, but it is uncertain if it will invade forests in Wisconsin. This tree grows quickly, forming dense thickets that overtake native vegetation, and it damages sewers and foundations with its aggressive root system. It also produces a toxin that can impede the growth of other plants. One tree can grow numerous root suckers, resprout vigorously from cut stumps and root fragments, and produce up to 350,000 seeds a year with a high germination rate. Seedlings develop a taproot within three months of germination.

### **Control**

Remove young seedlings and their roots by hand when the soil is moist. Repeatedly cut small infestations, resprouts, and large trees for several summers to reduce seed spread and exhaust the root reserves. There are several treatments for large stands: apply basal bark treatment of oil-soluble triclopyr; spray with triclopyr in the late winter, early spring, or summer; or both. To prevent stump sprouts, treat cut stumps immediately with a mixture of triclopyr or glyphosate and oil diluent. Large stands of seedlings can be treated with a foliar spray. Treat all infestations as needed and recheck several times a year.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[The Nature Conservancy](#)

[Plant Conservation Alliance](#)

## **2. Porcelain berry (*Ampelopsis brevipedunculata*) [WI]**

### **Description**

Porcelain berry is a deciduous, perennial vine with climbing tendrils opposite the dark green leaves. The leaves are simple and alternate, and vary considerably in shape, from a heart shape to palmate lobes to deeply dissected. The stem surface has lenticels, and the pith is white. The flowers are greenish-white or yellow, and bloom in indistinct clusters midsummer. In the fall, the flowers produce clusters of pale pink, blue, and lavender berries with grey and white spots. The berries contain 2-4 seeds and are edible. A variegated cultivar sold for landscaping may not be as aggressive as the green leaf variety.

### **Look-alikes**

Porcelain berry resembles native grapes in the genus *Vitis*, native peppervine (*Ampelopsis arborea*), and native raccoon grape (*A. cordata*). However, native grapes have brown pith, lack stem lenticels, and their bark peels or shreds. Peppervine berries mature from green to blue-black. Raccoon grape leaves are not lobed, and the berries mature from reddish to a dark blue or purple.

### **Impacts & Habitat**

In New England and the mid-Atlantic porcelain berry is found along forest edges, trails, roadsides, riparian areas, waste places, and open disturbed areas. It grows well in most soils and full sun to partial shade. The vine establishes slowly, but then quickly blankets the ground or climbs trees and shrubs, sometimes growing up to 15 feet in one season. Wildlife eats the berries and disperses the seeds, which can germinate readily, particularly in disturbed soils, or remain viable in soil for years. The vine also reproduces by root fragments.

### **Control Methods**

Mowing and cutting will control but not eradicate the vine. Hand-pull small populations before they fruit, or cut them in the summer and spot treat the re-growth with glyphosate. Glyphosate is also effective in early autumn prior to dormancy. In large areas, apply triclopyr to the leaves in the spring or summer, or apply basal bark treatments of triclopyr formulated with bark penetrating oil to the stem base after a fall frost and before leaf-out.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[Invaders of Mid-Atlantic Natural Areas](#)

[Weeds Gone Wild: Alien Plant Invaders of Natural Areas.](#)

## **3. Wild chervil (*Anthriscus sylvestris*) [WI]**

### **Description**

Wild chervil is a biennial or short-lived perennial plant of the parsley family. Seedlings develop into a rosette during the first year. In the second year, the plants produce hollow flower stems, usually 3-4 feet tall (can reach 6 feet). The stems are branched and covered in soft hairs, particularly near the base. The leaves are alternate, nearly hairless, and divided into smaller, fernlike leaflets. The base of each leaf surrounds the stem. Tiny, white flowers with 5 notched petals bloom from late May to early July of the second year. Individual flower stems form a small cluster. The flowers of several of these small umbels together form a larger umbel resembling an umbrella. The thick taproot of wild chervil has lateral buds at the top of the root which allow for resprouting. The taproot of mature plants may be up to 6 feet deep.

### **Look-alikes**

There are several other weedy plants with white umbels and lacy leaves. Wild carrot (*Daucus carota*), or Queen Anne's lace, is a widespread grassland weed that resembles wild chervil. Queen Anne's lace has unique curved bracts (modified leaves) at the base of each umbel and a small purple flower at the center of the umbel. Japanese and spreading hedge parsley (*Torilis japonica* and *arvensis*) and poison hemlock (*Conium maculatum*) are all new invaders to Wisconsin and should be reported and controlled. The leaves of the hedge parsleys are sparse and have 3 toothed leaflets; unlike the more fernlike leaves of wild chervil. Poison hemlock grows taller, up to 9.5 feet, and has stems covered with purple spots and vertical ridges.

### **Impacts & Habitat**

The current known range includes the northeast (Maine to Virginia), the Pacific Northwest and the northern Midwest (Michigan, Minnesota, and Wisconsin). Wild chervil will grow in a variety of soil types, but prefers rich, moist soils. It may be found along roadsides, open woods, pastures and disturbed areas. Spreading can be caused by the movement of seeds in water, by birds and by mowing equipment; as well as by lateral budding at the top of the root. This plant competes with others for light, space and nutrients and may shade out surrounding vegetation.

### **Control**

Wild chervil is difficult to control because of its extremely deep taproot and its resistance to herbicides. Pulling up the flower stalks without removing the entire taproot can lead to resprouting. Mowing may deplete root reserves if done repeatedly before the plant forms seed. Herbicide application (clopyralid and dicamba) shortly before blooming and one month after a pre-bloom cutting has shown some success. In recent trials, metsulfuron methyl has killed chervil plants three weeks after application; 2,4-D has been ineffective.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[ITIS Report](#)

## **4. Hill mustard (*Bunias orientalis*) [WI]**

### **Description**

Hill mustard is an erect biennial or perennial (observation suggest that it acts as a perennial in Wisconsin). A key characteristic of hill mustard is the “warty bumps” (tubercles) on the stems which are easily felt by running your finger over the stem surface. Leaves may also have tubercles. The plants are extremely well anchored and are impossible to pull out and difficult to dig by hand. The highly lobed leaves are lanceolate and sharply pointed somewhat resembling dandelion leaves in shape. On mature plants can be 12 or more inches long in lower regions of the stem and become progressively smaller up the stem. Both leaves and stems are somewhat hairy. Flowers have bright yellow petals, and are very fragrant and are borne on dense racemes. Fruits are ovate, irregularly warty, 0.25 to 0.4 inches long, contain 2 to 4 seeds, and are borne on stalks about 0.5 inch long.

### **Look-alikes**

Hill mustard resembles yellow rocket but is easily distinguished by its leaf shape and stem texture. Leaves of yellow rocket do not have pointed lobes and are hairless unlike hill mustard which has toothed and hairy leaves. Yellow rocket stems never have the warty bumps found on hill mustard. Additionally, yellow rocket tends to be shorter than hill mustard and seldom becomes a monoculture. Yellow rocket flowering is waning as hill mustard begins to flower and the flowering period of hill mustard is considerably longer than that of yellow rocket. The fruits of the two species are also quite distinct with yellow rocket forming a narrow pod with many very small seeds while hill mustard has tear-shaped pods with few seeds.

### **Impacts & Habitat**

Hill mustard inhabits non-disturbed sites and once established, forms a monoculture of only hill mustard plants. Hill mustard is native to southern Europe and has invaded most European countries. It is known to

exist in the northeastern states, Virginia, Michigan, and Wisconsin. The University of Wisconsin-Madison Herbarium documented the original infestation in Green County west of the intersection of County Highway N and Buhler Road (north of Monroe approximately 3 miles). An inspection of all roads in the vicinity of this site in 2005 found that most hill mustard infestations are within 5 miles of the site of its original appearance. However, we have now seen hill mustard in several locations in Lafayette County.

