Prohibited Species

The following species are all considered prohibited species according to the NR 40 Rule. This means these species are not yet in the state of Wisconsin or are in only a few places and are likely to cause environmental, economical, or harm to human health. A person cannot possess, transport, transfer, or introduce a prohibited species without a permit.

This is not the whole list of species and rules. For more detailed information, please see the full text of the <u>NR 40 Rule</u>.



Photo by: Dan L. Gustafson



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Missouri Department of Conservation



Carolina Fanwort (Cabomba caroliniana)



Photo by: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Identification

- Submerged aquatic plant.
- Highly divided, opposite leaves that are fan shaped.
- Small floating leaves will sometimes be present and are linear.
- Floating leaves have smooth margins.
- White flowers form on tips of stems.
- Flowers have 3 petals and 3 sepals.
- Stems can grow up to 6.5 feet tall.



Photo by: Ian Pfingsten—USGS



Photo by: University of Florida, Center for Aquatic and Invasive Plants

Ecological Impact

- Can form dense stands, crowding out native vegetation.
- The dense stands can clog streams, canals, and can interfere with recreational water use.
- Spreads by fragmentation.

- Perennial.
- Native to Southeastern United States.
- Can grow in water up to 10 feet deep.
- Sold in the aquarium trade.





European Frogbit (Hydrocharis morsus-ranae)



Identification

- Free-floating plant.
- Resembles a cluster of tiny lily pads.
- Leaves are round to heart shaped and 2 inches or less in diameter.
- The undersides of leaves are purple, red, or green.
- Leaves have a spongy texture.
- Flowers grow up to an inch wide and are held above the surface of the water.
- Flowers are white with a yellow center and have 3 petals.



Ecological Impact

- Can form large mats that can interfere with recreational activities and water flow.
- The large mats can reduce light getting below the water's surface, interfering with the native plant community. This can also lead to a decrease of dissolved oxygen in the water.



- Perennial.
- Native to Europe and Asia.
- Was first discovered in Wisconsin in 2021 in the coastal areas of Marinette and Oconto Counties.





Faucet Snail (Bithynia tentaculata)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Paul Skawinski, UW-Extension Lakes



Identification

- Brown to black in color.
- Grows up to 1/2 inch in length.
- Has 4-6 whorls and a right-hand opening.
- Has a covering on its shell opening (also called an operculum).

Ecological Impact

- Outcompetes native snail populations, which are food sources for fish, birds, and other wildlife.
- Intermediate host for three trematode parasites, also called flukes, that can kill waterfowl if consumed.
- May clog water intake pipes.

Other Information

- Native to Europe.
- Typically spreads by attaching to boats, anchors, plants, and other equipment.
- May be transported by migrating waterfowl as well as from waterfowl hunters' gear and equipment.
- Can live up to a month in dry mud.



Freshwater Golden Clam (Corbicula fluminea)



Identification

- Clam that grows up to 2 inches wide.
- Color can be yellow to gold to brown.
- The inside is white or light blue.
- Shell has distinct ridges on the outside.
- There is a serrated tooth on the inside and three large teeth at the hinge (middle photo).
- The shell is extremely durable—you will not be able to crush the shell with your fingers.



Photo by: Paul Skawinski, UW-Extension Lakes



Ecological Impact

- Is able to self-fertilize.
- One clam can lay up to 70,000 eggs a year, outcompeting native clams for habitat and food.
- They prefer sandy habitats, which can decrease available fish spawning areas.
- Consume plankton through filter-feeding, competing with other aquatic wildlife for food.

- Native to Southeast Asia, parts of Central and Eastern Australia, Africa, and the Mediterranean.
- Clams burrow down into the sediment.
- Looks similar to Wisconsin's native fingernail clam, which will crush very easily in your fingers.





Hydrilla (Hydrilla verticillata)



Photo by: Paul Skawinski, UW-Extension Lakes

Identification

- Submerged aquatic plant.
- Leaves occur in whorls of 4-8.
- Leaves crowd near the ends of each branch causing it to look bushy.
- Has serrated leaf edges and spines on the underside of leaf along the midvein.
- Female flowers are white with 6 petals.
- Male flowers are green and look like inverted bells.



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: University of Florida, Center for Aquatic and Invasive Plants

Ecological Impact

- Invades lakes, ponds, reservoirs, rivers, and ditches.
- Can be found rooted 20 feet or more below the water's surface.
- Prefers slow moving or still water.
- Can form dense mats, outcompeting native species.
- Dense mats can also affect fish populations and interferes with recreation such as boating, fishing, and swimming.
- Acts as a breeding ground for mosquitos as it can make the water stagnant from dense populations.

