Native Plants for Aquatic Gardens and Aquariums

A guide for using plants native to the Northwestern U.S. in decorative ponds and aquariums

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Visit www.ecy.wa.gov/programs/wq/links/plants.html for a link to *An Aquatic Plant Identification Manual for Washington's Freshwater Plants* as well as other information about native aquatic plants and noxious weeds.

Links

- *Gardening with Native Plants in Western Washington* has a section on aquatic plants for ponds, http://gardening.wsu.edu/text/nwnative.htm and species descriptions, http://cahedb.wsu.edu/nativePlant/scripts/webShowClass2.asp?ID=5

- *Native Plants for Artificial Ponds in Coastal Washington,* www.wnps.org/salal/Landscaping.htm

- *Why Grow Natives?* www.stanford.edu/~rawlings/gronat.htm

- General native plant landscaping site from EPA, www.epa.gov/greenacres/links.html

- *Massachusetts Buffer Manual and Demonstration Project,* http://berkshireplanning.org/4/1/#buf (Keep in mind that plants listed as native in Massachusetts may not be native to Washington).

Why use native plants?

Native plants are plants that occur naturally in the region where you live. In Washington State, many native aquatic plants have a wide distribution throughout most of the state and in some cases throughout North America. Other native aquatic plants have narrower habitat requirements, and so are found only in a limited number of lakes or rivers.

In many instances, using plants that are native to the region where you live makes good sense. Following are a few reasons why native plants should be considered for any hobby or landscaping needs:

- They are adapted to the local climate, which often means they require less maintenance.
- They will not become invasive pests if they are released into the wild.
- Many are very attractive and make good habitat for aquarium fish in tanks or good habitat for wildlife when used for outdoor ponds or landscaping.

Sources for native plants

Native aquatic plants can be difficult to find at common retail outlets. The recent popularity of water gardens has resulted in a number of nurseries supplying and even specializing in aquatic and wetland plants; however, few supply plants native to the northwestern U.S. In addition, the plants available can be variable and are often sold under confusing common names. Consult a phone directory, the Washington Native Plant Society web page (www.wnps.org/nurserylist.html), or the Pacific Northwest Native Wildlife Gardening web page (www.tardigrade.org/natives/nurseries.html) for local sources. It would be wise to first call to find out what native plants are in inventory.

If you collect plants in the wild:

Important cautions

- Do not collect or disturb rare plants. The Washington Natural Heritage Program maintains a rare plant list which can be accessed at www.dnr.wa.gov/nhp/refdesk/fguide/htm/fgmain.htm. If you can not identify a plant, assume it is rare.

- Do not collect listed noxious weeds or plants on the noxious weed quarantine list. These plants will likely overrun your aquarium or pond and become an undesirable pest. Also, there is a danger that they may spread to the wild and displace native plants. The following plants are illegal to posses or transport in Washington. More information about the plants and the law is available from the Washington State Noxious Weed Control Board at www.nwcb.wa.gov/INDEX.htm

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Quarantined aquatic and wetland plants in Washington State

Scientific Name	Common Name
Butomus umbellatus	flowering rush
Cabomba caroliniana	fanwort
Egeria densa	Brazilian elodea
Epilobium hirsutum	hairy willow herb
Glossostigma diandrum	mud mat
Glyceria maxima	reed sweetgrass
Hydrilla verticillata	hydrilla
Hydrocharis morsus-ranae	European frog-bit
Lagarosiphon major	African elodea
Ludwigia hexapetala	water primrose
Lysimachia vulgaris	garden loosestrife
Murdannia keisak	marsh dew flower, Asian spiderwort
Myriophyllum aquaticum	parrotfeather
Myriophyllum spicatum	Eurasian watermilfoil
Najas minor	slender-leaved naiad, brittle naiad
Nymphoides peltata	yellow floating heart
Sagittaria graminea	grass-leaved arrowhead
Spartina alterniflora	smooth cordgrass
Spartina anglica	common cordgrass
Spartina densiflora	dense-flowered cordgrass
Spartina patens	salt meadow cordgrass
Trapa natans	water chestnut, bull nut
Utricularia inflata	swollen bladderwort

- Collect seeds or cuttings instead of the whole plant. Collect them from areas near your home. Take only 5% of the plant or available seeds so plenty remain for future propagation.
- Get permission or collection permits from property owners if applicable.
- Avoid frequent visits to the same collection site to minimize damage.
- Collect only as much as you will be able to use.
- Do not introduce cultivated plants into natural settings such as your local lake or river.