### **Control**

As soon as yellow flowers are seen, plants must be cut as low as practical for the terrain. Additional mowing should be done if plants continue to flower. We do not know if repeated mowing will kill established plants but mowing each time flowers appear will at least greatly reduce seed production. Another approach to mechanical control is to till the soil or otherwise dislodge the roots of hill mustard from the soil. We need field trials to determine which tillage tools and how frequently tillage is needed to kill existing plants. Establishment of desired vegetation after tillage is essential and will reduce the likelihood of hill mustard once again becoming a monoculture.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[Invasive Alien Species Fact Sheet \*Bunias orientalis\*](#)

## **5. Oriental bittersweet (*Celastrus orbiculata*) [WI]**

### **Description**

Oriental bittersweet (also known as round-leaved or Asiatic bittersweet) is a perennial, deciduous, woody climbing vine. Younger leaves are oblong, but mature leaves are more rounded with finely toothed margins, 2 to 5 inches long, and 1 to 3.5 inches wide. The stems are brown to gray, often have raised lenticels, and can grow up to 4 inches wide and 60 feet high. The small flowers have 5 greenish-yellow petals and produce clusters of 2-4 fruits along the length of the stem at the leaf axils. The fruit's yellow outer membrane eventually reveals a red inner-fruit.

### **Look-alikes**

This species can be easily confused with the native American bittersweet (*Celastrus scandens*). However, the American bittersweet's flowers and fruit clusters grow only at the end of each stem, and the leaves are usually more pointed and elliptical, sometimes twice as long as wide. The species are known to hybridize.

### **Impacts & Habitat**

Oriental bittersweet is found in grasslands, woodland edges, forests, roadsides, and beaches. It grows quickly and can overtop native plants and tall trees, shading, girdling, and eventually downing them. The seeds germinate best in low-light environments, and under appropriate light and moisture regimes, the vine may grow in nearly pure stands. The seeds are easily dispersed, and are commonly spread when birds eat the fruit or people dispose of craft or floral arrangements in compost and brush heaps. Reproduction also occurs through vegetative root suckering.

### **Control**

The most effective treatment, especially around native plants and for vines in the canopy, is treating cut stems with triclopyr and a non-toxic bark-penetrating oil, or glyphosate. Seedlings and small infestations can also be hand-pulled or dug out by the roots before the fruits ripen. Treat extensive infestations with

foliar herbicides after the first hard frost in the fall or in the spring when most native plants are dormant. Monitor all sites for re-growth.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USGS](#)

[Plant Conservation Alliance](#)

[Element stewardship abstract for Asiatic Bittersweet](#)

## **6. Poison hemlock** (*Conium maculatum*) [WI]

### **Description**

A biennial, or sometimes a perennial, that can grow to 3 to 10 feet in height. A large rosette appears in the first year and tall stems and flowers appear in the second year. Poison hemlock stems are stout, hairless, erect and distinctly ridged. The stems branch extensively and are hollow except at the nodes. Reddish-purple mottling is common on the lower stem. Dried stems persist throughout the winter. The alternate, pinnately compound leaves are shiny, green, hairless and dissected. The leaves, when crushed, emit a musty, unpleasant odor. Flowers are white and arranged in broad umbrella-shaped clusters. The umbels appear on individual stems that extend from a common stalk. The umbel diameter ranges between 4 to 6 inches.

### **Look-alikes**

Misidentification of poison hemlock with edible varieties in the carrot family can result in deadly consequences. A distinguishing characteristic is the lack of hairs on the leaves and stems of poison hemlock. Queen Anne's lace or wild carrot (*Daucus carota*) has finely divided leaves but its leaves and stems are quite hairy. Cow parsnip (*Heracleum lanatum*) can be identified by its palmately compound leaves which branch out in a semicircle from the stalk end. Poison hemlock has pinnately compound leaves which are arranged in rows along the stalk. The stem of cow parsnip lacks purple mottling and its surface is downy or fuzzy. Water hemlock can be distinguished by its taproot, which is branching and tuberous.

### **Impacts & Habitat**

Poison hemlock can quickly colonize disturbed sites and prefers moist pastures, meadows and riparian areas. Poison hemlock is a large threat to livestock when grazed upon or unknowingly harvested with hay. Although not as common, poison hemlock can invade perennial crops like alfalfa. It is a threat during the first cutting but not the second because the re-growth of alfalfa can suppress poison hemlock growth. All parts of the plant are toxic although the lower parts of the plant are extremely poisonous. Environmental factors can affect the concentration of poisonous alkaloids. The known principle poisons are piperidine, coniine, and coniceine. Coniceine is eight times more toxic than coniine. Both affect the reproductive and nervous system of the animal.

### **Control Methods**

**Mechanical:** Hand pulling or grubbing is most effective with small infestations prior to flowering. Follow-up monitoring is necessary to ensure seeds in the soil don't germinate and become established. Because the plant can remain toxic for several years after being pulled, the dead plant should be bagged and sent to a land fill. Prior to flowering, mowing the plant close to the ground several times may be effective.

**Chemical:** For large infestations chemical controls are most effective. The application of 2,4-D mixed with diesel oil can be applied to leaves and stems. To apply to a 1-acre area, mix 2 quarts of diesel oil with 1.5 lbs of 2,4-D ester and 100 gallons of water.

Metsulfuron, 0.6 oz. of active ingredient mixed with a nonionic surfactant, can be applied to actively growing plants. It is recommended to only apply this on pastures and rangeland and areas not used for growing crops. Glyphosate can be used when the plant in its first year, in its rosette life-stage. It is recommended that 1.0 lb. of active ingredient is used per acre. Repeated applications of herbicide most likely will be necessary to deplete the seed bank.

### **Additional Information**

[WI DNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[Montana State University Extension factsheet](#)

[The Nature Conservancy-Global Invasive Species Initiative](#)

[Pacific Northwest Weed-Control Guide](#)

[Images by Steven J. Baskauf](#)

## **7. Common teasel** (*Dipsacus fullonum* subsp. *sylvestris*) [WI]

### **Description**

Teasels are monocarpic perennials (meaning they flower once, and then die). Seeds produce a ground-level rosette the first year, then send up a flowering stalk in the second or third year. As rosettes, teasels develop a large taproot and oblong, wrinkled, lettuce-like leaves with a whitish midrib. On flowering plants, leaves are opposite, stemless and prickly along the lower midrib. Flowering stems are ridged, quite spiny and 4 to 7 feet tall. Teasel's large, spiny, oval flowering head is distinctive.

**Common teasel** leaves are long and taper to a point, but usually are not lobed. Lower leaves may be joined into cups. It typically has purple or pink flowers, with spiny bracts curving up from below the flower head that are longer than the flower head. It blooms June - October.

### **Look-alikes**

As a rosette and before flowering, teasel may resemble chicory (*Cichorium intybus*) and some thistles (*Carduus* sp., *Cirsium* sp.). Chicory has no spines or prickles. In thistles, leaf edges have spines; the leaf edges of teasel are spineless.

### **Impacts & Habitat**

Both teasels originated in Europe and now are present in southern Wisconsin. In recent years, colonies have spread rapidly especially along highways where seeds are dispersed by mowing equipment. Teasel can form extensive monocultures and prefers open, sunny habitats including prairies, seeps and sedge meadows where it can become a severe threat to native plants.

### **Control**

**Mechanical:** The taproots of rosettes can be dug out of the ground like a dandelion, but remaining root fragments could resprout. Cutting is most effective between full bud stage and flowering. If timed right, the plant will likely not flower again and will die at the end of the season. Controlled burns in late spring can be effective.

**Chemical:** Easily identifiable green rosettes can be treated in late spring or early fall when temperatures are above 50 degrees. Herbicide applications of clopyralid or triclopyr formulated for use with water has been effective.

## Additional Information

[WIDNR](#)

[UW Herbarium](#)

[USDA](#)

## 8. Cut-leaved Teasel (*Dipsacus laciniatus*) [WI]

### Description

Teasels are monocarpic perennials (meaning they flower once, and then die). Seeds produce a ground-level rosette the first year, then send up a flowering stalk in the second or third year. As rosettes, teasels develop a large taproot and oblong, wrinkled, lettuce-like leaves with a whitish midrib. On flowering plants, leaves are opposite, stemless and prickly along the lower midrib. Flowering stems are ridged, quite spiny and 4 to 7 feet tall. Teasel's large, spiny oval-shaped flowering head is distinctive.

