

SUBMERSED WEEDS...

Milfoil (*Myriophyllum*):

Leaves whorled in groups of 4. Each leaf is divided into many thread-like leaflets extending from a central rib (see leaf detail). Forms tangled mats at the surface. Seed heads develop mid to late season and may extend above water surface. Treat anytime weeds are actively growing.



Parrot Feather (*Myriophyllum brasiliense*):

A type of Milfoil. Leaves whorled in groups of 4 to 6. Each leaf is divided into 18 pairs of thread-like segments resembling a feather (see leaf detail). This species differs from other types of Milfoil by having its foliage partially out of the water. Emerged foliage is bright green.



Coontail (*Ceratophyllum demersum*):

Leaves whorled around the stem and have a serrated appearance (see leaf detail). Spacing between leaf whorls variable. Weeds may be long and sparse or bushy. Near end of stem leaves and whorls are crowded. Branches repeatedly forked. Do not confuse with Bushy Pondweed or Chara. Chara has a strong odor when crushed, Bushy Pondweed and Coontail do not.



Elodea (*Elodea canadensis*):

Similar to Hydrilla. Leaves whorled in groups of 3 to 5. Elodea leaves have a smooth edge (see leaf detail). Whorls of leaves are compact near growing tips. Spacing between whorls increases further down the stem.



Hydrilla (*Hydrilla verticillata*):

Similar to Elodea. Hydrilla has leaves whorled in groups of 3 or more. Leaves have a serrated edge with 2 to 3 pointed spines on the midrib of underside (see leaf detail). Whorls of leaves are compact near growing tips. Spacing between whorls increases further down the stem.



Bladderwort (*Utricularia*):

Finely divided leaves scattered along stem with numerous bladder-like structures on leaves. Stems have many branches and are densely leafy at the tips. Flowers are yellow and rise above water surface when mature.



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Horned Pondweed (*Zannichellia palustris*):

Leaves are long and thread-like. Oppositely arranged on stem unlike other pondweeds. Seeds found at leaf base, flattish in shape, and serrated on one side.



Bushy Pondweed (*Najas gracillima*):

Leaves are narrow with tiny spines along the edges. Leaves slightly enlarged at base. Stems slender with frequent branching. Leaves oppositely arranged, or in groups of 2 or more at a node. Leaves densely concentrated at tips. Do not confuse with Chara or Coontail. Chara has a strong odor when crushed, Bushy Pondweed and Coontail do not.



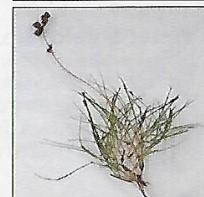
Leafy Pondweed (*Potamogeton foliosus*):

Short grass-like leaves which measure 1" to 3" long and branch freely on a slender stem. Leaves alternately arranged on stem. Clumps of 4 to 8 fruiting bodies attached to a center stem by a short stalk that rises above water surface when mature.



Sago Pondweed (*Potamogeton pectinatus*):

Leaves are stiff, narrow and thread-like. Stems branched with leaves alternately arranged on stem. Spreading leaves resemble a fan with an overall bushy appearance. Nutlets appear like beads on a string. Tiny green flower appears on spike with nutlets above water surface when mature.



Large-Leaf Pondweed (*Pot. amplifolius*):

Leaves both floating and submersed. Submersed leaves are large, oblong, wavy and taper to stem. Floating leaves are oval-shaped. Parallel leaf veins are evident. Stems are seldom branched. Leaves alternately arranged on stem. Solid, tightly packed spike of nutlets at tip of weed rises above water surface when mature.



Floating-Leaf Pondweed (*Pot. natans*):

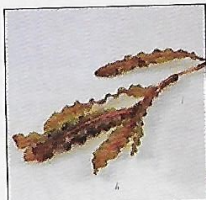
Leaves both floating and submersed. Submersed leaves long and narrow. Floating leaves oblong and slightly heart-shaped at base. Parallel leaf veins evident. Stems occasionally branched. Leaves alternately arranged on stem. Solid, tightly packed spike of nutlets at tip of weed rises above water surface when mature.