- Perennial.
- Spreads through the aquarium trade and illegal aquarium dumping.
- Hydrilla can be confused with native common waterweed. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.





New Zealand Mudsnail (Potamopyrgus antipodarum)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Dan L. Gustafson

Identification

- Grows 4 to 6 mm long.
- Has a right-hand opening.
- Elongated shell with 7 to 8 whorls and deep grooves.
- Color ranges from gray to light or dark brown.
- Has a covering on its shell opening (also called an operculum).

Ecological Impact

- Are able to clone themselves, meaning only one snail is needed to start a new population.
- Able to spread easily due to their small size.
- They have been observed at densities up to 800,000 snails per square meter.
- They consume plankton, competing with other aquatic wildlife for food.
- Birds and fish are not able to digest New Zealand Mudsnails.



Photo by: Paul Skawinski, UW-Extension Lakes

Other Information

- Native to New Zealand.
- Can survive out of water for at least 26 days.
- It is extremely important to clean all equipment, such as anchors, boot and wader tread, and all other equipment after being in a stream due to their small size (they can easily be missed through observation only).



Phragmites (*Phragmites australis*)



Photo by: UW Extension, Wisconsin Horticulture

Identification

- Smooth, linear leaves that are blue-green in color.
- Leaf sheaths tightly clasp the stem and stay on throughout the winter.
- Flowers are bushy and range from light brown to purple.
- Flowers bloom from July through September.
- Flower plumes are 7 to 15 inches long and look like a feather duster.
- Bottom of stem has distinct ridges and lacks fungal spots.



Photo by: Great Lakes Phragmites Collaborative



Photo by: Wisconsin DNR

Ecological Impact

- Invades most available habitats including roadsides, lake shores, and river banks.
- Has extensive underground rhizomes, which makes control difficult.
- Alters hydrology and wildlife habitat.
- Shades out desirable native species.
- Increases fire potential.
- Can cause visibility issues on roadways.

- Perennial grass.
- Also known as common reed.
- Wisconsin does have a native phragmites species. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.
- Produces thousands of seeds annually, but viability is low. Mainly spreads through rhizomes.





Red Swamp Crayfish (Procambarus clarkii)



Photo by: Drew Gaddy

Identification

- Dark red in color with bright red raised spots covering the body and claws.
- A black wedge-shaped stripe is found on the top of the abdomen (middle photo).
- They range in length from 2 to 5 inches.



Photo by: Chris Taylor, Illinois Historical Survey, Bugwood.org

Ecological Impact

- Red swamp crayfish are omnivores, meaning they feed on aquatic plants, snails, insects, fish, and amphibian eggs and young.
- Can reduce native populations due to predation and outcompeting native crayfish for food and habitat.
- Often carry the crayfish fungus plague that can affect our native crayfish.



Photo by: Missouri Department of Conservation

- Native to the Gulf Coast of the United States.
- The body and claws may appear blue in some cases.
- Are sometimes shipped to Wisconsin (illegally) for live crayfish boils. There have been instances where live crayfish have escaped from these events.





Spiny Water Flea (Bythotrephes cederstroemi)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: University of Wisconsin Sea Grant

Identification

- Has a 1/4 to 1/2 inch long body.
- The body is translucent, making it hard to see.
- Has a long spine that extends from the abdomen.
- Has a dark, black eye.

Ecological Impact

- Feeds on smaller zooplankton meaning there is less food for small fish.
- The spines make them difficult for fish to eat and digest.
- They reproduce rapidly through asexual reproduction.
- They can gather in masses on fishing lines, downrigger cables, and other equipment.



Other Information

- The tail is typically twice as long as the body.
- Native to Europe and Asia.
- Was unintentionally introduced to the Great Lakes through cargo ship ballast water.

Photo by: University of Wisconsin Sea Grant



Starry Stonewort (Nitellopsis obtusa)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Jim Grazio, PA DEP

Identification

- Submerged macroalgae (large algae that looks like a plant).
- Whorls of 4 to 6 branchlets (leaves) around the stem.
- Branchlets have blunt tips and can be irregular in length.
- Have star shaped bulbils (reproductive structures) that are 2 to 8 mm wide and are located within the sediment.
- The bulbils will have 5 or more points.
- Can grow over 6 feet tall.

Ecological Impact

- Outcompetes native vegetation.
- Reproduce via fragments and bulbils.
- Invades lakes, rivers, reservoirs and ponds.
- Can grow in water depths up to 30 feet.
- Can reduce fish spawning habitats by taking over the area.