**Cut-leaved teasel** leaves are long and deeply cut, with pairs of leaves joining to form cups at nodes along the stem. It usually has white flowers, with spiny bracts that are shorter than the flower head. It blossoms July - September.

### Look-alikes

As a rosette and before flowering, teasel may resemble chicory (*Cichorium intybus*) and some thistles (*Carduus* sp, *Cirsium* sp.). Chicory has no spines or prickles. In thistles, leaf edges have spines; the leaf edges of teasel are spineless.

### Impacts & Habitat

Both teasels originated in Europe and now are present in southern Wisconsin. In recent years, colonies have spread rapidly especially along highways where seeds are dispersed by mowing equipment. Teasel can form extensive monocultures and prefers open, sunny habitats including prairies, seeps and sedge meadows where it can become a severe threat to native plants.

### Control

**Mechanical:** The taproots of rosettes can be dug out of the ground like a dandelion, but remaining root fragments could resprout. Cutting is most effective between full bud stage and flowering. If timed right, the plant will likely not flower again and will die at the end of the season. Controlled burns in late spring can be effective.

**Chemical:** Easily identifiable green rosettes can be treated in late spring or early fall when temperatures are above 50 degrees. Herbicide applications of clopyralid or triclopyr formulated for use with water has been effective.

## Additional Information

[WIDNR](#)

[UW Herbarium](#)

[USDA](#)

## 9. Baby's breath (*Gypsophila paniculata*) [WI]

### Description

Baby's breath is a perennial herb growing up to 3 feet tall with a thick, deep, tap root and branched stems. Its narrow, opposite leaves, with a prominent mid-vein, grow 1 to 4 in long. Plants typically flower the third year; small (1/4 in across) white or pink flowers form on diffusely branched clusters.

### **Look-alikes**

From afar, false baby's breath (*Galium mollugo*), also introduced, is similar in appearance. The leaves on *Galium* grow in whorls of 6 or 8, unlike the opposite leaves of *Gypsophila paniculata*; and the flowers have four white petals instead of the five that are typical of baby's breath.

### **Impacts & Habitat**

Native to Europe and Asia, baby's breath, it is used in garden wildflower mixes and extensively in the floral industry. The primary means of reproduction is by seeds, with most dropping close to the plant and some further dispersed by wind or water. Now widespread across the northern U.S. and Canada, baby's breath grows in a variety of habitats and is often found in vacant lots, ditches, pastures, farmland, and along roads, where it is generally not a problem.

The coarse, sandy soil of the Great Lakes sand dunes provides a good habitat for baby's breath. This is troublesome because its long tap root can stabilize naturally shifting sand dunes to the point of significantly changing the open dune habitat that certain native plants need, as is the case with the federally threatened dune thistle (*Cirsium pitcheri*) in Michigan. It is currently invading Michigan's east shore of Lake Michigan, but has not yet been found on Wisconsin's west shore of the lake.

### **Control**

Baby's breath can be effectively controlled by manual removal. To ensure that the plant does not re-sprout, the root needs to be severed below the caudex, the point where the root becomes the stem (10 cm deep is usually sufficient). All parts of the plant should be removed from the site and properly disposed of. Mowing will reduce further spread, but will not control existing plants. Controlled burning and application of the herbicide picloram have also been effective.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[The Nature Conservancy, Recommended Removal Methods for Baby's Breath \[PDF\]](#)

[Government of Saskatchewan, Integrated Pest Management, Weed Identification](#)

[Ministry of Agriculture and Lands, British Columbia](#)

## **10. Giant hogweed (*Heracleum mantegazzianum*) [WI]**

### **Description**

Giant hogweed -- a member of the parsley family -- is striking due to its huge size. In the first year of growth, plants form a bush-like rosette of compound leaves (1 to 5 feet wide) that are deeply incised and pointed. Plants flower in their second year (or later, depending on maturity). Flowering plants are 8 to 15 feet tall, topped with a group of broad, flat-topped umbels of white flowers. Flower stalks can be 2 to 4 inches in diameter, with coarse white hairs and reddish-purple mottling. The bottoms of leaves also have coarse, dense hairs. The plant produces thousands of seeds, and then dies after flowering.

### **Look-alikes**

American cow parsnip (*Heracleum lanatum*) is smaller (3 to 7 feet) with a less lobed leaf structure and non-mottled flower stems. Great angelica (*Angelica atropurpurea*) also is much smaller, with pinnately compound leaves, purplish stems and a spherical flowering umbel.

### **Impacts & Habitat**

Giant hogweed, a native of Asia, is present in northeast and upper Midwest states including Michigan, New York, Pennsylvania, and Maine. It currently is regulated by the USDA as a noxious weed. Giant hogweed disperses by seed and naturalizes easily. It is found in a variety of disturbed areas such as roadsides, empty lots and woodland edges but prefers areas with moist soils and some shade. It can be especially troublesome along stream banks where it crowds out native vegetation, leads to soil erosion and readily disperses downstream by seed.

**Caution!** If sap from hogweed leaves and stems gets on skin in the presence of sunlight, it can cause a severe, blistering burn that appears a day or two after exposure. Wild parsnip, cow parsnip and great angelica all can cause a similar phototoxic reaction.

### **Control**

Because of the danger from its sap, cover all skin and protect eyes when working with this plant. Small populations can be hand-dug. Repeated mowing or cutting weakens the plants, but the large root can remain alive for many years. Treating foliage with glyphosate or triclopyr is effective if done early in the spring or on resprouts after cutting. Do not allow hogweed to go to seed.

### **Additional Information**

[WI DNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[Massachusetts Department of Agricultural Resources](#)

[Great Lakes Indian Fish and Wildlife Commission](#)

## **11. Japanese hops (*Humulus japonicus*) [WI]**

### **Description**

Japanese hops is a climbing, annual vine that grows rapidly, up to 8 feet. Leaves are opposite, 2 to 5 inches long, serrated on the edges and palmately divided, usually into 5 or more lobes (though upper leaves can be 3-5 lobed). Petioles (leaf stems) tend to be as long as or longer than the length of leaves. Stems and leaves have rough hooked climbing hairs to grasp and twine clockwise up nearby vegetation. Male and female flowers are on separate plants and bloom from mid to late summer. Bracts on the pistillate (female) spikes have small, spiny hairs.

### **Look-alikes**

The native hops (*Humulus lupulus*) is found throughout the state. A non-native variety grown for beer-making has been reported growing wild in three counties. All *H. lupulus* varieties typically have 3-lobed leaves (though upper leaves sometimes lack lobes), with petioles shorter than leaf-length.

### **Impacts & Habitat**

In Wisconsin, Japanese hops has been found in southern and western counties. It reproduces by seeds dispersed by wind and water. Preferring moist soils, it can form dense stands in floodplains and along stream banks and lakeshores, but can thrive in disturbed areas such as roadsides and urban lots. It can be found in full sun or shade.

### **Control**

Plants can be hand-pulled and removed from the area before seeds ripen. The herbicide glyphosate can be used on foliage before plants flower.

### **Additional Information**

[WI DNR](#)

[UW Herbarium](#)

## 12. Japanese honeysuckle (*Lonicera japonica*) [WI]

### Description

Japanese honeysuckle is a trailing or climbing vine that forms arbors in forest canopies and dense, sprawling mats on the ground. Vines typically are 6-10 feet long, sometimes up to 30 feet. Young stems are reddish to light brown, covered with fine soft hairs. Older stems become tan and fissured, and bark may peel or shred with age. Stems are hollow and woody, and can be up to 2 inches thick. Leaves are paired along stem, oval to oblong, with variable margins (mostly smooth, sometimes lobed). Base is rounded, attached to a short stalk. Tips are round to blunt-pointed. Leaves, flowers, and fruits are paired along the stem. Leaves can be nearly smooth to densely hairy. Top surface is green whereas the underside can appear whitish-green. Blossoms are large, showy and sweet-smelling, colored white, yellow, cream or pinkish, yellowing with age. They are tubular with reflexed lips; 4 fused petals form the upper lip and a single petal forms the lower. Blooms April to June. Flowers open at dusk to allow pollination by diurnal bees and nocturnal moths. Fruits are purple-black when ripe and contain 2-3 seeds.