Submersed Plants

Coontail (*Ceratophyllum demersum*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/cerdem.html
Coontail is a rootless, submersed plant that floats freely, or can be anchored in the sediment. It has whorls of serrated, forked leaves which can range from widely spaced to densely clumped and bright green to dark reddish depending on light intensity. The stems branch to form a dense brush. The small flowers form underwater at the base of leaves. It can be easily propagated from stem fragments. Coontail is a common plant native to North America, especially thriving in hard water. It is easy to grow and is commonly sold by aquarium retail outlets. It is an invasive weed where it has been introduced outside its native range.

American waterweed (*Elodea canadensis*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/elocan.html
This is a rooted, submersed plant with whorls of three bright to dark green leaves around the branched stem. The whorls of leaves are more widely spaced along the stem in low light. It will root from stem cuttings. Flowers are tiny on long stalks that float on the water surface. It prefers a substrate of sand and clay mud. American waterweed is a common plant native throughout Washington and North America. It is sometimes sold by aquarium hobby stores or suppliers; however, there are similar non-native weedy species, so be sure the Latin name (*Elodea canadensis*) matches what you purchase.

Nuttall's waterweed (*Elodea nuttallii*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/elocan.html
This is very similar to American waterweed, except the leaves are narrower and more pointed at the tip. It will root from stem cuttings. The flowers are tiny, and the male flowers detach from the plant and float freely. This plant is more tolerant of high temperatures than American waterweed. It is less common in the wild in Washington than American waterweed, and the two species can be difficult to distinguish.

Water moss (*Fontinalis antipyretica*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/fonant.html
This is an aquatic moss that grows attached to wood, rock, or free on the substrate. The leaves are dark green, keel-shaped, often over-lapping, and come from three sides of the stem. It can grow in running water as well as still water. It can be propagated from fragments; no flowers are produced. It prefers sand or gravel substrate, and can withstand low light. It is common in the Northwest, preferring neutral to slightly acidic water, though tolerant of hard water.

Water purslane (*Ludwigia palustris*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/ludhex.html
Water purslane is native to lakes throughout most of Washington. It grows erect in shallow water or creeps along shore when emergent. Leaves are opposite and reddish on the underside. They are rounded and attached directly to the stem or on short stalks. Small flowers occur at the base of leaves, and have four joined sepals and no petals (thus are not showy). Cuttings can be rooted in sediment. Water purslane could be grown submersed in aquaria or along the margins of ponds on wet substrate.

Water nymph (*Najas flexilis*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/najfle.html
Water nymph is a common submersed native plant in Washington lakes. It has opposite leaves with wide clasping bases. The flowers and seeds are inconspicuously located at the leaf bases. It is bright green, branched, and can be propagated from stem cuttings or seeds.

White water-buttercup (*Ranunculus aquatilis*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/ranaqu.html
This native North American plant is found throughout Washington, but is more common in the central and eastern parts of the state. It has alternate fan-shaped, divided underwater leaves and sometimes rounded, floating leaves. The white flowers are 1-2 cm (less than 1 inch) across, have a yellow center, and float on the water surface. It can be propagated from stem cuttings.

Needle spike-rush (*Eleocharis acicularis*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/ele.html
Needle spike-rush is a rich green, grass-like plant. It will form a turf-like mat and prefers a rich substrate and bright light. Tiny petal-less flowers occur on the tips of the round stems. This small plant is good for the edge of a pond or foreground of an aquarium. It propagates by seeds and division of plants connected by rhizomes.

Plants with emergent or floating leaves

Common mare's tail (*Hippuris vulgaris*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/hipvul.html
Mare's tail usually grows in shallow, cool water in productive lakes with good water quality. The leaves are numerous, in whorls on the unbranched stem. The underwater portions of the plant are limp, flexible, and have long leaves; the emergent portions are stiff and have shorter, bottle-brush-like leaves. The flowers are inconspicuous at the leaf bases. It propagates by seeds, rhizomes, and new plants will form from stem cuttings. Mare's tail can spread quite vigorously in small ponds, although it is rarely seen in abundance in lakes. It prefers full sun.

Yellow waterlily, spatterdock (*Nuphar polysepala*, sometimes sold as *Nuphar lutea*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/nuppol.html
This water lily is grown submersed (in large tanks) by aquarists, though in ponds it is a floating-leaved plant. The attractive bright green leaves are heart-shaped and attached to stout rhizomes by long stalks. Emergent bright yellow, cup-shaped flowers form in late spring and summer. To maintain this water lily in a submersed form, keep it in sand, soft water, and fairly low light. It is best cultivated through seed, since wild-collected rhizomes are very large.