SUBMERSED WEEDS

Curly-Leaf Pondweed (*Pot. crispus*):

Leaves thin with wavy and finely serrated edges. Stems branched. Upper leaves often crispy and appear waxy. Leaves alternately arranged on stem. Flowers born on spikes rise above water surface when mature.



Clasping-Leaf Pondweed (*Pot. richardsonii*):

Leaves wide and wavy with smooth edges. Broad leaf base clasps stem. Upper stem commonly branched and leafy. Leaves alternately arranged on stem. Solid, tightly packed spike of nutlets at tip of weed rises above water surface when mature.



FLOATING WEEDS

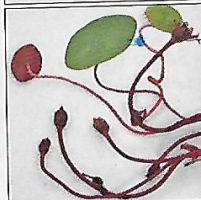
White Water Lily (*Nymphaea odorata*):

Leaves large, round and slit to center. Underside of leaf often purplish. Stem below surface. Roots thick and fleshy, often buried in mud. Flowers white with multiple petals born on a single stalk above water surface. Do not confuse with Spatterdock.



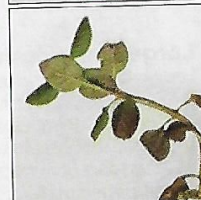
Water Shield (*Brasenia schreberi*):

Leaves oval in shape with smooth edges, usually with rust-colored underside. Stem is attached to middle of leaf. A clear jelly-like slime covers underside of leaves and stems on mature weeds. A dull purple flower develops in early summer. Best treated early before slime develops.



False Loosestrife (*Ludwigia palustris*):

Leaves both floating and submersed. Oblong and narrow near stem. Leaves oppositely arranged on stem, most often in pairs. Stems rooted at joints. Forms tangled mat on water surface when mature.



Duckweed (*Lemna minor*):

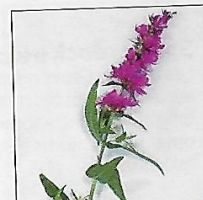
Leaves the size of a pencil eraser. Occurs individually or in clusters. Small root hairs may be seen hanging down from underside of the leaf. No stem is distinguishable. Heavy growth may blanket water surface to depth of several inches. Duckweed is not as interconnected as Filamentous Algae. Do not confuse with Algae.



EMERSED WEEDS...

Purple Loosestrife (*Lythrum salicaria*):

Leaves slightly heart-shaped at base coming to a point at leaf tip. Leaves small and more numerous near tip. Stems rigid, four-sided and have fine hairs on them. Leaves oppositely arranged on stem, usually in pairs. Flowers bright purplish on a spike closely attached to stem.



Water Willow (*Dianthera americana*):

Leaves long, narrow and tapered at each end. Branched veins are evident. Edges are smooth. Stems usually unbranched. Leaves oppositely arranged on stem, usually in pairs. Flowers born on spikes, purplish in color.



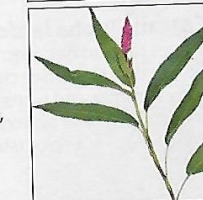
Water Primrose (*Jussiaea repens*):

Leaves lance-shaped with smooth edges. Veins evident in leaves. Stems and leaves are hairy. Leaves numerous and alternately arranged on stem. Flowers bright yellow and develop at top of the weed when mature.



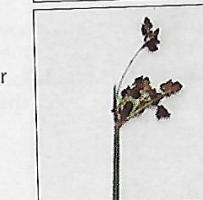
Smartweed (*Polygonum hydropiperoides*):

Leaves oblong and smooth on edges. Leaves alternately arranged on stem. Stems distinctly jointed. Lower portion of stem rooted at joints. Flowers small and tightly clustered, white or pink in color. Weed may be emersed in shallow water or completely submersed with only flowers visible above surface in deep water.



Bulrush (*Scirpus* spp.):

Leaves may or may not be present. If present, leaves appear as a continuation of the stem. Stems are tall and smooth, either round or triangular in shape. A loose cluster of brownish flowers and seeds located near tip of stem.



