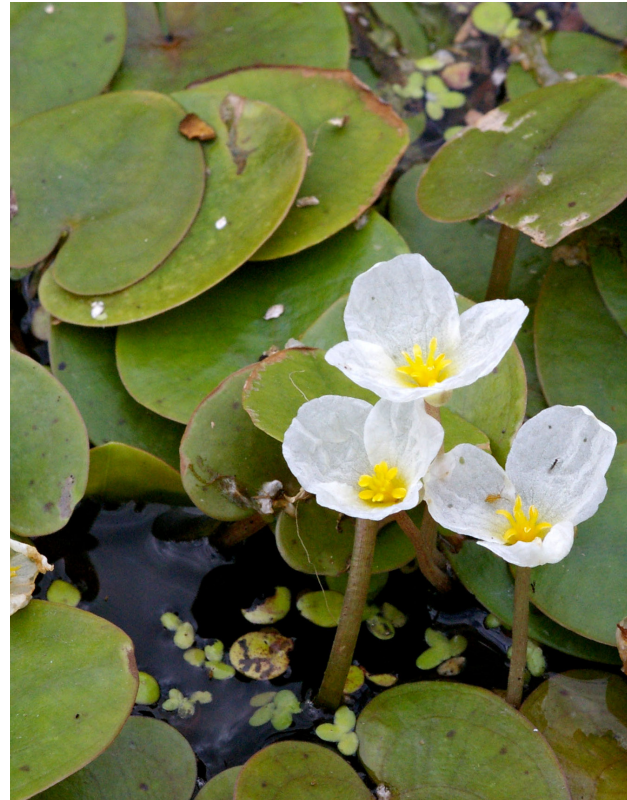


PLANTS

IDENTIFY AQUATIC INVASIVE SPECIES

Working together in Michigan for healthy waters



WHAT'S THE PROBLEM?

Invasive plants have moved into Michigan waters from around the globe. They clog waterways, disrupt aquatic ecosystems, and limit habitat for our beneficial native species. It is extremely costly to eradicate invasive species from Michigan's lakes and rivers once they are introduced.

One way these invaders enter waterways is through the release of unwanted aquariums and water gardens. While releasing unwanted plants into a lake or stream may seem harmless, the consequences can be devastating. Some plants can thrive and out-compete our beneficial native species for food and space. While some tropical animals and plants cannot survive Michigan's climate, aquarium and water garden species can introduce harmful diseases that affect native wildlife.

DON'T LET IT LOOSE

Protect our waterways by following a few simple steps:

Never release aquarium or water garden plants or animals into local waterways.

Inspect and rinse new aquatic plants to rid them of seeds, plant fragments, snails and fish.

Seal aquatic plants for disposal in a plastic bag in the trash. Do not compost.

Build water gardens well away from other waters.

Give or trade unwanted fish or plants with another hobbyist, environmental learning center, aquarium or zoo.

Contact a veterinarian or pet retailer for guidance on humane disposal of animals.

REPORT INVADERS

Suspected invasive aquatic plants in shipments or available for sale should be reported to the Michigan Department of Agriculture and Rural Development immediately: **1-800-292-3939**
MDA-Info@michigan.gov

Report invasive species found in the wild to the Midwest Invasive Species Information Network: misin.msu.edu

The list of state-regulated species is regularly updated. For the latest information: michigan.gov/invasives

LEARN
MORE

For more information on how to reduce invasive pet and plant escapes, visit canr.msu.edu/ripple



RIPPLE
REDUCE INVASIVE
PET & PLANT ESCAPES

MICHIGAN STATE UNIVERSITY | Extension



LIST OF REGULATED SPECIES AS OF 10/12/2021

RIPPLE's education initiatives are coordinated by Michigan State University Extension in partnership with the Michigan Department of Environment, Great Lakes, and Energy, the Michigan Department of Natural Resources, and the Michigan Department of Agriculture and Rural Development. This project was funded by the Michigan Invasive Species Grant Program – Michigan.gov/Invasives.

GET TO KNOW THE INVADERS

REGULATED PLANT SPECIES

Michigan laws regulate the possession and sale of certain invasive plant species that can cause harm to the environment, economy or human health. These unwanted species are listed in Part 413 of the Natural Resources and Environmental Protection Act (NREPA), or Act 451 of 1994, as amended.

Prohibited or restricted plant species identified in NREPA Part 413 cannot be sold or imported into Michigan. These species, however, could be sold unintentionally if they are misidentified or mislabeled, or when plant fragments hitchhike in the transport or growing media of otherwise allowable species.

The following plants, fragments, seeds or a hybrid or genetically engineered variant thereof are specifically prohibited or restricted and cannot be sold or imported.



European frog-bit | *Hydrocharis morsus-ranae*

- Leathery, heart-shaped leaves are 1 to 2 inches wide.
- Free-floating, resembles a miniature water lily.
- Flowers have 3 white petals, blooms in summer.



Hydrilla | *Hydrilla verticillata*

- Leaf margins are distinctly saw-toothed and often have one or more sharp teeth under the center of the leaf.
- 4 to 8 leaves grow around the stem in a whorl.
- Slender roots with potato-like tuber.