### Look-alikes

Several native honeysuckles of the *Lonicera* genus grow as vines, including grape honeysuckle (*L. reticulata*), yellow honeysuckle (*L. flava*), hairy honeysuckle (*L. hirsuta*) and red honeysuckle (*L. dioica*). They differ from Japanese honeysuckle in their red/orange berries, fused leaves at branch tips, and clusters of many flowers. Invasive Eurasian bush honeysuckles also have red/orange berries.

### Impacts & Habitat

Japanese honeysuckle is a woody vine that can overwhelm native flora in forests and other habitats. It is an exceptional competitor due to its potential for widespread seed dispersal, rapid growth rate, extended growing season, broad habitat tolerance and ability to monopolize resources above and below ground. It twines around and over other plants forming dense, tangled thickets under which few plants can survive. Stems wrap tightly around woody plants and can girdle them over time. Native species -- when forced to compete with Japanese honeysuckle -- have lower leaf nitrogen, decreased photosynthesis and stunted growth. Evidence suggests that this species is allelopathic, meaning it releases chemicals that inhibit the growth of neighboring plants. Japanese honeysuckle colonizes disturbed sites, open woods, woodland edges, forest openings, floodplains, fields, roadsides, barrens and fencerows. Prefers sunny location, but tolerates most light levels. Sensitive to dry conditions but otherwise thrives in sand, silt or clay soils from acid to neutral to basic pH. Severe winter temperatures may restrict its northward spread and low rainfall may limit westward spread.

### Control

**Mechanical:** For light infestations and seedlings, vines can be pulled or dug out by the roots and removed from the area. It is preferable to do this before the vines have fruited. Fruiting vines should be bagged and sent to a land fill. Cutting the vines without removing the roots or chemically treating the stems will stimulate vigorous re-growth. Soil disturbance will invite germination of seeds in the seed bank, thus follow-up scouting and treatment of seedlings may be necessary for a number of years.

Prescribed burns in fire-adapted communities will reduce biomass of dense ground mats and climbing vines, creating optimal conditions for effective follow-up foliar spray with glyphosate (see below). Fire may kill seedlings, but will only temporarily set back older plants.

**Chemical:** Glyphosate (1.5-2.0% active ingredient) can be applied to foliage from spring through fall. It is most effective after the first killing frost but before the first hard frost in fall. Fall treatment is recommended because non-target plants will be dormant. Monitor treated plants into the second growing season, as plants are known to recover.

The combination method of treating cut stems with herbicides may be unreliable due to the fact that vines often develop roots where they come in contact with the soil. In situations where plants grow off the ground, cut vines just above soil surface and treat stems immediately with glyphosate (20% active ingredient).

#### **Additional Information**

[WI DNR](#)

[UW-Herbarium Madison](#)

[USDA](#)

[Indiana DNR – Japanese honeysuckle factsheet](#)

[Plant Conservation Alliance -- Japanese honeysuckle factsheet](#)

[Invasive Plants of the Eastern U.S. – Japanese honeysuckle factsheet](#)

[Abstract of Weed Science article on allelopathic interference of Japanese honeysuckle](#)

### **13. Japanese stilt grass (*Microstegium vimineum*)**

#### **Description**

Japanese stilt grass is an annual grass that can reach 5 feet in height, but tends to grow 1 - 3 feet in a branching, sprawling, mat-like manner. Its pale green leaves alternate along a branched stalk, resembling a small, delicate bamboo. Leaves are narrow, lance-shaped, up to 3 inches long and lightly hairy. A distinguishing feature is a pale, silvery stripe of reflective hairs along the midrib of the upper leaf surface. Flower spikes - 1 to 3 inches long - appear in September and produce seed by early October.

#### **Look-alikes**

The native perennial whitegrass or Virginia cutgrass (*Leersia virginica*) is similar, but lacks the silver stripe along the midrib. Stilt grass flowers late -- in mid-September -- and whitegrass flower spikes appear in August. The nodes (where leaves emerge) of stilt grass are smooth, but are hairy in *Leersia*. In fall, stilt grass turns yellow to pale purple, while whitegrass stays green. A non-grass look-alike is smartweed or lady's thumb (*Polygonum persicaria*). It can form masses of grass-like plants, but its leaves have a dark blotch and flowers are pink and bead-like.

#### **Impacts & Habitat**

Stilt grass has become a significant problem in many eastern and Midwestern states. Although not yet known in Wisconsin, it is one of the most potentially troublesome future invasive plants. Stilt grass spreads rapidly due to high seed production and rooting at nodes along the stem. Often it takes hold in locations where moist soils are scoured such as along stream banks, floodplains, ditches and trails - forming a large seed bank and spreading during floods. It often out competes native vegetation in areas where light levels are low. Typical habitats include river corridors, forested wetlands, moist woodlands, old fields and thickets, utility rights-of-way, roadsides and lawns.

#### **Control**

Because it is shallow-rooted, stilt grass can be pulled up at any time. Hand-pulling small infestations or mowing at peak bloom in September before seeds set will help control this species. The herbicide glyphosate has been shown to be effective and a 2% solution can be sprayed slowly and thoroughly over patches. Also, an herbicidal soap such as pelargonic acid or a grass-specific herbicide such as sethoxydim are effective. In dry areas, imazapic plus methylated seed oil can be applied pre- or post-emergence. Due to many seeds left in the soil, follow-up monitoring and treatment will be needed for years.

#### **Additional Information**

[WI DNR](#)  
[USDA](#)  
[Plant Conservation Alliance](#)

## **14. Japanese knotweed** (*Polygonum cuspidatum*) [WI]

### **Description**

Japanese knotweed, in the buckwheat family, is a perennial that grows to heights of 5-10 feet in large clones up to several acres in size. The arching stems are hollow and bamboo-like, a reddish-brown to tan color; they die, but remain upright through the winter. Mature leaves are 3-5" wide and 4-9" long, lighter on the lower surface, and egg to spade shaped; young leaves are heart-shaped. Lacy 2 inch long clusters of tiny greenish-white flowers are produced in late summer and held upright at the leaf base. Japanese knotweed reproduces occasionally by seed, but spreads primarily by extensive networks of underground rhizomes, which can reach 6 feet deep, 60 feet long, and become strong enough to damage pavement and penetrate building foundations.

### **Look-alikes**

Another much less widespread invasive species, giant knotweed (*Polygonum sachalinense*), is similar, but can grow taller and has much larger leaves (up to 12" long). The upper surface of Japanese knotweed has an extremely fine-sandpaper feel in contrast to the fine-leather feel of giant knotweed.

### **Impacts & Habitat**

Introduced in the late 1800s, Japanese knotweed is now found throughout much of North America. It is especially widespread in the coastal Pacific Northwest, in the East from Newfoundland to North Carolina, and in the Midwest. It is often considered to be the most troublesome weed in Great Britain. It grows in a variety of habitats, in many soil types, and a range of moisture conditions. Of particular concern is its tendency to invade valuable wetland habitat and line the banks of creeks and rivers where it often forms an impenetrable wall of stems, crowding out native vegetation and leaving banks vulnerable to erosion when it dies in winter. It is also found along roads, railroads, utility pathways, and strip-mining areas. In addition to spreading by rhizomes and seed, it is often spread by streams, by transportation of fill dirt, or through roadside plowing.

### **Control**

Attempting to remove Japanese knotweed by pulling or digging is generally ineffective due to its extensive underground rhizome network; it may even promote further spreading if pieces of the plant are not disposed of properly. Herbicide application has been effective, when the entire clone is treated repeatedly. Applications of herbicides containing glyphosate are typically used after spring leaf out and on resprouts emerging after cutting.