American Lotus (*Nelumbo lutea*):

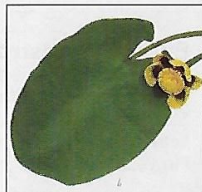
Floating circular leaves with stems attached to center of leaf underside. Emerged leaves also circular and depressed to center of upper surface. Solitary flowers pale yellow and composed of numerous petals. Seed pod in flower center with seeds embedded in surface.



EMERSED WEEDS...

Spatterdock (*Nuphar advena*):

Leaves heart-shaped at base, shiny and smooth. Some leaves float but most stand above water. Solitary flowers on long stalk slightly above water surface, yellow with green outer petals. Roots become very thick once weed is well established.



Pickerelweed (*Pontederia cordata*):

Leaves heart-shaped at base. Veins very fine and numerous. Flowers blue-purple and crowded on elongated spikes. Each flower has 6 petal-like parts united below into a tube.



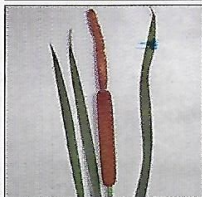
Water Pennywort (*Hydrocotyle*):

Leaves round with low rounded lobes. Attached at center to stem. Leaf about the size of a half dollar. Stems extend from a horizontal root in shallow water. Flowers rise in groups from smooth stems. Each individual flower has 5 small white petals. Often rooted in mud, forming dense mats.



Cattail (*Typha latifolia*):

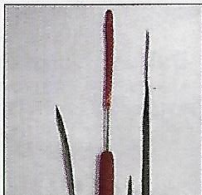
Leaves tall and flat. Stems tall, round and unbranched. Flower the distinctive cigar-shaped spike which is green in early summer and turns brown and fuzzy in fall. Weed has an extensive root system. Difficult to control when well-established. Stout rootstocks make this weed difficult to pull out.



Note:

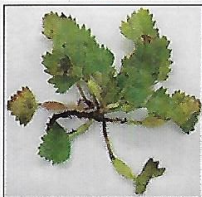
Common Cattails (above) have leaves more than 1/2" wide with the two parts of the spike nearly continuous.

Narrowleaf Cattails (below) have leaves less than 1/2" wide and a space between the two parts of the spike.



Water Chestnut (*Trapa natans*):

Submersed leaves thread-like and far apart on stem. Floating leaves nearly triangular or diamond-shaped, toothed in upper half on inflated stems. Flowers have 4 white petals.



EMERSED WEEDS

Reed Grass (*Phragmites maximus*):

Leaves long and flat with parallel veins. Stems tall and round with alternately arranged leaves. Flower of weed is made up of spikelets with a long, silky, thread-like mass of hairs. Stout rootstocks make this weed difficult to pull out.



Grass Family (*Gramineae*):

Many kinds of grasses grow in damp places and at times are found in water. Leaves long and slender, usually 10 times as long as wide. Veins within leaves run parallel to length of blade. Leaves arranged alternately on stem. Most grasses emerged including but not limited to Giant Cutgrass, Giant Foxtail, Maidencane, Paragrass and Sawgrass.

ALGAE

Chara (*Chara vulgaris*):

Leaf-like structures whorled around hollow stem. Dense growth attached, but not rooted to bottom. Often "carpets" large areas of a lake or pond bottom. Strong musky odor when crushed. May have a gritty texture due to mineral deposits on weed surface. Do not confuse with Bushy Pondweed or Coontail.



Filamentous Algae:

Individual filaments are a series of cells joined end to end that form a thread-like appearance. Often referred to as pond moss or scum. Forms felt-like surface mats. Growth begins at the bottom and rises to water surface as a bubble-filled mass. May also form fur-like growths on logs and rocks at bottom.



Planktonic Algae:

Microscopic growth often visible as a greenish tinge suspended in the upper few feet of water. Severe blooms resemble pea soup and actually thicken the water.