Yellow floating heart | *Nymphoides Peltata*

- Rooted aquatic plant with long branched stems up to one meter in length just below the water's surface.
- Heart-shaped leaves are 1-4 inches long. The leaves can also appear round if the lobes overlap.
- Bright yellow 5 petalled flowers are about 1 inch in diameter; flower edges are distinctively fringed.
- Leaves are often purplish underneath, with slightly wavy margins.



Parrot feather | *Myriophyllum aquaticum*

Other names: Myriophyllum brasiliensis, Myriophyllum brasiliense, Myriophyllum proserpinacoides and Enydria aquatica

- Bright green, fir-tree-like.
- Leaves and stems grow up to 1 foot above water.
- Leaflets have a feather-like arrangement.
- Generally 5 leaves whorl around the stem.



Brazilian elodea | *Egeria densa*

Other names: Elodea densa, Anacharis densa and Philotria densa

- Bushy aquatic plant with dense whorls of 4-6 bright green leaves around stem.
- Very small white flowers form at the tip of slender stems above the water in late summer.
- Michigan's native elodea species have 3 leaves per whorl, while Brazilian has 4-6



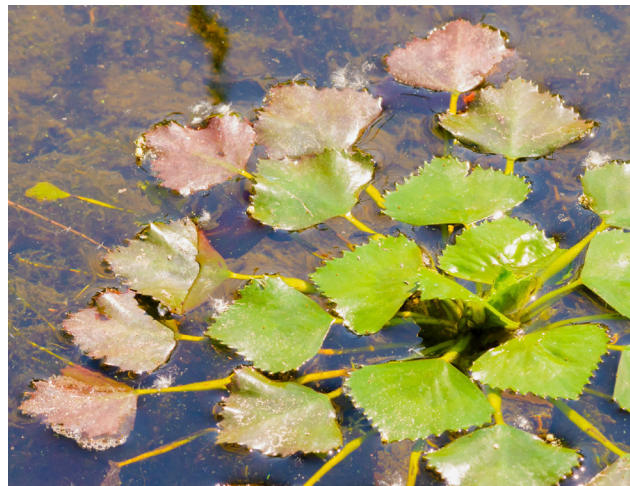
Carolina fanwort | *Cabomba caroliniana*

- Multi-branched submerged plant with leaves oppositely arranged.
- Leaves finely divided into a fan shaped arrangement of leaflets.
- Leaflets are less than 1/2 inch long and very narrow.
- Small oval-shaped leaves are sometimes present.



Eurasian water-milfoil | *Myriophyllum spicatum*

- Feathery appearance, with finely divided pairs of leaflets that are ½-2 inches long.
- Leaves have 12 or more pairs of leaflets.
- Leaves are arranged in whorls of four around the stem.
- Collapses around the stem when removed from the water.



Water chestnut | *Trapa natans*

- Floating leaves are triangular with toothed margins.
- Produces thorny four-pointed nutlets in early summer.
- Leaves are waxy on the top and hairy on the underside.
- Four-petal white flowers appear in early summer.



Purple loosestrife | *Lythrum salicaria*

- Perennial shoreline plant; grows up to 8 feet tall.
- In July produces lush magenta-colored flowers with 5 to 7 petals on long spikes.
- Leaves are long and narrow with pointed tips and smooth edges.
- Two leaves are at each joint and are attached directly to square and slightly fuzzy stem.



Water soldier | *Stratiotes aloides*

- Submerged aquatic plant, becomes buoyant during summer.
- Leaves are up to 15 inches long, sword-shaped with sharply serrated edges.
- Looks similar to an aloe plant, spider plant, or top of a pineapple.



Water lettuce | *Pistia stratiotes*

- Floating plant, resembles an open head of lettuce.
- Leaves are thick, rounded at the end, light green, and have short, white hairs.
- Many feathery roots dangle under the plant.

These plant species are also regulated under NREPA Part 413 but are not as likely to be found in the aquarium or water garden trade: phragmites or common reed (*Phragmites australis*), flowering rush (*Butomus umbellatus*), giant salvinia (*Salvinia molesta, auriculata, biloba, or herzogii*), Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), cylindro (*Cylindrospermopsis raciborskii*), African oxygen weed (*Lagarosiphon major*), starry stonewort (*Nitellopsis obtusa*), autumn olive (*Elaeagnus umbellata*) and curly leaf pondweed (*Potamogeton crispus*).

! = TAKE CARE WHEN PURCHASING

These plants are not prohibited from sale but have invasive tendencies. If purchasing these plants, keep them contained to protect our waterways.



European water clover | *Marsilea quadrifolia*

- Looks like a four-leaf clover.
- Four leaves form a cluster 1 inch wide.
- Can be floating, submerged underwater or grow on shore.



Water hyacinth | *Eichhornia crassipes*

- Floating plant, typically 1 foot tall.
- Showy blue and violet flower with yellow spot.
- Leaves are rounded and leathery, attached to spongy and sometimes inflated stalks.