



Keeping a pond or aquarium without harmful invasive plants

*A guide to plants you can
use in place of invasive,
non-native species*



© *Nymphaea Pymgmaea Helvola*,
image BHS / Tom Sandall.

Keeping a pond or aquarium without harmful invasive plants

Help protect the environment by using these plants in place of invasive non-native species

Plants are vital for our health and the environment, they improve air quality, boost our mood, help to offer climate change resilience and provide a home for wildlife.

Many of the plants in our ponds and aquaria are not native to the UK – they have been introduced from all over the world by people. While non-native plants can help us to create beautiful ornamental displays to enjoy, some become invasive and can cause problems for you and the environment.

Although only a small minority of non-native plants are invasive, the impact they can have is extensive and may be irreversible. Aquatic plants are a particular problem due to the speed at which they can spread and the impact they can have on important aquatic habitats, such as lakes and rivers.

Here are a few examples of the impacts of invasive non-native aquatic plants:

- Crowding out native plants impacting on other species which rely on them for food or shelter
- Competing for space, light and nutrients
- Removing oxygen from the water, harming fish and other wildlife
- Blocking up waterways interfering with fishing, boating, and other activities
- Increasing the risk of flooding

Aquatic plants can quickly outgrow their space and cause problems in your pond, and the environment. They may re-grow from tiny fragments, so that no matter how hard you try to eliminate them, they keep on appearing.

Trying to get rid of problem plants from natural habitats, especially important nature conservation sites, is expensive and difficult. Often complete eradication of such plants from the wild becomes impossible, and millions of pounds are spent each year to limit their spread.

Find more information about non-native species at nonnativespecies.org (GB) and invasivespeciesni.co.uk (NI), including:

- Information on non-native species
- ID sheets for over 60 species
- More guidance on preventing the spread of invasive plants
- Information on volunteering to help manage invasive plants in the wild

How to use this guide

Choose the plants in this booklet to help prevent future invasions.

The plants you choose will often reflect what you want them to do – for example, provide oxygen or cover for fish, hide pond liners or aquaria pumps, or add a splash of colour to pond margins.

This booklet provides examples of plants that can do the same, or similar, 'jobs' as invasive plants and can be used in their place. Some of the plants we suggest may be available only in the peak season from May until September. We appreciate that this may not be ideal for your needs, but if you are able to wait you can help to protect our environment.

Each section includes an example of a damaging invasive non-native plant that should be avoided.



Gardening for wildlife

Help to make your garden a haven for wildlife – look out for species with these symbols.

Contents

- Plants for pond edges
- Submerged & oxygenating plants
- Bog garden plants
- Floating plants
- Table of characteristics
- About the list
- Useful links

Did you know that it's against the law to share or sell some garden and pond plants?

Find more information at nonnativespecies.org (GB) and invasivespeciesni.co.uk (NI)

Key to symbols

- Tolerant of shade / low light levels
- Needs sun
- Needs alkaline conditions
- Neutral conditions
- Needs acidic conditions
- Needs drier soils
- Needs wetter soils
- Needs sheltered position
- Attractive flowers
- Attractive foliage
- Fine autumn colours
- Bears ornamental fruit
- Structural feature or screening / hedging
- Windbreak
- Berries for birds
- RHS Plants for Pollinators
- Provides shelter/cover for wildlife
- Submerged aquatic plant
- Floating aquatic plant
- Marginal/emergent aquatic plant
- Bog garden plant
- Native to UK

A plant with no symbols is able to cope with a broad range of conditions. These characteristics are summarised in a table at the back of this booklet. UK native plant classifications are taken from the Botanical Society of Britain & Ireland's Online Atlas of the British and Irish Flora, 2022.

Caring for your pond or aquarium

Know what you grow

Choose the right plants for your garden, pond, aquarium and water features.

Research plants before you buy them to make sure they are suitable for your needs, easy to dispose of, and won't be invasive. Keep aquarium plants out of your pond.

Consider native plants or choose non-invasive alternatives. If your pond is near a wetland or waterbody avoid using any plants which aren't native to the local area.

Take care before giving or accepting cuttings, as you may accidentally pass on invasive plants, pests or plant diseases.

Stop the spread

Keep your plants in your pond and aquarium, don't plant them, or allow them to grow, in the wild.

Locate your pond away from natural waterbodies and drains to stop plants spreading into the wild.

When you buy a new plant, remove the surface layer of compost and wash the plant in a bucket before positioning it your pond to remove any seeds or unwanted plant fragments.

