

Hydrilla

Hydrilla verticillata

noxious

- leaves in whorls of **five** (3-6)
- leaf margins **visibly toothed**
- plants grow from **tubers**
- flowers tiny, not likely to be present in King County
- rare**

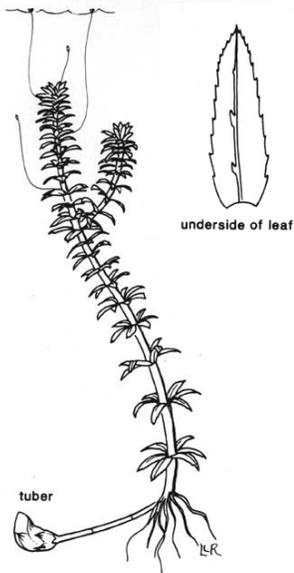


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IFAS, Center for Aquatic Plants
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Brazilian elodea

Egeria densa

noxious

- leaves in whorls of **four** (3-6)
- leaf margins visibly **smooth**
- flowers fragrant and white with three petals, 18mm wide
- flowers float on water surface, attached to base of leaf whorls



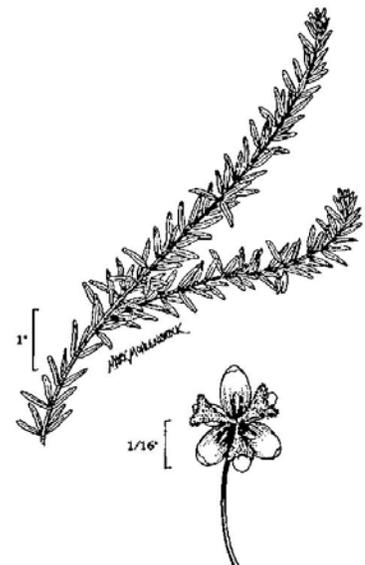
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American waterweed

Elodea canadensis

native

- leaves in whorls of **three**
- leaf margins visibly **smooth**
- white flowers 8mm wide, often absent
- flowers float on water surface, attached to base of leaf whorls



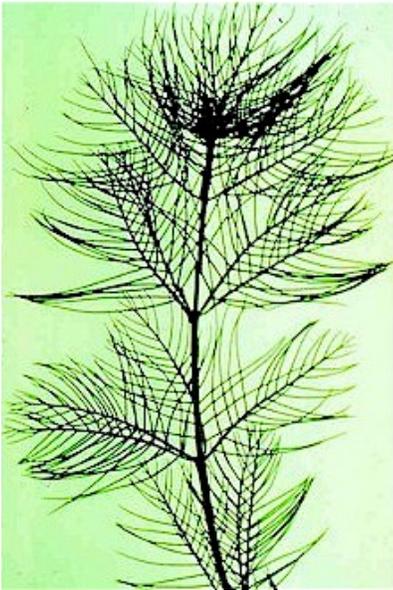
USDA-NRCS PLANTS Database / USDA NRCS. *Wetland flora: Field office illustrated guide to plant species*. USDA Natural Resources Conservation Service.

Eurasian watermilfoil

Myriophyllum spicatum

noxious

- leaves feathery, with **14 or more leaflet pairs**
- leaves **collapse** against stem when removed from water
- flowers on emergent spikes with tiny leaves (<1mm) below each flower
- does not have turions