### **Additional Information**

[WI DNR](#)  
[UW-Madison Herbarium](#)  
[USDA](#)  
[The Pennsylvania State University 2000](#)  
[Ecology and Management of Invasive Plants Program, Cornell University](#)  
[Great Lakes Indian Fish and Wildlife Commission](#)

## **15. Kudzu** (*Pueraria lobata*)

### **Description**

Kudzu is a perennial, deciduous semi-woody climbing vine in the pea family. The stems are yellowish green and have golden and silver hairs. The leaves are alternate and compound, and have three broad, pointed, usually slightly lobed leaflets with golden hairs. The flowers are purple with a yellow middle, and appear in long, slender clusters from June to September. Flat, brown, golden-haired pods form in clusters and hold 3-10 seeds. The tuberous roots can reach 12 feet and weigh up to 400 pounds.

### **Look-alikes**

Large poison ivy (*Toxicodendron radicans*) leaves and vine-like stems look similar to grown kudzu, but are hairless.

### **Impacts & Habitat**

Kudzu is widespread in the southern states, with reproducing populations having been found as far north as Chicago. It appears in forest edges, abandoned fields, roadsides, and disturbed areas. It prefers most soil types, 40 inches or more of rain per year, abundant sunlight, hot summers, and mild winters. Kudzu can grow up to a foot per day and 60 feet per season, and can produce up to 30 vines from a single root crown. It quickly girdles and blankets shrubs and trees, breaking branches and uprooting entire trees under its weight. It reproduces via runners, rhizomes, vines that root at the nodes, and hard-coated seeds dispersed by wind, water, and animals. Only one or two seeds per pod cluster are viable, and they may lie dormant for several years.

### **Control**

Small infestations can be mowed closely every month or cultivated repeatedly for two growing seasons. Repeatedly cutting the stems near the ground each spring and summer will exhaust the carbohydrate reserves. Cutting and treating the stems with a systemic herbicide late in the season will kill the roots. Cuttings should be burned, bagged and disposed of in a landfill, or fed to livestock. Large infestations may need to be treated repeatedly with foliar herbicides. Spray the vines as high as possible, and cut those that survive.

### **Additional Information**

[WIDNR](#)

[USDA](#)

[Nonnative Invasive Plants of Southern Forests.](#)

[Pushy Plants and Native Animals](#)

[Weeds Gone Wild: Alien Plant Invaders of Natural Areas.](#)

## **16. Wineberry or wine raspberry (*Rubus phoenicolasius*)**

### **Description**

Wineberry is a perennial shrub with long arching canes (stems) up to 9 feet in length. Leaves are alternate and each has three serrated leaflets. Ripe berries are bright red and delicious. Canes, leaf stems, and flowering structures are densely covered with purplish-red hairs and small spines. The hairs can give the canes a furry, reddish appearance when seen from a distance. The undersides of leaves appear white, due to a layer of wooly white hairs.

### **Look-alikes**

The native red raspberry (*Rubus idaeus*) is quite similar, but its leaflets tend to be narrower and more pointed and its prickly hairs usually are less numerous and not red in color. The native blackcap raspberry

(*Rubus occidentalis*) has scattered rose-like thorns on stems and flower structures. In both, leaves typically are only pale white on the underside.

### **Impacts & Habitat**

Wineberry comes from Asia and has become a serious pest in eastern and Midwestern states. It produces a large number of fruits that are readily eaten and dispersed by birds. Seeds passed by birds sprout and form dense, impenetrable thickets, crowding out native vegetation. It also spreads vegetatively when tips of the canes touch the soil, take root and produce new plants. Wineberry prefers moist soils and plenty of sunlight but can thrive in disturbed areas, wetlands, forest edges, floodplains, open-canopy woodlands and roadsides.

### **Control**

In small areas, the site can be mowed or stems cut, followed by an herbicide treatment of foliage resprouts using triclopyr, metsulfuron-methyl (both are broadleaf specific), or non-selective glyphosate. A cut stump application of glyphosate or triclopyr in the fall can be effective. Plants can be hand-pulled or the roots dug out. Monitor the site to treat resprouts and seedlings.

### **Additional Information**

[WIDNR](#)

[USDA](#)

[Plant Conservation Alliance](#)

## **17. Spreading hedge-parsley (*Torilis arvensis*)**

### **Description**

Hedge-parsleys are parsley-like annuals with taproots and erect ridged stems. They grow in a spreading form up to 3 feet in height. Leaves are alternate, pinnately divided, 2 to 5 inches long and may be slightly downy. Small, white flowers are clustered in small, open, flat-topped umbels. Japanese hedge-parsley has 2 or more pointed bracts at the base of each umbel, whereas spreading hedge-parsley lacks such bracts. The small fruiting structure is covered in Velcro-like hairs which attach to clothing and fur, readily dispersing the seed.

### **Look-alikes**

Queen Anne's lace or wild carrot (*Daucus carota*) - a widespread weed in Wisconsin -- has similar finely-divided leaves, but leaves and stems are quite hairy. It also has larger flat-topped flower umbels, with densely packed white flowers. When crushed, it smells like carrots. Other look-alikes for spreading hedge parsley include wild chervil (*Anthriscus sylvestris*), caraway (*Carum carvi*), poison hemlock (*Conium maculatum*), Chinese hemlock parsley (*Conioselinum chinense*), and sweet cicely (*Osmorhiza*).

### **Impacts & Habitat**

In Wisconsin, Japanese hedge-parsley has been found in Dane, Manitowoc, Rock, and Walworth counties. Spreading hedge-parsley is not currently known in Wisconsin, but nationally is more common than japonica. Habitat includes disturbed upland sites such as roadsides, urban areas, railroad rights-of-way and woodlands.

### **Control**

Pull or mow prior to flowering. Treating foliage with glyphosate or triclopyr is effective if done early in the spring or on resprouts after cutting. Monitor site for additional seedlings.

## Additional Information

[WIDNR](#)

[USDA](#)

## 18. Japanese hedge-parsley (*Torilis japonica*) [WI]

### Description

Hedge parsleys are parsley-like annuals with taproots and erect ridged stems. They grow in a spreading form up to 3 feet in height. Leaves are alternate, pinnately divided, 2 to 5 inches long and may be slightly downy. Small, white flowers are clustered in small, open, flat-topped umbels. Japanese hedge-parsley has 2 or more pointed bracts at the base of each umbel, whereas spreading hedge-parsley lacks such bracts. The small fruiting structure is covered in Velcro-like hairs which attach to clothing and fur, readily dispersing the seed.

### Look-alikes

Queen Anne's lace or wild carrot (*Daucus carota*) - a widespread weed in Wisconsin -- has similar finely-divided leaves, but leaves and stems are quite hairy. It also has larger flat-topped flower umbels, with densely packed white flowers. When crushed, it smells like carrots. Other look-alikes for Japanese hedge parsley include wild chervil (*Anthriscus sylvestris*), caraway (*Carum carvi*), poison hemlock (*Conium maculatum*), Chinese hemlock parsley (*Conioselinum chinense*), and sweet cicely (*Osmorhiza*).

### Impacts & Habitat

In Wisconsin, Japanese hedge-parsley has been found in Dane, Manitowoc, Rock, and Walworth counties. Spreading hedge-parsley is not currently known in Wisconsin, but nationally is more common than japonica. Habitat includes disturbed upland sites such as roadsides, urban areas, railroad rights-of-way and woodlands.

### Control

Pull or mow prior to flowering. Treating foliage with glyphosate or triclopyr is effective if done early in the spring or on resprouts after cutting. Monitor site for additional seedlings.

## Additional Information

[WIDNR](#)

[UW Herbarium](#)

[USDA](#)

## 19. Black Swallow-wort (*Vincetoxicum nigrum*; syn. *Cynanchum louiseae*) [WI]

### Description

Both swallow-worts look similar; though they differ in flower color and shape. Swallow-wort vines twine 3 to 6 feet high, often smothering nearby vegetation. Leaves -- 2 to 5 inches long -- are opposite, toothless, oval-shaped with pointed tips, and dark green with smooth, shiny surfaces. Flowers of black swallow-wort are dark purple and each of the five pointed petals is triangular -- about as long as wide -- and finely pubescent with downy white hairs. Pale swallow-wort flowers are maroon to dark pink, and each petal is at least twice as long as wide and lacks hairs. Slender, tapering seed pods - 1.5 to 3 inches long -- resemble those of other milkweeds. Ripe seeds are wind dispersed on silky filaments.

