MIDWEST AQUATIC PLANT MANAGEMENT SOCIETY PLANT REFERENCE CHART

Eurasian watermilfoil (*Myriopyllum spicatum*)

An aggressive plant, this exotic milfoil can grow up to 13 inches per day, forming dense mats at the waters surface. Growing in muck, sand, or rock, it has become a noxious species in many lakes and ponds by quickly outcompeting native species. Identifying features include a pattern of 4 leaves whorled around a hollow stem. Feathery in appearance, each leaf consists of 10-21 pairs of closely packed leaflets. Out of the water the leaves become limp, compressing against the stem. Hybridization with native milfoil species is common.

Curly-leaf pondweed (*Potamogeton crispus*)

This undesirable exotic, also known as Crisp Pondweed, bears a waxy cuticle on its upper leaves making them stiff and somewhat brittle. The leaves have been described as lasagna noodles, but upon close inspection a serrated edge can be seen along the margins. Growing in dense mats near the water's surface, it outcompetes native plants for sun and space very early in spring. By midsummer, massive natural die-offs can release a pulse of phosphorus, lowering oxygen levels, triggering fish kills and potential cyanobacterial blooms.

Hydrilla (*Hydrilla verticillata*)

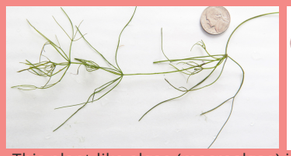
Photo courtesy of Michael J.Grodowitz, U.S. Army Engineer Research and Development

This *extremely* invasive submersed plant contains whorled leaves with the whorls containing 3 to 8 leaves. The leaf has distinctive toothed margins, with pointed spines on the underside mid-rib. IT is easily confused with native *Elodea*, which has three leaves per whorl and lacking evidence of a toothed leaf margin. This plant reproduces through turion formation and fragmentation. Hydrilla has been confirmed in Midwestern states since 2006.

Blue-green algae Cyanobacteria

Duckweed and watermeal are often mistaken for cyanobacteria due to the their appearance on the water. Cyanobacteria can grow very quickly and poses health concerns. The toxics released by cyanobacteria can cause, for example, vomiting, headaches, and difficulty breathing. Blue green algae differs from the true algae, very commonly found in our waterbodies by not being an available food source to our zooplankton and small fish Cyanobacteria is the collective name for a group of blue-green algae species.

Starry stonewort (*Nitellopsis obtusa*)



This plant-like algae (macroalgae) is very similar in appearance to *Chara* spp. and *Nitella* spp.. Unfortunately it is highly invasive, not only outcompeting native submerged plants but exotic species too. It also destroys crucial fish spawning habitat. It has uneven branches growing in whorls from main axis. Branches feel smooth with a green gelatin appearance. A cream colored, star shaped bulbil can be found at the base, at or below the sediment surface. This species can be found growing in shallow and slow moving deep waters.

NATIVE PLANT LOOK ALIKES

Northern watermilfoil

(*Myriophyllum sibiricum*)

This native species of milfoil, pictured above, can be easily mistaken for the invasive Eurasian watermilfoil. Key differences include Northern watermilfoil remaining stiff when removed from the water, 4-11 pairs of leaflets and the formation of winter buds (condensed leaves) rather than the rooted fragments seen in Eurasian watermilfoil.

Common bladderwort

(*Utricularia vulgaris*)

This free floating plant, pictured left, is actually a carnivorous plant and does not utilize roots. It features finely divided leaves scattered along the stem with many small bladder-like structures attached to the leaves. These bladders act as traps to capture zooplankton. Due to this plant not having roots, floating plants may accumulate in floating mats due to wind or water movement.

NATIVE PLANT LOOK ALIKES

Large-leaf pondweed

(*Potamogeton amplifolius*)

Thick, large stems and broad, red/brown leaves aid in identification of large-leaf pondweed, pictured right. The submerged leaves appear wavy and taper toward the stem. Leaves contain 19-49 veins. Floating leaves are usually green and egg shaped. Rarely is this pondweed found branching.