Myriophyllum spicatum
Eurasian water milfoil

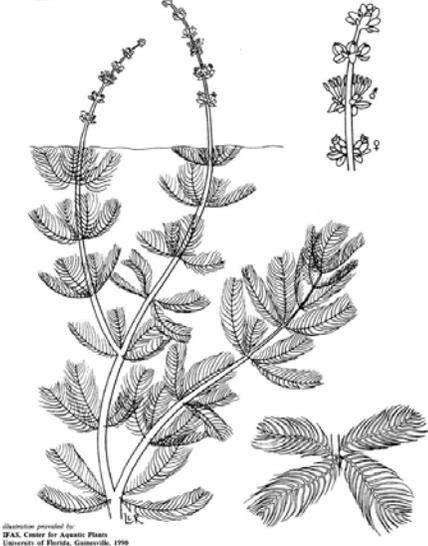


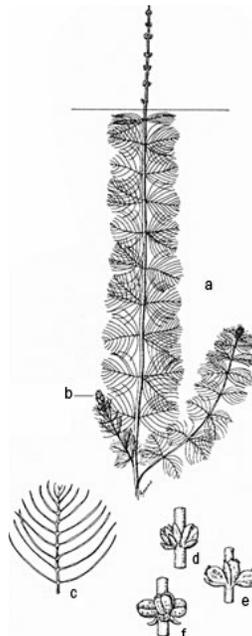
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Western milfoil

Myriophyllum sibiricum

native

- leaves feathery, with **fewer than 14 leaflet pairs**
- leaves generally **do not collapse** against stem when removed from water
- flowers on emergent spikes with tiny leaves (<1mm) below each flower
- has **turions** (overwintering buds)



Other milfoils

Native or noxious

- M. hippuroides*, northern milfoil, is **native and rare**
- M. heterophyllum*, variable-leaf milfoil, is **noxious** and not currently known in King County
- both have flower spikes with **emergent leaves** that become entire as they get further from the water
- submerged leaves are feathery with 6-20 leaflet pairs



Two-leaf watermilfoil
Myriophyllum heterophyllum
Photo by A. Murray
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Myriophyllum heterophyllum



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Fanwort

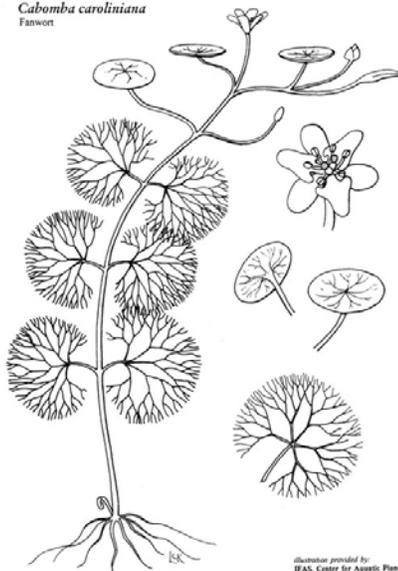
Cabomba caroliniana

noxious

- leaves **opposite**, branched, on long stalks
- plant often looks cylindrical underwater
- occasionally present floating leaves 2cm long, stalk attached in center of leaf
- flowers 1-2cm across, white to pink with yellow center
- uncommon natives with similar submerged leaves have **alternate** leaves



Cabomba caroliniana
Fanwort



Coontail

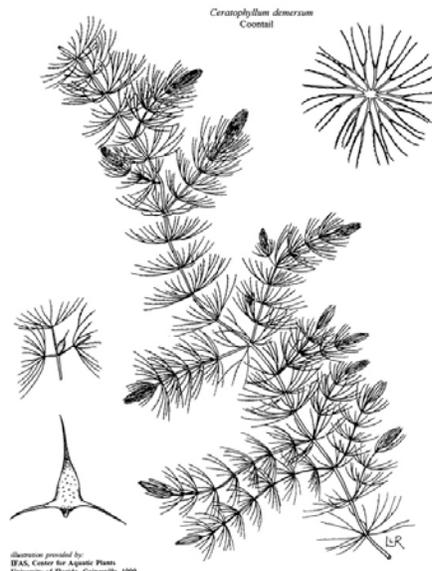
Ceratophyllum demersum

native

- leaves **whorled**, leaflets forked, toothed along one edge
- plant remains very stiff out of water
- plant often looks cylindrical underwater
- flowers tiny, green, inconspicuous, at leaf bases
- has no roots, but can be attached to sediment