- Typically an annual. Can behave as a perennial during mild winters.
- Only male individuals have been documented in North America.
- Native to Europe and Western Asia.





Water Chestnut (Trapa natans)



Photo by: Mike Naylor, MD DNR

Identification

- Large, triangular floating leaves.
- Leaves are heavily serrated.
- Leaves are shiny on the upper side and dull on the bottom.
- Each floating leaf has a swollen base to help it float.
- Submerged leaves are opposite and have many leaflets.
- Flowers are small with 4 white petals on short stalks.
- Flowers float among other leaves.
- Fruits are hard and have 4 sharp spines.

Ecological Impact

- Can spread by fragmentation or seed.
- Can quickly cover the water's surface which will shade out other plants and reduce dissolved oxygen levels.
- Each seed can produce 10-15 rosettes, each having 15-20 seeds.
- Interferes with recreational activities.



Photo by: New York Invasive Species Information

Photo by: Wisconsin DNR

- Annual.
- Native to Europe and Asia.
- This plant is not the same as the water chestnuts that can be purchased in a grocery store.
- Was first used as an ornamental plant in water gardens.





Water Hyacinth (*Eichhornia crassipes*)



Photo by: David Sutton, University of Florida



Photo by: Elizabeth J Czarapata

Identification

- Has round shiny leaves that form in clusters.
- Leaves have an inflated base to help them float.
- Purple roots dangle freely in the water. •
- Flowers have 6 petals and form in clusters above the plants. •
- Flowers are white to blue to purple with a yellow spot.



Ecological Impact

- Can create floating mats that cover the water's surface, reducing light that can reach native plants and reducing dissolved oxygen levels.
- Interferes with recreational activities.
- Creates stagnant water, which can result in an increase in mosquito populations.
- Invades lakes, reservoirs, ponds, marshes, and ditches.



- Perennial.
- Native to South America.
- Was originally introduced as an ornamental plant.





Water Lettuce (*Pistia stratiotes*)



Identification

- Free floating plant that resembles a floating head of lettuce.
- Leaves are soft, thick, and have parallel ridges.
- Leaves grow up to 6 inches long and are covered in short hairs, which make it appear fuzzy.
- Has inconspicuous flowers and a green berry.
- Creates stolons in four directions to create clones of itself.
- Roots dangle freely below the plant.



Photo by: Ann Murray, University of Florida



Photo by: Ann Murray, University of Florida

Ecological Impact

- Invades freshwater lakes, reservoirs, ponds, marshes, slow-flowing streams, and rivers.
- Interferes with recreational activities.
- Can create floating mats that cover the water's surface, reducing light that can reach native plants and reducing dissolved oxygen levels.

- Perennial.
- Native to South America and Africa.
- Experts are unsure if this plant is native to the United States. It was documented in 1765 to be found in Florida.
- Was a popular ornamental plant for water gardens.





Yellow Floating Heart (Nymphoides peltata)



Photo by: Lyn Gettys, University of Florida



Photo by: Vic Ramey, University of Florida

Identification

- Heart shaped leaves that grow from 1 inch to 4 inches long.
- Leaves float on the water's surface.
- Leaves have wavy margins and often have purple undersides.
- Flowers are yellow and have 5 petals with fringed edges.
- Flowers are held on a stalk above the water.

Ecological Impact

- Spreads by rhizomes.
- Invades lakes, riparian zones, ponds, and wetlands.
- Grows in dense patches that can make it hard for sunlight to reach submerged plants.
- Creates stagnant water with low oxygen levels and ideal breeding grounds for mosquitoes.
- Interferes with recreational activities.



Photo by: Amanda Smith, Wisconsin DNR

Other Information

- Perennial.
- Native to Europe and Asia.
- Used as an ornamental plant in water gardens.



Restricted Species

The following species are all considered restricted species according to the NR 40 Rule. This means these species are already widely established in the state of Wisconsin. These species have high environmental and/ or economical impacts as well as the potential to cause harm to human health. A person cannot transport, transfer, or introduce a restricted species without a permit.

This is not the whole list of species and rules. For more detailed information, please see the full text of the <u>NR 40 Rule</u>.



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: University of Minnesota Extension



Banded Mystery Snail (Viviparus georgianus)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: USGS

Identification

- Shells are olive green to brown.
- Shells are up to 1.5 inches tall and 1.5 inches wide.
- Horizontal bands are visible from the inside and outside of the shell but are more prominent on the outside.
- Has a covering on its shell opening (also called an operculum).
- Has 4 to 5 whorls with a right-handed opening.