### Impacts & Habitat

Black swallow-wort occurs at a few sites in southern Wisconsin. Pale swallow-wort, while not yet documented in the state, is reputed to be a more aggressive invader forming impenetrable, tangled thickets. Both prefer sunny, upland habitats such as woodland edges, old fields, fencerows, roadsides, vacant lots and pastures.

### **Control**

Eradication is difficult once a colony is established because plants form a dense, knobby mass of underground roots. Initial control efforts should concentrate on plants in sunny areas since they produce the most seeds. All pods should be removed before they open, and then burned or sent to a land fill to prevent seed release. Triclopyr or glyphosate with a surfactant can be applied to foliage during the growing season. Cut-stem treatment with glyphosate is also effective but labor intensive. If plants are hand-dug, all roots must be removed. Monitor for populations in late summer when plants turn golden yellow and pods become prominent.

### **Additional Information**

[WIDNR](#)

[UW Herbarium](#)

[USDA](#)

[Plant Conservation Alliance](#)

## **20. Pale Swallow-wort** (*Vincetoxicum rossicum*; syn. *Cynanchum rossicum*)

### **Description**

Both swallow-worts look similar; though they differ in flower color and shape. Swallow-wort vines twine 3 to 6 feet high, often smothering nearby vegetation. Leaves -- 2 to 5 inches long -- are opposite, toothless, oval-shaped with pointed tips, and dark green with smooth, shiny surfaces. Flowers of black swallow-wort are dark purple and each of the five pointed petals is triangular -- about as long as wide -- and finely pubescent with downy white hairs. Pale swallow-wort flowers are maroon to dark pink, and each petal is at least twice as long as wide and lacks hairs. Slender, tapering seed pods - 1.5 to 3 inches long -- resemble those of other milkweeds. Ripe seeds are wind dispersed on silky filaments.

### **Impacts & Habitat**

Black swallow-wort occurs at a few sites in southern Wisconsin. Pale swallow-wort, while not yet documented in the state, is reputed to be a more aggressive invader forming impenetrable, tangled thickets. Both prefer sunny, upland habitats such as woodland edges, old fields, fencerows, roadsides, vacant lots and pastures.

### **Control**

Eradication is difficult once a colony is established because plants form a dense, knobby mass of underground roots. Initial control efforts should concentrate on plants in sunny areas since they produce the most seeds. All pods should be removed before they open, and then burned or sent to a land fill to prevent seed release. Triclopyr or glyphosate with a surfactant can be applied to foliage during the growing season. Cut-stem treatment with glyphosate is also effective but labor intensive. If plants are hand-dug, all roots must be removed. Monitor for populations in late summer when plants turn golden yellow and pods become prominent.

### **Additional Information**

[WIDNR](#)

[USDA](#)

[Plant Conservation Alliance](#)

## 21. Flowering rush (*Butomus umbellatus*) [WI]

### Description

Flowering rush is a perennial aquatic herb that emerges each spring from winter-hardy rhizomes. Emergent leaves are stiff, narrow, sedge-like (3-edged or triangular in cross-section) and up to 3 feet above the water surface. In deep water, the plant can be entirely submerged. Submerged plants have limp leaves and do not flower. Often unnoticed among other wetland plants until it blossoms, flowering rush has a distinctive spray of attractive white, pink, or purple flowers on a tall stalk. Blooming in late summer to early fall, flowers have 3 petals, 3 sepals and red anthers.

### Look-alikes

The leaves of flowering rush resemble bur-reed (*Sparganium* spp.), another shallow-water emergent that is 1 to 4 feet tall. The several species of bur-reed in Wisconsin all have keeled (V-shaped) leaves and female flower parts that resemble small, spiked balls.

### Impacts & Habitat

Brought from Asia as an ornamental, flowering rush has escaped from water gardens and is now found in several northern states including Wisconsin. It prefers shallow or slow moving water where it grows as an emergent plant in marshes, backwaters and along shorelines. Plants spread by underground rhizomes, forming dense stands and crowding out native species. Reproduction from seed is uncommon.

### Control

Due to resemblance of several native shoreline plants when not in flower, accurate identification of flowering rush must be made. Plants can be cut below the water surface several times during the summer. They will re-sprout, but eventually will decrease in abundance. Small populations can be hand-dug - but extreme care must be taken to remove all root fragments. When the root system is disturbed, small reproductive structures can break off and spread to other areas. All plant parts should be composted away from aquatic environments. Use of chemical herbicides in all Wisconsin aquatic environments (streams, lakes & wetlands) requires a permit from the DNR. Mechanical harvesting may require a permit.

### Additional Information

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[USGS](#)

[Great Lakes Indian Fish and Wildlife Commission](#)

## 22. Fanwort (*Cabomba caroliniana*)

### Description

Fanwort is a freshwater, submersed, perennial plant with short, fragile rhizomes. It is usually rooted in the substrate, but sometimes found drifting. Its stems are green to reddish brown. It has two types of leaves: submersed and floating. The submersed leaves are arranged in pairs or in whorls along the stem and the floating leaves are diamond shaped and are arranged in an alternating pattern. It has small white, pink or purple flowers that float on the surface and grow from the tips of the stems.

### Look-alikes

Fanwort is often confused with watermilfoils (*Myriophyllum*), water buttercup (*Ranunculus aquatilis*) and Beck's watermarigold (*Megalodonta beckii*). The leaves of watermilfoils are whorled and the plants have small, flowers growing from where its leaves meet the stem. Water buttercup has alternately arranged leaves. Beck's watermarigold has yellow, composite flowers and sessile leaves, while Fanwort has white flowers and slender leaves.

### **Impacts & Habitat**

Fanwort is native to the subtropic-temperate regions of southeastern U.S. It currently grows from Texas to Florida, north to Massachusetts and west to Kansas, including several counties in Michigan and New York. Fanwort prefers lakes and ponds, but can also be found in slow-moving rivers, streams, sloughs and ditches. Fanwort primarily reproduces via re-growth of stem or rhizome fragments, but can reproduce via seed. A small fragment can regenerate a whole plant that in turn, can reproduce clonally and spread rapidly, often replacing native species. It flowers from May to September, yet viable shoots have been observed in January beneath ice. Fanwort can form dense stands that clog drainage systems and interfere with swimming and boating. Plant fragments can be transported in rivers, streams or floodwaters, and by adhering to migrating wildlife and boats.

### **Control**

Fanwort appears to be less sensitive to herbicides than other aquatic plants and appears to get most of its nutrients from the water column. Therefore, it may be sensitive to reduction of nutrients in the water. The herbicides endothall and fluridone provide excellent control. In some cases, water level draw downs have been used to reduce fanwort growth by drying the plant and seeds. Grass carp will eat fanwort, but it is not a preferred food. However, carp are non-native to Wisconsin and are usually a nuisance species. After visiting a water body, it is prudent to inspect boats and equipment for plant fragments so as to prevent further spread.

### **Additional Information**

[WIDNR](#)

[USDA](#)

[USGS](#)

[Fanwort - A Problem Aquatic Plant in Washington](#)

[Center for Aquatic & Invasive Plants](#)

[University of Massachusetts Amherst](#)

## **23. Pond water-starwort (*Callitriche stagnalis*) [WI]**

### **Description**

Pond water-starwort is an aquatic perennial monocot (i.e., a plant with both male and female reproductive organs). Its stems are elongate stems that grow from 4 to 12 inches in length. Its leaves are opposite and vary in form depending if they are floating or submersed. The floating leaves have 5 to 7 veins and are small, flat, and egg-shaped. They grow up to 0.30 inch wide and 0.80 inch long. Its submersed leaves are typically linear, have a single vein and grow up to 0.40 inch in length; however, they can also be broader and more closely resemble the floating leaves. Pond Water-Starwort's staminate and pistillate flowers are tiny and simple in structure. Typically, the flowers are positioned next to one another where the leaves meet the stem. The flowers have two small leaf-like parts at their bases, which may help the flowers to float on the water. Pond water-starwort has small, round fruits located at the leaf bases. Its fruit have a narrow margin covering their body and leaf-like parts at their base.