Ceratophyllum demersum
Coontail

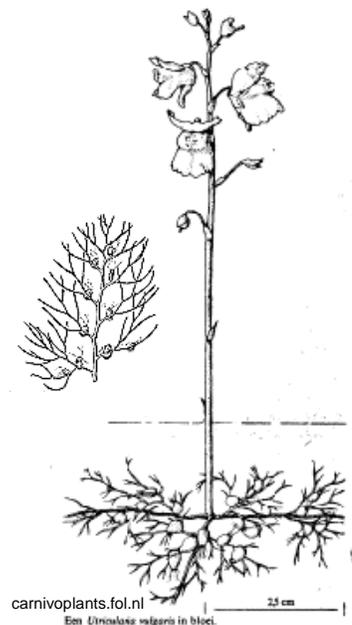
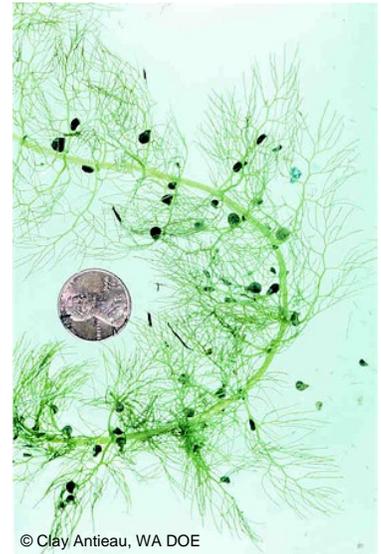


Common bladderwort

Utricularia vulgaris

native

- has **bladders** on leaves
- leaves highly divided
- plant often looks cylindrical underwater
- yellow snap-dragon-like flowers on stalks above water
- has no roots, but can be attached to sediment
- carnivorous plant



Potamogeton species: pondweeds

All pondweeds:

- have **alternate** leaves
- are monocots with **at least one midvein**
- have **tiny flowers in spikes** held on stalks above the water



Curly-leaf pondweed *Potamogeton crispus* – noxious (class C)

- only pondweed with **wavy leaf margins**
- leaves olive green, rather stiff
- submerged leaves only (no floating leaves)

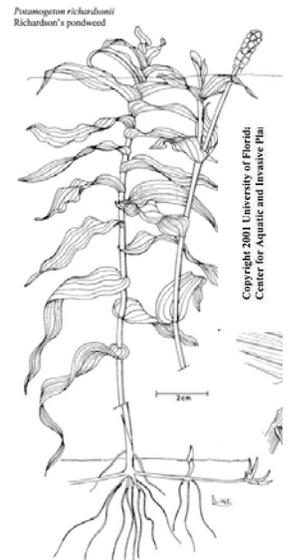


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Native pondweeds with submerged leaves only *Potamogeton* spp.

Sago pondweed	<i>Potamogeton pectinatus</i>
small pondweed	<i>Potamogeton pusillus</i>
fern-leaf pondweed	<i>Potamogeton robbinsii</i>
Richardson's pondweed	<i>Potamogeton richardsonii</i>
flat-stem pondweed	<i>Potamogeton zosteriformis</i>

- small pondweed most common, has short, thin grass-like leaves
- Sago and flat-stem pondweed also have thin leaves
- Richardson's pondweed is the only common submerged pondweed with wide (3cm) leaves
- fern-leaf pondweed has dark, stiff leaves in a 2-dimensional plane



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Native pondweeds with submerged and floating leaves *Potamogeton* spp.

big-leaf pondweed	<i>Potamogeton amplifolius</i>
ribbon-leaf pondweed	<i>Potamogeton epihydrus</i>
Illinois pondweed	<i>Potamogeton illinoensis</i>
floating-leaved pondweed	<i>Potamogeton natans</i>

- big-leaf and Illinois pondweeds have wide (5cm) submerged leaves, big-leaf pondweed is most common
- ribbon-leaf and floating-leaved pondweeds have narrow, grass-like submerged leaves
- submerged leaves appear first; floating leaves form later
- submerged leaves generally decay after floating leaves appear