Watershield (*Brasenia schreberi*)

www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/brasch.html

This is a rooted plant with oval floating leaves that are usually about 10 cm (4 in) long. The leaf stalks are attached to the center of the leaf, in an umbrella-like fashion. The leaf bottom and stalks are usually deep purple and coated in a slippery gelatinous material. The purple flowers are about 2.5 cm (1 in) across and rise above the surface. Watershield prefers a muddy substrate, and can be propagated from cuttings or seed.

Water smartweed (*Polygonum amphibium*)

www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/pol.html

Water smartweed sprawls in shallow waters. It is rooted in the sediment and has long, narrow, floating leaves and showy, pink, flower clusters rising above the surface. It is native throughout Washington, but is most common in the central and eastern parts of the state. It grows in soft substrate, and tolerates a wide variety of water quality conditions. Water smartweed is usually found growing in full sun to part shade. It is reported to grow easily from seed, and cuttings will root at the nodes if in contact with sediment.

Duckweed (*Lemna minor*)

www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/lemmin.html

Duckweed is a small floating plant consisting of a leaf-like body with one root dangling into the water. Each plant is less than 8 mm long (about ¼ in). The plant can reproduce by buds from the parent plant, so often several plants grow connected. Duckweed is common in the northwest in nutrient-rich water. It can reproduce rapidly, and often must be controlled in small ponds or aquaria by skimming it from the water surface.

Water horsetail (*Equisetum fluviatile*)

www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/equflu.html

Water horsetail has slender, dark green stems that are rough-textured, hollow, and jointed. No flowers are formed; instead spores are produced by cone-like structures at the ends of fertile stems. Long, thin, jointed branches often come off the stem in whorls. It will grow and spread by rhizomes.

Three-way sedge (*Dulichium arundinaceum*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/dularu.html
Three-way sedge is a perennial, grass-like plant of shallow water or muddy shores. The leaves come off the stem in three vertical rows; flowers are in spikelets that arise from the bases of upper leaves. It is normally about 1.5 ft tall, and tends to grow in clumps. It is propagated by rhizomes or seeds.

Common cattail (*Typha latifolia*)
Cattails will often appear in backyard ponds through natural seed dispersion. It can become dense and take over small, shallow ponds; therefore, it is best to keep it in containers. Never plant any *Typha* species other than *T. latifolia*, as that is the only cattail native to Washington. (Several narrow leaf cattails may be sold at retail outlets. These can become invasive so should be avoided). That said, common cattail is an attractive perennial and a favorite of wildlife.

American water-plantain (*Alisma traviale* or *A. plantago aquatica*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/ali.html
American water-plantain is a perennial that grows in wet soil or shallow water. Young plants can have ribbon-like, under-water leaves, but mature plants have stiff, broad, emergent leaves that can grow up to 3 ft. tall. Small white flowers arise in whorls around the main flower stalk. Propagation is through seeds or division of the bulb-like corm at the plant base. It prefers a sunny location and will grow mixed with other species.

Duck potato (*Sagittaria latifolia, S. cuneata*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/sag.html
Mature duck potato plants have emergent, arrowhead-shaped leaves up to 1 ft. long. The plant is generally found in shallow water or on wet shorelines, and will grow mixed with other species. White flowers occur in whorls of three around the main stalk. Duck potato makes tubers in the sediment that can be a food source for wildlife. Propagation is through rhizomes, tubers, or seed. It does best in full sun to part shade. Caution should be exercised to ensure only the native species are planted, as several closely related plants (*Sagittaria graminea, S. platyphylla)* are invasive in Washington.

Bog bean (*Menyanthes trifoliata*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/mentri.html
This plant is usually found in bogs where the conditions are somewhat acidic. It has three-lobed, emergent leaves. It produces spikes of showy pink or white flowers with fringed petals. It prefers a peaty soil and full sun. Bog bean spreads by rhizomes and can be propagated by seed or cuttings.

Marsh cinquefoil (*Comarum palustre* formerly *Potentilla palustris*)
www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/potentilla.html
Marsh cinquefoil is an attractive plant that sprawls on lake edges between submersed and emergent plants. The stems and flowers are dark purple. The dark green leaves are divided into three to seven serrated leaflets. It spreads by stolons and seeds, and should root from cuttings.