Clasping-leaf pondweed

(*Potamogeton richardsonii*)

Appearing extremely leafy at the tip due to frequent branching, clasping-leaf pondweed can be easily confused for curly-leaf pondweed. Both bear wavy submerged leaves, however curly-leaf pondweed's leaves are serrated along the edges. Clasping-leaf pondweed has leaves with smooth edges and a wide base that wraps partially around the stem.

NATIVE PLANT LOOK ALIKES

Common waterweed

(*Elodea canadensis*)

This submersed plant with broad oval leaves at first glance, appears very similar to hydrilla, however this plant usually has leaves in whorls of three around the stem. Whorls are compact near the growth tip with spacing between the whorls gradually increasing as you move down the stem. This plant has leaves with smooth edges and lack the spine on the underside like hydrilla.

Slender Naiad

(*Najas flexilis*)

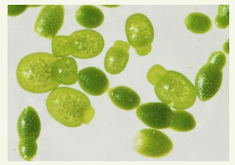
Leaves of the slender naiad may occur in pseudo-whorls or oppositely positioned pairs (whorls tend to occur at the end of the stems). The ribbon like leaves are submersed with variable spacing between the nodes. The edges may or may not appear spiny and the leaf tips taper to a fine point. Naiads are annual plants, growing from seed each year, and can form dense, bushy masses by midsummer.

NATIVE PLANT LOOK ALIKES

Duckweeds

(*Lemna* spp.)

Duckweeds are members of the family containing the world's smallest flowering plants. They are generally a very small floating green plant, usually smaller than your smallest fingernail. Often mistaken for algae, this plant floats on the surface of the water and reproduces very rapidly. This plant may or may not have a root extending from the underside, but these plants are not rooted to the soil.



Watermeal

(*Wolffia* spp.)

These plants are extremely small, no larger than a pin head. It shows no visible roots and looks like green cornmeal or grits. The smallest of the flowering plants, they are usually very abundant when present. They are often mistaken for seeds floating on the surface or as algae. These species are generally very difficult to control, and often coexist with duckweed.

NATIVE PLANT LOOK ALIKES

Muskgrasses

(*Chara* spp.)

Muskgrasses are typically found growing in clear, hard water. Lacking true stems and leaves, muskgrasses are actually a form of macroalgae. Its stems are hollow with leaf-like structures in a whorled pattern. It may be found growing with tiny, orange fruiting bodies on the branches called oogonia. Thick masses of muskgrasses can form in some areas. Often confused with starry stonewort, or milfoils, it can be identified by a gritty texture and, sometimes, musky odor when crushed between the fingers. The gritty texture is caused by calcium depo on the surface of the stems and branches.

MIDWEST AQUATIC PLANT MANAGEMENT SOCIETY

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MIDWEST AQUATIC PLANT MANAGEMENT SOCIETY PLANT REFERENCE CHART

Fanwort (*Cabomba caroliniana*)

This submerged invasive species is not common and management tools are limited. Fanwort is very similar to aquarium species. Leaves are divided into fine branches in a fan-like appearance, opposite structure, panning 2 inches. Floating leaves are small, diamond shaped with an emergent white/pinkish flower. Dense stands can occur forming mats at the waters surface

Yellow floating heart (*Nymphoides peltata*)

This five petaled yellow floating plant can be growing in slow moving waters. Yellow floating heart has round or heart shaped leaves that can be scalloped. This plant can create dense mats that shade out native aquatic plants and cause problems like increased mosquito breeding habitat, impeding boating activity and causing oxygen level decreases. . Yellow floating heart can spread by seeds or fragmented pieces. Yellow floating heart picture credited to Michigan DNR.

European frog-bit (*Hydrocharis morsus ranae*)

European frog-bit forms large free floating mats leading to recreation issues and causing an increase in mosquito breeding habitat. The leaves look like very small lily pads that can be round or heart shaped. This plant can look similar to yellow floating heart but European frog-bit has very spongy leaves with a purple underside. The roots of European frog-bit are not anchored into the soil.