Ecological Impact

- Feeds on green algae, fish eggs, and can filter-feed for plankton, reducing food sources for native species.
- Can be found in densities up to 800 individuals per square meter.
- Is an intermediate host to trematode parasites, which can kill waterfowl if consumed.
- Competes with native snails for food and habitat.
- Can invade largemouth bass nesting areas.



Photo by: Minnesota DNR. Banded Mystery Snail (right) and Chinese Mystery Snail (left)

Other Information

- Native to the Southeastern United States.
- Gives birth to live young.
- The operculum can seal the shell when it is feeling threatened.
- Young banded mystery snails may be eaten by turtles, fish, and crayfish.



Chinese Mystery Snail (Cipangopaludina chinensis)



Identification

- Large snails that grow up to 3 inches tall.
- Shells are medium to dark brown.
- Has a covering on its shell opening (also called an operculum).
- Has 6 to 7 whorls and a right-handed opening.
- The lower whorl is much larger than the rest.



Photo by: Paul Skawinski, UW-Extension Lakes

Ecological Impact

- Competes with native snails for food and habitat.
- Is an intermediate host to trematode parasites, which can kill waterfowl if consumed.
- Can clog water-intake pipes.
- Invades lakes and slow-moving rivers or streams.



Photo by: Minnesota DNR. Banded Mystery Snail (right) and Chinese Mystery Snail (left)

- Native to Eastern Asia.
- They prefer soft sediments, such as silt, sand, and mud.
- Can survive up to 4 weeks out of the water.





Curly-leaf Pondweed (Potamogeton crispus)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Frank Koshere, University of Florida Center for Aquatic and Invasive Plants



Identification

- Submerged aquatic plant.
- Leaves have serrated edges, are wavy, and have a prominent midvein.
- Leaves can grow up to 4 inches long and are as wide as a pinky finger.
- Stems are flattened.
- Produce turions, which are hardened reproductive structures (bottom photo).

Ecological Impact

- Can form mats that interfere with recreational activities.
- When curly-leaf pondweed dies in mid-summer, it releases phosphorus as it decomposes.
- Has a cold growing season (prefers water temperature of 50°F), meaning it can outcompete native plants due to the earlier growing season in the spring.

- Perennial.
- Wisconsin does have a similar native species. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.
- Native to Europe, Asia, Africa, and Australia.





Eurasian Watermilfoil (Myriophyllum spicatum)



Photo by: University of Minnesota Extension

Identification

- Submerged aquatic plant.
- Leaves are feather-like and divided into 12 or more pairs of leaflets.
- Leaves form in whorls of 4 around the stem.
- Stem is thin, flexible, and may appear brown, green, red, or white.
- Flowers form on a short stem above the water.
- The top of the plant is often red in the summer.



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Paul Skawinski, UW-Extension Lakes

Ecological Impact

- Can form large floating mats at the surface which prevents light from penetrating below the surface to other plants.
- Interferes with recreational activities.
- Outcompetes native species for habitat.

- Perennial.
- Native to Europe, Asia, and Northern Africa.
- Is widespread throughout the state, but is found in less than 10% of all waterbodies in Wisconsin.
- Eurasian watermilfoil can also be found at low densities, blending with native plants.
- Wisconsin does have a similar native species. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.





Flowering Rush (Butomus umbellatus)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Peter M. Dziuk, Minnesota Wildflowers



Photo by: Paul Skawinski, UW-Extension Lakes

Identification

- Leaves are 3-sided and have a triangular cross section.
- Can be emergent or submerged.
- Grows 1 to 5 feet tall.
- Can survive in water up to 10 feet deep.
- Flowers are white to light pink with 3 petals and 3 sepals.
- Flowers have red anthers.
- Flowers form umbels and bloom from June through August.

Ecological Impact

- Can spread very quickly by rhizomes and bulbils (bottom photo).
- Outcompetes and crowds out native vegetation, which contributes to a decrease in wildlife.
- Interferes with recreational activities.
- Typically invades marshes, lakes, ponds, and slow-moving rivers or streams.

Other Information

- Perennial.
- Native to Europe and Asia.
- Wisconsin does have a similar native species. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.



Japanese Knotweed (Polygonum cuspidatum)



Photo by: Wisconsin DNR



Photo by: Wisconsin DNR



Photo by: Wisconsin DNR

Identification

- Alternate, heart shaped leaves that are 3 to 4 inches wide.
- Upper surface of leaves are dark green while underside is pale green.
- Flowers form in spikelets of creamy white, tiny flowers.
- Flowers bloom August through September.
- Stems are segmented and look like bamboo.
- Stems turn red to brown in the winter.
- Can grow up to 10 feet tall.