Use this, and any waste water from your pond or aquarium, on your lawn or to water the plants in your garden, in areas that are a good distance from waterbodies or drains that flow into them.

Compost with care

Dispose of your unwanted plants, roots, weeds, seeds, and water responsibly.

Make sure nothing you remove from your pond or aquarium gets into the wild, you could be breaking the law if it does.

Use unwanted aquatic plants as mulch in dry borders in your garden, away from waterbodies or drains.

Leave any plants you've removed on the edge of the pond to drain for a few hours before disposing of them, to allow any wildlife to return to the water.

Find out more about disposing of plants safely at nonnativespecies.org/beplantwise.



Help to prevent future invasions

You can help to prevent future invasions simply by reporting plants which are spreading in your garden and proving hard to control.

Do you have a plant in your garden that is spreading and proving hard to control? Submit your records at www.plantalert.org to help scientists identify which species are likely to become a problem in the wild in the future.

If you think you've spotted an invasive plant in the wild, you can report it online through iRecord. Find out more at nonnativespecies.org/recording (GB) and invasivespeciesni.co.uk/report-sighting (NI).



Plants for pond edges

INVASIVE!



Ludwigia grandiflora

Water primrose

INVASIVE!

Originally introduced as an ornamental pond plant, but a number of wild populations have been recorded since 1998. Water primrose quickly covers water bodies restricting recreational use and harming native wildlife. If it were to establish widely in GB control costs could be millions of pounds annually. Help prevent future invasions by choosing one of the following plants.

Alisma plantago-aquatica

Water-plantain

Perennial to 1 m tall bearing linear submerged leaves and rosettes of long-stalked, lance-shaped, greyish leaves above the water. Pale pink flowers produced on much-branched inflorescences in summer. Best in water 15 to 30 cm deep.



Butomus umbellatus

Flowering rush

Perennial to 1.5 m with rush-like, twisted leaves emerging purple and turning green. Umbels of fragrant pink flowers to 2.5 cm across are borne in late summer on tall stems. Grow in mud or water to 25 cm deep.



Iris pseudacorus

Yellow Flag Iris

Vigorous, rhizomatous perennial up to 1.5 m tall with lance-shaped, greyish leaves and bright yellow flowers with darker markings. For large ponds only.



Juncus articulatus

Jointed Rush

A clump forming British wild native marginal jointed rush with very attractive dark brown-black seed heads.



Myriophyllum heterophyllum

Broadleaf watermilfoil

INVASIVE!

Broadleaf watermilfoil was introduced for use in aquaria and as an ornamental plant in outdoor ponds, but a small number of wild populations have since been recorded in recent years. This plant forms dense mats which clog water bodies harming wildlife and impacting on navigation and recreation. Help to prevent future invasions by choosing one of the following plants.

Callitriche stagnalis

Common Water-starwort

Perennial with narrow, opposite submerged leaves that become broader in the open air. The flowers are small and insignificant, borne in summer.



Caltha palustris

Marsh-marigold

Rhizomatous perennial bearing kidney-shaped leaves to 10cm long. Open, waxy, yellow or white flowers are carried on stems to 45cm in spring.



Canna 'Endeavour'

Water Canna 'Endeavour'

Tender, rhizomatous perennial to 1.8 m with erect, glaucous, paddle-shaped leaves and spikes of narrow-petalled red flowers to 5 cm across in summer and autumn. Lift tubers and overwinter in frost-free conditions.



Canna 'Erebus'

Water Canna 'Erebus'

Tender, rhizomatous perennial to 1.2 m with erect, dark green, paddle-shaped leaves and spikes of exotic salmon flowers to 8cm across in summer and autumn. Lift tubers and overwinter in frost-free conditions.

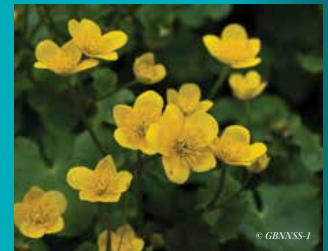


Submerged & oxygenating plants

INVASIVE!



Submerged and oxygenating plants



Plants for pond edges



Submerged & oxygenating plants

Submerged and oxygenating plants



Canna 'Ra'

Water Canna 'Ra'

Tender, rhizomatous perennial to 1.8 m with erect, slender, green leaves and spikes of exotic lemon-yellow flowers in summer and autumn. Lift tubers and overwinter in frost-free conditions.