### **Look-alikes**

Pond water-starwort is often confused with other water-starworts due to the variability in leaf shape and size; therefore, mature fruits must be examined for positive identification. It is also confused with other opposite-leaved delicate plants when not in fruit, such as mudwort.

### **Impacts & Habitat**

Pond Water-Starwort is native to Europe and North Africa, where it is widespread in aquatic and sub-aquatic habitats. In Canada it is found in the St. Lawrence Seaway, Newfoundland, and British Columbia. In the U.S., it is found in Massachusetts and Connecticut, all of the mid Atlantic states, Virginia, Tennessee, Alabama, Wisconsin (naturalized and found in three counties), Montana, and the West coast. Pond Water-Starwort grows in stagnant to slow moving water, mostly in ponds, marshes and along the protected banks of streams and lakes. Pond Water-Starwort can form dense mats that can crowd out native aquatic vegetation.

### **Control**

**Mechanical:** Dredging can deepen a water body to a depth where Pond Water-Starwort cannot receive enough light for growth. However, dredging is expensive, particularly if the sediments of a water body are contaminated, and require disposal. Cutting Pond Water-Starwort can be viable but the plant fragments must be removed to prevent re-growth.

**Cultural:** Shade has been successful at impeding growth of Pond Water-Starwort. However, shading an entire water body or large areas of a water body would be difficult, expensive, and expensive.

### **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[USGS](#)

[Washington State Dept. of Ecology](#)

## **24. European marsh thistle (*Cirsium palustre*) [WI]**

### **Description**

This herbaceous biennial grows 4 to 5 feet tall, primarily in moist areas. Leaves in first-year rosettes are spiny, long, deeply lobed and hairy on the underside. On flowering plants, leaves are 6 to 8 inches long near the base and shorter toward the top. Flowering stems are erect, thick, sometimes reddish in color, branched at the top and bristling with spiny "wings" aligned with the stem. Clusters of spiny purple flower heads bloom in June and July and by late summer produce tiny seeds attached to feathery "thistle-down."

### **Look-alikes**

The native marsh thistle (*Cirsium muticum*) has non-spiny stems and flower heads. Other common invasive thistles include Canada thistle (*Cirsium arvense*) which has spiny leaves but non-spiny stems and flower heads, plus bull thistle (*Cirsium vulgare*) and plumeless thistle (*Carduus acanthoides*) which have leaves with sharp spines, stems and flower heads.

### **Impacts & Habitat**

In Wisconsin, European marsh thistle occurs in localized populations, primarily in northern counties. It prefers moist, acidic soils and is found along roadsides and in wetlands, forest edges and fields. Like other thistles, its seeds are readily dispersed by wind.

## **Control**

**Mechanical:** Repeated mowing or selective cutting close to the ground can reduce an infestation within three or four years. The rosettes can be hand-pulled or dug. Flowering heads can be cut off while in the unopened bud stage. If cut during or after flowering, flower heads should be gathered and destroyed.

**Chemical:** Clopyralid or metsulfuron-methyl may be used as foliage sprays. 1 to 2% active ingredient solution of glyphosate can also be used during the stage when plants are 6 to 10 inches tall, during the bud to flowering stage, or when applied to rosettes in the fall. If plants are near open water, use only herbicides approved for such use.

## **Additional Information**

[WIDNR](#)

[UW-Madison Herbarium](#)

[USDA](#)

[USGS](#)

[Great Lakes Indian Fish and Wildlife Commission](#)

## **25. Brazilian waterweed (*Egeria densa*)**

### **Description**

Brazilian waterweed is a submersed, freshwater, perennial herb, usually rooted in the substrate but in some cases, drifting. Its stems are cylindrical and simple or branched, and typically grow 1-2 feet long, but can grow up to 20 feet long. Leaves grow in whorls of 3 to 8 with short internodes making the plant look very leafy. The leaves have tiny serrations on the margin and smooth mid-veins. It has small, white and greenish flowers that extend roughly 1 inch above the water.

### **Look-alikes**

Many other plants look similar to Brazilian elodea and those could be essential to an ecosystem. Brazilian waterweed is often confused with hydrilla (*Hydrilla verticillata*), American waterweed (*Elodea canadensis*) and common waterweed (*Elodea nuttallii*).

### **Habits & Habitat**

Brazilian waterweed is native to South America. It is most prevalent on the west coast and is known in southern Illinois, but is not yet in Wisconsin. It grows in still and flowing waters such as lakes, ponds, pools, ditches, quiet streams and seems to grow best in mildly acidic, nutrient-rich lakes. During winter, it survives along the bottom and resumes growing when waters reach 50 degrees Fahrenheit. It forms mats dense enough to restrict water movement, trap sediment and cause fluctuations in water quality. Reproducing via fragmentation allows it to spread from a single plant and tends to choke out slower-growing native plants. It can also out compete Eurasian water milfoil.

### **Control**

Large infestations of Brazilian waterweed can be controlled with herbicides. Fluridone is most effective but diquat complexed copper mixtures, endothall complexed copper mixtures and endothall dipotassium salt are also effective. In small areas like docks and swimming areas, an opaque fabric can be laid over the substrate to prevent the growth of all rooted aquatic vegetation. Brazilian waterweed can be mechanically removed but this should only be used when all other available approaches are exhausted, as it spreads via fragments.

## **Additional Information**

[WIDNR](#)

[USDA](#)  
[USGS](#)  
[Aquatic Invasive Species](#)  
[A Problem Aquatic Plant in Washington](#)

## **26. Hydrilla** (*Hydrilla verticillata*)

### **Description**

Hydrilla is a prolific, rapidly-growing submerged aquatic plant that can thrive in water from a few inches to 20 feet deep. Leaves are small (1/2 - 3/4 inches), triangular-pointed and occur in whorls of 4 to 8 leaves along the stem. Unlike many native water plants, hydrilla leaves have serrated edges and one or more protruding barbs or bumps along the midrib on the underside. They are usually green but may bleach in the sun to yellow or brown. Stems are heavily branched near the surface and grow horizontally, forming dense mats of vegetation. Small tubers are present at the rooted base of the plant.

### **Look-alikes**

Hydrilla is often confused with the native waterweeds (*Elodea canadensis* and *Elodea nuttallii*), whose leaves -- typically in whorls of 3 -- appear smooth-edged and lack spines on the midrib. It also resembles the invasive Brazilian waterweed (*Egeria densa*), which is not yet in Wisconsin and has finely serrated leaves (3/4 - 1.5 inches) in whorls of 3 to 6.

### **Impacts & Habitat**

Hydrilla - a native of Africa - was brought to the U.S. as an aquarium plant. It is now widespread in southern states and has been reported as far north as Oregon, Iowa and Maine, though is not known to occur in Wisconsin. Hydrilla has several methods of reproduction. Within a water body, branch or root fragments from broken plants can drift to new areas. It can also spread to new locations from plant fragments attached to boats and trailers. Turions - tiny, compact buds which form in leaf axils along the stem - break free and drift to new areas. Studies at the University of Minnesota have indicated that the turions of the monoecious form are likely to survive in northern climates. The dioecious form appears to be less cold tolerant. Tubers, which form on the roots and can lie dormant for several years, can propagate new plants. Hydrilla can grow in a wide range of conditions, including low light, flowing or still waters, shallow or deep. It out-competes the widespread invasive Eurasian water-milfoil with its even more rapid growth and reproduction. It is a serious threat to lakes and streams everywhere because of its adaptability.

### **Control**

Because hydrilla is similar to native waterweeds, be sure of proper identification before beginning control measures. Plants can be collected by hand or mechanical harvesters, with all parts composted away from aquatic environments. Use of chemical herbicides in all Wisconsin aquatic environments (streams, lakes & wetlands) requires a permit from the DNR. Mechanical harvesting may require a permit.

