



Lake Owassa Aquatic Plant Summaries-July 2009



Common Bladderwort (*Utricularia vulgaris*):
Common Names: common bladderwort, great bladderwort. **Native.**): Common bladderwort is a free-floating plant that can reach 2-3 meters in length. Since they are free-floating, they can grow in areas with very loose sediment. Along its stem are finely divided leaf-like branches, forked 3-7 times. Scattered about the branches are numerous bladders, used to capture prey ranging from the size of unicellular

protozoans (such as *Euglena*), to mosquito larvae. Prey is slowly digested inside the bladders by enzymes. Common bladderwort produce small yellow flowers that protrude above the water. Stems of common bladderwort provide food and cover for fish.



Common Waterweed (*Elodea Canadensis*): Common Names: elodea, common waterweed. **Native.**): Common waterweed has slender stems that can reach a meter in length, and a shallow root system. The stem is adorned with lance-like leaves that are attached directly to the stalk that tend to congregate near the stem tip. The leaves are populated by a variety of aquatic invertebrates. Male and female flowers

occur on separate plants, but it can also reproduce via stem fragmentation. Since common waterweed is disease resistant, and tolerant to low-light conditions, it can reach nuisance levels, creating dense mats that can obstruct fish movement, and the operation of boat motors.



Coontail (*Ceratophyllum demersum*. Common Names: coontail, hornwort. **Native**.): Coontail has long trailing stems that lack true roots, although it can become loosely anchored to sediment by modified leaves. The leaves are stiff, and arranged in whorls of 5-12 at each node. Each leaf is forked once or twice, and has teeth along the margins. The whorls of leaves are spaced closer at the end of the stem,

creating a raccoon tail appearance. Coontail is tolerant of low light conditions, and since it is not rooted, it can drift into different depth zones. Coontail can also tolerate cool water and can over winter as a green plant under the ice. Typically, it reproduces via fragmentation. Bushy stems of coontail provide valuable habitat for invertebrates and fish (especially during winter), and the leaves are grazed on by waterfowl.



Spiny Hornwort (*Ceratophyllum echinatum*: Common Names: coontail, hornwort): Spiny hornwort is a type of coontail that inhabits low-pH, soft water lakes. It has long trailing stems that lack true root systems. Its stiff leaves are arranged in whorls. Spiny hornwort leaves are forked 3-4 times and possess small spines. The fruit of spiny hornwort has numerous spines of

various lengths around its margin, and a rough surface. Due to its tolerance for cool water, and low-light conditions, plus its ability to reproduce by fragmentation, spiny hornwort can reach nuisance levels. Waterfowl graze on its foliage and fruit, and its leaves host a myriad of aquatic insects.



Leafy Pondweed (*Potamogeton foliosus*: Common Name: leafy pondweed. **Native**.): Leafy pondweed has freely branched stems that hold slender submerged leaves that become slightly more narrow as they approach the stem. The leaf contains 3-5 veins and often tapers to a point. No floating leaves are produced. It produces early season fruits in tight clusters on short stalks in the

leaf axils. These early season fruits are often the first grazed upon by waterfowl during the season. Muskrat, beaver, deer and even moose also graze on the fruit. It inhabits a wide range of habitats, but usually prefers shallow water. It has a high

tolerance for eutrophic conditions, allowing it to even colonize secondary water treatment ponds.



Ribbon-leaf Pondweed (*Potamogeton epihydrus*: Common Name: ribbon-leaf pondweed). **Native.:** Ribbon-leaf pondweed has flattened stems and two types of leaves. The submersed leaves are alternate on the stem, lack a leaf stalk, and are long tape-like in shape. Each leaf, which can reach lengths up to 2 meters long, has a prominent stripe of pale green hollow

cells flanking the midvein, and 5 to 13 other veins. Stipules are not fused to the leaf. Floating leaves are egg or ellipse-shaped, and supported by a leaf stalk about as long as the leaf itself. Fruiting stalks are located at the top of the stem and packed with flattened disk-shaped fruits. It is typically found growing in low alkalinity environments, and in a variety of substrates. Seeds are highly sought after by all manner of waterfowl.