Fontinalis antipyretica

Water Moss

Attractive evergreen slow growing moss with pretty leaves that can help hide aquaria pumps. Much liked by aquatic wildlife and provides an excellent site for spawning fish. Useful for improving water quality. Thrives in sun and shade, prefers moving water and cooler conditions.



Plants for ponds & bog gardens

INVASIVE!



Lysichiton americanus

American skunk-cabbage

INVASIVE!

Widely planted in bog gardens, first reported in the wild in 1947. American skunk-cabbage threatens other species in important wet woodland habitats and has a strong odour. Help prevent future invasions by choosing one of the following plants.

© GAVANS



Carex acuta

Slender tufted Sedge

A clump forming native sedge up to 90 cm, ideal for pond margins.



© RHS, Barra Phillips

Plants for ponds & bog gardens

Bog garden plants

Carex elata 'Aurea'

Bowles's Golden Sedge

Rhizomatous, perennial sedge, to 70 cm, dying back in winter with leaves that bear a central, golden variegation and small flowers in spring and early summer to 45 cm.



© RHS, Mick Bolton

Ceratophyllum demersum

Rigid Hornwort

Low light requirements make this a good choice for aquaria. Perennial with stiff stems eventually growing to 1 m if left unchecked. Leaves dark green and forked into linear, toothed segments. Prefers quite nutrient rich water.



© RHS, Graham Hitchmarsh

Chrysosplenium davidianum

David's Golden-saxifrage

Mat-forming perennial to 8 cm tall with hairy, rounded, dark green leaves and greenish yellow, cup-shaped flowers above leafy bracts. Ideal for shady rock crevices.



© Wiert Neuman, Shutterstock.com

Eleocharis acicularis

Needle Spike-rush

Rhizomatous oxygenating perennial to 10 cm with rush-like leaves and flowers in spikelets to 5 mm (not produced when submerged). Provides good hiding places for fish fry. British native.



© Yana Sivaynski, Shutterstock.com

Eriophorum angustifolium

Common Cottongrass

A spreading, perennial member of the sedge family growing to about 40 cm and producing in summer spikes of cottonlike flowers. Survives in water to 5 cm deep.



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Hosta 'Sum and Substance'

Plantain Lily 'Sum and Substance'

Large, ribbed, heart-shaped yellow or green leaves and spikes of bell-shaped lilac flowers in summer.



Hottonia palustris

Water-violet

Perennial oxygenator with whorled, pinnate leaves. Whorls of lilac, yellow-throated flowers to 2.5 cm across appear on upright stems above the surface of the water in spring. Grow in the muddy bottom of a pool in clear, shallow water in full sun.



Lysimachia nummularia 'Aurea'

Golden Creeping-Jenny

Vigorous prostrate perennial forming a mat of creeping stems with rounded, golden leaves in opposite pairs, bearing yellow, cup-shaped flowers in summer.



Astilboides tabularis

Common Astilboides

A strong statement perennial. Forming clumps of large, round leaves to 100cm across. Small, white flowers are borne on long stalks in summer. Can cope with wet but not waterlogged soils. Up to 1.5 m tall.



Lychnis flos-cuculi

Ragged-robin

An upright dainty perennial to 70 cm, with branched stems bearing terminal clusters of star-shaped rose-pink flowers in late spring and early summer. Well suited to moist meadows or wildlife gardens.



Astilbe 'Fanal' (x arendsii)

Astilbe Fanal

Herbaceous perennial with attractive leaves and erect plume-like panicles of tiny white, pink or purple flowers in summer. Grow in moist, fertile, humus-rich soil in full sun or grow in partial shade where soil is likely to dry out in the summer.



Geum rivale

Water avens

A herbaceous perennial with bright green, lobed basal leaves. The flower stems and sepals are flushed with dark red, and the dusky pink or pale orange, drooping flowers appear from late spring to midsummer.



Hosta (Tardiana Group) 'Halcyon'

Plantain lily 'Halcyon'

A compact herbaceous perennial with thick-textured, vivid blue-grey leaves to 20 cm in length. Light greyish-lavender, bell-shaped flowers are carried on stems to 40 cm tall. Prefers partial shade in moist soil. Best in slightly acidic or neutral soils.



Keep your plants in your pond or aquarium, don't plant them, or allow them to grow, in the wild. Even native plants can cause a problem if they are planted in the wrong place. Find more gardening tips on page 6.



© BHS / Claire Campbell

Lysimachia ephemereum

Willow-leaved loosestrife

A herbaceous perennial forming a clump of erect stems up to 1 m clad in narrow, grey-green leaves, with small, starry white flowers in long, slender terminal racemes in early summer. In full or part shade, in soil that doesn't dry out in summer.