Other common submerged natives

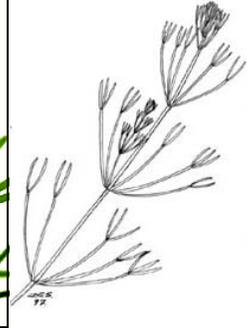
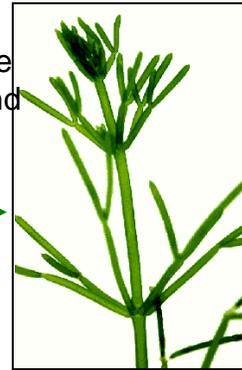
Slender water-nymph *Najas flexilis*

- branched stem, up to 2m long, fragments easily
- slender pointed leaves <3cm long cluster near top of stem
- leaf base clasps stem and is much broader than leaf blade
- flowers inconspicuous



Plant-like algae

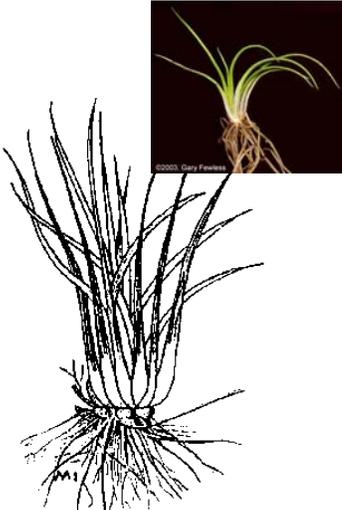
- algae has no leaves; leaf-like branchlets form whorls around stem
- ***Nitella* spp.** (brittleworts), branches are evenly forked
- ***Chara* spp.** (muskgrasses), branchlets are undivided. *Chara* spp. have a strong, musky, garlic-like odor, especially when crushed
- can be up to 2m long or as short as a few centimeters



Two less common submerged natives

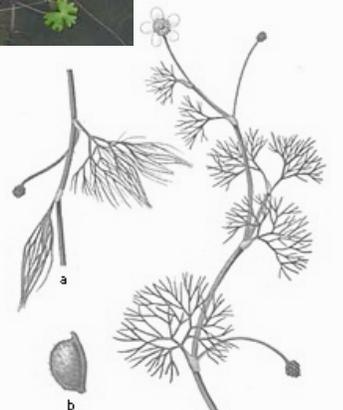
quillwort *Isoetes* spp.

- clumping evergreen plant with bulbous base
- leaves stiff, grass-like, hollow, generally less than 24cm long and taper to a point
- no flowers; reproduces by spores



water buttercup *ranunculus aquatilis*

- submerged leaves **alternate**, short stalked, highly branched
- occasionally present floating leaves are scalloped, <2cm wide
- white buttercup flowers with yellow centers are either held above water or submerged



Other floating-leaved plants

Watershield *Brasenia schreberi*

- stem attaches in **center of leaf**
- leaf oval, entire, 4-12cm long
- underside of leaf, stem and buds covered with a **slippery gelatinous substance**
- flowers small, purplish

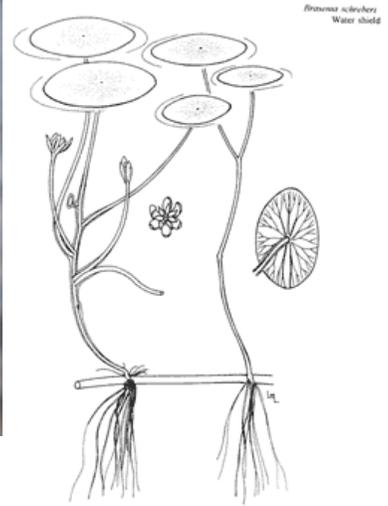
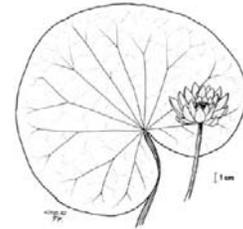
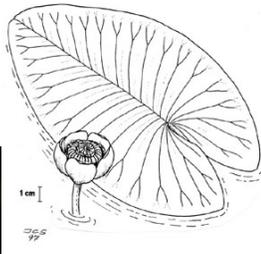