Slender Naiad (*Najas flexilis*: Common Names: slender naiad, bushy pondweed. **Native.:**) Slender naiad has fine-branched stems that can taper to lengths of one meter, originating from delicate rootstalks. Plant shape varies; some times compact and bushy, other times long and slender, depending on growing conditions. The leaves are short (1-4 cm long) and finely serrated,

tapering to a point. It is found in a variety of habitats, and can colonize sandy or gravelly substrates. If conditions are ideal, it can reach nuisance densities. It is a true annual, and dies off in the fall, relying on seed dispersal to return the next year. It is an important food source for waterfowl.



White Water Lily (*Nymphaea* sp. Common Name: white water lily, fragrant water lily): White water lily leaf stalks emerge directly from a submerged fleshy rhizome. White water lilies have round floating leaves. Flowering occurs during the summer, and the flowers open during the day, and close during the night. Water lilies typically inhabit quiet water less than two meters

deep, such as ponds, shallow lakes and slow-moving streams. The leaves offer shade and protection for fish, and the leaves, stems, and flowers are grazed upon by muskrats, beaver, and sometimes even deer.



Spatterdock (*Nuphar variegata*. Common Name: yellow pond lily, bullhead pond lily, spatterdock. **Native.**): Yellow water lily leaf stalks emerge directly from a submerged fleshy rhizome. Yellow water lilies have heart-shaped leaves with a prominent notch. Flowering occurs in the summer and, the flowers open during the day and close at night. Water lilies

typically inhabit quiet water less than two meters deep, such as ponds, shallow lakes and slow-moving streams. The leaves offer shade and protection for fish, and the leaves, stems, and flowers are grazed upon by muskrats, beaver, and sometimes, even deer.



Water Moss (*Fontinalis* sp. Common Name: water moss. **Native.**): Water mosses are submerged mosses that are attached to rocks, trees, logs, and other hard substrates by false rootlets located at the base of their stems. The stems are dark-green to brown, and about one foot long. The leaves share a similar color as the stems, and are usually ovate with fine-toothed margins. Water moss is

utilized by aquatic invertebrates, and as a breeding site for small fish. Water moss rarely reaches nuisance levels.



Curly-leaf Pondweed (*Potamogeton crispus*.
Common Name: curly-leaf pondweed.

Invasive.): Curly-leaf pondweed has spaghetti-like stems that often reach the surface by mid-June. Its submersed leaves are oblong, and attached directly to the stem in an alternate pattern. The margins of the leaves are wavy and finely serrated, hence its name. No floating leaves are produced. Curly-leaf pondweed can tolerate turbid water conditions better than most other macrophytes. In late summer,

Curly-leaf pondweed enters its summer dormancy stage. It naturally dies off (often creating a sudden loss of habitat and releasing nutrients into the water to fuel algae growth) and produces vegetative buds called turions. These turions germinate when the water gets cooler in the autumn and give way to a winter growth form that allows it to thrive under ice and snow cover, providing habitat for fish and invertebrates.



Watershield (*Brasenia schreberi*. Common
Names: common water shield, water target.

Native.): Watershield is a floating-leaf aquatic plant similar to water lilies. Its stem and leaves are elastic, and are attached to a rooted rhizome that acts as an anchor and source of stored nutrients. The leaf stalks are attached to the middle of the leaf, creating a bull's eye effect,

hence its name water target. The leaves are green on the upper surface, and purple underneath. Maroon to purple flowers peak above the water's surface on short, stout stalks. Watershield is usually coated with a clear gelatinous slime on the stem and underside of the leaves. Watershield prefers soft-water lakes and ponds in sediments containing decomposing organic matter. The whole plant is consumed by waterfowl, and the floating leaves provide shade and cover for fish.