© GBVWS

Lythrum salicaria

Purple Loosestrife

A strong clump-forming perennial with upright, branching, leafy stems to about 1 m. Produces loose spikes of pinky-purple star-shaped flowers in summer.



© BHS / Tim Suddall

Lobelia cardinalis 'Queen Victoria'

Lobelia 'Queen Victoria'

A short-lived herbaceous perennial to 90 cm tall, with beetroot-coloured, oblong leaves and bright scarlet, two-lipped flowers in long terminal racemes in summer. Requires reliably wet soil such as in a bog garden.



Use unwanted aquatic plants as mulch in dry borders in your garden, away from waterbodies or drains.

Hydrocotyle ranunculoides

Floating pennywort

INVASIVE!

Introduced as an ornamental pond plant, but has since spread into the wild and become widely established in parts of the UK. Floating pennywort can grow up to 20 cm a day under the right conditions, quickly covering whole waterbodies where it replaces native plants, interferes with recreational activities and can increase the flood risk. Help to prevent future invasions by choosing one of the following plants.



© BHS / Graham Titchmarsh

Hydrocharis morsus-ranae

Frogbit

Stoloniferous perennial spreading on the surface of water and producing rounded, glossy leaves to 3 cm long. White, bowl-shaped flowers, 2 cm across, yellow at the centre are borne in the summer. Less vigorous in deeper water.



© BHS / Graham Titchmarsh

Mentha aquatica

Water Mint

Rhizomatous perennial to 90 cm with purple stems and narrow highly aromatic leaves. In summer dense spheres of tubular lilac flowers are produced. Grows in water to 15 cm deep. Plant in baskets to contain spread.



© GBVWS

Menyanthes trifoliata

Bogbean

Rhizomatous perennial forming floating mats of three-parted leaves with leaflets to 6 cm long. Erect inflorescences of white, star-shaped flowers are sometimes produced in summer. Will need regular trimming, for large ponds only.



© BHS / Carol Sheppard

Myosotis scorpioides

Water Forget-me-not

Creeping, rhizomatous perennial with leaves to 10 cm and, in summer, a profusion of bright blue, very open flowers to 8 mm across with a paler eye. Grows best in water to 10 cm deep.



© BHS / Graham Titchmarsh



Myriophyllum spicatum

Spiked Water-milfoil

Perennial with whorls of deeply divided leaves on stems which grow to 1 m or more. In summer small reddish flowers are carried just above the water. Stems may not die back in every winter, and so may provide year-round cover for fish.



Myriophyllum verticillatum

Whorled Water-milfoil

UK native perennial oxygenator with whorls of deeply divided leaves and linear leaflets borne on stems to 1m or more. In summer very small yellowish flowers are carried just above the surface of the water.



Nuphar lutea

Yellow Water-lily

Perennial bearing floating, rounded, thick-textured, hairless leaves to 40 cm long. Above these in the summer are carried almost spherical yellow flowers to 6 cm across singly on stems. For large ponds only.



Nymphaea 'Pygmaea Helvola'

White Water-lily

Perennials with floating, rounded, variegated leaves to about 6 cm across. This miniature water lily with pale yellow flowers to 3 to 5 cm across is ideal for water tubs or small ponds.



Potamogeton crispus

Curled Pondweed

Perennial oxygenator bearing submerged, dissected, almost translucent leaves and leathery, floating leaves with very undulating margins. The flowers are very small and whitish, carried just above the water.



Ranunculus aquatilis

Common Water-crowfoot

Pretty annual/short-lived perennial with submerged stems and finely divided leaves, and floating lobed, kidney-shaped leaves. Produces white flowers (2 cm) at the water's surface in summer. Prefers shallow water with good nutrient levels.



Sagittaria sagittifolia

Old World Arrowhead

Spreading perennial bearing arrow-shaped leaves with long lobes at the base and 1m tall inflorescences carrying white flowers to 2.5 cm across. In deep water long, floating leaves may also be produced. For large ponds only.



Thalia dealbata

Powdery Alligator-flag

Perennial to 2.5 m bearing lanceolate grey-green leaves on long stalks. Striking, violet flowers are borne in slender spikes in summer. Not fully hardy and may be deciduous in cold weather



Veronica beccabunga

Brooklime

Creeping perennial bearing fleshy stems and leaves which are rounded and can be entire or toothed. Racemes of blue flowers with a white eye are produced in spring and summer. Will tolerate shallow water only.



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For more information about
non-native species visit
nonnativespecies.org