Illustration provided by IFAS, Center for Aquatic Plant, University of Florida, Gainesville, 1998

Brasenia schreberi

Water lilies

- stem attaches at slit in leaf, single flowers on separate stalk
- **Fragrant waterlily** *Nymphaea odorata* – class C non-designate leaf round, up to 30cm wide, on flexible stalk. Flowers white to pink, showy.



- **Spatterdock or yellow waterlily** *Nuphar lutea*: leaf large, heart-shaped, on stiff stalk. Flower yellow, ball-shaped.



Yellow floating-heart *Nymphoides peltata* – class B noxious weed

- stem attaches at slit in leaf
- leaves small (to 10cm), **leaf edges wavy**
- underside of leaf can be purplish
- flowers small (4cm), yellow, 2-5 per flower stalk, have **5 petals with ruffled edges**
- **Found on Vashon Island 2008**



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Floating mat plants

Parrotfeather *Myriophyllum aquaticum* – class B noxious weed

- leaves feather-like, whorled around stem (like milfoil)
- stems prostrate or floating, can rise up to 30cm above the water (this is the only emergent milfoil)
- mat looks like a stand of tiny fir trees
- flowers inconspicuous



Floating primrose-willow *Ludwigia peploides* – class A noxious weed

Water primrose *Ludwigia hexapetala* – class B noxious weed



- difficult to tell apart
- both have **alternate leaves** (oval to lance-shaped) and **showy 5-petalled yellow flowers**, and both can form dense mats of vegetation



- **floating primrose-willow** is generally prostrate
- **water primrose** can extend up to 3 feet from the water



Water purslane *Ludwigia palustris* – native



- leaves **opposite**, elliptical, on long stalks
- flowers **inconspicuous**, greenish, in leaf axils
- stem prostrate to erect or floating, fleshy
- can form floating mats
- leaves can be reddish, especially submerged leaves



Emergent noxious weeds and native look-alikes

Purple loosestrife *Lythrum salicaria* – Class B noxious weed

DESCRIPTION OF PURPLE LOOSESTRIFE
(*Lythrum salicaria*)



Illustration courtesy of the Wisconsin Department of Natural Resources

Hardhack *Spiraea douglasii* – native



- woody deciduous shrub
- leaves **alternate**, toothed at the tip
- tiny pink flowers in spikes, appear fuzzy
- can be mistaken for purple loosestrife in flower



image © Robert Flogaus-Faust

Hairy willow-herb *Epilobium hirsutum* – Class C designate

- tall (to 6 feet) rhizomatous herb
- whole plant distinctly **fuzzy**
- leaves **mostly opposite, toothed**
- wind-dispersed seeds like fireweed
- flowers July and August



Native Epilobiums

Fireweed →
Epilobium angustifolium

- tall (to 9 feet) rhizomatous herb
- leaves **alternate, smooth-edged**



←
purple-leaved willow-herb
Epilobium ciliatum

- **short** (to 3 feet), **small-flowered**
- annual, usually lacks rhizomes
- leaves mostly **opposite, toothed**

Yellow-flag iris *Iris pseudacorus* – Class C non-designate

- perennial monocot to 5 feet tall
- **leaves fold around stem** at base
- thick rhizomes form solid mats
- **showy yellow flowers** (the only yellow aquatic iris)
- green seed pods with flattened seeds
- when not in bloom can be confused with cattails (cattail leaves not folded)



Cattail base is round

Garden loosestrife *Lysimachia vulgaris* – Class B noxious weed

- perennial emergent to 8 feet tall
- red rhizomes up to 15 feet long
- **showy yellow flowers** clustered at top of plant
- leaves smooth-edged, opposite or **whorled** (usually in threes)
- stems round
- flowers July and August