Ecological Impact

- Invades forest edges, wetlands, fields, roadsides, and urban areas.
- Able to break through pavement or building structures.
- New populations typically arise from soil contaminated with rhizome pieces.
- Prevents tree regeneration and increases soil erosion.
- Shades out desirable native species.
- Plants give off allelopathic chemicals, inhibiting the growth of other plants.
- Disrupts nutrient cycling.

Other Information

- Perennial.
- Native to Eastern Asia.
- Originally brought to the United States to help with soil erosion.
- Also called Japanese bamboo.



Purple Loosestrife (Lythrum salicaria)



Photo by: Paul Skawinski, UW-Extension Lakes

Identification

- Leaves are lance shaped.
- Leaves are opposite and rotated 90 degrees from those below.
- Sometimes the leaves are whorled.
- Flowers are pink to purple with 6 petals.
- Flowers bloom from July through September.
- Stem has square edges and are 4-sided (older stems may be 5 or 6-sided).



Photo by: Katy Chayka, Minnesota Wildflowers



Photo by: Paul Skawinski, UW-Extension Lakes

Ecological Impact

- Mature plants can produce up to 2 million seeds each year.
- Seeds can stay viable in the soil for at least 7 years.
- Invades wetlands, competing with valuable native wetland species.
- Will invade riparian areas of lakes and rivers.
- Creates dense stands, decreasing nesting habitat for birds.

- Perennial.
- Native to Europe.
- Wisconsin does have a similar native species. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.
- Biocontrol is widely used as an effective control method.





Rusty Crayfish (Orconectes rusticus)



Photo by: Missouri Department of Conservation



Photo by: University of Minnesota Extension



Photo by: University of Minnesota Extension

Identification

- Can reach up to 6 inches in length, including the claws.
- The tips of the claws have black bands with bright tips (bottom photo).
- The body is light brown with a rust colored spot on each side of the carapace.



- Very aggressive and can outcompete native crayfish species for food and habitat.
- Rusty crayfish are omnivores and feed on aquatic plants, snails, and other invertebrates.
- In some lakes, rusty crayfish have eaten almost all of the aquatic plants, decreasing the lake fishery, and other wildlife quality.
- Reproduce quickly and females lay 80-600 eggs.

- Native to the Ohio River Basin.
- Typically live 3 to 4 years.
- This species was used as fishing bait, which is the suspected route of introduction.
- Wood County works with Pittsville High School students to trap rusty crayfish every year.





Yellow Iris (*Iris pseudacorus*)



Photo by: University of Florida Center for Aquatic and Invasive Plants



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Washington State Noxious Weed Control Board

Identification

- Leaves are sword shaped, stiff, and grow upright to about 3 to 4 feet tall.
- Flowers are produced on a stem that can grow 3 to 4 feet tall.
- Flowers are yellow and are 3 to 4 inches wide.
- Flowers consist of 3 upright petals and 3 downward pointing sepals.
- Seeds are produced in capsules that are 2 to 4 inches long.

Ecological Impact

- Can produce many seeds that are readily moved downstream from the parent plant.
- Plants can also spread through rhizome fragments.
- Can form dense patches or clumps that can outcompete native species.
- This plant is toxic to herbivores, meaning there is little to no control of the species from wildlife.

- Perennial.
- Yellow iris can look similar to the native blue-flag iris. Take a look at the "Invasive Vs. Native Look-A-Likes" publication on our website for more information.





Zebra Mussel (Dreissena polymorpha)



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Paul Skawinski, UW-Extension Lakes



Photo by: Amy Benson, U.S. Geological Survey

Identification

- Has a "D" shaped shell.
- Can grow up to 2 inches long.
- Has alternating dark and light zigzag stripes.
- Often found attached to hard surfaces, such as rocks, docks, floating rafts, shells, aquatic plants, and tree branches.

Ecological Impact

- Zebra mussels are filter-feeders and each individual can filter up to one liter of water a day.
- They feed on plankton, which is the base of the food web.
- They excrete pseudofeces, which contains phosphorus.
- They can clog pipes, boat motors if they are left in the water, and can cut bare feet (shells of dead mussels will often wash up on shore).

Other Information

- Native to the Caspian Sea, Black Sea, and the Sea of Azov.
- Zebra mussels are microscopic when they are young, contributing to the spread of the invasive species.
- Young zebra mussels will feel like sandpaper when they are attached to a hard surface.
- They can survive outside of water for several days.