Robbins Pondweed (*Potamogeton robbinsii*. Common Name: Fern Pondweed. **Native**.). Robbins pondweed has robust stems that emerge from spreading rhizomes. The leaves are strongly ranked creating a fern-like appearance most clearly seen while still submerged. Its distinct closely-spaced fern-like leaves give it a unique appearance among the pondweeds

of our region. Each leaf is firm and linear, with a base that wraps around the stem. At the stem it has ear-like lobes fused with a fibrous stipule. No floating leaves are produced. Robbins pondweed thrives in deeper water, and under some circumstances, it can over winter green. Robbins pondweed creates suitable invertebrate habitat, and cover for lie-in-wait predaceous fish, such as pickerel and pike.



Quillwort (*Isoetes* sp. Common Name: Quillwort. **Native**.): Quillwort leaves grow from a fleshy, lobed underground stem adorned with forked roots. The leaves are arranged in a rosette, radiating from the base of the plant. Each leaf has a central vein and four longitudinal air chambers visible in cross-section. Quillwort usually inhabits quiet lake waters ranging from a

few centimeters deep to 1 to 3 meters deep. Most species of quillwort prefer low nutrient soft water habitats. Quillwort foliage is sometimes consumed by waterfowl.



Various-leaved Water Milfoil (*Myriophyllum heterophyllum*. Common Names: Various-leaved Water Milfoil, Variable Water Milfoil. **Native**.): Various-leaved water milfoil has stems that originate from a robust rootstalk. The leaves are divided like a feather, adorned with 7-10 pairs of thread-like leaflets, and usually arranged in a whorl. These whorls are spaced closely

together, usually no more than 10 mm apart. Flowers and seeds are clustered on a spike that sticks out of the water. This spike is adorned with bracts (reduced leaves)

that are blade-shaped with a deep, toothy margin. These oddly-shaped bracts give this water milfoil a unique appearance and its name. Flowers are small with a pink to red tint, and seeds are hard, four-part fruit with low ridges on its back and a small hooked beak. Various-leaved water milfoil can grow in a wide variety of sediments up to 5 meters deep. It is often found in large dense stands that can crowd out other desirable submersed plants. It over winters via hardy rootstalks and rhizomes, but can also reproduce via fragmentation during the growing season. The fruit and foliage is grazed upon by waterfowl, and the dense stands of growth provide suitable aquatic invertebrate habitat. Fish also use the dense stands of growth for shelter, shade areas, and foraging.



Arrowhead (Submersed Rosette) (*Sagittaria* sp.

Common Name: Arrowhead. **Native**): This plant is the submersed rosette of a species of arrowhead. The submersed rosette lacks both flowers and seeds, so further identification is not possible. Arrowhead has emergent leaves, and usually inhabits shallow waters at pond or lake edges, or along sluggish streams. It can tolerate a

wide variety of sediment types and pH ranges. Arrowhead is very suitable for constructed wetland development due to its tolerance of habitats, and ability to act as a nutrient sink for phosphorous. Typical arrowhead reproduction is via rhizomes and tubers although seed production is possible if conditions are ideal. Arrowhead has high wildlife value, providing high-energy food sources for waterfowl, muskrats and beavers. Arrowhead beds provide suitable shelter and forage opportunities for juvenile fish as well.



Slender Riccia (*Riccia fluitans*.

Common Names: Riccia. **Native**): Slender riccia is a rootless liverwort with forked stems often intertwined like a jigsaw puzzle. Closer examination of the flattened thallus (the forked stem-like body), it appears to be a miniature set of antlers. Since it is rootless, it moves about its habitat based wind and/or water

movement much like duckweed. Thus it is not dependant on sediment depth or type, although it requires high water nutrients to sustain its growth. Slender riccia is a non-flowering plant that reproduces via spores. Although it is consumed by

waterfowl, its probably just a byproduct of grazing as the waterfowl target duckweed species intermingled with it. The floating "footloose liverwort" does provide shade and shelter opportunities for fish.