### **Additional Information**

[WIDNR](#)  
[UW-Madison Herbarium](#)  
[USDA](#)  
[USGS](#)

## **27. European frog-bit** (*Hydrocharis morsus-ranae*)

### **Description**

European frog-bit is a free-floating aquatic plant that resembles a miniature water lily. Leaves are thick, heart-shaped, 1 to 2 inches wide and smooth-edged with spongy, purplish-red undersides. Small, showy flowers are ½ inch across, appear singly and have three white petals and yellow centers. Roots are 3 to 8 inches long and unbranched, dangling from the underside of each rosette of leaves. Plants form a thick mat with tangled roots and runners.

### **Look-alikes**

European frog-bit can be mistaken for water lily but its leaves are distinctly heart-shaped, leathery and much smaller than any of Wisconsin's water lilies. Water lily flowers are much larger, with more than 3 petals.

### **Impacts & Habitat**

European frog-bit is present in New York, Vermont, Michigan and Ontario but is not yet known in Wisconsin. There are two primary methods of reproduction. Plants send out horizontal stems (stolons) which produce daughter plants that can break free and float to new locations. It also produces turions - compact winter buds that sink to the bottom in fall and float back up in spring to grow into new plants. Thick mats of frog-bit inhibit light penetration and can hinder the movement of fish, waterfowl and boats. It prefers quiet waters and can blanket shallow ponds, marshes and the edges of lakes. Like other aquatics, it can spread to new locations from plant fragments attached to boats and trailers.

### **Control**

Plants can be collected by hand or mechanical harvesters, with all parts composted away from aquatic environments. Care must be taken to prevent plant fragments from escaping the infestation site. Sites should be checked annually for re-infestations. Use of chemical herbicides in all Wisconsin aquatic environments (streams, lakes & wetlands) requires a permit from the DNR. Mechanical harvesting may require a permit.

### **Additional Information**

[WIDNR](#)

[USDA](#)

[USGS](#)

## **28. Parrot feather** (*Myriophyllum aquaticum*)

### **Description**

Parrot feather is an herbaceous aquatic plant that grows to a length of 6.5 to 16 feet. Its stems are greenish blue with numerous small leaves that resemble feathers. The leaves are either submersed or emergent and grow in whorls of 4 to 6 around the stem. Emergent stems are bright green in color and can reach up to a foot above the water surface. The emergent leaves are also vibrantly green, grow to 2 inches long, and have 6-18 divisions per leaf. The submersed leaves are only 1.25 inches long with 20-30 divisions per leaf and are dark green and limp. Barely visible flowers grow from between the stem and the emergent leaves.

### **Look-alikes**

This species is easily confused with the native water milfoils and the invasive Eurasian water milfoil.

### **Impacts & Habitat**

Parrot feather is native to the Amazon in South America, but has spread to the east and west coasts of the United States as well as some Midwestern states. It prefers warm mild climates although it can survive temperate winters. Parrot feather grows best in still waters such as lakes, ponds, quiet streams and drainage ditches, but is able to survive in rivers. Vegetative reproduction is the only dispersal agent because female plants are not found in the United States. Parrot feather infestations can cause drainage problems in shallow rivers and streams as well as impeding recreational and commercial boating and fishing. It alters river and lake ecosystems by shading out the water column, disrupting native plant growth and providing breeding ground for mosquitoes.

### **Control**

As fragmentation may cause more dispersal, mechanical control is not recommended unless all habitats are infested. The emergent stems and leaves of parrot feather have a waxy coating so a surfactant is necessary for herbicide penetration. Use only herbicides approved for open waters. Successful control has been achieved by using Glyphosate and 2,4-D, diquat, diquat and complexed copper in summer or fall when water levels are low.

### **Additional Information (Links exit DNR)**

[WI DNR](#)

[USDA](#)

[USGS](#)

[A Noxious Aquatic Weed in Washington](#)

## **29. Yellow floating heart (*Nymphoides peltata*) [WI]**

### **Description**

Yellow Floating Heart is an herbaceous, perennial, aquatic plant that has long, branching stems up to 0.1 inch thick. It often covers the water surface with long-stalked heart-shaped leaves. Its leaves are typically opposite and unequal, shaped like a rounded heart, and measure 2-6 inches in diameter. It has bright yellow flowers that rise a few inches above the leaves. Its flowers have five petals with fringed edges, and measure 1-1.5 inches in diameter. The seeds of this plant are contained in beaked capsules that measure 0.5-1 inch in length. The seeds themselves are flat and oval in shape and have ciliate margins that measure 0.1 inch in length.

### **Look-alikes**

Yellow Floating Heart is often mistaken for immature Bull-head Pond-Lily. However, the immature Bull-head Pond-Lily does not have flowers. European frog-bit, small yellow pond lily, little floating heart, watershield, spatterdock, and fragrant waterlily are also similar species.

### **Impacts & Habitat**

Yellow Floating Heart is native to Eurasia and the Mediterranean Sea region, as well as Japan, China, and India. In the U.S., it has been reported in Washington, California and Arizona, Oklahoma, Texas, the lower Mississippi River Valley, the Ohio River Valley, the Mid Atlantic States, New England, and New York. Yellow Floating Heart is often found in water gardens where many of the plants originated. It often roots in the mud and prefers still waters such as lakes and ponds, slow moving rivers, and reservoirs. It grows in dense mats, which can shade out native plant species. Underneath these mats, stagnant areas, with low oxygen levels and harmful to aquatic life, can form. These mats make it difficult to fish, boat, swim, or even paddle a canoe or kayak. In warmer areas, it has formed large stands that can block waterways. Yellow Floating Heart appears to be an aggressive grower and at times "hitchhiker" plants such as hydrilla can also be introduced to a water body when nursery or mail order species are planted.

Currently, it is commonly sold for water gardens, and can establish if carelessly discarded into a water body. Moreover, it is paramount that this plant not be planted in any lakes or natural water bodies.

### **Control**

There are few examples of controlling Yellow Floating Heart. However it has a similar growth habit to the fragrant waterlily and it is expected that methods used to manage waterlilies would also be effective on yellow floating heart.

**Mechanical:** Cutting, harvesting, covering with bottom barrier materials should work

**Chemical:** Aquatic glyphosate (Rodeo®) may work, however, permits and special licenses are required.

### **Additional Information (Links exit DNR)**

[WI DNR](#)

[USDA](#)

[USGS](#)

[A Noxious Aquatic Weed in Washington](#)

## **30. Water chestnut (*Trapa natans*)**

### **Description**

Water chestnut is an annual, rooted aquatic plant with a leafy rosette that floats on the surface. Stems can reach up to 16 feet, supporting two types of leaves. Submersed leaves are feathery, whorled along the stem and up to 6 inches long. Leaves are triangular, 1 to 2 inches long, waxy and have toothed edges. Leaf stems have a bladder-like swelling that provides buoyancy. Flowers are small, white, have 4 petals and bloom from mid-July to fall frost. The fruit is a one-inch wide woody nut armed with 4 stout barbs. The sharp barbs are a painful hazard to swimmers and bare feet.

### **Impacts & Habitat**

Water chestnut, originally from Eurasia, is well established in northeastern states but not yet known in Wisconsin. Each rosette can produce 15 nuts per season which sink to the bottom and remain viable for up to 12 years. The seeds germinate in spring and each new plant can divide into 10 - 15 rosettes over the summer. One acre of water chestnut can produce enough seeds to cover 100 acres the following year. Dense mats of stems and floating rosettes can deplete oxygen levels, choke out native species and hinder navigation. Water chestnut spreads by seed, by rosettes that break apart and float to new locations, and by fragments that attach to boats and trailers. It prefers calm, nutrient-rich lakes or streams with slightly alkaline waters.

### **Control**

Infestations can be eradicated by hand-pulling or through mechanical harvest, but sites must be monitored for many years to spot plants germinating from dormant seeds. Use of chemical herbicides in all Wisconsin aquatic environments (streams, lakes & wetlands) requires a permit from the DNR. Mechanical harvesting may require a permit.

### **Additional Information**

[WI DNR](#)

[USDA](#)

[USGS](#)

[Vermont Department of Environmental Conservation](#)