Common reed (*Phragmites australis* subsp. *australis*)

This emergent exotic plant grows extremely tall (15 ft.), outcompeting native wetland plants, altering hydrology and blocking sunlight to aquatic shoreline species. Common reed is a perennial grass that has broad pointed flat leaves (6-24 in. long; 1-6 cm wide), which arise from a very thick stalk. The plant flowers in July through October with dense, fluffy, gray or purple appearance. A native species does also exist.

Purple loosestrife (*Lythrum salicaria*)

An established invasive species. Outcompeting many wetland species and altering habitat. Plants form dense stands reaching heights of six feet. Leaves are alternate and oppositely attached directly to the stem with a heart shaped base. The flowers are magenta with five to seven petals. Flowers usually appear in July and continue to bloom through October.

NATIVE PLANT LOOK ALIKES

Coontail
(*Ceratophyllum demersum*)
Supporting waterfowl, fish, and insects, Coontail can be a desirable aquatic plant. However, thick growths around shore can be problematic. Lacking true roots, it commonly flowers near the surface later in the summer. Stiff leaves are whorled, sometimes toothed, around a hollow stem in groups of five to twelve. Coontail can be differentiated from milfoils by its forked, not feathery leaves. Leaf spacing is highly variable, but the ends are often bushy, like a raccoon 's tail.

Water marigold
(*Bidens beckii*)
This aquatic marigold has solitary yellow flowers above two emergent leaves. The submersed leaves are highly divided and become limp when removed from the water. Water marigold is usually unbranched and can be up to 2 meters in length. Water marigold differs from fanwort by the flower and the leaf branching. Fanwort has small white flowers and leaves are arranged oppositely where water marigold has yellow flowers and whorled leaves.

NATIVE PLANT LOOK ALIKES

White water lily
(*Nymphaea odorata*)
Large round pad with a cleft running almost to the mid-vein. Leaves are usually 6-8 inches in diameter and the leaf veins radiate outward from the petiole. The underside of the leaf is a purplish red color and the flower is white with many rows of petals. This plant has a thick, fleshy rhizome network buried in the sediment.

Watershield
(*Brasenia schreberi*)
Also known commonly as Dollar Bonnet. This plant's leaves are oval to elliptical with a smooth edge. The stem is attached to the middle of the leaf. Leaves are 2-5 inches in length. Mature plants will have a slimy, gelatinous coating on the leaf underside. This plant produces a dull purple flower in late summer, grows from roots.

OTHER COMMON NATIVE PLANTS

Long-leaf pondweed
(*Potamogeton nodosus*)
Floating leaves are oval and the base tapers to a distinct petiole. The submersed leaves of this plant are often lance-like, and also taper to a long petiole. This plant generally has sparse leafing that is arranged alternately.

Wild celery
(*Vallisneria americana*)
Also known commonly as eelgrass or tapegrass, this submerged plant is highly valuable for fish and waterfowl. The grass like leaves have a distinctive pattern used to identify the plant. Flaccid when out of the water, the foliage occurs in tufts, much like turf grass. Soft muck bottoms are its preferred substrate.

Bulrush
(*Schoenoplectus* spp.)
This plant has long, tall triangular or round stems that may or may not contain leaves. This plant has a cluster of brownish, flowers and seeds located at the end of the stem. This plant will generally be found along the shoreline or in shallow waters.

Southern naiad
(*Najas guadalupensis*)
Closely resembling slender naiad, southern naiad tend to be leafier with reddish brown stems. Leaves appear spiny along the margins. Sheaths at the base of the leaves surround the stem and may conceal seeds. This plant can form dense colonies along the bottom of our waters.

Arrowhead
(*Sagittaria* spp.)
This plant is named for its arrow shaped leaf. This emergent plant may also have some elliptical emergent leave and sometimes will also have ribbon, or tongue-like submersed leaves. This plant has underground rootstocks with tubers and may at times have tiny white flowers present.

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